

ROMA Connect

API Reference

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1 Before You Start

Overview

ROMA Connect is a full-stack application & data integration platform. It provides message, data, API, and device integration to simplify enterprise cloudification and support cross-regional integration for cloud and on-premises applications, helping enterprises achieve digital transformation.

You can use APIs provided in this document to perform operations on ROMA Connect, such as creating, deleting, and modifying APIs, and adding custom backends. For details about all supported operations, see [API Overview](#).

Before calling a ROMA Connect API, ensure that you have fully understood the concepts related to ROMA Connect. For details, see [Service Overview](#).

API Calling

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

Endpoints

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

Notes and Constraints

- The number of ROMA Connect resources that you can create is determined by your quota.
- For more constraints, see the description of each API.

Basic Concepts

- Account
An account is created upon successful registration with the cloud platform. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions.
- IAM user

An IAM user is created by an account to use cloud services. Each IAM user has their own identity credentials (password or access keys).

The account, username, and password are required for API authentication.

- Region

Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.

For details, see [Region and AZ](#).

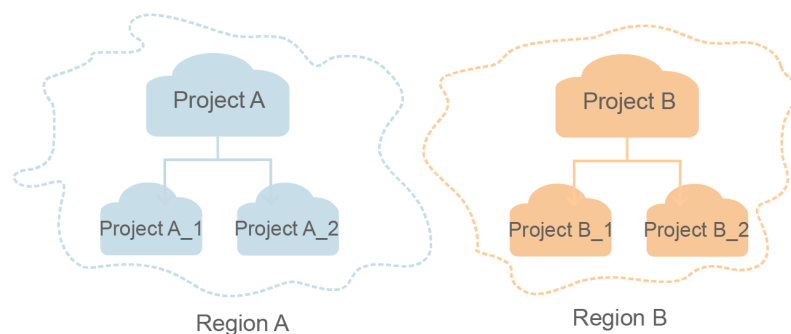
- Availability Zone (AZ)

An AZ comprises one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Compute, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability (HA) systems.

- Project

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

Figure 1-1 Project isolation



- Enterprise Project

Enterprise projects group and logically isolate resources. An enterprise project can contain resources in multiple regions, and resources can be transferred between enterprise projects.

For details about how to obtain enterprise project IDs and features, see the [Enterprise Management User Guide](#).

2 API Overview

Function	Category	Description
Public resource APIs	Application management	Provides APIs related to integration applications, including the APIs for creating, modifying, querying, and deleting integration applications.
	Asset management	Provides asset-related APIs, including the APIs for importing, exporting, and downloading assets.
	Dictionary management	Provides dictionary-related APIs, including the APIs for creating, modifying, querying, and deleting dictionaries.
	Public management	Provides the API for querying API version information.
	Instance management	Provides APIs related to instances, including the API for query instance information.
FDI APIs	Data source management	Provides APIs related to data sources, including the APIs for creating, modifying, querying, and deleting data sources.
	Task monitoring management	Provides the API for querying task running information.
	Task management	Provides APIs related to data integration tasks, including the APIs for creating, modifying, querying, deleting, and starting tasks.
APIC APIs	API group management	Provides APIs related to API group management, including creating, modifying, querying, and deleting an API group.
	API management	Provides APIs related to API management, including creating, modifying, querying, and deleting an API.

Function	Category	Description
	Environment management	Provides APIs related to environment management, including creating, modifying, querying, and deleting an environment.
	Environment variable management	Provides APIs related to environment variable management, including creating, modifying, querying, and deleting an environment variable.
	Domain name management	Provides APIs related to domain name management, including creating, modifying, querying, and deleting a domain name.
	Request throttling policy management	Provides APIs related to request throttling policy management, including creating, modifying, querying, and deleting a request throttling policy.
	Request throttling policy binding	Provides APIs related to request throttling policy binding, including binding or unbinding an API to or from a request throttling policy.
	Excluded request throttling configuration	Provides APIs related to excluded request throttling policy management, including creating, modifying, querying, and deleting an excluded request throttling policy.
	Signature key management	Provides APIs related to signature key management, including creating, modifying, querying, and deleting a signature key.
	Signature key binding	Provides APIs related to signature key binding, including binding or unbinding a signature key.
	Access control policy management	Provides APIs related to access control policy management, including creating, modifying, querying, and deleting an access control policy.
	Access control policy binding	Provides APIs related to access control policy binding, including binding or unbinding an API to or from an access control policy.
	API import and export	Provides APIs related to API import and export, including the importing and exporting frontend and backend APIs.
	VPC channel management	Provides APIs related to VPC channel management, including creating, modifying, querying, and deleting a VPC channel.
	Client configuration	Provides APIs related to client configuration, including the APIs for creating, querying, and deleting AppCodes.

Function	Category	Description
	Client quotas	Provides APIs related to client quotas, including the APIs for creating, modifying, querying, and deleting client quotas.
	App authorization	Provides APIs related to app authorization, including the APIs for app authorization, authorization cancellation, and authorization query.
	Custom backends	Provides APIs related to custom backends, including the APIs for creating, modifying, querying, deleting, and deploying a custom backend.
	Custom authorizers	Provides APIs related to custom authorizers, including the APIs for creating, modifying, querying, deleting, and deploying a custom authorizer.
	Monitoring information query	Provides the API for querying different monitoring information.
	Instance management	Provides the instance-related API. You can use this API to query ROMA Connect instance information.
	Instance feature management	Provides APIs related to instance feature configuration, including the APIs for feature configuration and feature query.
	Tag management	Provides the API for querying tag information.
	Configuration management	Provides the API for querying the user configuration of an instance.
	Application configuration	Provides APIs related to application configuration, including the APIs for creating, modifying, querying, and deleting application configuration.
	VPC Channel Management — Project-Level	Provides APIs related to VPC channel management in a project, including the APIs for creating, modifying, querying, and deleting VPC channels.
MQS APIs	MQS instance management	Provides the API for query MQS instance information.
	Topic management	Provides APIs related to topics, including the APIs for querying and deleting topics.

Function	Category	Description
	Application permission management	Provides APIs related to topic permissions, including the APIs for updating and querying topic permissions.
	Message management	Provides message-related APIs, including the APIs for querying and resending messages.
LINK APIs	Device group management	Provides APIs related to device group management, including creating, modifying, querying, and deleting device groups.
	Device management	Provides device-related APIs, including the APIs for creating, modifying, querying, and deleting devices.
	Product template management	APIs related to product templates, including the APIs for creating, modifying, querying, and deleting product templates.
	Product management	Provides product-related APIs, including the APIs for creating, modifying, querying, and deleting products.
	Rule engines	Provides APIs related to rule engines, including the APIs for creating, modifying, querying, and deleting rules.
	Service management	Provides APIs related to device services, including the APIs for creating, modifying, querying, and deleting device services and attributes.
	Subscription management	Provides APIs related to device subscriptions, including the APIs for creating, modifying, querying, and deleting subscriptions.

3 Calling APIs

[Making an API Request](#)

[Authentication](#)

[Responses](#)

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 URI parameters

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS .
Endpoint	Domain name or IP address of the server bearing the RESTful service endpoint. The endpoint varies between services in different regions. For details, see "Regions and Endpoints".
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .

Parameter	Description
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of Parameter name=Parameter value . For example, ?limit=10 indicates that a maximum of 10 data records will be displayed. Use ampersands (&) to separate multiple query parameters.

For example, you have obtained the IAM endpoint (**iam.xxx.com**) of a region and found the **resource-path (/v3/auth/tokens)** in the URI of the API that is used to obtain a user token. The following is an example:

```
https://iam.xxx.com/v3/auth/tokens
```

NOTE

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

Request Methods

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

Table 3-2 HTTP-based methods

Method	Description
GET	Requests a server to provide a specified resource.
PUT	Requests a server to update a specified resource.
POST	Requests a server to add resources or perform special operations.
DELETE	Requests a server to delete a specified resource, for example, an object.
HEAD	Requests a server resource header.
PATCH	Requests a server to update a part of a specified resource. If the resource does not exist, a new resource can be created using the PATCH method.

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.xxx.com/v3/auth/tokens
```

Request Headers

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

Table 3-3 describes common request headers.

Table 3-3 Common request headers

Name	Description	Mandatory	Example Value
Content-Type	Multipurpose Internet Mail Extensions (MIME) type of a request body. Its default value is application/json . Other values of this field will be provided for specific APIs if any.	Yes	application/json
X-Project-Id	Project ID. Obtain the project ID by following the instructions in Obtaining a Project ID .	No This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d***** ***aa340f9c0f4
X-Auth-Token	User token. 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. After the request is processed, the value of X-Subject-Token in the message header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvc- NAQcCo...ggg1BBI INPXsidG9rZ

 NOTE

In addition to supporting token-based authentication, APIs 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 more information, 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:

```
Content-Type: application/json
```

Request Body

The body of a request is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. 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*, ******* (login password), and *xxxxxxxxxxxxxxxxxxxxxx* (project ID) with the actual values. To learn how to obtain a project ID, see [Obtaining a Project ID](#).

 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](#).

```
Content-Type: application/json
```

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

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

3.2 Authentication

You can use either of the following authentication methods when calling APIs. AK/SK-based authentication is recommended because it provides higher security than token authentication.

- Token-based authentication: Requests are authenticated using a token.
- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an Access Key ID/Secret Access Key (AK/SK) pair.

Token-based Authentication

NOTE

The validity period of a token is 24 hours. If the same token is used for authentication, cache it to prevent frequent API calls.

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.

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

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username",
          "password": "*****",
          "domain": {
            "name": "domainname"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "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....**, add **X-Auth-Token: ABCDEFJ....** in a request as follows:

```
GET https://iam.***.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFG....
```

AK/SK-based Authentication

NOTE

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

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

In AK/SK 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 signing SDK is only used for signing requests and is different from the SDKs provided by services.

3.3 Responses

Status Codes

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](#).

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

Response Headers

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

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

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

Body	Cookies	Headers (16)	Test Results	Status: 201 Created	Time: 54ms	Size: 29.56 KB	Save Response
		Connection		keep-alive			
		X-IAM-Trace-Id		token_cn-north-1_null_9d154bc98611b9f6ab8f742d3c975d16			
		Cache-Control		no-cache, no-store, must-revalidate			
		Pragma		no-cache			
		Expires		Thu, 01 Jan 1970 00:00:00 GMT			
		X-Subject-Token		MllcEAYJKoZlhwNAQcCollicATCCG-0CAQExDTALBglghkgBZQMEAgEwghoiBqkqhk.			
		X-Request-Id		ed61e620e38ca386fc8d6b116c7fd555			
		Server		api-gateway			
		Strict-Transport-Security		max-age=31536000; includeSubdomains;			
		X-Frame-Options		SAMEORIGIN			

Response Body

A response body conveys information other than the response header and is generally sent in a structured format (for example, JSON or XML) defined by the **Content-type** field.

For the API used to **obtain a user token**, the response body is as follows: The following shows part of the response body for the API to obtain a user token.

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

```

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

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

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

4 Public Resource APIs

[Application Management](#)

[Asset Management](#)

[Dictionary Management](#)

[Public Management](#)

[Instance Management](#)

4.1 Application Management

4.1.1 Verifying the Existence of an Application

Function

This API is used to check whether an application that meets a given condition exists.

URI

GET /v2/{project_id}/instances/{instance_id}/validate-apps

Table 4-1 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-2 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Application name. Fuzzy match by application name is not supported.
id	No	String	Application ID.
key	No	String	Application key.

Request Parameters

Table 4-3 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-4 Response body parameters

Parameter	Type	Description
id	String	Application ID.
name	String	Application name. • Characters allowed: letters, digits, hyphens (-), underscores (_), periods (.), spaces, and parentheses. • Constraints: The value must be unique in an instance.
remark	String	Application description.

Status code: 403

Table 4-5 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Status code: 404**Table 4-6** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "name" : "MyApp",
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",
  "remark" : ""
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00000101",

```

```
"error_msg" : "error summary",  
"error_details" : "some error details here",  
"request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.1.2 Querying Applications

Function

This API is used to query applications that meet all the given conditions.

URI

GET /v2/{project_id}/instances/{instance_id}/apps

Table 4-7 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-8 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is greater than or equal to 0.
limit	No	Integer	Number of items displayed on each page.

Parameter	Mandatory	Type	Description
favorite	No	Boolean	Query scope related to favorited applications. • If this parameter is not specified, all applications on which the caller has permissions are queried. • If this parameter is set to true, favorited applications are queried. • If this parameter is set to false, unfavorited applications are queried.
auth_role	No	String	Permissions of applications to query.
name	No	String	Application name. Fuzzy match by application name is supported.
key	No	String	Application key (fuzzy match).
owner	No	Boolean	Query scope related to accessible applications. • If this parameter is not specified, all applications on which the caller has permissions are queried. • If this parameter is set to true, applications created by the caller are queried. • If this parameter is set to false, applications that are not created by the caller and on which the caller has permissions are queried, for example, applications shared by other users.
user_name	No	String	Name of the user who has permissions on applications to query. This parameter is used to filter out applications on which the specified user has permissions from all the applications on which the caller has permissions.

Request Parameters

Table 4-9 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-10 Response body parameters

Parameter	Type	Description
total	Integer	Total number of applications.
size	Integer	Number of applications displayed on the current page.
apps	Array of ServerAppInfo objects	Application information.

Table 4-11 ServerAppInfo

Parameter	Type	Description
id	String	Application ID.
name	String	Application name. - Characters allowed: letters, digits, hyphens (-), underscores (_), periods (.), spaces, and parentheses. - Constraints: The value must be unique in an instance.
remark	String	Application description.

Parameter	Type	Description
roles	Array of strings	Application permissions. • read: permission to read resources of an application, including API debugging. This permission must be included. • access: permission to access resources of an application. • delete: permission to delete resources of an application. • modify: permission to modify resources of an application, including API release and removal. • admin: all permissions on an application and its resources. • When only the user admin is provided, all other permissions are automatically applied. • The read permission is automatically applied when it is not provided.
create_time	String	Creation time.
update_time	String	Update time.
created_user	created_user object	Information about the user who created the application.
last_updated_user	last_updated_user object	Information about the user who last updated the application.
owner	Boolean	Whether the user is the owner of the application.
key	String	Application authentication access key. If no key is specified, a random value is generated. • Characters allowed: letters, digits, hyphens (-), underscores (_), at signs (@), and periods (.); The value must start with a letter or digit. • Constraints: The value must be unique in an instance.
favorite	Boolean	Whether to favorite the application. Favorited applications will be displayed preferentially in the list.

Table 4-12 created_user

Parameter	Type	Description
user_id	String	ID of the user who created the application.
user_name	String	Name of the user who created the application.

Table 4-13 last_updated_user

Parameter	Type	Description
user_id	String	ID of the user who last updated the application.
user_name	String	Name of the user who last updated the application.

Status code: 403**Table 4-14** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

ok

```
{
  "total" : 0,
  "size" : 0,
  "apps" : [ {
    "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",
    "name" : "AppName",
    "remark" : "example",
    "roles" : [ "admin" ],
    "create_time" : "2019-12-06T06:49:04Z",
```

```
"update_time" : "2019-12-06T06:49:04Z",
"created_user" : {
  "user_id" : "string",
  "user_name" : "string"
},
"last_updated_user" : {
  "user_id" : "string",
  "user_name" : "string"
},
"owner" : true,
"key" : "TEI***8UM",
"favorite" : true
}]
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	ok
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.3 Creating an Application

Function

This API is used to create an application.

URI

POST /v2/{project_id}/instances/{instance_id}/apps

Table 4-15 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-16 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-17 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Application name. • Characters allowed: letters, digits, hyphens (-), underscores (_), periods (.), spaces, and parentheses. • Constraints: The value must be unique in an instance.
remark	No	String	Application description.
key	No	String	Application authentication access key. If no key is specified, a random value is generated. • Characters allowed: letters, digits, hyphens (-), underscores (_), at signs (@), and periods (.); The value must start with a letter or digit. • Constraints: The value must be unique in an instance.

Parameter	Mandatory	Type	Description
secret	No	String	Application authentication access secret. If this field does not exist or the value is null, a random value is generated. • Characters allowed: letters, digits, and the following special characters: ! @\$% +=.-/ • Complexity: a combination of uppercase letters, lowercase letters, digits, and special characters. Complexity check is not required.
favorite	No	Boolean	Whether to favorite the application. Favorited applications will be displayed preferentially in the list.

Response Parameters

Status code: 201

Table 4-18 Response body parameters

Parameter	Type	Description
id	String	Application ID.
name	String	Application name. • Characters allowed: letters, digits, hyphens (-), underscores (_), periods (.), spaces, and parentheses. • Constraints: The value must be unique in an instance.
remark	String	Application description.

Parameter	Type	Description
roles	Array of strings	Application permissions. • read: permission to read resources of an application, including API debugging. This permission must be included. • access: permission to access resources of an application. • delete: permission to delete resources of an application. • modify: permission to modify resources of an application, including API release and removal. • admin: all permissions on an application and its resources. • When only the user admin is provided, all other permissions are automatically applied. • The read permission is automatically applied when it is not provided.
create_time	String	Creation time.
update_time	String	Update time.
created_user	created_user object	Information about the user who created the application.
last_updated_user	last_updated_user object	Information about the user who last updated the application.
owner	Boolean	Whether the user is the owner of the application.
key	String	Application authentication access key. If no key is specified, a random value is generated. • Characters allowed: letters, digits, hyphens (-), underscores (_), at signs (@), and periods (.); The value must start with a letter or digit. • Constraints: The value must be unique in an instance.
favorite	Boolean	Whether to favorite the application. Favorited applications will be displayed preferentially in the list.

Table 4-19 created_user

Parameter	Type	Description
user_id	String	ID of the user who created the application.
user_name	String	Name of the user who created the application.

Table 4-20 last_updated_user

Parameter	Type	Description
user_id	String	ID of the user who last updated the application.
user_name	String	Name of the user who last updated the application.

Status code: 403**Table 4-21** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Create an integration application named AppName with specified key and secret.

```
{
  "name" : "AppName",
  "remark" : "example",
  "key" : "JNs***Djd",
  "secret" : "TEI9***If8UM",
  "favorite" : false
}
```

Example Responses

Status code: 201

OK

```
{
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",
}
```

```
"name" : "AppName",
"remark" : "example",
"roles" : [ "read, access, delete, modify, admin" ],
"create_time" : "2019-12-06T06:49:04.000Z",
"update_time" : "2019-12-06T06:49:04.000Z",
"created_user" : {
  "user_id" : "string",
  "user_name" : "string"
},
"last_updated_user" : {
  "user_id" : "string",
  "user_name" : "string"
},
"owner" : true,
"key" : "TEI9***8UM",
"favorite" : true
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
201	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.4 Querying Application Details

Function

This API is used to query the details of an application.

URI

GET /v2/{project_id}/instances/{instance_id}/apps/{app_id}

Table 4-22 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-23 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-24 Response body parameters

Parameter	Type	Description
id	String	Application ID.
name	String	Application name. - Characters allowed: letters, digits, hyphens (-), underscores (_), periods (.), spaces, and parentheses. - Constraints: The value must be unique in an instance.
remark	String	Application description.

Parameter	Type	Description
roles	Array of strings	Application permissions. • read: permission to read resources of an application, including API debugging. This permission must be included. • access: permission to access resources of an application. • delete: permission to delete resources of an application. • modify: permission to modify resources of an application, including API release and removal. • admin: all permissions on an application and its resources. • When only the user admin is provided, all other permissions are automatically applied. • The read permission is automatically applied when it is not provided.
create_time	String	Creation time.
update_time	String	Update time.
created_user	created_user object	Information about the user who created the application.
last_updated_user	last_updated_user object	Information about the user who last updated the application.
owner	Boolean	Whether the user is the owner of the application.
key	String	Application authentication access key. If no key is specified, a random value is generated. • Characters allowed: letters, digits, hyphens (-), underscores (_), at signs (@), and periods (.); The value must start with a letter or digit. • Constraints: The value must be unique in an instance.
favorite	Boolean	Whether to favorite the application. Favorited applications will be displayed preferentially in the list.

Table 4-25 created_user

Parameter	Type	Description
user_id	String	ID of the user who created the application.
user_name	String	Name of the user who created the application.

Table 4-26 last_updated_user

Parameter	Type	Description
user_id	String	ID of the user who last updated the application.
user_name	String	Name of the user who last updated the application.

Status code: 403**Table 4-27** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",
  "name" : "AppName",
  "remark" : "example",
  "roles" : [ "read, access, delete, modify, admin" ],
  "create_time" : "2019-12-06T06:49:04.000Z",
  "update_time" : "2019-12-06T06:49:04.000Z",
  "created_user" : {
    "user_id" : "string",
```

```
"user_name" : "string"
},
"last_updated_user" : {
  "user_id" : "string",
  "user_name" : "string"
},
"owner" : true,
"key" : "TEI95****f8UM",
"favorite" : true
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.5 Updating an Application

Function

This API is used to update an application.

URI

PUT /v2/{project_id}/instances/{instance_id}/apps/{app_id}

Table 4-28 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-29 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-30 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Application name. • Characters allowed: letters, digits, hyphens (-), underscores (_), periods (.), spaces, and parentheses. • Constraints: The value must be unique in an instance.
remark	No	String	Application description.
favorite	No	Boolean	Whether the application is favorited.

Response Parameters

Status code: 200

Table 4-31 Response body parameters

Parameter	Type	Description
id	String	Application ID.

Parameter	Type	Description
name	String	Application name. • Characters allowed: letters, digits, hyphens (-), underscores (_), periods (.), spaces, and parentheses. • Constraints: The value must be unique in an instance.
remark	String	Application description.
roles	Array of strings	Application permissions. • read: permission to read resources of an application, including API debugging. This permission must be included. • access: permission to access resources of an application. • delete: permission to delete resources of an application. • modify: permission to modify resources of an application, including API release and removal. • admin: all permissions on an application and its resources. • When only the user admin is provided, all other permissions are automatically applied. • The read permission is automatically applied when it is not provided.
create_time	String	Creation time.
update_time	String	Update time.
created_user	created_user object	Information about the user who created the application.
last_updated_user	last_updated_user object	Information about the user who last updated the application.
owner	Boolean	Whether the user is the owner of the application.

Parameter	Type	Description
key	String	Application authentication access key. If no key is specified, a random value is generated. • Characters allowed: letters, digits, hyphens (-), underscores (_), at signs (@), and periods (.); The value must start with a letter or digit. • Constraints: The value must be unique in an instance.
favorite	Boolean	Whether to favorite the application. Favorited applications will be displayed preferentially in the list.

Table 4-32 created_user

Parameter	Type	Description
user_id	String	ID of the user who created the application.
user_name	String	Name of the user who created the application.

Table 4-33 last_updated_user

Parameter	Type	Description
user_id	String	ID of the user who last updated the application.
user_name	String	Name of the user who last updated the application.

Status code: 403**Table 4-34** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Modify the name and description of a specified integration application.

```
{
  "name" : "AppName",
  "remark" : "example",
  "favorite" : false
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",
  "name" : "AppName",
  "remark" : "example",
  "roles" : [ "read, access, delete, modify, admin" ],
  "create_time" : "2019-12-06T06:49:04.000Z",
  "update_time" : "2019-12-06T06:49:04.000Z",
  "created_user" : {
    "user_id" : "string",
    "user_name" : "string"
  },
  "last_updated_user" : {
    "user_id" : "string",
    "user_name" : "string"
  },
  "owner" : true,
  "key" : "TEI9****8UM",
  "favorite" : true
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.6 Deleting an Application

Function

This API is used to delete an application.

URI

DELETE /v2/{project_id}/instances/{instance_id}/apps/{app_id}

Table 4-35 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-36 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

OK

Status code: 403

Table 4-37 Response body parameters

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

Parameter	Type	Description
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.7 Querying an Application Secret

Function

This API is used to query an application secret.

URI

GET /v2/{project_id}/instances/{instance_id}/apps/{app_id}/secret

Table 4-38 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-39 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-40 Response body parameters

Parameter	Type	Description
id	String	Application ID.
secret	String	Application authentication access secret. If this field does not exist or the value is null, a random value is generated. • Characters allowed: letters, digits, and the following special characters: ! @#\$%+=.-/ • Complexity: a combination of uppercase letters, lowercase letters, digits, and special characters. Complexity check is not required.

Status code: 403

Table 4-41 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",
  "secret" : "JNs***jd"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.8 Resetting an Application Secret

Function

This API is used to reset an application secret.

URI

PUT /v2/{project_id}/instances/{instance_id}/apps/{app_id}/secret

Table 4-42 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-43 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-44 Request body parameters

Parameter	Mandatory	Type	Description
secret	No	String	Application authentication access secret. If this field does not exist or the value is null, a random value is generated. • Characters allowed: letters, digits, and the following special characters: ! @#\$% +=./ • Complexity: a combination of uppercase letters, lowercase letters, digits, and special characters. Complexity check is not required.

Response Parameters

Status code: 200

Table 4-45 Response body parameters

Parameter	Type	Description
id	String	Application ID.
secret	String	Application authentication access secret. If this field does not exist or the value is null, a random value is generated. • Characters allowed: letters, digits, and the following special characters: ! @#\$% +=./ • Complexity: a combination of uppercase letters, lowercase letters, digits, and special characters. Complexity check is not required.

Status code: 403

Table 4-46 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Reset the secret of an integration application to a specified value.

```
{  
  "secret" : "JNs1****Djd"  
}
```

Example Responses

Status code: 200

OK

```
{  
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",  
  "secret" : "JNs****Djd"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "ROMA.00000101",  
  "error_msg" : "error summary",  
  "error_details" : "some error details here",  
  "request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.9 Querying Application Members

Function

This API is used to query members of an application.

URI

GET /v2/{project_id}/instances/{instance_id}/apps/{app_id}/users

Table 4-47 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-48 Query Parameters

Parameter	Mandatory	Type	Description
user_name	No	String	Name of the member to query. Exact match is used.

Request Parameters

Table 4-49 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-50 Response body parameters

Parameter	Type	Description
total	Integer	Total number of members of an application.
id	String	Application ID.
users	Array of users objects	Members.

Table 4-51 users

Parameter	Type	Description
id	String	User ID.
name	String	Username.
roles	Array of strings	Application permissions. • read: permission to read resources of an application, including API debugging. This permission must be included. • access: permission to access resources of an application. • delete: permission to delete resources of an application. • modify: permission to modify resources of an application, including API release and removal. • admin: all permissions on an application and its resources. • When only the user admin is provided, all other permissions are automatically applied. • The read permission is automatically applied when it is not provided.

Status code: 403**Table 4-52** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

Query succeeded.

```
{
  "total" : 1,
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",
  "users" : [ {
    "id" : "string",
    "name" : "string",
    "roles" : [ "read, access, delete, modify, admin" ]
  } ]
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	Query succeeded.
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.10 Setting Application Members

Function

- This API is used to set members of an application. If an empty array is carried, the existing members are cleared.
- The setting is a full update, rather than an incremental update. In other words, the members of the application are replaced with the members carried in the request.

URI

PUT /v2/{project_id}/instances/{instance_id}/apps/{app_id}/users

Table 4-53 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-54 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-55 Request body parameters

Parameter	Mandatory	Type	Description
users	No	Array of User objects	Members to add. If the list is empty, all members of the application are cleared.

Table 4-56 User

Parameter	Mandatory	Type	Description
id	No	String	User ID.
roles	No	Array of strings	Application permissions. • read: permission to read resources of an application, including API debugging. This permission must be included. • access: permission to access resources of an application. • delete: permission to delete resources of an application. • modify: permission to modify resources of an application, including API release and removal. • admin: all permissions on an application and its resources. • When only the user admin is provided, all other permissions are automatically applied. • The read permission is automatically applied when it is not provided.

Response Parameters

Status code: 200

Table 4-57 Response body parameters

Parameter	Type	Description
total	Integer	Total number of members of an application.
id	String	Application ID.
users	Array of users objects	Members.

Table 4-58 users

Parameter	Type	Description
id	String	User ID.
name	String	Username.
roles	Array of strings	Application permissions. • read: permission to read resources of an application, including API debugging. This permission must be included. • access: permission to access resources of an application. • delete: permission to delete resources of an application. • modify: permission to modify resources of an application, including API release and removal. • admin: all permissions on an application and its resources. • When only the user admin is provided, all other permissions are automatically applied. • The read permission is automatically applied when it is not provided.

Status code: 403**Table 4-59** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Set authorized users and user permissions for an integration application.

```
{
  "users": [ {
    "id": "06d9106f3b000f241f83c010d6b78c81",
    "roles": [ "read" ]
  }
]
```

```
    }]  
  }
```

Example Responses

Status code: 200

OK

```
{  
  "total" : 1,  
  "id" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3",  
  "users" : [ {  
    "id" : "string",  
    "name" : "string",  
    "roles" : [ "read, access, delete, modify, admin" ]  
  } ]  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "ROMA.00000101",  
  "error_msg" : "error summary",  
  "error_details" : "some error details here",  
  "request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.1.11 Querying Candidate Members

Function

This API is used to query candidate members of an application. Members in the abnormal state are filtered out.

URI

GET /v2/{project_id}/instances/{instance_id}/apps/{app_id}/candidates

Table 4-60 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-61 Query Parameters

Parameter	Mandatory	Type	Description
filter	No	String	Filter criteria. • If this parameter is not specified, all candidate members including the existing application members are returned. • If this parameter is set to members, the existing application members are filtered out. This parameter is used when you want to add members in incremental mode.

Request Parameters

Table 4-62 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-63 Response body parameters

Parameter	Type	Description
users	Array of CandidatesUser objects	Candidate members.

Table 4-64 CandidatesUser

Parameter	Type	Description
name	String	Username.
id	String	User ID.

Status code: 403**Table 4-65** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "users" : [ {
    "name" : "chenjunjie",
    "id" : "06d9106f3b000f241f83c010d6b78c81"
  }, {
    "name" : "fdi-dm",
    "id" : "076d742f028025191fe9c0109200f5c8"
  } ]
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.2 Asset Management

4.2.1 Downloading an Asset Package

Function

- This API can be used to obtain the asset package generated by an executed export job. The asset package can be downloaded only once.
- You can compress the files, save them to the database, download them, and delete them.

URI

GET /v2/{project_id}/instances/{instance_id}/assets/archives/{archive_id}

Table 4-66 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
archive_id	Yes	String	Field entities.archive_id returned after a job is executed.

Request Parameters

Table 4-67 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-68 Response body parameters

Parameter	Type	Description
-	File	asset file

Status code: 403

Table 4-69 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.2.2 Exporting Assets in Batches

Function

Exporting Assets in Batches.

- This API is used to create a job for exporting assets that meet given conditions.
- A maximum of 100 applications and tasks are supported.
- A user can create only one asset export job at a time. Ensure that no job in the Running state when the user creates such a job.

URI

POST /v2/{project_id}/instances/{instance_id}/assets/export

Table 4-70 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-71 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-72 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of apps objects	Applications.
tasks	Yes	Array of tasks objects	Tasks.

Table 4-73 apps

Parameter	Mandatory	Type	Description
id	No	String	Application ID.

Table 4-74 tasks

Parameter	Mandatory	Type	Description
id	No	String	Task ID.

Response Parameters

Status code: 200

Table 4-75 Response body parameters

Parameter	Type	Description
job_id	String	ID of an asset export job, which can be used to query the job progress.

Status code: 403

Table 4-76 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Export integration applications and data integration tasks in bathes.

```
POST https://{endpoint}/v2/{project_id}/instances/{instance_id}/assets/export

{
  "apps": [ {
    "id": "b1e6b1e6-4f3f-4a80-bb45-f4b9039f95a3"
  }, {
    "id": "b2e6b145-4f3f-4a80-aa45-f4b8029f95a4"
  } ],
  "tasks": [ {
    "id": "b2e6a456-1234-4a80-aa45-f4b8029f95a4"
  }, {
    "id": "123456648-4f3f-4a80-aa45-f4b00005a42"
  } ]
}
```

Example Responses

Status code: 200

```
OK

{
  "job_id": "ff8080814dbd65d7014dbe0d84db0013"
}
```

Status code: 403

```
Forbidden

{
  "error_code": "ROMA.00000101",
  "error_msg": "error summary",
  "error_details": "some error details here",
  "request_id": "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.2.3 Importing Assets

Function

- This API is used to create an asset import task. The asset version and specific assets are read from the asset content.
- A maximum of 100 applications and tasks are supported.
- A user can create only one asset import job at a time. In other words, there should be no job in the Running state when the user creates such a job.

URI

POST /v2/{project_id}/instances/{instance_id}/assets/import

Table 4-77 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-78 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Import mode: • AddNew: full import. • Merge: incremental import. The default value is AddNew.
prefix	No	String	Prefix of an application. If a prefix is added, the prefix and the existing application name will be combined during asset import to generate a new application name. Then the asset is imported with the new name.

Parameter	Mandatory	Type	Description
datasource_overwrite	No	String	Whether the imported asset overwrites the data source. • true: Yes. • false (default): No.

Request Parameters

Table 4-79 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-80 FormData parameters

Parameter	Mandatory	Type	Description
ImportAssetRequestBody	Yes	File	Asset file to be imported.

Response Parameters

Status code: 200

Table 4-81 Response body parameters

Parameter	Type	Description
job_id	String	ID of an asset import job, which can be used to query the job progress.

Status code: 403

Table 4-82 Response body parameters

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

Parameter	Type	Description
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Import integration assets to instances using asset package files.

```
POST https://{endpoint}/v2/{project_id}/instances/{instance_id}/assets/import
```

```
{
  "ImportAssetRequestBody" : "assetname.zip"
}
```

Example Responses

Status code: 200

OK

```
{
  "job_id" : "ff8080814dbd65d7014dbe0d84db0013"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.2.4 Obtaining Job Progress

Function

This API is used to query the job progress.

URI

GET /v2/{project_id}/instances/{instance_id}/assets/jobs/{job_id}

Table 4-83 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
job_id	Yes	String	Job ID.

Request Parameters

Table 4-84 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-85 Response body parameters

Parameter	Type	Description
id	String	Job ID.
type	String	Job type.

Parameter	Type	Description
status	String	Job status. • RUNNING: The job is being executed. • SUCCEEDED: The job is successfully executed. For an export job, you can use <code>archive_id</code> to download the asset package. • FAILED: The job fails to be executed. You can view the cause of the error in the reason field.
reason	Array of AssetJobReason objects	Cause of a job failure.
progress_percent	Float	Job progress percentage.
archive_id	String	ID of the asset package to download when the job is exported.
begin_time	String	Start time of the job.
end_time	String	End time of the job.

Table 4-86 AssetJobReason

Parameter	Type	Description
resource_type	String	Resource type.
resource_name	String	Resource name.
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 4-87** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "id": "ff8080814dbd65d7014dbe0d84db0013",
  "type": "exportAsset",
  "status": "Running",
  "reason": [ {
    "resource_type": "application",
    "resource_name": "myApp",
    "error_code": "ROMA.00000101",
    "error_msg": "some error details here"
  } ],
  "progress_percent": 0.35,
  "archive_id": "string",
  "begin_time": "2019-12-06T06:49:04Z",
  "end_time": "2019-12-06T06:50:04Z"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "ROMA.00000101",
  "error_msg": "error summary",
  "error_details": "some error details here",
  "request_id": "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.2.5 Deleting Assets in Batches

Function

This API is used to delete assets in batches.

- You can create a task for batch deleting assets that meet specified conditions.
- A maximum of 100 applications and tasks are supported.

- One user can create only one asset deletion task at a time, and no task in the running state exists.

URI

POST /v2/{project_id}/instances/{instance_id}/assets/delete

Table 4-88 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-89 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-90 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of apps objects	Application list.
tasks	Yes	Array of tasks objects	Task list.

Table 4-91 apps

Parameter	Mandatory	Type	Description
id	No	String	Application ID.

Table 4-92 tasks

Parameter	Mandatory	Type	Description
id	No	String	Task ID.

Response Parameters

Status code: 200

Table 4-93 Response body parameters

Parameter	Type	Description
job_id	String	ID of the asset export or deletion job, which can be used to query the job progress.

Status code: 403

Table 4-94 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Delete integration applications and data integration tasks in bathes.

```
{
  "apps": [ {
    "id": "b1e6b1e6-4f3f-4a80-bb45-f4b9039f95a3"
  }, {
    "id": "b2e6b145-4f3f-4a80-aa45-f4b8029f95a4"
  } ],
  "tasks": [ {
    "id": "b2e6a456-1234-4a80-aa45-f4b8029f95a4"
  }, {
    "id": "123456648-4f3f-4a80-aa45-f4b00005a42"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "job_id" : "ff8080814dbd65d7014dbe0d84db0013"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.3 Dictionary Management

4.3.1 Verifying the Existence of a Dictionary

Function

This API is used to check whether the dictionary that meets a given condition exists. Only the dictionary name and code can be used as conditions.

URI

GET /v2/{project_id}/instances/{instance_id}/validate-dictionaries

Table 4-95 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-96 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Dictionary name to check. Exact match is used.
code	No	String	Dictionary code to check. Exact match is used.

Request Parameters

Table 4-97 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-98 Response body parameters

Parameter	Type	Description
name	String	Dictionary name. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
code	String	Dictionary code. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.

Status code: 403

Table 4-99 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Status code: 404**Table 4-100** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "name" : "MyDict",
  "code" : "b2e6b145-4f3f-4a80-aa45-f4b8029f95a3"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00000101",
}
```

```
"error_msg" : "error summary",  
"error_details" : "some error details here",  
"request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.3.2 Querying Dictionaries

Function

This API is used to query dictionaries.

URI

GET /v2/{project_id}/instances/{instance_id}/dictionaries

Table 4-101 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-102 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	String	Offset, which is greater than or equal to 0.
limit	No	String	Number of items displayed on each page.

Parameter	Mandatory	Type	Description
parent_code	No	String	Parent dictionary code. The child dictionaries are returned. If this parameter is not specified, the top-level dictionaries are queried.
code	No	String	Code of the dictionary to query. Fuzzy match by dictionary code is supported.
name	No	String	Name of the dictionary to query. Fuzzy match by dictionary name is supported.

Request Parameters

Table 4-103 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-104 Response body parameters

Parameter	Type	Description
total	Integer	Total number of records, which is irrelevant to pagination.
size	Integer	Number of records displayed on the current page. The value must be less than or equal to the limit specified in the request.
dictionaries	Array of Dictionary objects	Dictionaries.

Table 4-105 Dictionary

Parameter	Type	Description
id	String	Dictionary ID.
name	String	Dictionary name. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
remark	String	Dictionary description.
code	String	Dictionary code. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
extend_one	String	Extended field 1. Characters allowed: letters, digits, underscores (_), and spaces.
extend_two	String	Extended field 2. Characters allowed: letters, digits, underscores (_), and spaces.
parent_code	String	Parent dictionary code. If the value is null, the dictionary is a top-level dictionary.
type	String	Dictionary type. • system: built-in dictionary of the system. It can be edited but cannot be deleted. • user: dictionary created by a user.
create_time	String	Time when the dictionary was created.
update_time	String	Time when the dictionary was updated.

Status code: 403**Table 4-106** Response body parameters

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

Parameter	Type	Description
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 0,
  "size" : 0,
  "dictionaries" : [ {
    "id" : "string",
    "name" : "string",
    "remark" : "string",
    "code" : "string",
    "extend_one" : "string",
    "extend_two" : "string",
    "parent_code" : "string",
    "type" : "system",
    "create_time" : "2019-12-06T06:49:04Z",
    "update_time" : "2019-12-06T06:49:04Z"
  } ]
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.3.3 Creating a Dictionary

Function

This API is used to create a dictionary.

URI

POST /v2/{project_id}/instances/{instance_id}/dictionaries

Table 4-107 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-108 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-109 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Dictionary name. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
remark	No	String	Dictionary description.

Parameter	Mandatory	Type	Description
code	Yes	String	Dictionary code. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
order	No	Integer	Dictionary order. A smaller value indicates a higher order.
extend_one	No	String	Extended field 1. Characters allowed: letters, digits, underscores (_), and spaces.
extend_two	No	String	Extended field 2. Characters allowed: letters, digits, underscores (_), and spaces.
parent_code	No	String	Parent dictionary code. If the value is null, the dictionary is a top-level dictionary.

Response Parameters

Status code: 200

Table 4-110 Response body parameters

Parameter	Type	Description
id	String	Dictionary ID.
name	String	Dictionary name. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
remark	String	Dictionary description.
code	String	Dictionary code. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.

Parameter	Type	Description
extend_one	String	Extended field 1. Characters allowed: letters, digits, underscores (_), and spaces.
extend_two	String	Extended field 2. Characters allowed: letters, digits, underscores (_), and spaces.
parent_code	String	Parent dictionary code. If the value is null, the dictionary is a top-level dictionary.
type	String	Dictionary type. • system: built-in dictionary of the system. It can be edited but cannot be deleted. • user: dictionary created by a user.
create_time	String	Time when the dictionary was created.
update_time	String	Time when the dictionary was updated.

Status code: 403**Table 4-111** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

Create a data dictionary, specify the dictionary name and code, and set the dictionary sequence to 1.

```
{
  "name" : "DictName",
  "remark" : "example",
  "code" : "13760c1fe8655e61209b75665e9bef43",
  "order" : "1",
  "extend_one" : "param1",
  "extend_two" : "param2",
  "parent_code" : ""
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "string",
  "name" : "string",
  "remark" : "string",
  "code" : "string",
  "extend_one" : "string",
  "extend_two" : "string",
  "parent_code" : "string",
  "type" : "system",
  "create_time" : "2019-12-06T06:49:04Z",
  "update_time" : "2019-12-06T06:49:04Z"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.3.4 Querying Dictionary Details

Function

This API is used to query the details of a dictionary.

URI

GET /v2/{project_id}/instances/{instance_id}/dictionaries/{dict_id}

Table 4-112 Path Parameters

Parameter	Mandatory	Type	Description
dict_id	Yes	String	Dictionary ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-113 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-114 Response body parameters

Parameter	Type	Description
id	String	Dictionary ID.
name	String	Dictionary name. - Characters allowed: letters, digits, underscores (_), and spaces. - Constraints: The value must be unique in an instance.
remark	String	Dictionary description.
code	String	Dictionary code. - Characters allowed: letters, digits, underscores (_), and spaces. - Constraints: The value must be unique in an instance.

Parameter	Type	Description
extend_one	String	Extended field 1. Characters allowed: letters, digits, underscores (_), and spaces.
extend_two	String	Extended field 2. Characters allowed: letters, digits, underscores (_), and spaces.
parent_code	String	Parent dictionary code. If the value is null, the dictionary is a top-level dictionary.
type	String	Dictionary type. • system: built-in dictionary of the system. It can be edited but cannot be deleted. • user: dictionary created by a user.
create_time	String	Time when the dictionary was created.
update_time	String	Time when the dictionary was updated.

Status code: 403**Table 4-115** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses**Status code: 200**

OK

```
{  
  "id" : "string",  
  "name" : "string",
```

```
"remark" : "string",
"code" : "string",
"extend_one" : "string",
"extend_two" : "string",
"parent_code" : "string",
"type" : "system",
"create_time" : "2019-12-06T06:49:04Z",
"update_time" : "2019-12-06T06:49:04Z"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.3.5 Updating a Dictionary

Function

This API is used to update a dictionary.

URI

PUT /v2/{project_id}/instances/{instance_id}/dictionaries/{dict_id}

Table 4-116 Path Parameters

Parameter	Mandatory	Type	Description
dict_id	Yes	String	Dictionary ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-117 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 4-118 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Dictionary name. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
remark	No	String	Dictionary description.
order	No	Integer	Dictionary order. A smaller value indicates a higher order.
extend_one	No	String	Extended field 1. Characters allowed: letters, digits, underscores (_), and spaces.
extend_two	No	String	Extended field 2. Characters allowed: letters, digits, underscores (_), and spaces.

Response Parameters

Status code: 200**Table 4-119** Response body parameters

Parameter	Type	Description
id	String	Dictionary ID.

Parameter	Type	Description
name	String	Dictionary name. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
remark	String	Dictionary description.
code	String	Dictionary code. • Characters allowed: letters, digits, underscores (_), and spaces. • Constraints: The value must be unique in an instance.
extend_one	String	Extended field 1. Characters allowed: letters, digits, underscores (_), and spaces.
extend_two	String	Extended field 2. Characters allowed: letters, digits, underscores (_), and spaces.
parent_code	String	Parent dictionary code. If the value is null, the dictionary is a top-level dictionary.
type	String	Dictionary type. • system: built-in dictionary of the system. It can be edited but cannot be deleted. • user: dictionary created by a user.
create_time	String	Time when the dictionary was created.
update_time	String	Time when the dictionary was updated.

Status code: 403**Table 4-120** Response body parameters

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

Parameter	Type	Description
request_id	String	Request ID.

Example Requests

Modify the dictionary name, sequence, and extended fields.

```
{
  "name" : "aaa",
  "remark" : "Description",
  "extend_one" : "aaaa"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "string",
  "name" : "string",
  "remark" : "string",
  "code" : "string",
  "extend_one" : "string",
  "extend_two" : "string",
  "parent_code" : "string",
  "type" : "system",
  "create_time" : "2019-12-06T06:49:04Z",
  "update_time" : "2019-12-06T06:49:04Z"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
200	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.3.6 Deleting a Dictionary

Function

This API is used to delete a dictionary. When a dictionary is deleted, all its child dictionaries are deleted.

URI

DELETE /v2/{project_id}/instances/{instance_id}/dictionaries/{dict_id}

Table 4-121 Path Parameters

Parameter	Mandatory	Type	Description
dict_id	Yes	String	Dictionary ID.
instance_id	Yes	String	Instance ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Request Parameters

Table 4-122 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 204

OK

Status code: 403

Table 4-123 Response body parameters

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

Parameter	Type	Description
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 403

Forbidden

```
{
  "error_code" : "ROMA.00000101",
  "error_msg" : "error summary",
  "error_details" : "some error details here",
  "request_id" : "13760c1fe8655e61209b75665e9bef43"
}
```

Status Codes

Status Code	Description
204	OK
403	Forbidden

Error Codes

See [Error Codes](#).

4.4 Public Management

4.4.1 Obtaining Service API Versions

Function

This API is used to obtain service API versions. No authentication is required.

URI

GET /

Request Parameters

None

Response Parameters

Status code: 200

Table 4-124 Response body parameters

Parameter	Type	Description
versions	Array of Version objects	API versions of the service.
scene	String	Scene information.

Table 4-125 Version

Parameter	Type	Description
id	String	API version ID, for example, v1.
version	String	Maximum microversion of the API. This parameter is left blank if the microversion is not supported.
min_version	String	Minimum microversion of the API. This parameter is left blank if the microversion is not supported.
status	String	API version status. The options are as follows: • CURRENT: recommended version. • SUPPORTED: an old version that is still supported. • DEPRECATED: deprecated version, which may be deleted later.
updated	Number	UTC time when the API version was released.
links	links object	URL of the API version.

Table 4-126 links

Parameter	Type	Description
rel	String	Usage.
href	String	URL for this usage.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "versions": [ {
    "min_version": "",
    "links": {
      "rel": "self",
      "href": "https://roma.example.com/v1"
    },
    "id": "v1",
    "updated": "2018-06-28T12:20:21Z",
    "version": "",
    "status": "SUPPORTED"
  }, {
    "min_version": "",
    "links": {
      "rel": "self",
      "href": "https://roma.example.com/v2"
    },
    "id": "v2",
    "updated": "2020-06-28T12:20:21Z",
    "version": "",
    "status": "CURRENT"
  } ],
  "scene": null
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

4.4.2 Obtaining the API Version of a Given Version ID

Function

This API is used to obtain the API version of a given version ID.

URI

GET /{version}

Table 4-127 Path Parameters

Parameter	Mandatory	Type	Description
version	Yes	String	Version.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-128 Response body parameters

Parameter	Type	Description
id	String	API version ID, for example, v1.
version	String	Maximum microversion of the API. This parameter is left blank if the microversion is not supported.
min_version	String	Minimum microversion of the API. This parameter is left blank if the microversion is not supported.
status	String	API version status. The options are as follows: • CURRENT: recommended version. • SUPPORTED: an old version that is still supported. • DEPRECATED: deprecated version, which may be deleted later.
updated	Number	UTC time when the API version was released.
links	links object	URL of the API version.

Table 4-129 links

Parameter	Type	Description
rel	String	Usage.
href	String	URL for this usage.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "min_version" : "",
  "links" : {
    "rel" : "self",
    "href" : "https://roma.example.com/"
  },
  "id" : "v2",
  "updated" : "2020-06-28T12:20:21Z",
  "version" : "",
  "status" : "CURRENT"
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

4.5 Instance Management

4.5.1 Querying instance list

Function

This API is used to obtain the list of virtual instances that meet the search criteria.

URI

GET /v2/{project_id}/instances

Table 4-130 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 4-131 Query Parameters

Parameter	Mandatory	Type	Description
status	No	String	Instance status. • CREATING • RUNNING • DELETING • DELETED • ERROR • CREATE_FAILED • DELETE_FAILED • SOFT_DELETED
offset	No	Integer	Offset, which is greater than or equal to 0 .
limit	No	Integer	Number of items displayed on each page.

Request Parameters

Table 4-132 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 4-133 Response body parameters

Parameter	Type	Description
total	Integer	Total number of records.
size	Integer	Number of records displayed on the current page.
instances	Array of instances objects	Instance list.

Table 4-134 instances

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name.
description	String	Instance description.
flavor_id	String	Instance specification ID.
flavor_type	String	Instance specification type. [- Platinumx8] (tag: hcs,fcs,hcs_sm)
cpu_arch	String	CPU architecture type: • x86_64: x86. • aarch64: Arm.
vpc_id	String	VPC ID specified by the instance.
subnet_id	String	VPC subnet ID specified by the instance.
security_group_id	String	Security group ID specified by the instance.
publicip_enable	Boolean	Indicates whether to enable public network access. If the function is enabled, the publicip_id field is mandatory.
publicip_id	String	ID of the EIP bound to the instance.
publicip_address	String	EIP bound to the instance.
status	String	Instance running status.
error_code	String	Error code.
error_msg	String	Error message.

Parameter	Type	Description
charge_type	String	Billing mode of the instance.
project_id	String	Project ID.
create_time	String	Creation time.
update_time	String	Update time.
maintain_begin	String	O&M start time.
maintain_end	String	O&M end time.
available_zone_ids	Array of strings	AZ list used for creating an instance.
enterprise_project_id	String	ID of the enterprise project to which the gateway belongs.

Status code: 400**Table 4-135** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Status code: 401**Table 4-136** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Status code: 403

Table 4-137 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Status code: 500**Table 4-138** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_details	String	Error information.
request_id	String	Request ID.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "instances": [ {
    "id": "e34610ca-0a37-4f04-8856-4101b08cc5e2",
    "name": "roma-test",
    "description": " ",
    "flavor_id": "00400-30101-0--0",
    "flavor_type": "basic",
    "cpu_arch": "x86_64",
    "vpc_id": "000c3783-a9c0-4ee4-ac44-93bdfbfb3340",
    "subnet_id": "8e2ee0d5-0f1d-4067-965f-caf00dd65529",
    "security_group_id": "56275464-d5f1-417d-a73b-92ee479e91e2",
    "publicip_enable": true,
    "publicip_id": "55a6ef1b-498d-42fb-bbc7-d01ba1652bfc",
    "publicip_address": "139.9.140.164",
    "status": "RUNNING",
    "error_code": "string",
    "error_msg": "string",
    "charge_type": "prePaid",
    "project_id": "106506b9a92342df9a5025fc12351cfc",
    "create_time": "2019-12-06T06:49:04Z",
```

```
"update_time" : "2019-12-06T06:49:04Z",  
"maintain_begin" : "22:00:00",  
"maintain_end" : "02:00:00",  
"available_zone_ids" : [ "9f1c5806706d4c1fb0eb72f0a9b18c77" ],  
"enterprise_project_id" : "0"  
} ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "ROMA.00013000",  
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation",  
  "error_details" : "some error details here",  
  "request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "ROMA.00012000",  
  "error_msg" : "Incorrect token or token resolution failed",  
  "error_details" : "some error details here",  
  "request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "ROMA.00012000",  
  "error_msg" : "No permissions to request this method",  
  "error_details" : "some error details here",  
  "request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00011000",  
  "error_msg" : "System error",  
  "error_details" : "some error details here",  
  "request_id" : "13760c1fe8655e61209b75665e9bef43"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

4.5.2 Obtaining the Number of Instance Connections

Function

Obtain the connection usage of each component in a ROMA Connect instance.

URI

GET /v1/{project_id}/roma/instances/{instance_id}/statistics

Table 4-139 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Resource set ID.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 4-140 Request header parameters

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

Response Parameters

Status code: 200

Table 4-141 Response body parameters

Parameter	Type	Description
fdi	fdi object	FDI connection information.
apic	apic object	APIC connection information.

Parameter	Type	Description
mqs	mqs object	MQS connection information.
link	link object	Number of LINK connections.

Table 4-142 fdi

Parameter	Type	Description
connect_count	Integer	Number of connections.
all_datasource_count	Integer	Total number of data sources.
all_tasks_count	Integer	Total number of tasks.
all_running_tasks_count	Integer	Total number of running tasks.
all_common_tasks_count	Integer	Total number of common tasks.
running_common_tasks_count	Integer	Number of running common tasks.
abnormal_common_tasks_count	Integer	Number of abnormal common tasks.
terminated_common_tasks_count	Integer	Number of stopped common tasks.
completed_common_tasks_count	Integer	Number of completed common tasks.
all_cdc_tasks_count	Integer	Total number of CDC tasks.
running_cdc_tasks_count	Integer	Number of running CDC tasks.
abnormal_cdc_tasks_count	Integer	Number of abnormal CDC tasks.
terminated_cdc_tasks_count	Integer	Number of suspended CDC tasks.
completed_cdc_tasks_count	Integer	Number of completed CDC tasks.
all_flow_tasks_count	Integer	Total number of orchestration tasks.
running_flow_tasks_count	Integer	Number of running orchestration tasks.

Parameter	Type	Description
abnormal_flow_tasks_count	Integer	Number of abnormal orchestration tasks.
terminated_flow_tasks_count	Integer	Number of stopped orchestration tasks.
completed_flow_tasks_count	Integer	Number of completed orchestration tasks.

Table 4-143 apic

Parameter	Type	Description
connection_num	Integer	Number of connections.
api_num	Integer	Number of APIs.
api_num_without_livedata	Integer	Number of hosted APIs (not published by custom backends).
livedata_api_num	Integer	Number of custom backends (function backends or data backends).

Table 4-144 mqs

Parameter	Type	Description
connection_numbers	Integer	Number of connections.
topic_numbers	Integer	Number of topics.
partition_numbers	Integer	Number of partitions.
consumer_group_numbers	Integer	Number of consumer groups.
total_queue_numbers	Integer	Queues.

Table 4-145 link

Parameter	Type	Description
products	products object	Product connection information.
connections	connections object	Connection information.

Parameter	Type	Description
product_templates	product_templates object	Product template.
devices	devices object	Device information.

Table 4-146 products

Parameter	Type	Description
total	Integer	Total number.
normal_products_numbers	Integer	Number of common products.
gateway_products_numbers	Integer	Number of gateway products.

Table 4-147 connections

Parameter	Type	Description
connection_numbers	Integer	Number of connections.

Table 4-148 product_templates

Parameter	Type	Description
product_templates_numbers	Integer	Number of product templates.

Table 4-149 devices

Parameter	Type	Description
total	Integer	Total number of devices.
normal_devices	normal_devices object	Common device information.
gateway_devices	gateway_devices object	Gateway device information.
subsets_devices	subsets_devices object	Gateway child device information.

Table 4-150 normal_devices

Parameter	Type	Description
total	Integer	Total number.
never_connected	Integer	Unconnected common devices.
online	Integer	Online common devices.
offline	Integer	Offline common devices.

Table 4-151 gateway_devices

Parameter	Type	Description
total	Integer	Total number.
never_connected	Integer	Unconnected gateway devices.
online	Integer	Online gateway devices.
offline	Integer	Offline gateway devices.

Table 4-152 subsets_devices

Parameter	Type	Description
total	Integer	Total number.
never_connected	Integer	Unconnected gateway child devices.
online	Integer	Online gateway child devices.
offline	Integer	Offline gateway child devices.

Example Requests

None

Example Responses

Status code: 200

ROMA instance connection information.

```
{
  "fdi" : {
    "connect_count" : 0,
    "all_datasource_count" : 7,
    "all_tasks_count" : 0,
    "all_running_tasks_count" : 0,
    "all_common_tasks_count" : 0,
    "running_common_tasks_count" : 0,
  }
}
```

```
"abnormal_common_tasks_count" : 0,
"terminated_common_tasks_count" : 0,
"completed_common_tasks_count" : 0,
"all_cdc_tasks_count" : 0,
"running_cdc_tasks_count" : 0,
"abnormal_cdc_tasks_count" : 0,
"terminated_cdc_tasks_count" : 0,
"completed_cdc_tasks_count" : 0,
"all_flow_tasks_count" : 0,
"running_flow_tasks_count" : 0,
"abnormal_flow_tasks_count" : 0,
"terminated_flow_tasks_count" : 0,
"completed_flow_tasks_count" : 0
},
"apic" : {
  "connection_num" : 7,
  "api_num" : 37,
  "api_num_without_livedata" : 26,
  "livedata_api_num" : 18
},
"mq" : {
  "connection_numbers" : 2,
  "topic_numbers" : 4,
  "partition_numbers" : 10,
  "consumer_group_numbers" : 0,
  "total_queue_numbers" : 0
},
"link" : {
  "products" : {
    "total" : 1,
    "normal_products_numbers" : 1,
    "gateway_products_numbers" : 0
  },
  "connections" : {
    "connection_numbers" : 1
  },
  "product_templates" : {
    "product_templates_numbers" : 0
  },
  "devices" : {
    "total" : 1,
    "normal_devices" : {
      "total" : 1,
      "never_connected" : 1,
      "online" : 0,
      "offline" : 0
    },
    "gateway_devices" : {
      "total" : 0,
      "never_connected" : 0,
      "online" : 0,
      "offline" : 0
    },
    "subsets_devices" : {
      "total" : 0,
      "never_connected" : 0,
      "online" : 0,
      "offline" : 0
    }
  }
}
```

Status Codes

Status Code	Description
200	ROMA instance connection information.

Error Codes

See [Error Codes](#).

4.5.3 Obtaining the Instance Creation Progress

Function

This API is used to obtain the instance creation progress.

URI

GET /v2/{projectId}/instances/{instanceId}/process

Table 4-153 Path Parameters

Parameter	Mandatory	Type	Description
projectId	Yes	String	Project set ID.
instanceId	Yes	String	Instance ID.

Request Parameters

Table 4-154 Request header parameters

Parameter	Mandatory	Type	Description
X-AUTH-TOKEN	Yes	String	User token.

Response Parameters

Status code: 200

Table 4-155 Response body parameters

Parameter	Type	Description
instance	instance object	Instance.

Parameter	Type	Description
currentTime	Integer	Current time.
instance_id	String	Instance ID.
name	String	Instance name.
start_time	Integer	Start time.
taken_time	Integer	Instance use time.
end_time	Integer	End time.
progress	Integer	Progress.
status	String	Status.
item	Array of item objects	Sub-service object set.

Table 4-156 instance

Parameter	Type	Description
instanceId	String	Instance ID.
name	String	Instance name.
status	String	Instance status (CREATING RUNNING CREATE_FAILED).
connectAddress	String	Connection address.
connectAddressWithPP	String	Source address transparent transmission (for next-generation APIC only).
mgmtConnectAddress	String	Connection address for the management plane to access the data plane (for the next generation only).
mgmtExtraConnectAddress	String	Connection address for the management plane to access the data plane (for next-generation FDI only)
port	String	Port (deprecated).
conAmount	String	Number of connections (for the connection pool mode only).
type	String	Instance type.
location	String	Location (deprecated).
productId	String	Product ID.

Parameter	Type	Description
engine	String	Engine (deprecated).
engineVersion	String	Engine version (deprecated).
chargingMode	Integer	Billing mode.
description	String	Description.
errorCode	String	Error code.
errorMessage	String	Error information.
resTenantId	String	Resource set ID of the resource tenant.
resDomainId	String	Domain ID of the resource tenant.
resVpcId	String	VPC ID of the resource tenant.
resSubnetId	String	Subnet ID of the resource tenant.
resSecurityGroupId	String	Security group ID of the resource tenant.
tenantId	String	Tenant resource set ID.
tenantVpcId	String	Tenant VPC ID.
tenantSubnetId	String	Tenant subnet ID.
tenantSecurityGroupId	String	Tenant security group ID.
userId	String	User ID.
userName	String	Username.
domainId	String	Domain ID.
virtualRouterId	String	Virtual route ID.
orderId	String	Order ID.
createdAt	Integer	Creation time.
updatedAt	Integer	Update time.
deletedAt	String	Deletion time.
availableZones	String	AZ.
maintainBegin	String	Start time of the maintenance time window.
maintainEnd	String	End time of the maintenance time window.
taskStatus	String	Task status.
noPasswordAccess	Boolean	Access without password.

Parameter	Type	Description
accessUser	String	Access user.
publicipId	String	Public network access IP address ID.
publicipAddr	String	Public network access IP address.
publicipBounded	Boolean	Whether to bind a public IP address.
outZones	String	Ignore. This field is invalid.
resourceList	String	Resource list.
nameLike	String	Ignore. This field is invalid.
instanceIdLike	String	Ignore. This field is invalid.
specCode	String	Specification code.
statusIncluded	String	Ignore. This field is invalid.
epId	String	Enterprise project ID.
resLeakStatus	String	Residual resource status.
tagEntries	String	Tag.
epIds	String	System tag.
typeExcluded	String	Ignore. This field is invalid.
ipv6Enable	Boolean	IPv6 enabled.
ipv6ConnectAddress	String	IPv6 connection address.
bandwidths	Integer	Bandwidth.
ingressBandwidth-Size	String	Ingress bandwidth (next generation).
resInstanceClusterId	String	ID of the cluster where the instance is located
scope	String	Region (center/edge).
cpuArch	String	CPU architecture (arm or x86).
cryptoType	String	Encryption type.
rocketmqEnable	Boolean	Whether to enable RocketMQ.
externalElbEnable	Boolean	Whether to enable the external ELB.
ltsLogGroupId	String	LTS log group ID.
demandPay	Boolean	Pay-per-use billing or not.
prePay	Boolean	Prepayment or not.

Parameter	Type	Description
epIdOrDefault	String	Enterprise project ID.

Table 4-157 item

Parameter	Type	Description
name	String	Name.
start_time	Integer	Start time.
end_time	Integer	End time.
status	String	Status.
taken_time	Integer	Instance use time.
progress	Integer	Progress.
error_msg	String	Error details.
error_code	String	Error code.

Example Requests

None

Example Responses

Status code: 200

Instance creation progress.

```
{
  "instance": {
    "instanceId": "b037d389-62a4-464a-8461-c88797ad4f23",
    "name": "roma-2222",
    "status": "CREATING",
    "connectAddress": null,
    "connectAddressWithPP": null,
    "mgmtConnectAddress": null,
    "mgmtExtraConnectAddress": null,
    "port": null,
    "conAmount": "25",
    "type": "basic",
    "location": null,
    "productId": "00300-30101-0--0",
    "engine": "ROMA",
    "engineVersion": "1.0.0",
    "chargingMode": 1,
    "description": null,
    "errorCode": "JOB-0d42a6bc-3f3d-446a-8351-00a110f56137",
    "errorMessage": null,
    "resTenantId": "#",
    "resDomainId": "#",
    "resVpId": "#",
    "resSubnetId": "#",
  }
}
```



```
"resSecurityGroupId" : "#",
"tenantId" : "c29445cce74b445682de4fcf3102cec4",
"tenantVpcId" : "f33728c1-e774-4a9b-a0bb-30b840645628",
"tenantSubnetId" : "f65009c8-7009-403c-abdf-3100f9817762",
"tenantSecurityGroupId" : "272338c9-b3ee-41ae-a2b6-3942f31030da",
"userId" : "9167977213674566b8d89570083e2ba0",
"userName" : "zhangyue",
"domainId" : null,
"virtualRouterId" : null,
"orderId" : "20250306120108660165176",
"createdAt" : 1741262473785,
"updatedAt" : 1741262475453,
"deletedAt" : null,
"availableZones" : "[\"az0.dc0\"]",
"maintainBegin" : "12:01:13",
"maintainEnd" : "12:01:13",
"taskStatus" : null,
"noPasswordAccess" : false,
"accessUser" : null,
"publicIpId" : null,
"publicIpAddr" : null,
"publicIpBounded" : false,
"outZones" : null,
"resourceList" : null,
"nameLike" : null,
"instanceIdLike" : null,
"specCode" : "roma.basic.001",
"statusIncluded" : null,
"epId" : "0",
"resLeakStatus" : null,
>tagEntries" : null,
"epIds" : null,
"typeExcluded" : null,
"ipv6Enable" : false,
"ipv6ConnectAddress" : null,
"bandwidths" : 0,
"ingressBandwidthSize" : null,
"resInstanceClusterId" : "#",
"scope" : "center",
"cpuArch" : "x86_64",
"cryptoType" : null,
"rocketmqEnable" : false,
"externalElbEnable" : false,
"ltsLogGroupId" : null,
"demandPay" : true,
"prePay" : false,
"epIdOrDefault" : "0"
},
"currentTime" : 1741262503894,
"instance_id" : "b037d389-62a4-464a-8461-c88797ad4f23",
"name" : "roma-2222",
"start_time" : 1741262473785,
"taken_time" : 1,
"end_time" : 0,
"progress" : 0,
"status" : "creating",
"item" : [ {
  "name" : "mq",
  "start_time" : 0,
  "end_time" : 0,
  "status" : "creating",
  "taken_time" : 0,
  "progress" : 0,
  "error_msg" : "",
  "error_code" : ""
}, {
  "name" : "lvs",
  "start_time" : 1741262473785,
  "end_time" : 0,
```

```
"status" : "creating",  
"taken_time" : 1,  
"progress" : 0,  
"error_msg" : "",  
"error_code" : ""  
}]  
}
```

Status Codes

Status Code	Description
200	Instance creation progress.

Error Codes

See [Error Codes](#).

5 Data Integration APIs

- Data Source Management
- Task Management
- Task Monitoring and Management
- Task Monitoring

5.1 Data Source Management

5.1.1 Creating Data Sources

Function

This API is used to create a data source.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/datasources

Table 5-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID

Request Parameters

Table 5-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Table 5-3 Request body parameters

Parameter	Mandatory	Type	Description
datasource_name	Yes	String	Data source name. The value can contain 1 to 255 characters. It cannot be all spaces or contain the following special characters: &<>"'()

Parameter	Mandatory	Type	Description
datasource_type	Yes	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Mandatory	Type	Description
			• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
app_id	Yes	String	ID of the application to which the data source belongs.
content	Yes	Content object	Data source details.
description	No	String	description.

Table 5-4 Content

Parameter	Mandatory	Type	Description
gauss100_version	No	String	GaussDB 100 version. This parameter is mandatory for a GaussDB 100 data source. • V100R003C20 • V300R001C00
host	No	String	Host IP address. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP or IBM MQ. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ. • The initial value is null and host is generated after a configuration task is started.

Parameter	Mandatory	Type	Description
port	No	String	Port number, which ranges from 0 to 65535. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ.
database_name	No	String	Database name. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is Oracle and mode is set to default or multiAddress.
redis_database	No	String	Redis data source type, which is a database ID containing only digits.

Parameter	Mandatory	Type	Description
user_name	No	String	Username for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
password	No	String	Password for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.

Parameter	Mandatory	Type	Description
mode	No	String	Data source connection mode. Options: default, professional, and multiAddress. • default: The data source type is DWS, MongoDB, Redis, or HANA. • default/professional: The data source type is MySQL, SQL Server, Db2, GaussDB 100, and TAURUS, PostgreSQL, GaussDB, or Hive. • multiAddress: The data source type is Oracle.
cdc_mode	No	String	CDC mode, which is used only for composite tasks.
multi_oracle_address	No	Array of MultiOracleAddress objects	IP address of the Oracle cluster. This parameter is mandatory when mode is set to multiAddress.
oracle_service_name	No	String	Service name of the Oracle cluster.
ftp_connect_mode	No	String	Connection mode for accessing the FTP service. The value can be active or passive.
ftp_protocol	No	String	Protocol for accessing the FTP service. The value can be SFTP or FTP.
address	No	String	Address. • OBS (OBS remote address, which is used by the OBS data source) • MONGODB (addresses of the host of the MongoDB data source type, in the format of IP address:Port number, and separated by commas (,)) • REDIS (addresses of the host of the Redis data source type, in the format of IP address:Port number, and separated by commas (,))

Parameter	Mandatory	Type	Description
ak	No	String	Access key ID. This parameter is mandatory when the data source is OBS or DIS.
sk	No	String	Secret access key. This parameter is mandatory when the data source is OBS or DIS.
bucket_name	No	String	Bucket name. This parameter is mandatory when the data source is OBS.
https	No	Boolean	Whether to use HTTPS. This parameter is mandatory when the data source is OBS. Generally, HTTPS is used by default.
url	No	String	Connection URL. - Mandatory when the data source type is API, LDAP, or Websocket. - Mandatory when the data source type is MySQL, Oracle, Db2, GaussDB 100, TAURUS, PostgreSQL, or GaussDB and mode is set to professional.
api_method	No	String	API access request mode. - POST - PUT - DELETE - PATCH - GET
auth_method	No	String	Authentication mode for accessing the WEBSOCKET service. - none - basicauth
api_auth_detail	No	ApiAuthDetail object	API authentication field details.

Parameter	Mandatory	Type	Description
broker	No	String	Addresses of the Kafka, MQS and ActiveMQ servers, in the format of IP address:Port number. Use commas (,) to separate multiple IP addresses and port numbers.
ssl	No	Boolean	Whether to enable SSL authentication. • If the internal MQS address is connected and MQS has enabled SSL, enable SSL authentication for the data source.
ssl_enable	No	Boolean	Whether to enable SSL authentication. • This parameter is mandatory when the data source is KAFKA. • This parameter is mandatory when the data source is ARTEMISMQ, ACTIVEMQ, RABBITMQ, or IBMMQ.
ssl_username	No	String	SSL user name or application key. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
ssl_password	No	String	SSL password or application secret. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
acl_enable	No	Boolean	Whether to enable access control authentication. • Mandatory when the data source type is RocketMQ.

Parameter	Mandatory	Type	Description
mq_type	No	String	Message queue type of the IMF data source. • RocketMQ • RabbitMQ
mongodb_auth_source	No	String	MONGODB authentication source.
mongodb_cluster_enable	No	Boolean	MONGODB cluster mode. • true (cluster mode) • false (non-cluster mode)
mongodb_replica_set	No	String	MongoDB replica set. Mandatory when MongoDB is in non-cluster mode.
encoding	No	String	Encoding format. • If the data source type is GAUSS100 or POSTGRESQL, set this parameter to big5. • This parameter is mandatory when the data source type is MySQL or TAURUS and mode is default.
mysql_timeout	No	Integer	MySQL connection timeout time (seconds).
trust_store_password	No	String	Password of the public key library. • This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
trust_store	No	String	Public key library file. • This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.

Parameter	Mandatory	Type	Description
trust_store_file_type	No	String	Type of a public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
ssl_auth_method	No	String	Authentication method. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and SSL authentication is enabled. - one-way - two-way
key_store	No	String	Content of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and the SSL authentication is enabled and the authentication mode is two-way.
key_store_file_type	No	String	Type of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_password	No	String	Private key library password. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.

Parameter	Mandatory	Type	Description
key_store_key_password	No	String	Private key of the private key library. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
dis_tunnel_name	No	String	DIS tunnel name.
dis_data_type	No	String	DIS data type. JSON
dis_setting_type	No	String	DIS configuration type. - senior - basic
dis_endpoint	No	String	DIS endpoint. This parameter is mandatory when setting_type is set to senior.
dis_region	No	String	DIS region. This parameter is mandatory when setting_type is set to senior.
dis_source_project_id	No	String	Project ID of the DIS source. This parameter is mandatory when setting_type is set to senior.
hl7_position	No	String	HL7 data source direction. - source - target
hl7_whitelist_enable	No	Boolean	Whether to enable the HL7 whitelist setting.
hl7_whitelist	No	String	HL7 whitelist. IP address of the server that allows data synchronization to the HL7 source end. Set this parameter when HL7 is the source (position set to source) and the whitelist setting is enabled (open_whitelist set to true).
ldap_security_auth_type	No	String	LDAP security authentication type.

Parameter	Mandatory	Type	Description
rabbitmq_virtual_host	No	String	RabbitMQ virtual host.
rabbitmq_ssl_protocol	No	String	RabbitMQ SSL authentication protocol. • TLS
rocketmq_namesrv_addr	No	String	RocketMQ connection address of the IMF data source. This parameter is mandatory when mq_type is set to RocketMQ . Use commas (,) to separate multiple addresses.
namesrv_addr	No	String	ROMA 20.0 MQS connection address
app_id	No	String	ROMA 20.0 MQS APP Key
app_secret	No	String	ROMA 20.0 APP Secret
sap_client	No	String	SAP client ID.
sap_sysnr	No	String	SAP instance ID.
snmp_network_protocol	No	String	SNMP network protocol. • udp • tcp
snmp_version	No	Integer	SNMP version number.
snmp_community	No	String	SNMP community name, which is used as an authentication password for access to the SNMP management agent.
ibmmq_ccs_id	No	String	IBMMQ character set ID.
ibmmq_queue_manager	No	String	IBMMQ queue manager.
ibmmq_channel	No	String	IBMMQ channel name.
ibmmq_cipher_suite	No	String	IBMMQ cipher algorithm suite.
hdfs_path	No	String	HDFS URL. This parameter is mandatory when the data source is MRSHIVE or MRSHDFS.

Parameter	Mandatory	Type	Description
principal_name	No	String	Machine-machine interaction username. This parameter is mandatory when the data source is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, or MRS Redis.
config_file_name	No	String	User authentication file. For details about how to obtain the file, see "Appendix" > "Obtaining a Data Source Configuration File" in the API Reference. - Compress the obtained files into a ZIP package, and set config_file_name to the file name and config_file_content to the Base64-encoded file content. - Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis or MRS ClickHouse.
config_file_content	No	String	Content of the user authentication file. Base64-encoded file content corresponding to config_file_name . Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis, or MRS ClickHouse.
connection_instance_id	No	String	Connector instance ID, which is generated when a connector is published
connector_params	No	Object	Data source parameter corresponding to the connector. Set this parameter based on actual requirements.

Table 5-5 MultiOracleAddress

Parameter	Mandatory	Type	Description
oracle_addresses	No	String	Oracle address.
oracle_port	No	String	Oracle port number.

Table 5-6 ApiAuthDetail

Parameter	Mandatory	Type	Description
auth_method	No	String	Authentication mode for accessing the API service. • none • basicauth • oauth2.0 • hmac • secret • md5 • apiGateway, which corresponds to AppKey Auth authentication on the console. • keyTop • hikVision • huaweiNetworkManagement • liHe
app_auth_type	No	String	App authentication mode for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway. • default • secret • jwt
user_name	No	String	Username for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, or basicauth.

Parameter	Mandatory	Type	Description
password	No	String	Password for accessing the API service. This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, basicauth, secret, md5 or hmac.
app_key	No	String	AppKey for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway.
app_secret	No	String	AppSecret for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway.
secret	No	String	Secret for accessing the API service. This parameter is mandatory when the authentication mode is KeyTop, HiKVision, Secret, HMAC, or MD5.
alt_ip	No	String	Alternative IP address for accessing the API service. This parameter is mandatory when the authentication mode is HuaweiNetworkManagement.
access_token_url	No	String	AccessTokenUrl for accessing the API service. This parameter is mandatory when the authentication mode is liHe or oauth2.0 huaweiNetworkManagement.

Parameter	Mandatory	Type	Description
client_id	No	String	Client ID for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_id_key	No	String	Client ID for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_id if not specified.
client_secret	No	String	Client secret for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_secret_key	No	String	Client key for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_secret if not specified.
scope	No	String	Scope for accessing the API service. This parameter is mandatory when the authentication mode is LiHe or OAuth2.
authorization	No	String	Authorization for accessing the API service. This parameter is mandatory when the authentication mode is LiHe.

Parameter	Mandatory	Type	Description
grant_type	No	String	Authorization type for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe or OAuth2. • The value is client_credentials. This value is used in OAuth2.0.

Response Parameters

Status code: 201

Table 5-7 Response body parameters

Parameter	Type	Description
datasource_id	String	Data source ID.
datasource_name	String	Data source name

Parameter	Type	Description
datasource_type	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Type	Description
		• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
vpc_id	String	ID of the VPC to which the data source belongs.
app_id	String	ID of the application to which the data source belongs.
app_name	String	Name of the application to which the data source belongs.
instance_id	String	ID of the instance to which the data source belongs.
create_time	Long	Data source creation time.
update_time	Long	Data source modification time.
custom_plugin_id	String	ID of the connector to which the data source belongs.
content	Content object	Data source details.
description	String	Data source description.
app_permission	Array of strings	Integration application permission. • read • access • delete • modify

Table 5-8 Content

Parameter	Type	Description
gauss100_version	String	GaussDB 100 version. This parameter is mandatory for a GaussDB 100 data source. • V100R003C20 • V300R001C00

Parameter	Type	Description
host	String	Host IP address. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP or IBM MQ. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ. • The initial value is null and host is generated after a configuration task is started.
port	String	Port number, which ranges from 0 to 65535. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ.
database_name	String	Database name. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is Oracle and mode is set to default or multiAddress.
redis_database	String	Redis data source type, which is a database ID containing only digits.

Parameter	Type	Description
user_name	String	Username for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
password	String	Password for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
mode	String	Data source connection mode. Options: default, professional, and multiAddress. • default: The data source type is DWS, MongoDB, Redis, or HANA. • default/professional: The data source type is MySQL, SQL Server, Db2, GaussDB 100, and TAURUS, PostgreSQL, GaussDB, or Hive. • multiAddress: The data source type is Oracle.
cdc_mode	String	CDC mode, which is used only for composite tasks.

Parameter	Type	Description
multi_oracle_address	Array of MultiOracleAddress objects	IP address of the Oracle cluster. This parameter is mandatory when mode is set to multiAddress.
oracle_service_name	String	Service name of the Oracle cluster.
ftp_connect_mode	String	Connection mode for accessing the FTP service. The value can be active or passive.
ftp_protocol	String	Protocol for accessing the FTP service. The value can be SFTP or FTP.
address	String	Address. • OBS (OBS remote address, which is used by the OBS data source) • MONGODB (addresses of the host of the MongoDB data source type, in the format of IP address:Port number, and separated by commas (,)) • REDIS (addresses of the host of the Redis data source type, in the format of IP address:Port number, and separated by commas (,))
ak	String	Access key ID. • This parameter is mandatory when the data source is OBS or DIS.
sk	String	Secret access key. • This parameter is mandatory when the data source is OBS or DIS.
bucket_name	String	Bucket name. This parameter is mandatory when the data source is OBS.
https	Boolean	Whether to use HTTPS. This parameter is mandatory when the data source is OBS. Generally, HTTPS is used by default.

Parameter	Type	Description
url	String	Connection URL. • Mandatory when the data source type is API, LDAP, or Websocket. • Mandatory when the data source type is MySQL, Oracle, Db2, GaussDB 100, TAURUS, PostgreSQL, or GaussDB and mode is set to professional.
api_method	String	API access request mode. • POST • PUT • DELETE • PATCH • GET
auth_method	String	Authentication mode for accessing the WEBSOCKET service. • none • basicauth
api_auth_detail	ApiAuthDetail object	API authentication field details.
broker	String	Addresses of the Kafka, MQS and ActiveMQ servers, in the format of IP address:Port number. Use commas (,) to separate multiple IP addresses and port numbers.
ssl	Boolean	Whether to enable SSL authentication. • If the internal MQS address is connected and MQS has enabled SSL, enable SSL authentication for the data source.
ssl_enable	Boolean	Whether to enable SSL authentication. • This parameter is mandatory when the data source is KAFKA. • This parameter is mandatory when the data source is ARTEMISMQ, ACTIVEMQ, RABBITMQ, or IBMMQ.
ssl_username	String	SSL user name or application key. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.

Parameter	Type	Description
ssl_password	String	SSL password or application secret. This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
acl_enable	Boolean	Whether to enable access control authentication. Mandatory when the data source type is RocketMQ.
mq_type	String	Message queue type of the IMF data source. - RocketMQ - RabbitMQ
mongodb_auth_source	String	MONGODB authentication source.
mongodb_cluster_enable	Boolean	MONGODB cluster mode. - true (cluster mode) - false (non-cluster mode)
mongodb_replica_set	String	MongoDB replica set. Mandatory when MongoDB is in non-cluster mode.
encoding	String	Encoding format. - If the data source type is GAUSS100 or POSTGRESQL, set this parameter to big5. - This parameter is mandatory when the data source type is MySQL or TAURUS and mode is default.
mysql_timeout	Integer	MySQL connection timeout time (seconds).
trust_store_password	String	Password of the public key library. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
trust_store	String	Public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.

Parameter	Type	Description
trust_store_file_type	String	Type of a public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
ssl_auth_method	String	Authentication method. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and SSL authentication is enabled. - one-way - two-way
key_store	String	Content of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and the SSL authentication is enabled and the authentication mode is two-way.
key_store_file_type	String	Type of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_password	String	Private key library password. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_key_password	String	Private key of the private key library. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
dis_tunnel_name	String	DIS tunnel name.
dis_data_type	String	DIS data type. JSON

Parameter	Type	Description
dis_setting_type	String	DIS configuration type. • senior • basic
dis_endpoint	String	DIS endpoint. This parameter is mandatory when setting_type is set to senior.
dis_region	String	DIS region. This parameter is mandatory when setting_type is set to senior.
dis_source_project_id	String	Project ID of the DIS source. This parameter is mandatory when setting_type is set to senior.
hl7_position	String	HL7 data source direction. • source • target
hl7_whitelist_enable	Boolean	Whether to enable the HL7 whitelist setting.
hl7_whitelist	String	HL7 whitelist. IP address of the server that allows data synchronization to the HL7 source end. Set this parameter when HL7 is the source (position set to source) and the whitelist setting is enabled (open_whitelist set to true).
ldap_security_auth_type	String	LDAP security authentication type.
rabbitmq_virtual_host	String	RabbitMQ virtual host.
rabbitmq_ssl_protocol	String	RabbitMQ SSL authentication protocol. • TLS
rocketmq_namesrv_addr	String	RocketMQ connection address of the IMF data source. This parameter is mandatory when mq_type is set to RocketMQ . Use commas (,) to separate multiple addresses.
namesrv_addr	String	ROMA 20.0 MQS connection address
app_id	String	ROMA 20.0 MQS APP Key
app_secret	String	ROMA 20.0 APP Secret
sap_client	String	SAP client ID.

Parameter	Type	Description
sap_sysnr	String	SAP instance ID.
snmp_network_protocol	String	SNMP network protocol. • udp • tcp
snmp_version	Integer	SNMP version number.
snmp_community	String	SNMP community name, which is used as an authentication password for access to the SNMP management agent.
ibmmq_ccs_id	String	IBMMQ character set ID.
ibmmq_queue_manager	String	IBMMQ queue manager.
ibmmq_channel	String	IBMMQ channel name.
ibmmq_cipher_suite	String	IBMMQ cipher algorithm suite.
hdfs_path	String	HDFS URL. This parameter is mandatory when the data source is MRSHIVE or MRSHDFS.
principal_name	String	Machine-machine interaction username. This parameter is mandatory when the data source is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, or MRS Redis.
config_file_name	String	User authentication file. For details about how to obtain the file, see "Appendix" > "Obtaining a Data Source Configuration File" in the API Reference. • Compress the obtained files into a ZIP package, and set config_file_name to the file name and config_file_content to the Base64-encoded file content. • Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis or MRS ClickHouse.

Parameter	Type	Description
config_file_content	String	Content of the user authentication file. Base64-encoded file content corresponding to config_file_name . Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis, or MRS ClickHouse.
connection_instance_id	String	Connector instance ID, which is generated when a connector is published
connector_params	Object	Data source parameter corresponding to the connector. Set this parameter based on actual requirements.

Table 5-9 MultiOracleAddress

Parameter	Type	Description
oracle_address	String	Oracle address.
oracle_port	String	Oracle port number.

Table 5-10 ApiAuthDetail

Parameter	Type	Description
auth_method	String	Authentication mode for accessing the API service. • none • basicauth • oauth2.0 • hmac • secret • md5 • apiGateway, which corresponds to AppKey Auth authentication on the console. • keyTop • hikVision • huaweiNetworkManagement • liHe

Parameter	Type	Description
app_auth_type	String	App authentication mode for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway. • default • secret • jwt
user_name	String	Username for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, or basicauth.
password	String	Password for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, basicauth, secret, md5 or hmac.
app_key	String	AppKey for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
app_secret	String	AppSecret for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
secret	String	Secret for accessing the API service. • This parameter is mandatory when the authentication mode is KeyTop, HiKVision, Secret, HMAC, or MD5.
alt_ip	String	Alternative IP address for accessing the API service. • This parameter is mandatory when the authentication mode is HuaweiNetworkManagement.
access_token_url	String	AccessTokenUrl for accessing the API service. • This parameter is mandatory when the authentication mode is liHe or oauth2.0 huaweiNetworkManagement.

Parameter	Type	Description
client_id	String	Client ID for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_id_key	String	Client ID for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_id if not specified.
client_secret	String	Client secret for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_secret_key	String	Client key for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_secret if not specified.
scope	String	Scope for accessing the API service. This parameter is mandatory when the authentication mode is LiHe or OAuth2.
authorization	String	Authorization for accessing the API service. This parameter is mandatory when the authentication mode is LiHe.
grant_type	String	Authorization type for accessing the API service. - This parameter is mandatory when the authentication mode is LiHe or OAuth2. - The value is client_credentials. This value is used in OAuth2.0.

Status code: 400**Table 5-11** Response body parameters

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

Parameter	Type	Description
detail	String	Description details.

Status code: 500

Table 5-12 Response body parameters

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

Example Requests

- Create a MySQL data source with the default connection mode.

```
{
  "datasource_name": "fdi_ds_y3k674",
  "datasource_type": "MYSQL",
  "content": {
    "host": "***.***.***",
    "port": "3306",
    "database_name": "testfdi",
    "user_name": "fditest",
    "password": "*****",
    "mode": "default"
  },
  "app_id": "9dbd2cd2-9622-4a1b-ad47-31018cf44cbd",
  "description": "testtesttest"
}
```

- Create an FTP data source with connection mode as active and protocol type as ftp.

```
{
  "datasource_name": "fdi_ds_v2frp",
  "datasource_type": "FTP",
  "content": {
    "ftp_connect_mode": "active",
    "host": "***.***.***",
    "port": "21",
    "user_name": "ftpuser",
    "password": "*****",
    "ftp_protocol": "ftp"
  },
  "app_id": "9dbd2cd2-9622-4a1b-ad47-31018cf44cbd",
  "description": "testtesttest"
}
```

- Create an API data source with request method as GET and authentication mode as none.

```
{
  "datasource_name": "fdi_ds_api_v2",
  "datasource_type": "API",
  "content": {
    "url": "http%3A%2F%2FVM6_ip%3A1080%2F0928njapi",
    "api_method": "GET",
    "api_auth_detail": {
      "auth_method": "none"
    }
  }
}
```

```
}  
},  
"description": "testAPI",  
"app_id": "9dbd2cd2-9622-4a1b-ad47-31018cf44cbd"  
}
```

Example Responses

Status code: 201

Created

```
{  
  "datasource_id": "123",  
  "datasource_name": "fdi_ds_api_v2",  
  "datasource_type": "API",  
  "content": {  
    "url": "http%3A%2F%2FVVM6_ip%3A1080%2F0928njapi",  
    "api_method": "GET",  
    "ApiAuthDetail": {  
      "auth_method": "none"  
    }  
  },  
  "description": "testAPI",  
  "app_id": "9dbd2cd2-9622-4a1b-ad47-31018cf44cbd"  
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.1.2 Querying Data Sources

Function

This API is used to query a data source.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/datasources

Table 5-13 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID

Table 5-14 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page. The maximum value is 999. Excessive records are not returned.
offset	No	Integer	Offset of pagination in pagination query. The query starts from this offset. If the offset is less than 0, the value is automatically converted to 0.

Parameter	Mandatory	Type	Description
datasource_type	No	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Mandatory	Type	Description
			• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
sort_field	No	String	Sorting field (CREATED_DATE).
sort_type	No	String	Sorting type of the queried data source. Sorting can be in ascending or descending order. The value can be empty.
name	No	String	Data source name. Fuzzy match is supported.
app_id	No	String	Integration application ID.
custom_plugin_id	No	String	Connector ID.
customized	No	String	Whether the data source is customized.

Request Parameters

Table 5-15 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-16 Response body parameters

Parameter	Type	Description
total	Long	Number of objects that meet the search criteria.

Parameter	Type	Description
size	Integer	Size of the returned object.
entities	Array of DataSourceRsp objects	Returned entity object.

Table 5-17 DataSourceRsp

Parameter	Type	Description
datasource_id	String	Data source ID.
datasource_name	String	Data source name

Parameter	Type	Description
datasource_type	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Type	Description
		• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
vpc_id	String	ID of the VPC to which the data source belongs.
app_id	String	ID of the application to which the data source belongs.
app_name	String	Name of the application to which the data source belongs.
instance_id	String	ID of the instance to which the data source belongs.
create_time	Long	Data source creation time.
update_time	Long	Data source modification time.
custom_plugin_id	String	ID of the connector to which the data source belongs.
content	Content object	Data source details.
description	String	Data source description.
app_permission	Array of strings	Integration application permission. • read • access • delete • modify

Table 5-18 Content

Parameter	Type	Description
gauss100_version	String	GaussDB 100 version. This parameter is mandatory for a GaussDB 100 data source. • V100R003C20 • V300R001C00

Parameter	Type	Description
host	String	Host IP address. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP or IBM MQ. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ. • The initial value is null and host is generated after a configuration task is started.
port	String	Port number, which ranges from 0 to 65535. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ.
database_name	String	Database name. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is Oracle and mode is set to default or multiAddress.
redis_database	String	Redis data source type, which is a database ID containing only digits.

Parameter	Type	Description
user_name	String	Username for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
password	String	Password for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
mode	String	Data source connection mode. Options: default, professional, and multiAddress. • default: The data source type is DWS, MongoDB, Redis, or HANA. • default/professional: The data source type is MySQL, SQL Server, Db2, GaussDB 100, and TAURUS, PostgreSQL, GaussDB, or Hive. • multiAddress: The data source type is Oracle.
cdc_mode	String	CDC mode, which is used only for composite tasks.

Parameter	Type	Description
multi_oracle_address	Array of MultiOracleAddress objects	IP address of the Oracle cluster. This parameter is mandatory when mode is set to multiAddress.
oracle_service_name	String	Service name of the Oracle cluster.
ftp_connect_mode	String	Connection mode for accessing the FTP service. The value can be active or passive.
ftp_protocol	String	Protocol for accessing the FTP service. The value can be SFTP or FTP.
address	String	Address. • OBS (OBS remote address, which is used by the OBS data source) • MONGODB (addresses of the host of the MongoDB data source type, in the format of IP address:Port number, and separated by commas (,)) • REDIS (addresses of the host of the Redis data source type, in the format of IP address:Port number, and separated by commas (,))
ak	String	Access key ID. • This parameter is mandatory when the data source is OBS or DIS.
sk	String	Secret access key. • This parameter is mandatory when the data source is OBS or DIS.
bucket_name	String	Bucket name. This parameter is mandatory when the data source is OBS.
https	Boolean	Whether to use HTTPS. This parameter is mandatory when the data source is OBS. Generally, HTTPS is used by default.

Parameter	Type	Description
url	String	Connection URL. • Mandatory when the data source type is API, LDAP, or Websocket. • Mandatory when the data source type is MySQL, Oracle, Db2, GaussDB 100, TAURUS, PostgreSQL, or GaussDB and mode is set to professional.
api_method	String	API access request mode. • POST • PUT • DELETE • PATCH • GET
auth_method	String	Authentication mode for accessing the WEBSOCKET service. • none • basicauth
api_auth_detail	ApiAuthDetail object	API authentication field details.
broker	String	Addresses of the Kafka, MQS and ActiveMQ servers, in the format of IP address:Port number. Use commas (,) to separate multiple IP addresses and port numbers.
ssl	Boolean	Whether to enable SSL authentication. • If the internal MQS address is connected and MQS has enabled SSL, enable SSL authentication for the data source.
ssl_enable	Boolean	Whether to enable SSL authentication. • This parameter is mandatory when the data source is KAFKA. • This parameter is mandatory when the data source is ARTEMISMQ, ACTIVEMQ, RABBITMQ, or IBMMQ.
ssl_username	String	SSL user name or application key. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.

Parameter	Type	Description
ssl_password	String	SSL password or application secret. This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
acl_enable	Boolean	Whether to enable access control authentication. Mandatory when the data source type is RocketMQ.
mq_type	String	Message queue type of the IMF data source. - RocketMQ - RabbitMQ
mongodb_auth_source	String	MONGODB authentication source.
mongodb_cluster_enable	Boolean	MONGODB cluster mode. - true (cluster mode) - false (non-cluster mode)
mongodb_replica_set	String	MongoDB replica set. Mandatory when MongoDB is in non-cluster mode.
encoding	String	Encoding format. - If the data source type is GAUSS100 or POSTGRESQL, set this parameter to big5. - This parameter is mandatory when the data source type is MySQL or TAURUS and mode is default.
mysql_timeout	Integer	MySQL connection timeout time (seconds).
trust_store_password	String	Password of the public key library. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
trust_store	String	Public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.

Parameter	Type	Description
trust_store_file_type	String	Type of a public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
ssl_auth_method	String	Authentication method. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and SSL authentication is enabled. - one-way - two-way
key_store	String	Content of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and the SSL authentication is enabled and the authentication mode is two-way.
key_store_file_type	String	Type of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_password	String	Private key library password. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_key_password	String	Private key of the private key library. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
dis_tunnel_name	String	DIS tunnel name.
dis_data_type	String	DIS data type. JSON

Parameter	Type	Description
dis_setting_type	String	DIS configuration type. • senior • basic
dis_endpoint	String	DIS endpoint. This parameter is mandatory when setting_type is set to senior.
dis_region	String	DIS region. This parameter is mandatory when setting_type is set to senior.
dis_source_project_id	String	Project ID of the DIS source. This parameter is mandatory when setting_type is set to senior.
hl7_position	String	HL7 data source direction. • source • target
hl7_whitelist_enable	Boolean	Whether to enable the HL7 whitelist setting.
hl7_whitelist	String	HL7 whitelist. IP address of the server that allows data synchronization to the HL7 source end. Set this parameter when HL7 is the source (position set to source) and the whitelist setting is enabled (open_whitelist set to true).
ldap_security_auth_type	String	LDAP security authentication type.
rabbitmq_virtual_host	String	RabbitMQ virtual host.
rabbitmq_ssl_protocol	String	RabbitMQ SSL authentication protocol. • TLS
rocketmq_namesrv_addr	String	RocketMQ connection address of the IMF data source. This parameter is mandatory when mq_type is set to RocketMQ . Use commas (,) to separate multiple addresses.
namesrv_addr	String	ROMA 20.0 MQS connection address
app_id	String	ROMA 20.0 MQS APP Key
app_secret	String	ROMA 20.0 APP Secret
sap_client	String	SAP client ID.

Parameter	Type	Description
sap_sysnr	String	SAP instance ID.
snmp_network_protocol	String	SNMP network protocol. • udp • tcp
snmp_version	Integer	SNMP version number.
snmp_community	String	SNMP community name, which is used as an authentication password for access to the SNMP management agent.
ibmmq_ccs_id	String	IBMMQ character set ID.
ibmmq_queue_manager	String	IBMMQ queue manager.
ibmmq_channel	String	IBMMQ channel name.
ibmmq_cipher_suite	String	IBMMQ cipher algorithm suite.
hdfs_path	String	HDFS URL. This parameter is mandatory when the data source is MRSHIVE or MRSHDFS.
principal_name	String	Machine-machine interaction username. This parameter is mandatory when the data source is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, or MRS Redis.
config_file_name	String	User authentication file. For details about how to obtain the file, see "Appendix" > "Obtaining a Data Source Configuration File" in the API Reference. • Compress the obtained files into a ZIP package, and set config_file_name to the file name and config_file_content to the Base64-encoded file content. • Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis or MRS ClickHouse.

Parameter	Type	Description
config_file_content	String	Content of the user authentication file. Base64-encoded file content corresponding to config_file_name . Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis, or MRS ClickHouse.
connection_instance_id	String	Connector instance ID, which is generated when a connector is published
connector_params	Object	Data source parameter corresponding to the connector. Set this parameter based on actual requirements.

Table 5-19 MultiOracleAddress

Parameter	Type	Description
oracle_address	String	Oracle address.
oracle_port	String	Oracle port number.

Table 5-20 ApiAuthDetail

Parameter	Type	Description
auth_method	String	Authentication mode for accessing the API service. • none • basicauth • oauth2.0 • hmac • secret • md5 • apiGateway, which corresponds to AppKey Auth authentication on the console. • keyTop • hikVision • huaweiNetworkManagement • liHe

Parameter	Type	Description
app_auth_type	String	App authentication mode for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway. • default • secret • jwt
user_name	String	Username for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, or basicauth.
password	String	Password for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, basicauth, secret, md5 or hmac.
app_key	String	AppKey for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
app_secret	String	AppSecret for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
secret	String	Secret for accessing the API service. • This parameter is mandatory when the authentication mode is KeyTop, HiKVision, Secret, HMAC, or MD5.
alt_ip	String	Alternative IP address for accessing the API service. • This parameter is mandatory when the authentication mode is HuaweiNetworkManagement.
access_token_url	String	AccessTokenUrl for accessing the API service. • This parameter is mandatory when the authentication mode is liHe or oauth2.0 huaweiNetworkManagement.

Parameter	Type	Description
client_id	String	Client ID for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_id_key	String	Client ID for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_id if not specified.
client_secret	String	Client secret for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_secret_key	String	Client key for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_secret if not specified.
scope	String	Scope for accessing the API service. This parameter is mandatory when the authentication mode is LiHe or OAuth2.
authorization	String	Authorization for accessing the API service. This parameter is mandatory when the authentication mode is LiHe.
grant_type	String	Authorization type for accessing the API service. - This parameter is mandatory when the authentication mode is LiHe or OAuth2. - The value is client_credentials. This value is used in OAuth2.0.

Status code: 400**Table 5-21** Response body parameters

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

Status code: 500

Table 5-22 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": "658",
  "size": "1",
  "entities": [ {
    "datasource_id": "acd5502992254b3ab2dfd5b6900159db",
    "datasource_name": "TY_KAFKA",
    "datasource_type": "KAFKA",
    "content": {
      "project_id": "c53626012ba84727b938ca8bf03108ef",
      "type": "KAFKA",
      "instance_id": "05173009-2e5f-4773-8303-8e05cc9c9302",
      "broker": "10.01.01.01:9092",
      "ssl_username": "1",
      "ssl_password": "*****",
      "ssl_enable": true
    },
    "create_time": 1616784907101,
    "update_time": 1619650507230,
    "app_id": "141bbdf5-131e-4111-898d-5a6292a2113b",
    "app_name": "app-zhe",
    "instance_id": "05173009-2e5f-4773-8303-8e05cc9c9302",
    "remark": "No change.",
    "app_permission": [ "read", "access", "delete", "modify" ]
  } ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.1.3 Querying a Specified Data Source

Function

This API is used to query data sources based on data source IDs.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/datasources/{datasource_id}

Table 5-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID
datasource_id	Yes	String	Data source ID.

Request Parameters

Table 5-24 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-25 Response body parameters

Parameter	Type	Description
datasource_id	String	Data source ID.

Parameter	Type	Description
datasource_name	String	Data source name

Parameter	Type	Description
datasource_type	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Type	Description
		• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
vpc_id	String	ID of the VPC to which the data source belongs.
app_id	String	ID of the application to which the data source belongs.
app_name	String	Name of the application to which the data source belongs.
instance_id	String	ID of the instance to which the data source belongs.
create_time	Long	Data source creation time.
update_time	Long	Data source modification time.
custom_plugin_id	String	ID of the connector to which the data source belongs.
content	Content object	Data source details.
description	String	Data source description.
app_permission	Array of strings	Integration application permission. • read • access • delete • modify

Table 5-26 Content

Parameter	Type	Description
gauss100_version	String	GaussDB 100 version. This parameter is mandatory for a GaussDB 100 data source. • V100R003C20 • V300R001C00

Parameter	Type	Description
host	String	Host IP address. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP or IBM MQ. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ. • The initial value is null and host is generated after a configuration task is started.
port	String	Port number, which ranges from 0 to 65535. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ.
database_name	String	Database name. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is Oracle and mode is set to default or multiAddress.
redis_database	String	Redis data source type, which is a database ID containing only digits.

Parameter	Type	Description
user_name	String	Username for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
password	String	Password for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
mode	String	Data source connection mode. Options: default, professional, and multiAddress. • default: The data source type is DWS, MongoDB, Redis, or HANA. • default/professional: The data source type is MySQL, SQL Server, Db2, GaussDB 100, and TAURUS, PostgreSQL, GaussDB, or Hive. • multiAddress: The data source type is Oracle.
cdc_mode	String	CDC mode, which is used only for composite tasks.

Parameter	Type	Description
multi_oracle_address	Array of MultiOracleAddress objects	IP address of the Oracle cluster. This parameter is mandatory when mode is set to multiAddress.
oracle_service_name	String	Service name of the Oracle cluster.
ftp_connect_mode	String	Connection mode for accessing the FTP service. The value can be active or passive.
ftp_protocol	String	Protocol for accessing the FTP service. The value can be SFTP or FTP.
address	String	Address. • OBS (OBS remote address, which is used by the OBS data source) • MONGODB (addresses of the host of the MongoDB data source type, in the format of IP address:Port number, and separated by commas (,)) • REDIS (addresses of the host of the Redis data source type, in the format of IP address:Port number, and separated by commas (,))
ak	String	Access key ID. • This parameter is mandatory when the data source is OBS or DIS.
sk	String	Secret access key. • This parameter is mandatory when the data source is OBS or DIS.
bucket_name	String	Bucket name. This parameter is mandatory when the data source is OBS.
https	Boolean	Whether to use HTTPS. This parameter is mandatory when the data source is OBS. Generally, HTTPS is used by default.

Parameter	Type	Description
url	String	Connection URL. • Mandatory when the data source type is API, LDAP, or Websocket. • Mandatory when the data source type is MySQL, Oracle, Db2, GaussDB 100, TAURUS, PostgreSQL, or GaussDB and mode is set to professional.
api_method	String	API access request mode. • POST • PUT • DELETE • PATCH • GET
auth_method	String	Authentication mode for accessing the WEBSOCKET service. • none • basicauth
api_auth_detail	ApiAuthDetail object	API authentication field details.
broker	String	Addresses of the Kafka, MQS and ActiveMQ servers, in the format of IP address:Port number. Use commas (,) to separate multiple IP addresses and port numbers.
ssl	Boolean	Whether to enable SSL authentication. • If the internal MQS address is connected and MQS has enabled SSL, enable SSL authentication for the data source.
ssl_enable	Boolean	Whether to enable SSL authentication. • This parameter is mandatory when the data source is KAFKA. • This parameter is mandatory when the data source is ARTEMISMQ, ACTIVEMQ, RABBITMQ, or IBMMQ.
ssl_username	String	SSL user name or application key. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.

Parameter	Type	Description
ssl_password	String	SSL password or application secret. This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
acl_enable	Boolean	Whether to enable access control authentication. Mandatory when the data source type is RocketMQ.
mq_type	String	Message queue type of the IMF data source. - RocketMQ - RabbitMQ
mongodb_auth_source	String	MONGODB authentication source.
mongodb_cluster_enable	Boolean	MONGODB cluster mode. - true (cluster mode) - false (non-cluster mode)
mongodb_replica_set	String	MongoDB replica set. Mandatory when MongoDB is in non-cluster mode.
encoding	String	Encoding format. - If the data source type is GAUSS100 or POSTGRESQL, set this parameter to big5. - This parameter is mandatory when the data source type is MySQL or TAURUS and mode is default.
mysql_timeout	Integer	MySQL connection timeout time (seconds).
trust_store_password	String	Password of the public key library. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
trust_store	String	Public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.

Parameter	Type	Description
trust_store_file_type	String	Type of a public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
ssl_auth_method	String	Authentication method. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and SSL authentication is enabled. - one-way - two-way
key_store	String	Content of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and the SSL authentication is enabled and the authentication mode is two-way.
key_store_file_type	String	Type of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_password	String	Private key library password. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_key_password	String	Private key of the private key library. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
dis_tunnel_name	String	DIS tunnel name.
dis_data_type	String	DIS data type. JSON

Parameter	Type	Description
dis_setting_type	String	DIS configuration type. • senior • basic
dis_endpoint	String	DIS endpoint. This parameter is mandatory when setting_type is set to senior.
dis_region	String	DIS region. This parameter is mandatory when setting_type is set to senior.
dis_source_project_id	String	Project ID of the DIS source. This parameter is mandatory when setting_type is set to senior.
hl7_position	String	HL7 data source direction. • source • target
hl7_whitelist_enable	Boolean	Whether to enable the HL7 whitelist setting.
hl7_whitelist	String	HL7 whitelist. IP address of the server that allows data synchronization to the HL7 source end. Set this parameter when HL7 is the source (position set to source) and the whitelist setting is enabled (open_whitelist set to true).
ldap_security_auth_type	String	LDAP security authentication type.
rabbitmq_virtual_host	String	RabbitMQ virtual host.
rabbitmq_ssl_protocol	String	RabbitMQ SSL authentication protocol. • TLS
rocketmq_namesrv_addr	String	RocketMQ connection address of the IMF data source. This parameter is mandatory when mq_type is set to RocketMQ . Use commas (,) to separate multiple addresses.
namesrv_addr	String	ROMA 20.0 MQS connection address
app_id	String	ROMA 20.0 MQS APP Key
app_secret	String	ROMA 20.0 APP Secret
sap_client	String	SAP client ID.

Parameter	Type	Description
sap_sysnr	String	SAP instance ID.
snmp_network_protocol	String	SNMP network protocol. • udp • tcp
snmp_version	Integer	SNMP version number.
snmp_community	String	SNMP community name, which is used as an authentication password for access to the SNMP management agent.
ibmmq_ccs_id	String	IBMMQ character set ID.
ibmmq_queue_manager	String	IBMMQ queue manager.
ibmmq_channel	String	IBMMQ channel name.
ibmmq_cipher_suite	String	IBMMQ cipher algorithm suite.
hdfs_path	String	HDFS URL. This parameter is mandatory when the data source is MRSHIVE or MRSHDFS.
principal_name	String	Machine-machine interaction username. This parameter is mandatory when the data source is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, or MRS Redis.
config_file_name	String	User authentication file. For details about how to obtain the file, see "Appendix" > "Obtaining a Data Source Configuration File" in the API Reference. • Compress the obtained files into a ZIP package, and set config_file_name to the file name and config_file_content to the Base64-encoded file content. • Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis or MRS ClickHouse.

Parameter	Type	Description
config_file_content	String	Content of the user authentication file. Base64-encoded file content corresponding to config_file_name . Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis, or MRS ClickHouse.
connection_instance_id	String	Connector instance ID, which is generated when a connector is published
connector_params	Object	Data source parameter corresponding to the connector. Set this parameter based on actual requirements.

Table 5-27 MultiOracleAddress

Parameter	Type	Description
oracle_address	String	Oracle address.
oracle_port	String	Oracle port number.

Table 5-28 ApiAuthDetail

Parameter	Type	Description
auth_method	String	Authentication mode for accessing the API service. • none • basicauth • oauth2.0 • hmac • secret • md5 • apiGateway, which corresponds to AppKey Auth authentication on the console. • keyTop • hikVision • huaweiNetworkManagement • liHe

Parameter	Type	Description
app_auth_type	String	App authentication mode for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway. • default • secret • jwt
user_name	String	Username for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, or basicauth.
password	String	Password for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, basicauth, secret, md5 or hmac.
app_key	String	AppKey for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
app_secret	String	AppSecret for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
secret	String	Secret for accessing the API service. • This parameter is mandatory when the authentication mode is KeyTop, HiKVision, Secret, HMAC, or MD5.
alt_ip	String	Alternative IP address for accessing the API service. • This parameter is mandatory when the authentication mode is HuaweiNetworkManagement.
access_token_url	String	AccessTokenUrl for accessing the API service. • This parameter is mandatory when the authentication mode is liHe or oauth2.0 huaweiNetworkManagement.

Parameter	Type	Description
client_id	String	Client ID for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_id_key	String	Client ID for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_id if not specified.
client_secret	String	Client secret for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_secret_key	String	Client key for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_secret if not specified.
scope	String	Scope for accessing the API service. This parameter is mandatory when the authentication mode is LiHe or OAuth2.
authorization	String	Authorization for accessing the API service. This parameter is mandatory when the authentication mode is LiHe.
grant_type	String	Authorization type for accessing the API service. - This parameter is mandatory when the authentication mode is LiHe or OAuth2. - The value is client_credentials. This value is used in OAuth2.0.

Status code: 400**Table 5-29** Response body parameters

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

Parameter	Type	Description
detail	String	Description details.

Status code: 404

Table 5-30 Response body parameters

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

Status code: 500

Table 5-31 Response body parameters

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

Example Requests

Querying details about a specified data source

```
https://{ServerHost}/v2/c53626012ba84727b938ca8bf03108ef/fdi/instances/
fae7ff6c-8e07-4cf8-9e67-589cab2f017c/datasources/acb3b4049bb643e39ca12a87a735b34d
```

Example Responses

Status code: 200

OK

```
{
  "datasource_id" : "acd5502992254b3ab2dfd5b6900159db",
  "datasource_name" : "TY_KAFKA",
  "datasource_type" : "KAFKA",
  "content" : {
    "project_id" : "c53626012ba84727b938ca8bf03108ef",
    "type" : "KAFKA",
    "instance_id" : "05173009-2e5f-4773-8303-8e05cc9c9302",
    "broker" : "10.01.01.01:9092",
    "ssl_username" : "1",
    "ssl_password" : "*****",
    "ssl_enable" : true
  },
  "create_time" : 1616784907101,
  "update_time" : 1619650507230,
  "app_id" : "141bbdf5-131e-4111-898d-5a6292a2113b",
  "app_name" : "app-zhe",
}
```

```
"instance_id" : "05173009-2e5f-4773-8303-8e05cc9c9302",  
"remark" : "No change.",  
"app_permission" : [ "read", "access", "delete", "modify" ]  
}
```

Status Codes

Status Code	Description
200	OK
400	Error response
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.1.4 Modifying Data Sources

Function

This API is used to modify a data source.

URI

PUT /v2/{project_id}/fdi/instances/{instance_id}/datasources/{datasource_id}

Table 5-32 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID
datasource_id	Yes	String	Data source ID.

Request Parameters

Table 5-33 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Table 5-34 Request body parameters

Parameter	Mandatory	Type	Description
datasource_name	Yes	String	Data source name. The value can contain 1 to 255 characters. It cannot be all spaces or contain the following special characters: &<>"'()

Parameter	Mandatory	Type	Description
datasource_type	Yes	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Mandatory	Type	Description
			• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
app_id	Yes	String	ID of the application to which the data source belongs.
content	Yes	Content object	Data source details.
description	No	String	description.

Table 5-35 Content

Parameter	Mandatory	Type	Description
gauss100_version	No	String	GaussDB 100 version. This parameter is mandatory for a GaussDB 100 data source. • V100R003C20 • V300R001C00
host	No	String	Host IP address. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP or IBM MQ. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ. • The initial value is null and host is generated after a configuration task is started.

Parameter	Mandatory	Type	Description
port	No	String	Port number, which ranges from 0 to 65535. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ.
database_name	No	String	Database name. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is Oracle and mode is set to default or multiAddress.
redis_database	No	String	Redis data source type, which is a database ID containing only digits.

Parameter	Mandatory	Type	Description
user_name	No	String	Username for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
password	No	String	Password for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.

Parameter	Mandatory	Type	Description
mode	No	String	Data source connection mode. Options: default, professional, and multiAddress. • default: The data source type is DWS, MongoDB, Redis, or HANA. • default/professional: The data source type is MySQL, SQL Server, Db2, GaussDB 100, and TAURUS, PostgreSQL, GaussDB, or Hive. • multiAddress: The data source type is Oracle.
cdc_mode	No	String	CDC mode, which is used only for composite tasks.
multi_oracle_address	No	Array of MultiOracleAddress objects	IP address of the Oracle cluster. This parameter is mandatory when mode is set to multiAddress.
oracle_service_name	No	String	Service name of the Oracle cluster.
ftp_connect_mode	No	String	Connection mode for accessing the FTP service. The value can be active or passive.
ftp_protocol	No	String	Protocol for accessing the FTP service. The value can be SFTP or FTP.
address	No	String	Address. • OBS (OBS remote address, which is used by the OBS data source) • MONGODB (addresses of the host of the MongoDB data source type, in the format of IP address:Port number, and separated by commas (,)) • REDIS (addresses of the host of the Redis data source type, in the format of IP address:Port number, and separated by commas (,))

Parameter	Mandatory	Type	Description
ak	No	String	Access key ID. This parameter is mandatory when the data source is OBS or DIS.
sk	No	String	Secret access key. This parameter is mandatory when the data source is OBS or DIS.
bucket_name	No	String	Bucket name. This parameter is mandatory when the data source is OBS.
https	No	Boolean	Whether to use HTTPS. This parameter is mandatory when the data source is OBS. Generally, HTTPS is used by default.
url	No	String	Connection URL. - Mandatory when the data source type is API, LDAP, or Websocket. - Mandatory when the data source type is MySQL, Oracle, Db2, GaussDB 100, TAURUS, PostgreSQL, or GaussDB and mode is set to professional.
api_method	No	String	API access request mode. - POST - PUT - DELETE - PATCH - GET
auth_method	No	String	Authentication mode for accessing the WEBSOCKET service. - none - basicauth
api_auth_detail	No	ApiAuthDetail object	API authentication field details.

Parameter	Mandatory	Type	Description
broker	No	String	Addresses of the Kafka, MQS and ActiveMQ servers, in the format of IP address:Port number. Use commas (,) to separate multiple IP addresses and port numbers.
ssl	No	Boolean	Whether to enable SSL authentication. • If the internal MQS address is connected and MQS has enabled SSL, enable SSL authentication for the data source.
ssl_enable	No	Boolean	Whether to enable SSL authentication. • This parameter is mandatory when the data source is KAFKA. • This parameter is mandatory when the data source is ARTEMISMQ, ACTIVEMQ, RABBITMQ, or IBMMQ.
ssl_username	No	String	SSL user name or application key. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
ssl_password	No	String	SSL password or application secret. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
acl_enable	No	Boolean	Whether to enable access control authentication. • Mandatory when the data source type is RocketMQ.

Parameter	Mandatory	Type	Description
mq_type	No	String	Message queue type of the IMF data source. • RocketMQ • RabbitMQ
mongodb_auth_source	No	String	MONGODB authentication source.
mongodb_cluster_enable	No	Boolean	MONGODB cluster mode. • true (cluster mode) • false (non-cluster mode)
mongodb_replica_set	No	String	MongoDB replica set. Mandatory when MongoDB is in non-cluster mode.
encoding	No	String	Encoding format. • If the data source type is GAUSS100 or POSTGRESQL, set this parameter to big5. • This parameter is mandatory when the data source type is MySQL or TAURUS and mode is default.
mysql_timeout	No	Integer	MySQL connection timeout time (seconds).
trust_store_password	No	String	Password of the public key library. • This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
trust_store	No	String	Public key library file. • This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.

Parameter	Mandatory	Type	Description
trust_store_file_type	No	String	Type of a public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
ssl_auth_method	No	String	Authentication method. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and SSL authentication is enabled. - one-way - two-way
key_store	No	String	Content of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and the SSL authentication is enabled and the authentication mode is two-way.
key_store_file_type	No	String	Type of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_password	No	String	Private key library password. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.

Parameter	Mandatory	Type	Description
key_store_key_password	No	String	Private key of the private key library. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
dis_tunnel_name	No	String	DIS tunnel name.
dis_data_type	No	String	DIS data type. JSON
dis_setting_type	No	String	DIS configuration type. - senior - basic
dis_endpoint	No	String	DIS endpoint. This parameter is mandatory when setting_type is set to senior.
dis_region	No	String	DIS region. This parameter is mandatory when setting_type is set to senior.
dis_source_project_id	No	String	Project ID of the DIS source. This parameter is mandatory when setting_type is set to senior.
hl7_position	No	String	HL7 data source direction. - source - target
hl7_whitelist_enable	No	Boolean	Whether to enable the HL7 whitelist setting.
hl7_whitelist	No	String	HL7 whitelist. IP address of the server that allows data synchronization to the HL7 source end. Set this parameter when HL7 is the source (position set to source) and the whitelist setting is enabled (open_whitelist set to true).
ldap_security_auth_type	No	String	LDAP security authentication type.

Parameter	Mandatory	Type	Description
rabbitmq_virtual_host	No	String	RabbitMQ virtual host.
rabbitmq_ssl_protocol	No	String	RabbitMQ SSL authentication protocol. • TLS
rocketmq_namesrv_addr	No	String	RocketMQ connection address of the IMF data source. This parameter is mandatory when mq_type is set to RocketMQ . Use commas (,) to separate multiple addresses.
namesrv_addr	No	String	ROMA 20.0 MQS connection address
app_id	No	String	ROMA 20.0 MQS APP Key
app_secret	No	String	ROMA 20.0 APP Secret
sap_client	No	String	SAP client ID.
sap_sysnr	No	String	SAP instance ID.
snmp_network_protocol	No	String	SNMP network protocol. • udp • tcp
snmp_version	No	Integer	SNMP version number.
snmp_community	No	String	SNMP community name, which is used as an authentication password for access to the SNMP management agent.
ibmmq_ccs_id	No	String	IBMMQ character set ID.
ibmmq_queue_manager	No	String	IBMMQ queue manager.
ibmmq_channel	No	String	IBMMQ channel name.
ibmmq_cipher_suite	No	String	IBMMQ cipher algorithm suite.
hdfs_path	No	String	HDFS URL. This parameter is mandatory when the data source is MRSHIVE or MRSHDFS.

Parameter	Mandatory	Type	Description
principal_name	No	String	Machine-machine interaction username. This parameter is mandatory when the data source is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, or MRS Redis.
config_file_name	No	String	User authentication file. For details about how to obtain the file, see "Appendix" > "Obtaining a Data Source Configuration File" in the API Reference. - Compress the obtained files into a ZIP package, and set config_file_name to the file name and config_file_content to the Base64-encoded file content. - Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis or MRS ClickHouse.
config_file_content	No	String	Content of the user authentication file. Base64-encoded file content corresponding to config_file_name . Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis, or MRS ClickHouse.
connection_instance_id	No	String	Connector instance ID, which is generated when a connector is published
connector_params	No	Object	Data source parameter corresponding to the connector. Set this parameter based on actual requirements.

Table 5-36 MultiOracleAddress

Parameter	Mandatory	Type	Description
oracle_addresses	No	String	Oracle address.
oracle_port	No	String	Oracle port number.

Table 5-37 ApiAuthDetail

Parameter	Mandatory	Type	Description
auth_method	No	String	Authentication mode for accessing the API service. • none • basicauth • oauth2.0 • hmac • secret • md5 • apiGateway, which corresponds to AppKey Auth authentication on the console. • keyTop • hikVision • huaweiNetworkManagement • liHe
app_auth_type	No	String	App authentication mode for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway. • default • secret • jwt
user_name	No	String	Username for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, or basicauth.

Parameter	Mandatory	Type	Description
password	No	String	Password for accessing the API service. This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, basicauth, secret, md5 or hmac.
app_key	No	String	AppKey for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway.
app_secret	No	String	AppSecret for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway.
secret	No	String	Secret for accessing the API service. This parameter is mandatory when the authentication mode is KeyTop, HiKVision, Secret, HMAC, or MD5.
alt_ip	No	String	Alternative IP address for accessing the API service. This parameter is mandatory when the authentication mode is HuaweiNetworkManagement.
access_token_url	No	String	AccessTokenUrl for accessing the API service. This parameter is mandatory when the authentication mode is liHe or oauth2.0 huaweiNetworkManagement.

Parameter	Mandatory	Type	Description
client_id	No	String	Client ID for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_id_key	No	String	Client ID for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_id if not specified.
client_secret	No	String	Client secret for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_secret_key	No	String	Client key for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_secret if not specified.
scope	No	String	Scope for accessing the API service. This parameter is mandatory when the authentication mode is LiHe or OAuth2.
authorization	No	String	Authorization for accessing the API service. This parameter is mandatory when the authentication mode is LiHe.

Parameter	Mandatory	Type	Description
grant_type	No	String	Authorization type for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe or OAuth2. • The value is client_credentials. This value is used in OAuth2.0.

Response Parameters

Status code: 200

Table 5-38 Response body parameters

Parameter	Type	Description
datasource_id	String	Data source ID.
datasource_name	String	Data source name

Parameter	Type	Description
datasource_type	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Type	Description
		• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
vpc_id	String	ID of the VPC to which the data source belongs.
app_id	String	ID of the application to which the data source belongs.
app_name	String	Name of the application to which the data source belongs.
instance_id	String	ID of the instance to which the data source belongs.
create_time	Long	Data source creation time.
update_time	Long	Data source modification time.
custom_plugin_id	String	ID of the connector to which the data source belongs.
content	Content object	Data source details.
description	String	Data source description.
app_permission	Array of strings	Integration application permission. • read • access • delete • modify

Table 5-39 Content

Parameter	Type	Description
gauss100_version	String	GaussDB 100 version. This parameter is mandatory for a GaussDB 100 data source. • V100R003C20 • V300R001C00

Parameter	Type	Description
host	String	Host IP address. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP or IBM MQ. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ. • The initial value is null and host is generated after a configuration task is started.
port	String	Port number, which ranges from 0 to 65535. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ.
database_name	String	Database name. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is Oracle and mode is set to default or multiAddress.
redis_database	String	Redis data source type, which is a database ID containing only digits.

Parameter	Type	Description
user_name	String	Username for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
password	String	Password for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
mode	String	Data source connection mode. Options: default, professional, and multiAddress. • default: The data source type is DWS, MongoDB, Redis, or HANA. • default/professional: The data source type is MySQL, SQL Server, Db2, GaussDB 100, and TAURUS, PostgreSQL, GaussDB, or Hive. • multiAddress: The data source type is Oracle.
cdc_mode	String	CDC mode, which is used only for composite tasks.

Parameter	Type	Description
multi_oracle_address	Array of MultiOracleAddress objects	IP address of the Oracle cluster. This parameter is mandatory when mode is set to multiAddress.
oracle_service_name	String	Service name of the Oracle cluster.
ftp_connect_mode	String	Connection mode for accessing the FTP service. The value can be active or passive.
ftp_protocol	String	Protocol for accessing the FTP service. The value can be SFTP or FTP.
address	String	Address. • OBS (OBS remote address, which is used by the OBS data source) • MONGODB (addresses of the host of the MongoDB data source type, in the format of IP address:Port number, and separated by commas (,)) • REDIS (addresses of the host of the Redis data source type, in the format of IP address:Port number, and separated by commas (,))
ak	String	Access key ID. • This parameter is mandatory when the data source is OBS or DIS.
sk	String	Secret access key. • This parameter is mandatory when the data source is OBS or DIS.
bucket_name	String	Bucket name. This parameter is mandatory when the data source is OBS.
https	Boolean	Whether to use HTTPS. This parameter is mandatory when the data source is OBS. Generally, HTTPS is used by default.

Parameter	Type	Description
url	String	Connection URL. • Mandatory when the data source type is API, LDAP, or Websocket. • Mandatory when the data source type is MySQL, Oracle, Db2, GaussDB 100, TAURUS, PostgreSQL, or GaussDB and mode is set to professional.
api_method	String	API access request mode. • POST • PUT • DELETE • PATCH • GET
auth_method	String	Authentication mode for accessing the WEBSOCKET service. • none • basicauth
api_auth_detail	ApiAuthDetail object	API authentication field details.
broker	String	Addresses of the Kafka, MQS and ActiveMQ servers, in the format of IP address:Port number. Use commas (,) to separate multiple IP addresses and port numbers.
ssl	Boolean	Whether to enable SSL authentication. • If the internal MQS address is connected and MQS has enabled SSL, enable SSL authentication for the data source.
ssl_enable	Boolean	Whether to enable SSL authentication. • This parameter is mandatory when the data source is KAFKA. • This parameter is mandatory when the data source is ARTEMISMQ, ACTIVEMQ, RABBITMQ, or IBMMQ.
ssl_username	String	SSL user name or application key. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.

Parameter	Type	Description
ssl_password	String	SSL password or application secret. This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
acl_enable	Boolean	Whether to enable access control authentication. Mandatory when the data source type is RocketMQ.
mq_type	String	Message queue type of the IMF data source. - RocketMQ - RabbitMQ
mongodb_auth_source	String	MONGODB authentication source.
mongodb_cluster_enable	Boolean	MONGODB cluster mode. - true (cluster mode) - false (non-cluster mode)
mongodb_replica_set	String	MongoDB replica set. Mandatory when MongoDB is in non-cluster mode.
encoding	String	Encoding format. - If the data source type is GAUSS100 or POSTGRESQL, set this parameter to big5. - This parameter is mandatory when the data source type is MySQL or TAURUS and mode is default.
mysql_timeout	Integer	MySQL connection timeout time (seconds).
trust_store_password	String	Password of the public key library. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
trust_store	String	Public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.

Parameter	Type	Description
trust_store_file_type	String	Type of a public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
ssl_auth_method	String	Authentication method. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and SSL authentication is enabled. - one-way - two-way
key_store	String	Content of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and the SSL authentication is enabled and the authentication mode is two-way.
key_store_file_type	String	Type of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_password	String	Private key library password. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_key_password	String	Private key of the private key library. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
dis_tunnel_name	String	DIS tunnel name.
dis_data_type	String	DIS data type. JSON

Parameter	Type	Description
dis_setting_type	String	DIS configuration type. • senior • basic
dis_endpoint	String	DIS endpoint. This parameter is mandatory when setting_type is set to senior.
dis_region	String	DIS region. This parameter is mandatory when setting_type is set to senior.
dis_source_project_id	String	Project ID of the DIS source. This parameter is mandatory when setting_type is set to senior.
hl7_position	String	HL7 data source direction. • source • target
hl7_whitelist_enable	Boolean	Whether to enable the HL7 whitelist setting.
hl7_whitelist	String	HL7 whitelist. IP address of the server that allows data synchronization to the HL7 source end. Set this parameter when HL7 is the source (position set to source) and the whitelist setting is enabled (open_whitelist set to true).
ldap_security_auth_type	String	LDAP security authentication type.
rabbitmq_virtual_host	String	RabbitMQ virtual host.
rabbitmq_ssl_protocol	String	RabbitMQ SSL authentication protocol. • TLS
rocketmq_namesrv_addr	String	RocketMQ connection address of the IMF data source. This parameter is mandatory when mq_type is set to RocketMQ . Use commas (,) to separate multiple addresses.
namesrv_addr	String	ROMA 20.0 MQS connection address
app_id	String	ROMA 20.0 MQS APP Key
app_secret	String	ROMA 20.0 APP Secret
sap_client	String	SAP client ID.

Parameter	Type	Description
sap_sysnr	String	SAP instance ID.
snmp_network_protocol	String	SNMP network protocol. • udp • tcp
snmp_version	Integer	SNMP version number.
snmp_community	String	SNMP community name, which is used as an authentication password for access to the SNMP management agent.
ibmmq_ccs_id	String	IBMMQ character set ID.
ibmmq_queue_manager	String	IBMMQ queue manager.
ibmmq_channel	String	IBMMQ channel name.
ibmmq_cipher_suite	String	IBMMQ cipher algorithm suite.
hdfs_path	String	HDFS URL. This parameter is mandatory when the data source is MRSHIVE or MRSHDFS.
principal_name	String	Machine-machine interaction username. This parameter is mandatory when the data source is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, or MRS Redis.
config_file_name	String	User authentication file. For details about how to obtain the file, see "Appendix" > "Obtaining a Data Source Configuration File" in the API Reference. • Compress the obtained files into a ZIP package, and set config_file_name to the file name and config_file_content to the Base64-encoded file content. • Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis or MRS ClickHouse.

Parameter	Type	Description
config_file_content	String	Content of the user authentication file. Base64-encoded file content corresponding to config_file_name . Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis, or MRS ClickHouse.
connection_instance_id	String	Connector instance ID, which is generated when a connector is published
connector_params	Object	Data source parameter corresponding to the connector. Set this parameter based on actual requirements.

Table 5-40 MultiOracleAddress

Parameter	Type	Description
oracle_address	String	Oracle address.
oracle_port	String	Oracle port number.

Table 5-41 ApiAuthDetail

Parameter	Type	Description
auth_method	String	Authentication mode for accessing the API service. • none • basicauth • oauth2.0 • hmac • secret • md5 • apiGateway, which corresponds to AppKey Auth authentication on the console. • keyTop • hikVision • huaweiNetworkManagement • liHe

Parameter	Type	Description
app_auth_type	String	App authentication mode for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway. • default • secret • jwt
user_name	String	Username for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, or basicauth.
password	String	Password for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, basicauth, secret, md5 or hmac.
app_key	String	AppKey for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
app_secret	String	AppSecret for accessing the API service. • This parameter is mandatory when the authentication mode is apiGateway.
secret	String	Secret for accessing the API service. • This parameter is mandatory when the authentication mode is KeyTop, HiKVision, Secret, HMAC, or MD5.
alt_ip	String	Alternative IP address for accessing the API service. • This parameter is mandatory when the authentication mode is HuaweiNetworkManagement.
access_token_url	String	AccessTokenUrl for accessing the API service. • This parameter is mandatory when the authentication mode is liHe or oauth2.0 huaweiNetworkManagement.

Parameter	Type	Description
client_id	String	Client ID for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_id_key	String	Client ID for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_id if not specified.
client_secret	String	Client secret for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_secret_key	String	Client key for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_secret if not specified.
scope	String	Scope for accessing the API service. This parameter is mandatory when the authentication mode is LiHe or OAuth2.
authorization	String	Authorization for accessing the API service. This parameter is mandatory when the authentication mode is LiHe.
grant_type	String	Authorization type for accessing the API service. - This parameter is mandatory when the authentication mode is LiHe or OAuth2. - The value is client_credentials. This value is used in OAuth2.0.

Status code: 400**Table 5-42** Response body parameters

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

Parameter	Type	Description
detail	String	Description details.

Status code: 404

Table 5-43 Response body parameters

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

Status code: 500

Table 5-44 Response body parameters

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

Example Requests

Modify the host address, port number, username, and password of a specified MySQL data source.

```
{
  "datasource_name": "fdi_ds_y3k674",
  "datasource_type": "MYSQL",
  "content": {
    "host": "***.***.***",
    "port": "3306",
    "database_name": "testfdi",
    "user_name": "fditest",
    "password": "*****",
    "mode": "default"
  },
  "app_id": "9dbd2cd2-9622-4a1b-ad47-31018cf44cbd",
  "description": "testtesttest"
}
```

Example Responses

Status code: 200

OK

```
{
  "datasource_id": "acd5502992254b3ab2dfd5b6900159db",
  "datasource_name": "TY_KAFKA",
}
```

```
"datasource_type": "KAFKA",
"content": {
  "project_id": "c53626012ba84727b938ca8bf03108ef",
  "type": "KAFKA",
  "instance_id": "05173009-2e5f-4773-8303-8e05cc9c9302",
  "broker": "10.01.01.01:9092",
  "ssl_username": "1",
  "ssl_password": "*****",
  "ssl_enable": true
},
"create_time": 1616784907101,
"update_time": 1619650507230,
"app_id": "141bbdf5-131e-4111-898d-5a6292a2113b",
"app_name": "app-zhe",
"instance_id": "05173009-2e5f-4773-8303-8e05cc9c9302",
"remark": "No change."
}
```

Status Codes

Status Code	Description
200	OK
400	Error response
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.1.5 Deleting a Specified Data Source

Function

This API is used to delete information about a specified data source based on the data source ID.

URI

DELETE /v2/{project_id}/fdi/instances/{instance_id}/datasources/{datasource_id}

Table 5-45 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID
datasource_id	Yes	String	Data source ID.

Request Parameters

Table 5-46 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 204

Table 5-47 Response body parameters

Parameter	Type	Description
-	String	OK.

Status code: 404

Table 5-48 Response body parameters

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

Status code: 500

Table 5-49 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
204	No Content
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.1.6 Obtaining All Tables in the Data Source

Function

This API is used to obtain all tables in the data source.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/datasources/{datasource_id}/tables

Table 5-50 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID

Parameter	Mandatory	Type	Description
datasource_id	Yes	String	Data source ID.

Table 5-51 Query Parameters

Parameter	Mandatory	Type	Description
direction_type	Yes	String	Location of the task where the data source is located. • SOURCE: the data source is at the source end of the task. • TARGET: the data source is at the target end of the task.
db_name	No	String	Database name. Only data sources of the MRSHIVE type is supported.
db_schema	No	String	Database mode. This API is used by the Gauss100 database.
filter	No	String	Filter for fuzzy match of table names.

Request Parameters

Table 5-52 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-53 Response body parameters

Parameter	Type	Description
tables	Array of strings	Names of all tables in the data source.

Status code: 400**Table 5-54** Response body parameters

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

Status code: 404**Table 5-55** Response body parameters

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

Status code: 500**Table 5-56** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

- Example 1
null
- Example 2
["app.0"]

Status Codes

Status Code	Description
200	OK
400	Error response
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.1.7 Obtaining All Fields in a Table in the Data Source

Function

This API is used to obtain all fields in a table in the data source.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/datasources/{datasource_id}/columns

Table 5-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID
datasource_id	Yes	String	Data source ID.

Table 5-58 Query Parameters

Parameter	Mandatory	Type	Description
direction_type	Yes	String	Location of the task where the data source is located. • SOURCE: the data source is at the source end of the task. • TARGET: the data source is at the target end of the task.
db_name	No	String	Database name. Only data sources of the MRSHIVE type is supported.
table_name	Yes	String	Name of the table where a field is located.

Request Parameters

Table 5-59 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-60 Response body parameters

Parameter	Type	Description
columns	Array of ColumnInfo objects	Returned entity object.

Table 5-61 ColumnInfo

Parameter	Type	Description
field_name	String	Field name.
field_type	String	Field type.
field_length	String	Field length.
null_able	String	Indicates whether it can be null.
is_partition	Boolean	Whether it is a partition field.
primary	String	Whether it is a primary key field.
unique	String	Whether it is a unique key field.
decimal_digits	String	Number of decimal places. If the value is not a number, null is returned.

Status code: 400**Table 5-62** Response body parameters

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

Status code: 404**Table 5-63** Response body parameters

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

Status code: 500**Table 5-64** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

None

Example Responses

Status code: 500

Internal Server Error

```
{
  "error_code" : "FDI.3126",
  "error_msg" : "Failed to query the field."
}
```

Status Codes

Status Code	Description
200	OK
400	Error response
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.1.8 Testing Data Source Connectivity

Function

This API is used to test the data source connectivity.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/datasources/{datasource_id}/test-connect

Table 5-65 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID
datasource_id	Yes	String	Data source ID.

Request Parameters

Table 5-66 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Table 5-67 Request body parameters

Parameter	Mandatory	Type	Description
datasource_name	Yes	String	Data source name. The value can contain 1 to 255 characters. It cannot be all spaces or contain the following special characters: &<>"'()

Parameter	Mandatory	Type	Description
datasource_type	Yes	String	Data source type. • DB2 • GAUSS100 • OPENGAUSS: GaussDB • MYSQL • ORACLE • POSTGRESQL • SQLSERVER • TAURUS • DIS • DWS • HIVE • MRSHBASE • MRSHDFS • MRSHIVE • MRSKAFKA • MRSREDIS • MRSClickHOUSE • FTP • OBS • ACTIVEMQ • ARTEMISMQ • IBMMQ • KAFKA • MQS • RABBITMQ • HANA • MONGODB • REDIS • API • WEBSOCKET • LDAP • SAP • SNMP • AOMDP • ROCKETMQ • DM • CLICKHOUSE

Parameter	Mandatory	Type	Description
			• HL7 (not supported on Site instances) • ROMA20MQS • IMF (only for Huawei Cloud Stack)
app_id	Yes	String	ID of the application to which the data source belongs.
content	Yes	Content object	Data source details.
description	No	String	description.

Table 5-68 Content

Parameter	Mandatory	Type	Description
gauss100_version	No	String	GaussDB 100 version. This parameter is mandatory for a GaussDB 100 data source. • V100R003C20 • V300R001C00
host	No	String	Host IP address. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP or IBM MQ. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ. • The initial value is null and host is generated after a configuration task is started.

Parameter	Mandatory	Type	Description
port	No	String	Port number, which ranges from 0 to 65535. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, Oracle, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is IMF and mq_type is set to RabbitMQ.
database_name	No	String	Database name. • Mandatory when the data source type is DWS, HANA, RabbitMQ, SAP, SNMP, IBM MQ, or OBS. • Mandatory when the data source type is MySQL, SQL Server, Db2, GaussDB 100, TAURUS, ArtemisMQ, PostgreSQL, GaussDB, or HIVE and mode is set to default. • Mandatory when the data source type is Oracle and mode is set to default or multiAddress.
redis_database	No	String	Redis data source type, which is a database ID containing only digits.

Parameter	Mandatory	Type	Description
user_name	No	String	Username for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.
password	No	String	Password for logging in to the service. • Mandatory when the data source type is MySQL, DWS, FTP, Oracle, MongoDB, HANA, SQL Server, Db2, GaussDB 100, TAURUS, ActiveMQ, ArtemisMQ, PostgreSQL, GaussDB, RabbitMQ, SAP, IBM MQ, Hive, IMF, or RocketMQ. • Mandatory when the data source type is Websocket and the authentication mode is basicauth. • Mandatory when the data source type is LDAP and security_auth_type is set to simple.

Parameter	Mandatory	Type	Description
mode	No	String	Data source connection mode. Options: default, professional, and multiAddress. • default: The data source type is DWS, MongoDB, Redis, or HANA. • default/professional: The data source type is MySQL, SQL Server, Db2, GaussDB 100, and TAURUS, PostgreSQL, GaussDB, or Hive. • multiAddress: The data source type is Oracle.
cdc_mode	No	String	CDC mode, which is used only for composite tasks.
multi_oracle_address	No	Array of MultiOracleAddress objects	IP address of the Oracle cluster. This parameter is mandatory when mode is set to multiAddress.
oracle_service_name	No	String	Service name of the Oracle cluster.
ftp_connect_mode	No	String	Connection mode for accessing the FTP service. The value can be active or passive.
ftp_protocol	No	String	Protocol for accessing the FTP service. The value can be SFTP or FTP.
address	No	String	Address. • OBS (OBS remote address, which is used by the OBS data source) • MONGODB (addresses of the host of the MongoDB data source type, in the format of IP address:Port number, and separated by commas (,)) • REDIS (addresses of the host of the Redis data source type, in the format of IP address:Port number, and separated by commas (,))

Parameter	Mandatory	Type	Description
ak	No	String	Access key ID. This parameter is mandatory when the data source is OBS or DIS.
sk	No	String	Secret access key. This parameter is mandatory when the data source is OBS or DIS.
bucket_name	No	String	Bucket name. This parameter is mandatory when the data source is OBS.
https	No	Boolean	Whether to use HTTPS. This parameter is mandatory when the data source is OBS. Generally, HTTPS is used by default.
url	No	String	Connection URL. - Mandatory when the data source type is API, LDAP, or Websocket. - Mandatory when the data source type is MySQL, Oracle, Db2, GaussDB 100, TAURUS, PostgreSQL, or GaussDB and mode is set to professional.
api_method	No	String	API access request mode. - POST - PUT - DELETE - PATCH - GET
auth_method	No	String	Authentication mode for accessing the WEBSOCKET service. - none - basicauth
api_auth_detail	No	ApiAuthDetail object	API authentication field details.

Parameter	Mandatory	Type	Description
broker	No	String	Addresses of the Kafka, MQS and ActiveMQ servers, in the format of IP address:Port number. Use commas (,) to separate multiple IP addresses and port numbers.
ssl	No	Boolean	Whether to enable SSL authentication. • If the internal MQS address is connected and MQS has enabled SSL, enable SSL authentication for the data source.
ssl_enable	No	Boolean	Whether to enable SSL authentication. • This parameter is mandatory when the data source is KAFKA. • This parameter is mandatory when the data source is ARTEMISMQ, ACTIVEMQ, RABBITMQ, or IBMMQ.
ssl_username	No	String	SSL user name or application key. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
ssl_password	No	String	SSL password or application secret. • This parameter is mandatory when the data source is KAFKA or MQS and SSL authentication is enabled.
acl_enable	No	Boolean	Whether to enable access control authentication. • Mandatory when the data source type is RocketMQ.

Parameter	Mandatory	Type	Description
mq_type	No	String	Message queue type of the IMF data source. • RocketMQ • RabbitMQ
mongodb_auth_source	No	String	MONGODB authentication source.
mongodb_cluster_enable	No	Boolean	MONGODB cluster mode. • true (cluster mode) • false (non-cluster mode)
mongodb_replica_set	No	String	MongoDB replica set. Mandatory when MongoDB is in non-cluster mode.
encoding	No	String	Encoding format. • If the data source type is GAUSS100 or POSTGRESQL, set this parameter to big5. • This parameter is mandatory when the data source type is MySQL or TAURUS and mode is default.
mysql_timeout	No	Integer	MySQL connection timeout time (seconds).
trust_store_password	No	String	Password of the public key library. • This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
trust_store	No	String	Public key library file. • This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.

Parameter	Mandatory	Type	Description
trust_store_file_type	No	String	Type of a public key library file. This parameter is mandatory when the data source is ACTIVEMQ, ARTEMISMQ, RABBITMQ, or IBMMQ and SSL authentication is enabled.
ssl_auth_method	No	String	Authentication method. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and SSL authentication is enabled. - one-way - two-way
key_store	No	String	Content of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ and the SSL authentication is enabled and the authentication mode is two-way.
key_store_file_type	No	String	Type of the private key library file. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
key_store_password	No	String	Private key library password. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.

Parameter	Mandatory	Type	Description
key_store_key_password	No	String	Private key of the private key library. This parameter is mandatory when the data source is ACTIVEMQ or ARTEMISMQ, SSL authentication is enabled, and the authentication mode is two-way.
dis_tunnel_name	No	String	DIS tunnel name.
dis_data_type	No	String	DIS data type. JSON
dis_setting_type	No	String	DIS configuration type. - senior - basic
dis_endpoint	No	String	DIS endpoint. This parameter is mandatory when setting_type is set to senior.
dis_region	No	String	DIS region. This parameter is mandatory when setting_type is set to senior.
dis_source_project_id	No	String	Project ID of the DIS source. This parameter is mandatory when setting_type is set to senior.
hl7_position	No	String	HL7 data source direction. - source - target
hl7_whitelist_enable	No	Boolean	Whether to enable the HL7 whitelist setting.
hl7_whitelist	No	String	HL7 whitelist. IP address of the server that allows data synchronization to the HL7 source end. Set this parameter when HL7 is the source (position set to source) and the whitelist setting is enabled (open_whitelist set to true).
ldap_security_auth_type	No	String	LDAP security authentication type.

Parameter	Mandatory	Type	Description
rabbitmq_virtual_host	No	String	RabbitMQ virtual host.
rabbitmq_ssl_protocol	No	String	RabbitMQ SSL authentication protocol. • TLS
rocketmq_namesrv_addr	No	String	RocketMQ connection address of the IMF data source. This parameter is mandatory when mq_type is set to RocketMQ . Use commas (,) to separate multiple addresses.
namesrv_addr	No	String	ROMA 20.0 MQS connection address
app_id	No	String	ROMA 20.0 MQS APP Key
app_secret	No	String	ROMA 20.0 APP Secret
sap_client	No	String	SAP client ID.
sap_sysnr	No	String	SAP instance ID.
snmp_network_protocol	No	String	SNMP network protocol. • udp • tcp
snmp_version	No	Integer	SNMP version number.
snmp_community	No	String	SNMP community name, which is used as an authentication password for access to the SNMP management agent.
ibmmq_ccs_id	No	String	IBMMQ character set ID.
ibmmq_queue_manager	No	String	IBMMQ queue manager.
ibmmq_channel	No	String	IBMMQ channel name.
ibmmq_cipher_suite	No	String	IBMMQ cipher algorithm suite.
hdfs_path	No	String	HDFS URL. This parameter is mandatory when the data source is MRSHIVE or MRSHDFS.

Parameter	Mandatory	Type	Description
principal_name	No	String	Machine-machine interaction username. This parameter is mandatory when the data source is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, or MRS Redis.
config_file_name	No	String	User authentication file. For details about how to obtain the file, see "Appendix" > "Obtaining a Data Source Configuration File" in the API Reference. - Compress the obtained files into a ZIP package, and set config_file_name to the file name and config_file_content to the Base64-encoded file content. - Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis or MRS ClickHouse.
config_file_content	No	String	Content of the user authentication file. Base64-encoded file content corresponding to config_file_name. Mandatory when the data source type is MRS Hive, MRS HDFS, MRS HBase, MRS Kafka, MRS Redis, or MRS ClickHouse.
connection_instance_id	No	String	Connector instance ID, which is generated when a connector is published
connector_params	No	Object	Data source parameter corresponding to the connector. Set this parameter based on actual requirements.

Table 5-69 MultiOracleAddress

Parameter	Mandatory	Type	Description
oracle_addresses	No	String	Oracle address.
oracle_port	No	String	Oracle port number.

Table 5-70 ApiAuthDetail

Parameter	Mandatory	Type	Description
auth_method	No	String	Authentication mode for accessing the API service. • none • basicauth • oauth2.0 • hmac • secret • md5 • apiGateway, which corresponds to AppKey Auth authentication on the console. • keyTop • hikVision • huaweiNetworkManagement • liHe
app_auth_type	No	String	App authentication mode for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway. • default • secret • jwt
user_name	No	String	Username for accessing the API service. • This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, or basicauth.

Parameter	Mandatory	Type	Description
password	No	String	Password for accessing the API service. This parameter is mandatory when the authentication mode is LiHe, huaweiNetworkManagement, basicauth, secret, md5 or hmac.
app_key	No	String	AppKey for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway.
app_secret	No	String	AppSecret for accessing the API service. This parameter is mandatory when the authentication mode is apiGateway.
secret	No	String	Secret for accessing the API service. This parameter is mandatory when the authentication mode is KeyTop, HiKVision, Secret, HMAC, or MD5.
alt_ip	No	String	Alternative IP address for accessing the API service. This parameter is mandatory when the authentication mode is HuaweiNetworkManagement.
access_token_url	No	String	AccessTokenUrl for accessing the API service. This parameter is mandatory when the authentication mode is liHe or oauth2.0 huaweiNetworkManagement.

Parameter	Mandatory	Type	Description
client_id	No	String	Client ID for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_id_key	No	String	Client ID for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_id if not specified.
client_secret	No	String	Client secret for accessing the API service. This parameter is mandatory when the authentication mode is OAuth2.
client_secret_key	No	String	Client key for accessing the API service. Set this parameter if the authentication mode is OAuth 2.0. The default value is client_secret if not specified.
scope	No	String	Scope for accessing the API service. This parameter is mandatory when the authentication mode is LiHe or OAuth2.
authorization	No	String	Authorization for accessing the API service. This parameter is mandatory when the authentication mode is LiHe.

Parameter	Mandatory	Type	Description
grant_type	No	String	Authorization type for accessing the API service. - This parameter is mandatory when the authentication mode is LiHe or OAuth2. - The value is client_credentials. This value is used in OAuth2.0.

Response Parameters

Status code: 200

Table 5-71 Response body parameters

Parameter	Type	Description
result	Boolean	Returned result. true (success)

Status code: 400

Table 5-72 Response body parameters

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

Status code: 404

Table 5-73 Response body parameters

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

Example Requests

Test connectivity of a specified MySQL data source.

```
{
  "datasource_name": "fdi_ds_y3k674",
  "datasource_type": "MYSQL",
  "content": {
    "host": "***.*.*.*",
    "port": "3306",
    "database_name": "testfdi",
    "user_name": "fditest",
    "password": "*****",
    "mode": "default"
  },
  "app_id": "9dbd2cd2-9622-4a1b-ad47-31018cf44cbd",
  "description": "testtesttest"
}
```

Example Responses

Status code: 200

OK

```
{
  "result": true
}
```

Status code: 400

Error response

```
{
  "error_code": "FDI.3016",
  "error_msg": "Failed to test the connectivity.",
  "detail": "Test connection failed."
}
```

Status Codes

Status Code	Description
200	OK
400	Error response
404	Not Found

Error Codes

See [Error Codes](#).

5.1.9 Testing SQL

Function

This API is used to test whether the SQL data source is available.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/datasources/{datasource_id}/test-sql

Table 5-74 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID
datasource_id	Yes	String	Data source ID.

Request Parameters

Table 5-75 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Table 5-76 Request body parameters

Parameter	Mandatory	Type	Description
sql	No	String	The SQL data source pending testing.

Response Parameters

Status code: 200

Table 5-77 Response body parameters

Parameter	Type	Description
columns	Array of ColumnInfo objects	The SQL data source pending testing.

Table 5-78 ColumnInfo

Parameter	Type	Description
field_name	String	Field name.
field_type	String	Field type.
field_length	String	Field length.
null_able	String	Indicates whether it can be null.
is_partition	Boolean	Whether it is a partition field.
primary	String	Whether it is a primary key field.
unique	String	Whether it is a unique key field.
decimal_digits	String	Number of decimal places. If the value is not a number, null is returned.

Status code: 400**Table 5-79** Response body parameters

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

Status code: 404**Table 5-80** Response body parameters

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

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	OK
400	Error response
404	Not Found

Error Codes

See [Error Codes](#).

5.2 Task Management

5.2.1 Creating a Common Task

Function

This API is used to create a common task (different from a composite task).

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/tasks

Table 5-81 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-82 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-83 Request body parameters

Parameter	Mandatory	Type	Description
task	Yes	TaskBasicRequestBody object	Brief information about a task.
task_detail	Yes	String	Task details. For details about the parameter structure, see Data Integration Parameter Description > RawFormDataRequest in the Appendix.

Table 5-84 TaskBasicRequestBody

Parameter	Mandatory	Type	Description
task_name	Yes	String	Task name. The value contains 3 to 100 characters, consisting of only letters, digits, periods (.), underscores (_), and hyphens (-). The value must start with a letter or digit.
task_type	Yes	String	Task type. ● REALTIME ● TIMING (scheduled)
source_datasource_id	Yes	String	Data source ID at the source.
target_datasource_id	Yes	String	Data source ID at the destination.
description	No	String	Description.

Parameter	Mandatory	Type	Description
task_tag	No	String	Task tag, which can contain only letters, digits, hyphens (-), and underscores (_).

Response Parameters

Status code: 200

Table 5-85 Response body parameters

Parameter	Type	Description
task	TaskBasicRsp object	Brief information about a task.
task_detail	String	Task details. For details about the parameter structure, see Data Integration Parameter Description > RawFormDataResponse in the Appendix.

Table 5-86 TaskBasicRsp

Parameter	Type	Description
task_id	String	Task ID. This parameter can be left empty.
task_name	String	Task name. The value contains 3 to 100 characters, consisting of only letters, digits, periods (.), underscores (_), and hyphens (-). The value must start with a letter or digit.
task_type	String	Task type. • realtime (real-time) • timing (scheduled)
status	String	Task status. • stopped • running
project_id	String	Project ID.
source_datasource_id	String	Data source ID at the source.

Parameter	Type	Description
target_datasource_id	String	Data source ID at the destination.
source_datasource_name	String	Name of the source data source.
target_datasource_name	String	Name of the destination data source.
source_app_id	String	ID of the integration application to which the source data source belongs.
target_app_id	String	ID of the integration application to which the destination data source belongs.
source_app_name	String	Name of the integration application to which the source data source belongs.
target_app_name	String	Name of the integration application to which the destination data source belongs.
created_date	Integer	Date created.
last_modified_date	Integer	Last modification time.
description	String	Description. This parameter is not displayed when the request parameter is empty.
task_tag	String	Task tag, which can contain only letters, digits, hyphens (-), and underscores (_). This parameter is not displayed when the request parameter is empty.

Status code: 400**Table 5-87** Response body parameters

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

Status code: 404

Table 5-88 Response body parameters

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

Status code: 500**Table 5-89** Response body parameters

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

Example Requests

Create a common data integration task with its task type as scheduled, and manually configure the mapping.

```
{
  "task" : {
    "task_name" : "fdi_task_v2mysql-tomysql",
    "task_type" : "TIMING",
    "source_datasource_id" : "30969b205e8f4392a25fb321112d1753",
    "target_datasource_id" : "30969b205e8f4392a25fb321112d1753",
    "description" : "mysql",
    "task_tag" : "fdi_autotest"
  },
  "task_detail" : "{ \"sourceSelectedDatasource\": { \"dataTimestamp\": 1606807799782, \"isNeedPageSrcApi\": true, \"pageKeySrcApi\": \"pageNum\", \"pageSizeKeySrcApi\": \"pageSize\", \"resultTotalRootPath\": \"\", \"isUseDynamicSignal\": false, \"timeshift\": \"\", \"startTimeKey\": \"\", \"beginDateColSrcApi\": \"beginTime\", \"endDateColSrcApi\": \"endTime\", \"rootPath\": \"\", \"sourceParams\": { \"keys\": \"pageNum\", \"value\": \"0\" }, { \"keys\": \"pageSize\", \"value\": \"10\" }, { \"keys\": \"beginTime\", \"value\": \"1\" }, { \"keys\": \"endTime\", \"value\": \"1\" } }, \"sourceHeaders\": [], \"sourceBodyType\": \"raw-json\", \"bodyRaw\": \"\", \"pageNum\": \"\", \"pageSize\": \"\", \"sourceBodyFormData\": [], \"sourceResponseType\": \"json\", \"sourceMetaData\": { \"dataSource\": { \"index\": 0, \"name\": \"name\", \"type\": \"String\", \"format\": \"\", \"path\": \"\", \"index\": 1, \"name\": \"age\", \"type\": \"Integer\", \"format\": \"\", \"path\": \"\" }, \"mode\": \"keyValue\", \"incr_migration_type\": \"systemDefault\", \"period_granularity\": \"\", \"period_assignment\": \"\", \"period_right_boarder\": \"\", \"pagingEndType\": \"paging-list\", \"pagingEndFieldPath\": \"\", \"pageNumLimit\": \"1\", \"servicetype\": \"None\", \"current_page_num\": \"1\", \"page_size\": \"10\", \"need_inc_migration\": true, \"date_form\": \"unix_ms\", \"timeZone\": \"GMT+08:00\", \"reset_incr_begin_time\": false, \"compensation_time\": \"0\", \"advanceStartTime\": \"0\", \"advanceStartTimeUnit\": \"day\", \"isParse\": true }, \"targetSelectedDatasource\": { \"targetNeedCreateTable\": false, \"isSupportClearTab\": false, \"targetTable\": \"CDCMODEL.NODE\", \"batchNumber\": \"\", \"targetSelectedColumnList\": { \"field_name\": \"NODE_ID\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"1\" }, { \"field_name\": \"AVAILABILITY_ZONE\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"CACHE_PORT\", \"field_type\": \"VARCHAR2\", \"field_length\": \"8\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"FLOATING_IP_ADDRESS\", \"field_type\": \"VARCHAR2\", \"field_length\": \"32\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"NAME\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"NODE_TYPE\", \"field_type\": \"VARCHAR2\", \"field_length\": \"255\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"PRIVATE_IP\", \"field_type\": \"VARCHAR2\", \"field_length\": \"32\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"USER_NAME\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"PRIVATE_KEY\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name
```

```
\"ROOT_PASSWORD\"\",\"field_type\":\"VARCHAR2\",\"field_length\":\"2048\",\"null_able\":\"0\",\"unique\n\"0\"},{\"field_name\":\"SERVER_ID\",\"field_type\":\"VARCHAR2\",\"field_length\":\"64\",\"null_able\n\"0\",\"unique\":\"0\"},{\"field_name\":\"STATUS\",\"field_type\":\"VARCHAR2\",\"field_length\n\"255\",\"null_able\":\"0\",\"unique\":\"0\"},{\"field_name\":\"SUBNET_ID\",\"field_type\n\"VARCHAR2\",\"field_length\":\"64\",\"null_able\":\"0\",\"unique\":\"0\"},{\"field_name\n\"SUBNET_NAME\",\"field_type\":\"VARCHAR2\",\"field_length\":\"256\",\"null_able\":\"1\",\"unique\n\"0\"},{\"field_name\":\"INSTANCE_ID\",\"field_type\":\"VARCHAR2\",\"field_length\":\"64\",\"null_able\n\"1\",\"unique\":\"0\"},{\"field_name\":\"DATAVOLUME_ID\",\"field_type\":\"VARCHAR2\",\"field_length\n\"64\",\"null_able\":\"1\",\"unique\":\"0\"},{\"field_name\":\"CACHE_ROLE\",\"field_type\n\"VARCHAR2\",\"field_length\":\"255\",\"null_able\":\"1\",\"unique\":\"0\"},{\"field_name\n\"RES_SUBNET_IP\",\"field_type\":\"VARCHAR2\",\"field_length\":\"32\",\"null_able\":\"1\",\"unique\n\"0\"},{\"field_name\":\"SYSTEMVOLUME_ID\",\"field_type\":\"VARCHAR2\",\"field_length\n\"64\",\"null_able\":\"1\",\"unique\":\"0\"},{\"field_name\":\"SYSADMIN_PASSWORD\",\"field_type\n\"VARCHAR2\",\"field_length\":\"2048\",\"null_able\":\"1\",\"unique\":\"0\"},{\"field_name\n\"NEW_ROOT_PASSWD\",\"field_type\":\"VARCHAR2\",\"field_length\":\"2048\",\"null_able\n\"1\",\"unique\":\"0\"},{\"field_name\":\"NEW_SYSADMIN_PASSWD\",\"field_type\n\"VARCHAR2\",\"field_length\":\"2048\",\"null_able\":\"1\",\"unique\":\"0\"},{\"field_name\n\"ROOT_PASSWORD_OVERDUE_TIME\",\"field_type\":\"TIMESTAMP(6)\",\"field_length\":\"0\",\"null_able\n\"1\",\"unique\":\"0\"},{\"field_name\":\"OPERATION_MSG\",\"field_type\":\"VARCHAR2\",\"field_length\n\"2048\",\"null_able\":\"1\",\"unique\":\"0\"},{\"field_name\":\"RES_SUBNET_IP_BETA\",\"field_type\n\"VARCHAR2\",\"field_length\":\"32\",\"null_able\":\"1\",\"unique\":\"0\"},{\"field_name\":\"METRIC_DATA\n\",\"field_type\":\"VARCHAR2\",\"field_length\":\"2048\",\"null_able\":\"1\",\"unique\n\"0\"},{\"supportPartUpdate\":false,\"mappingTable\":{},\"mappingInput\":{\"dataSource\":{\"sourceKey\n\"name\",\"targetKey\":\"RES_SUBNET_IP_BETA\"},{\"sourceKey\":\"age\",\"targetKey\":\"METRIC_DATA\n\"}},\"mappingRequired\":true,\"error_handler\":{\"path\":\"data1\",\"datasource_id\n\":\"79c4caaa3e1441dfb0351038fc5f281\",\"model\":\"OBS\",\"app_id\n\":\"73965e3c-72b2-40c3-8335-2154ebd6c23a\",\"stop_task_when_obs_failure\":false},\"afterImplementation\n\":{\"actionType\":\"KAFKA\",\"appId\":\"73965e3c-72b2-40c3-8335-2154ebd6c23a\",\"datasourceId\n\":\"a87a31a6288e4698865be122ae485dc0\",\"topic\":\"lgytest99\",\"messageContent\":{\"success\"}}}\n}
```

Example Responses

Status code: 200

OK

```
{\n  \"task\" : {\n    \"task_id\" : \"15366328208d4d77b76532fe9f4006a6\",\n    \"task_name\" : \"fdi_task_v2mysql-tomysql\",\n    \"task_type\" : \"timing\",\n    \"status\" : \"stop\",\n    \"project_id\" : \"c53626012ba84727b938ca8bf03108ef\",\n    \"source_datasource_id\" : \"30969b205e8f4392a25fb32112d1753\",\n    \"target_datasource_id\" : \"30969b205e8f4392a25fb32112d1753\",\n    \"source_datasource_name\" : \"fdi_ds_testmysqlv2\",\n    \"target_datasource_name\" : \"fdi_ds_testmysqlv2\",\n    \"source_app_id\" : \"eaaa8ad0-f967-416a-ab73-d995ef656e89\",\n    \"target_app_id\" : \"eaaa8ad0-f967-416a-ab73-d995ef656e89\",\n    \"source_app_name\" : \"app-testV2-interface\",\n    \"target_app_name\" : \"app-testV2-interface\",\n    \"created_date\" : 1605288733684,\n    \"last_modified_date\" : 1605288733684,\n    \"description\" : \"crate task\",\n    \"task_tag\" : \"fdi_autotest\"\n  },\n  \"task_detail\" : {\n    \"needAPI\" : false,\n    \"targetDsId\n\":\"7049282e5678490d8e5a5c55d77638f6\",\"sourceSelectedDataSource\":{\"extend_meta_data\":\n[],\"orderType\":\"ASC\",\"sourceDateColumn\":\"\",\"dataTimestamp\":\"\",\"sourceTable\n\":\"mydb.tb_tmp01\",\"sourceSelectedColumnList\":{\"null_able\":\"1\",\"unique\":\"0\",\"field_length\n\":\"11\",\"field_type\":\"INT\",\"field_name\":\"id\"},{\"null_able\":\"1\",\"unique\":\"0\",\"field_length\n\":\"25\",\"field_type\":\"VARCHAR\",\"field_name\":\"name\"},{\"null_able\":\"1\",\"unique\n\":\"0\",\"field_length\":\"11\",\"field_type\":\"INT\",\"field_name\":\"deptId\"},{\"null_able\":\"1\",\"unique\n\":\"0\",\"field_length\":\"11\",\"field_type\":\"INT\",\"field_name\":\"age\"}},\"isParse\":\"true\",\"querySql\n\":\"\",\"whereOptions\":{},\"instanceId\":\"02a7726e-1fc2-44b5-ae96-84a2b5f0e660\",\"sourceMetaData\":\n{\"dataSource\":{},\"isAddSql\":false,\"meta_data\":{},\"where\":{},\"need_inc_migration\n\":false,\"textInputValue\":\"\",\"orderColumn\":\"\",\"isTextInput\":false,\"targetDataSource\":\"mysql\n\",\"needEmailNew\":false,\"description\":\"\",\"taskTag\":\"\",\"mappingTableProperties\":{\"sourceNullable\n\"}}
```



```
{
  "sourceUnique": "0", "targetUnique": "0", "targetNullable": "1", {
    "sourceNullable": "1", "sourceUnique": "0", "targetUnique": "0", "targetNullable": "1", {
      "sourceNullable": "1", "sourceUnique": "0", "targetUnique": "0", "targetNullable": "1", {
        "sourceUnique": "0", "targetUnique": "0", "targetNullable": "1", {
          "sourceDatasourceType": "MYSQL", "taskType": "2", "sourceDatasource": "mysql", "targetDatasourceType": "MYSQL",
          "mappingSourceTextOrNot": [{"flag": false}, {"flag": false}, {"flag": false}, {"flag": false}],
          "mappingTable": [{"targetColumnType": "INT", "isAddDateMapping": false, "sourceSupport": "1",
            "targetColumnLength": "11", "isAddMapping": false, "isAddBooleanMapping": false,
            "sourceColumnLength": "11", "targetColumn": "id", "sourceColumnType": "INT",
            "targetSupport": "1", "isAddFDIUUIDMapping": false, "sourceColumn": "id", "targetColumnType": "VARCHAR",
            "isAddDateMapping": false, "sourceSupport": "1", "targetColumnLength": "25",
            "isAddMapping": false, "isAddBooleanMapping": false, "sourceColumnLength": "25",
            "targetColumn": "name", "sourceColumnType": "VARCHAR", "targetSupport": "1",
            "isAddFDIUUIDMapping": false, "sourceColumn": "name", {"targetColumnType": "INT",
              "isAddDateMapping": false, "sourceSupport": "1", "targetColumnLength": "11",
              "isAddMapping": false, "isAddBooleanMapping": false, "sourceColumnLength": "11",
              "targetColumn": "deptId", "sourceColumnType": "INT", "targetSupport": "1",
              "isAddFDIUUIDMapping": false, "sourceColumn": "deptId", {"targetColumnType": "INT",
                "isAddDateMapping": false, "sourceSupport": "1", "targetColumnLength": "11",
                "isAddMapping": false, "isAddBooleanMapping": false, "sourceColumnLength": "11",
                "targetColumn": "age", "sourceColumnType": "INT", "targetSupport": "1",
                "isAddFDIUUIDMapping": false, "sourceColumn": "age"}],
            "targetSelectedDatasource": {"targetNeedCreateTable": false, "targetSelectedColumnList": [
              {"null_able": "1", "unique": "0", "field_length": "11", "field_type": "INT", "field_name": "id"},
              {"null_able": "1", "unique": "0", "field_length": "25", "field_type": "VARCHAR", "field_name": "name"},
              {"null_able": "1", "unique": "0", "field_length": "11", "field_type": "INT", "field_name": "deptId"},
              {"null_able": "1", "unique": "0", "field_length": "11", "field_type": "INT", "field_name": "age"}
            ]},
            "supportPartUpdate": false, "targetTable": "mydb.tb_tmp01_target", "instanceId": "02a7726e-1fc2-44b5-ae96-84a2b5f0e660",
            "batch_number_style": "UUID", "isSupportClearTab": false, "batchNumber": "", "taskName": "fdi_task_5ykjp7", "sourceDsId": "7049282e5678490d8e5a5c55d77638f6",
            "projectId": "c53626012ba84727b938ca8bf03108ef", "needMQS": false, "mappingInput": {}, "mappingRequired": true}
        }
      }
    }
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.2 Querying a Task List

Function

This API is used to query a task list.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/tasks

Table 5-90 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 5-91 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page in pagination query. The maximum value is 1000 and the minimum value is 1.
offset	No	Integer	Offset of pagination in pagination query. The query starts from this offset.
task_id	No	String	Task ID. This parameter can be left empty.
task_name	No	String	Task name for fuzzy match. This parameter can be left empty.
status	No	Integer	Task status. This parameter can be left empty. • 0 (stopped or not started) • 1 (running)
task_type	No	String	Task type. • realtime (real-time) • timing (scheduled)
source_datasource_id	No	String	Data source ID at the source. This parameter can be left empty.
target_datasource_id	No	String	Data source ID at the destination. This parameter can be left empty.
datasource_id	No	String	Source or Data source ID at the destination. This parameter can be left empty.

Parameter	Mandatory	Type	Description
sort_field	No	String	Sorting criteria for the query. • CREATED_DATE • STATUS
sort_type	No	String	Sorting type. This parameter can be left empty. • ASC (ascending order) • DESC (descending order)
execute_status	No	String	Execution status. This parameter can be left empty. • UNSTARTED • WAITING • RUNNING • SUCCESS • CANCELLED • ERROR
source_app_id	No	String	ID of the integration application to which the source data source belongs. This parameter can be left empty.
target_app_id	No	String	ID of the integration application to which the destination data source belongs. This parameter can be left empty.
task_tag	No	String	Task tag. This parameter can be left empty.
task_mode	No	String	Task mode. If the value is left empty, all tasks are queried. • NORMAL (common task) • CDC (composite task) • FLOW (orchestration task)

Request Parameters

Table 5-92 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 5-93 Response body parameters

Parameter	Type	Description
total	Long	Total number of tasks in a task list queried.
size	Integer	Number of tasks on the current page returned after the task list is queried.
entities	Array of BriefTaskRespBean objects	Object returned after the task list is queried.

Table 5-94 BriefTaskRespBean

Parameter	Type	Description
task_id	String	Task ID.
task_name	String	Task name.
task_type	String	Task type. - REALTIME (real-time) - TIMING (scheduled)
status	Integer	Task status. 0: stopped/not started 1: running
created_date	String	Time when the task was created.
version	String	Task version.

Parameter	Type	Description
last_modified_time	Long	Last modification time.
execute_status	String	Task execution status. • UNSTARTED • WAITING • RUNNING • SUCCESS • CANCELLED • ERROR
source_app_id	String	ID of the application to which the source data source belongs.
target_app_id	String	ID of the application to which the destination data source belongs.
source_instance_id	String	ID of the source instance.
target_instance_id	String	ID of the destination instance.
ext_type	String	Composite task type. This parameter can be left empty.
enterprise_project_id	String	Enterprise project ID.
task_tag	String	Task tag.

Status code: 400**Table 5-95** Response body parameters

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

Status code: 404**Table 5-96** Response body parameters

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

Status code: 500

Table 5-97 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "entities": {
    "task_id": "15366328208d4d77b76532fe9f4006a6",
    "task_name": "task_cdc_oracle2oracle",
    "task_type": "TIMING",
    "status": 0,
    "created_date": "1605288733684",
    "version": "2",
    "last_modified_time": 456223355566,
    "execute_status": "ERROR",
    "source_app_id": "73b7f7a6-d1b8-4806-a0f8-278fe7186592",
    "target_app_id": "73b7f7a6-d1b8-4806-a0f8-278fe7186592",
    "source_instance_id": "fae7ff6c-8e07-4cf8-9e67-589cab2f017c",
    "target_instance_id": "fae7ff6c-8e07-4cf8-9e67-589cab2f017c",
    "ext_type": "cdc",
    "enterprise_project_id": "0",
    "task_tag": "fdi_autotest"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.3 Querying Task Status Statistics

Function

This API is used to query the status statistics of different tasks.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/statistics/tasks

Table 5-98 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-99 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 5-100 Response body parameters

Parameter	Type	Description
common_task_details	TaskStatisticDetails object	Number of tasks in each status.

Parameter	Type	Description
cdc_task_details	TaskStatisticDetails object	Number of tasks in each status.

Table 5-101 TaskStatisticDetails

Parameter	Type	Description
running_tasks_count	Integer	Number of running tasks
abnormal_tasks_count	Integer	Number of abnormal tasks.
terminated_tasks_count	Integer	Number of terminated tasks.
completed_tasks_count	Integer	Number of successful tasks.

Status code: 400**Table 5-102** Response body parameters

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

Status code: 404**Table 5-103** Response body parameters

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

Status code: 500

Table 5-104 Response body parameters

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

Example Requests

Querying FDI task status statistics of a specified instance

```
https://{{ServerHost}}/v2/c53626012ba84727b938ca8bf03108ef/fdi/instances/
fae7ff6c-8e07-4cf8-9e67-589cab2f017c/statistics/tasks
```

Example Responses

Status code: 200

OK

```
{
  "common_task_details": {
    "running_tasks_count": 2,
    "abnormal_tasks_count": 2,
    "terminated_tasks_count": 6,
    "completed_tasks_count": 8
  },
  "cdc_task_details": {
    "running_tasks_count": 1,
    "abnormal_tasks_count": 0,
    "terminated_tasks_count": 6,
    "completed_tasks_count": 0
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.4 Updating a Common Task

Function

This API is used to update a common task.

URI

PUT /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}

Table 5-105 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-106 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-107 Request body parameters

Parameter	Mandatory	Type	Description
task	Yes	TaskBasicRequestBody object	Brief information about a task.

Parameter	Mandatory	Type	Description
task_detail	Yes	String	Task details. For details about the parameter structure, see Data Integration Parameter Description > RawFormDataRequest in the Appendix.

Table 5-108 TaskBasicRequestBody

Parameter	Mandatory	Type	Description
task_name	Yes	String	Task name. The value contains 3 to 100 characters, consisting of only letters, digits, periods (.), underscores (_), and hyphens (-). The value must start with a letter or digit.
task_type	Yes	String	Task type. ● REALTIME ● TIMING (scheduled)
source_datasource_id	Yes	String	Data source ID at the source.
target_datasource_id	Yes	String	Data source ID at the destination.
description	No	String	Description.
task_tag	No	String	Task tag, which can contain only letters, digits, hyphens (-), and underscores (_).

Response Parameters

Status code: 200

Table 5-109 Response body parameters

Parameter	Type	Description
task	TaskBasicResp object	Brief information about a task.

Parameter	Type	Description
task_detail	String	Task details. For details about the parameter structure, see Data Integration Parameter Description > RawFormDataResponse in the Appendix.

Table 5-110 TaskBasicRsp

Parameter	Type	Description
task_id	String	Task ID. This parameter can be left empty.
task_name	String	Task name. The value contains 3 to 100 characters, consisting of only letters, digits, periods (.), underscores (_), and hyphens (-). The value must start with a letter or digit.
task_type	String	Task type. • realtime (real-time) • timing (scheduled)
status	String	Task status. • stopped • running
project_id	String	Project ID.
source_datasource_id	String	Data source ID at the source.
target_datasource_id	String	Data source ID at the destination.
source_datasource_name	String	Name of the source data source.
target_datasource_name	String	Name of the destination data source.
source_app_id	String	ID of the integration application to which the source data source belongs.
target_app_id	String	ID of the integration application to which the destination data source belongs.
source_app_name	String	Name of the integration application to which the source data source belongs.

Parameter	Type	Description
target_app_name	String	Name of the integration application to which the destination data source belongs.
created_date	Integer	Date created.
last_modified_date	Integer	Last modification time.
description	String	Description. This parameter is not displayed when the request parameter is empty.
task_tag	String	Task tag, which can contain only letters, digits, hyphens (-), and underscores (_). This parameter is not displayed when the request parameter is empty.

Status code: 400**Table 5-111** Response body parameters

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

Status code: 404**Table 5-112** Response body parameters

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

Status code: 500**Table 5-113** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Modifying the source and target configurations of a specified common FDI task

```
{
  "task" : {
    "task_name" : "fdi_task_v2mysql-tomysql",
    "task_type" : "TIMING",
    "source_datasource_id" : "30969b205e8f4392a25fb321112d1753",
    "target_datasource_id" : "30969b205e8f4392a25fb321112d1753",
    "description" : "mysql",
    "task_tag" : "fdi_autotest"
  },
  "task_detail" : "{ \"sourceSelectedDatasource\": \"dataTimestamp\":1606807799782, \"isNeedPageSrcApi\": true, \"pageKeySrcApi\": \"pageNum\", \"pageSizeKeySrcApi\": \"pageSize\", \"resultTotalRootPath\": \"\", \"isUseDynamicSignal\": false, \"timeshift\": \"\", \"startTimeKey\": \"\", \"beginDateColSrcApi\": \"beginTime\", \"endDateColSrcApi\": \"endTime\", \"rootPath\": \"\", \"sourceParams\": { \"keys\": \"pageNum\", \"value\": \"0\" }, { \"keys\": \"pageSize\", \"value\": \"10\" }, { \"keys\": \"beginTime\", \"value\": \"1\" }, { \"keys\": \"endTime\", \"value\": \"1\" } }, \"sourceHeaders\": [], \"sourceBodyType\": \"raw-json\", \"bodyRaw\": \"\", \"pageNum\": \"\", \"pageSize\": \"\", \"sourceBodyFormData\": [], \"sourceResponseType\": \"json\", \"sourceMetaData\": { \"dataSource\": { \"index\": 0, \"name\": \"name\", \"type\": \"String\", \"format\": \"\", \"path\": \"\", { \"index\": 1, \"name\": \"age\", \"type\": \"Integer\", \"format\": \"\", \"path\": \"\" } }, \"mode\": \"keyValue\", \"incr_migration_type\": \"systemDefault\", \"period_granularity\": \"\", \"period_assignment\": \"\", \"period_right_boarder\": \"\", \"pagingEndType\": \"paging-list\", \"pagingEndFieldPath\": \"\", \"batchNumber\": \"1\", \"servicetype\": \"None\", \"current_page_num\": \"1\", \"page_size\": \"10\", \"need_inc_migration\": true, \"date_form\": \"unix_ms\", \"timeZone\": \"GMT+08:00\", \"reset_incr_begin_time\": false, \"compensation_time\": \"0\", \"advanceStartTime\": \"0\", \"advanceStartTimeUnit\": \"day\", \"isParse\": true }, \"targetSelectedDatasource\": { \"targetNeedCreateTable\": false, \"isSupportClearTab\": false, \"targetTable\": \"CDCMODEL.NODE\", \"batchNumber\": \"\", \"targetSelectedColumnList\": { \"field_name\": \"NODE_ID\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"1\" }, { \"field_name\": \"AVAILABILITY_ZONE\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"CACHE_PORT\", \"field_type\": \"VARCHAR2\", \"field_length\": \"8\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"FLOATING_IP_ADDRESS\", \"field_type\": \"VARCHAR2\", \"field_length\": \"32\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"NAME\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"NODE_TYPE\", \"field_type\": \"VARCHAR2\", \"field_length\": \"255\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"PRIVATE_IP\", \"field_type\": \"VARCHAR2\", \"field_length\": \"32\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"USER_NAME\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"PRIVATE_KEY\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"ROOT_PASSWORD\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"SERVER_ID\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"STATUS\", \"field_type\": \"VARCHAR2\", \"field_length\": \"255\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"SUBNET_ID\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"0\", \"unique\": \"0\" }, { \"field_name\": \"SUBNET_NAME\", \"field_type\": \"VARCHAR2\", \"field_length\": \"256\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"INSTANCE_ID\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"DATAVOLUME_ID\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"CACHE_ROLE\", \"field_type\": \"VARCHAR2\", \"field_length\": \"255\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"RES_SUBNET_IP\", \"field_type\": \"VARCHAR2\", \"field_length\": \"32\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"SYSTEMVOLUME_ID\", \"field_type\": \"VARCHAR2\", \"field_length\": \"64\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"SYSADMIN_PASSWORD\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"NEW_ROOT_PASSWD\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"NEW_SYSADMIN_PASSWD\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"ROOT_PASSWORD_OVERDUE_TIME\", \"field_type\": \"TIMESTAMP(6)\", \"field_length\": \"0\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"OPERATION_MSG\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"1\", \"unique\": \"0\" }, { \"field_name\": \"RES_SUBNET_IP_BETA\", \"field_type\"
```

```
{\":\"VARCHAR2\", \"field_length\": \"32\", \"null_able\": \"1\", \"unique\": \"0\"}, {\"field_name\": \"METRIC_DATA\", \"field_type\": \"VARCHAR2\", \"field_length\": \"2048\", \"null_able\": \"1\", \"unique\": \"0\"}}, {\"supportPartUpdate\": false}, {\"mappingTable\": [], \"mappingInput\": {\"dataSource\": {\"sourceKey\": \"name\", \"targetKey\": \"RES_SUBNET_IP_BETA\"}, {\"sourceKey\": \"age\", \"targetKey\": \"METRIC_DATA\"}}, {\"mappingRequired\": true, \"error_handler\": {\"path\": \"data1\", \"datasource_id\": \"79c4caaa3e1441dfb0351038fc5f281\", \"model\": \"OBS\", \"app_id\": \"73965e3c-72b2-40c3-8335-2154ebd6c23a\", \"stop_task_when_obs_failure\": false}, \"afterImplementation\": {\"actionType\": \"KAFKA\", \"appId\": \"73965e3c-72b2-40c3-8335-2154ebd6c23a\", \"datasourceId\": \"a87a31a6288e4698865be122ae485dc0\", \"topic\": \"lgytest99\", \"messageContent\": \"success\"}}}
```

Example Responses

Status code: 200

OK

```
{\":\"task\": {\":\"task_id\": \"15366328208d4d77b76532fe9f4006a6\", \"task_name\": \"fdi_task_v2mysql-tomysql\", \"task_type\": \"timing\", \"status\": \"stop\", \"project_id\": \"c53626012ba84727b938ca8bf03108ef\", \"source_datasource_id\": \"30969b205e8f4392a25fb32112d1753\", \"target_datasource_id\": \"30969b205e8f4392a25fb32112d1753\", \"source_datasource_name\": \"fdi_ds_testmysqlv2\", \"target_datasource_name\": \"fdi_ds_testmysqlv2\", \"source_app_id\": \"eaaa8ad0-f967-416a-ab73-d995ef656e89\", \"target_app_id\": \"eaaa8ad0-f967-416a-ab73-d995ef656e89\", \"source_app_name\": \"app-testV2-interface\", \"target_app_name\": \"app-testV2-interface\", \"created_date\": 1605288733684, \"last_modified_date\": 1605288733684, \"description\": \"crate task\", \"task_tag\": \"fdi_autotest\"}, \"task_detail\": {\"needAPI\": false, \"targetDsId\": \"7049282e5678490d8e5a5c55d77638f6\", \"sourceSelectedDataSource\": {\"extend_meta_data\": [], \"orderType\": \"ASC\", \"sourceDateColumn\": \"\", \"dataTimestamp\": \"\", \"sourceTable\": \"mydb.tb_tmp01\", \"sourceSelectedColumnList\": {\"null_able\": \"1\", \"unique\": \"0\", \"field_length\": \"11\", \"field_type\": \"INT\", \"field_name\": \"id\"}, {\"null_able\": \"1\", \"unique\": \"0\", \"field_length\": \"25\", \"field_type\": \"VARCHAR\", \"field_name\": \"name\"}, {\"null_able\": \"1\", \"unique\": \"0\", \"field_length\": \"11\", \"field_type\": \"INT\", \"field_name\": \"deptId\"}, {\"null_able\": \"1\", \"unique\": \"0\", \"field_length\": \"11\", \"field_type\": \"INT\", \"field_name\": \"age\"}}, \"isParse\": true, \"querySql\": \"\", \"whereOptions\": [], \"instanceId\": \"02a7726e-1fc2-44b5-ae96-84a2b5f0e660\", \"sourceMetaData\": {\"dataSource\": [], \"isAddSql\": false, \"meta_data\": [], \"where\": [], \"need_inc_migration\": false, \"textInputValue\": \"\", \"orderColumn\": \"\", \"isTextInput\": false}, \"targetDataSource\": \"mysql\", \"needEmailNew\": false, \"description\": \"\", \"mappingTableProperties\": {\"sourceNullable\": {\"1\": \"0\", \"sourceUnique\": \"0\", \"targetUnique\": \"0\", \"targetNullable\": \"1\"}, {\"sourceNullable\": \"1\", \"sourceUnique\": \"0\", \"targetUnique\": \"0\", \"targetNullable\": \"1\"}, {\"sourceNullable\": \"1\", \"sourceUnique\": \"0\", \"targetUnique\": \"0\", \"targetNullable\": \"1\"}, {\"sourceNullable\": \"1\", \"sourceUnique\": \"0\", \"targetUnique\": \"0\", \"targetNullable\": \"1\"}}, \"sourceDataSourceType\": \"MYSQL\", \"taskType\": 2, \"sourceDataSource\": \"mysql\", \"targetDataSourceType\": \"MYSQL\", \"mappingSourceTextOrNot\": {\"flag\": false}, {\"flag\": false}, {\"flag\": false}, {\"flag\": false}}, \"mappingTable\": {\"targetColumnType\": \"INT\", \"isAddDateMapping\": false, \"targetColumnLength\": \"11\", \"isAddMapping\": false, \"isAddBooleanMapping\": false, \"sourceColumnLength\": \"11\", \"targetColumn\": \"id\", \"sourceColumnType\": \"Int\", \"isAddFDIUUIDMapping\": false, \"sourceColumn\": \"id\", \"targetColumnType\": \"VARCHAR\", \"isAddDateMapping\": false, \"targetColumnLength\": \"25\", \"isAddMapping\": false, \"isAddBooleanMapping\": false, \"sourceColumnLength\": \"25\", \"targetColumn\": \"name\", \"sourceColumnType\": \"Varchar\", \"isAddFDIUUIDMapping\": false, \"sourceColumn\": \"name\"}, {\"targetColumnType\": \"INT\", \"isAddDateMapping\": false, \"targetColumnLength\": \"11\", \"isAddMapping\": false, \"isAddBooleanMapping\": false, \"sourceColumnLength\": \"11\", \"targetColumn\": \"deptId\", \"sourceColumnType\": \"Int\", \"isAddFDIUUIDMapping\": false, \"sourceColumn\": \"deptId\"}, {\"targetColumnType\": \"INT\", \"isAddDateMapping\": false, \"targetColumnLength\": \"11\", \"isAddMapping\": false, \"isAddBooleanMapping\": false, \"sourceColumnLength\": \"11\", \"targetColumn\": \"age\", \"sourceColumnType\": \"Int\", \"isAddFDIUUIDMapping\": false, \"sourceColumn\": \"age\"}}, \"targetSelectedDataSource\": {\"targetNeedCreateTable\": false, \"targetSelectedColumnList\":
```

```
[{"null_able":"1","unique":"0","field_length":"11","field_type":"INT","field_name":"id"},
{"null_able":"1","unique":"0","field_length":"25","field_type":"VARCHAR","field_name":"name"},
{"null_able":"1","unique":"0","field_length":"11","field_type":"INT","field_name":"deptId"},
{"null_able":"1","unique":"0","field_length":"11","field_type":"INT","field_name":"age"},
{"supportPartUpdate":false,"targetTable":"mydb.tb_tmp01_target","instanceId":
"02a7726e-1fc2-44b5-ae96-84a2b5f0e660","batch_number_style":"UUID","isSupportClearTab
le":false,"batchNumber":"","taskName":"fdi_task_5ykjp7","sourceDsid":
"7049282e5678490d8e5a5c55d77638f6","projectId":"c53626012ba84727b938ca8bf03108ef",
"needMQS":false,"mappingInput":"","mappingRequired":true}
]
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.5 Querying Information About a Specified Task

Function

This API is used to query the information about a specified task based on the task ID.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}

Table 5-114 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-115 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 5-116 Response body parameters

Parameter	Type	Description
task	TaskBasicRsp object	Brief information about a task.
task_detail	String	Task details. For details about the parameter structure, see Data Integration Parameter Description > RawFormDataResponse in the Appendix.

Table 5-117 TaskBasicRsp

Parameter	Type	Description
task_id	String	Task ID. This parameter can be left empty.
task_name	String	Task name. The value contains 3 to 100 characters, consisting of only letters, digits, periods (.), underscores (_), and hyphens (-). The value must start with a letter or digit.
task_type	String	Task type. • realtime (real-time) • timing (scheduled)
status	String	Task status. • stopped • running

Parameter	Type	Description
project_id	String	Project ID.
source_datasource_id	String	Data source ID at the source.
target_datasource_id	String	Data source ID at the destination.
source_datasource_name	String	Name of the source data source.
target_datasource_name	String	Name of the destination data source.
source_app_id	String	ID of the integration application to which the source data source belongs.
target_app_id	String	ID of the integration application to which the destination data source belongs.
source_app_name	String	Name of the integration application to which the source data source belongs.
target_app_name	String	Name of the integration application to which the destination data source belongs.
created_date	Integer	Date created.
last_modified_date	Integer	Last modification time.
description	String	Description. This parameter is not displayed when the request parameter is empty.
task_tag	String	Task tag, which can contain only letters, digits, hyphens (-), and underscores (_). This parameter is not displayed when the request parameter is empty.

Status code: 404**Table 5-118** Response body parameters

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

Status code: 500

Table 5-119 Response body parameters

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

Example Requests

Querying details about a specified FDI task

https://{{ServerHost}}/v2/c53626012ba84727b938ca8bf03108ef/fdi/instances/
fae7ff6c-8e07-4cf8-9e67-589cab2f017c/tasks/15366328208d4d77b76532fe9f4006a6

Example Responses

Status code: 200

OK

```
{
  "task": {
    "task_id": "9496207a5d6b44b486d79005b5815bd4",
    "task_name": "fdi_task_pzy4m5",
    "task_type": "timing",
    "project_id": "c53626012ba84727b938ca8bf03108ef",
    "source_datasource_id": "d3412230cff8449e92c8ff8f74d1157d",
    "target_datasource_id": "d3412230cff8449e92c8ff8f74d1157d",
    "source_datasource_name": "100.85.221.77",
    "target_datasource_name": "100.85.221.77",
    "source_app_id": "7f245167-ac84-4b2e-bbea-f0988a4bf6f4",
    "target_app_id": "7f245167-ac84-4b2e-bbea-f0988a4bf6f4",
    "source_app_name": "app-fdi-ttt",
    "target_app_name": "app-fdi-ttt",
    "status": "stop",
    "created_date": 1666772375897,
    "last_modified_date": 1666772375897,
    "task_mode": "NORMAL",
    "enterprise_project_id": "0",
    "source_datasource_type": "MYSQL",
    "target_datasource_type": "MYSQL",
    "source_instance_name": "roma-z00617033-not-delete",
    "target_instance_name": "roma-z00617033-not-delete",
    "execute_status": "SUCCESS",
    "repulling_snapshot": false
  },
  "task_detail": "{\n\"needAPI\":false,\n\"targetDsId\":\"\nd3412230cff8449e92c8ff8f74d1157d\n\",\n\"sourceSelectedDataSource\":{\n\"extend_meta_data\":[],\n\"orderType\":\"\nASC\n\",\n\"sourceDateColumn\n\n\":\"\n\",\n\"dataTimestamp\":\"\n\",\n\"sourceTable\":\"\nzhenghaotest.zh_sss01\n\",\n\"sourceSelectedColumnNameList\n\n\":[\n{\n\"null_able\":\"\n0\n\",\n\"unique\":\"\n1\n\",\n\"field_length\":\"\n11\n\",\n\"field_type\":\"\nINT\n\",\n\"field_name\":\"\nid\n\", \n{\n\"null_able\":\"\n1\n\",\n\"unique\":\"\n0\n\",\n\"field_length\":\"\n255\n\",\n\"field_type\":\"\nVARCHAR\n\",\n\"field_name\n\n\":\"\name\n\"}],\n\"isParse\":\"\true\n\",\n\"querySql\":\"\n\",\n\"whereOptions\":[],\n\"instanceId\":\"\db93bfe1-\nc660-4c9e-82b6-388e44662cc8\n\",\n\"sourceMetaData\":{\n\"dataSource\":[],\n\"isAddSql\":false,\n\"meta_data\n\n\": [],\n\"where\n\n\": [],\n\"need_inc_migration\n\n\":false,\n\"textInputValue\n\n\":\"\n\",\n\"orderColumn\n\n\":\"\n\",\n\"isTextInput\n\n\":false},\n\"targetDataSource\":{\n\"100.85.221.77\n\",\n\"needEmailNew\n\n\":false,\n\"description\n\n\":\"\n\",\n\"taskTag\n\n\":\"\n\",\n\"mappingTableProperties\n\n\":[\n{\n\"sourceNullable\n\n\":\"\n0\n\",\n\"sourceUnique\n\n\":\"\n1\n\",\n\"targetUnique\n\n\":\"\n1\n\",\n\"targetNullable\n\n\":\"\n0\n\"},\n{\n\"sourceNullable\n\n\":\"\n1\n\",\n\"sourceUnique\n\n\":\"\n0\n\",\n\"targetUnique\n\n\":\"\n0\n\",\n\"targetNullable\n\n\":\"\n1\n\"}],\n\"sourceDataSourceType\n\n\":\"\nMYSQL\n\",\n\"taskType\n\n\":2,\n\"sourceDataSource\n\n\":\"\n100.85.221.77\n\",\n\"targetDataSourceType\n\n\":\"\nMYSQL\n\",\n\"mappingSourceTextOrNot\n\n\":[\n{\n\"flag\n\n\":false},\n{\n\"flag\n\n\":false}],\n\"mappingTable\n\n\":{\n\"targetColumnType\n\n\":\"\nINT\n\",\n\"isAddDateMapping
```

```
{
  "isAddMapping": false,
  "isAddBooleanMapping": false,
  "sourceColumnLength": "11",
  "targetColumn": "id",
  "sourceColumnType": "INT",
  "isAddDateMapping": false,
  "sourceColumn": "id",
  "targetColumnType": "VARCHAR",
  "isAddDateMapping": false,
  "targetColumnLength": "255",
  "isAddMapping": false,
  "sourceColumnLength": "255",
  "targetColumn": "name",
  "sourceColumnType": "VARCHAR",
  "isAddDateMapping": false,
  "sourceColumn": "name",
  "targetSelectedDataSource": {
    "targetNeedCreateTable": false,
    "targetSelectedColumnList": [
      {
        "null_able": "0",
        "unique": "1",
        "field_length": "11",
        "field_type": "INT",
        "field_name": "id"
      },
      {
        "null_able": "1",
        "unique": "0",
        "field_length": "255",
        "field_type": "VARCHAR",
        "field_name": "name"
      }
    ],
    "supportPartUpdate": false,
    "targetTable": "zhenghaotest.zh_sss02",
    "instanceId": "db93bfe1-c660-4c9e-82b6-388e44662cc8",
    "batch_number_style": "UUID",
    "isSupportClearTab": false,
    "batchNumber": "",
    "taskName": "fdi_task_pzy4m5",
    "sourceDId": "d3412230cff8449e92c8ff8f74d1157d",
    "projectId": "c53626012ba84727b938ca8bf03108ef",
    "needMQS": false,
    "mappingInput": {},
    "mappingRequired": true
  }
}
```

Status Codes

Status Code	Description
200	OK
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.6 Deleting a Task

Function

This API is used to delete a specified task based on the task ID.

URI

DELETE /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}

Table 5-120 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-121 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 5-122 Response body parameters

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

Status code: 404

Table 5-123 Response body parameters

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

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found

Error Codes

See [Error Codes](#).

5.2.7 Manually Triggering a Single Task

Function

This API is used to manually trigger a task scheduling.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/run

Table 5-124 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-125 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 5-126 Response body parameters

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

Status code: 404

Table 5-127 Response body parameters

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

Status code: 500

Table 5-128 Response body parameters

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

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.8 Manually Stopping the Current Task

Function

This API is used to manually stop the current task.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/terminate

Table 5-129 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-130 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 5-131 Response body parameters

Parameter	Type	Description
message	String	Message returned when a task is manually started or stopped successfully.

Status code: 400

Table 5-132 Response body parameters

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

Status code: 404

Table 5-133 Response body parameters

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

Status code: 500

Table 5-134 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

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

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.9 Creating a Schedule

Function

This API is used to create a schedule.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/dispatches

Table 5-135 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-136 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-137 Request body parameters

Parameter	Mandatory	Type	Description
start_datetime	No	Integer	Start time of a scheduling plan. Range: 946684800000–2147512447000
period	No	String	Unit of the execution period of a schedule. If the Cron expression is used, the value is empty. • MIN (minute) • HOUR (hour) • DAY (day) • WEEK (week) • MON (month)
dispatch_interval	No	Integer	Interval for executing a schedule.
remark	No	String	Remarks of a schedule.
use_quartz_cron	No	Boolean	Whether the schedule uses the Cron expression. • true (using the Cron expression) • false (not using the Cron expression)
cron	No	String	Cron expression for a schedule.
cron_timezone	No	String	Time zone information.

Response Parameters

Status code: 200

Table 5-138 Response body parameters

Parameter	Type	Description
dispatch_id	String	Schedule ID.
task_id	String	ID of a task associated with a schedule.
start_datetime	Integer	Start time of a scheduling plan. Range: 946684800000–2147512447000
period	String	Unit of the execution period of a schedule. If the Cron expression is used, the value is empty. • MIN (minute) • HOUR (hour) • DAY (day) • WEEK (week) • MON (month)
dispatch_interval	Integer	Interval for executing a schedule.
created_date	Integer	Time when a schedule is created.
last_modified_date	Integer	Last modification time of a schedule.
remark	String	Remarks of a schedule.
use_quartz_cron	Boolean	Whether the schedule uses the Cron expression. • true (using the Cron expression) • false (not using the Cron expression)
cron	String	Cron expression for a schedule.
cron_timezone	String	Time zone information.

Status code: 400**Table 5-139** Response body parameters

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

Status code: 404

Table 5-140 Response body parameters

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

Status code: 500**Table 5-141** Response body parameters

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

Example Requests

Create a schedule for a specified data integration task with an interval of once a day without using Cron expression.

```
{
  "use_quartz_cron" : false,
  "remark" : "123",
  "start_datetime" : "2020-11-14T07:38:25.609Z",
  "period" : "DAY",
  "dispatch_interval" : 1
}
```

Example Responses

Status code: 200

OK

```
{
  "dispatch_id" : "a0f7fa9897da423dadbe8391d7ea7a43",
  "task_id" : "15366328208d4d77b76532fe9f4006a6",
  "start_datetime" : 1605339505609,
  "period" : "DAY",
  "dispatch_interval" : 1,
  "created_date" : 1605311230685,
  "last_modified_date" : 1605311230685,
  "remark" : "123",
  "use_quartz_cron" : false
}
```

Status code: 400

Bad Request

```
{
  "code" : 400,
  "reason" : {
    "error_code" : "FDI.3149",
    "error_msg" : "The task ID is empty."
  }
}
```

```
}  
}
```

Status code: 404

Not Found

```
{  
  "code" : 404,  
  "reason" : {  
    "error_code" : "FDI.3180",  
    "error_msg" : "This task is not in the project."  
  }  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.10 Querying a Schedule

Function

This API is used to query a schedule.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/dispatches

Table 5-142 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-143 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 5-144 Response body parameters

Parameter	Type	Description
dispatch_id	String	Schedule ID.
task_id	String	ID of a task associated with a schedule.
start_datetime	Integer	Start time of a scheduling plan. Range: 946684800000–2147512447000
period	String	Unit of the execution period of a schedule. If the Cron expression is used, the value is empty. • MIN (minute) • HOUR (hour) • DAY (day) • WEEK (week) • MON (month)
dispatch_interval	Integer	Interval for executing a schedule.
created_date	Integer	Time when a schedule is created.
last_modified_date	Integer	Last modification time of a schedule.
remark	String	Remarks of a schedule.

Parameter	Type	Description
use_quartz_cron	Boolean	Whether the schedule uses the Cron expression. - true (using the Cron expression) - false (not using the Cron expression)
cron	String	Cron expression for a schedule.
cron_timezone	String	Time zone information.

Status code: 400**Table 5-145** Response body parameters

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

Status code: 404**Table 5-146** Response body parameters

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

Status code: 500**Table 5-147** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "dispatch_id": "a0f7fa9897da423dadbe8391d7ea7a43",
  "task_id": "15366328208d4d77b76532fe9f4006a6",
  "start_datetime": 1605339505609,
  "period": "DAY",
  "dispatch_interval": 1,
  "created_date": 1605311230685,
  "last_modified_date": 1605311230685,
  "remark": "123",
  "use_quartz_cron": false
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.11 Modifying a Scheduling

Function

This API is used to modify a schedule by task ID and scheduling ID.

URI

PUT /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/dispatches/{dispatch_id}

Table 5-148 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.
dispatch_id	Yes	String	Schedule ID, the unique identifier of a schedule.

Request Parameters

Table 5-149 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-150 Request body parameters

Parameter	Mandatory	Type	Description
start_datetime	No	Integer	Start time of a scheduling plan. Range: 946684800000–2147512447000
period	No	String	Unit of the execution period of a schedule. If the Cron expression is used, the value is empty. • MIN (minute) • HOUR (hour) • DAY (day) • WEEK (week) • MON (month)
dispatch_interval	No	Integer	Interval for executing a schedule.
remark	No	String	Remarks of a schedule.

Parameter	Mandatory	Type	Description
use_quartz_cron	No	Boolean	Whether the schedule uses the Cron expression. • true (using the Cron expression) • false (not using the Cron expression)
cron	No	String	Cron expression for a schedule.
cron_timezone	No	String	Time zone information.

Response Parameters

Status code: 200

Table 5-151 Response body parameters

Parameter	Type	Description
dispatch_id	String	Schedule ID.
task_id	String	ID of a task associated with a schedule.
start_datetime	Integer	Start time of a scheduling plan. Range: 946684800000-2147512447000
period	String	Unit of the execution period of a schedule. If the Cron expression is used, the value is empty. • MIN (minute) • HOUR (hour) • DAY (day) • WEEK (week) • MON (month)
dispatch_interval	Integer	Interval for executing a schedule.
created_date	Integer	Time when a schedule is created.
last_modified_date	Integer	Last modification time of a schedule.
remark	String	Remarks of a schedule.

Parameter	Type	Description
use_quartz_cron	Boolean	Whether the schedule uses the Cron expression. - true (using the Cron expression) - false (not using the Cron expression)
cron	String	Cron expression for a schedule.
cron_timezone	String	Time zone information.

Status code: 400**Table 5-152** Response body parameters

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

Status code: 404**Table 5-153** Response body parameters

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

Status code: 500**Table 5-154** Response body parameters

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

Example Requests

Modify the interval of the schedule of a specified data integration task as once a day without using Cron expression.

```
{
  "dispatch_id" : "0b046396c0f84687840c37c642389609",
  "task_id" : "34bb58f48c684b5ea1158cff69b9fbe4",
  "start_datetime" : 1605597966246,
  "period" : "DAY",
  "dispatch_interval" : 1,
  "created_date" : 1605570764692,
  "last_modified_date" : 1605570764692,
  "remark" : "123",
  "use_quartz_cron" : false
}
```

Example Responses

Status code: 200

OK

```
{
  "dispatch_id" : "0b046396c0f84687840c37c642389609",
  "task_id" : "34bb58f48c684b5ea1158cff69b9fbe4",
  "start_datetime" : 1605597966246,
  "period" : "DAY",
  "dispatch_interval" : 1,
  "created_date" : 1605570764692,
  "last_modified_date" : 1605570764692,
  "remark" : "123",
  "use_quartz_cron" : false
}
```

Status code: 400

Bad Request

```
{
  "code" : 400,
  "reason" : {
    "error_code" : "FDI.3149",
    "error_msg" : "The task ID is empty."
  }
}
```

Status code: 404

Not Found

```
{
  "code" : 404,
  "reason" : {
    "error_code" : "FDI.3180",
    "error_msg" : "This task is not in the project."
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.12 Starting or Stopping Tasks in Batches

Function

This API is used to start or stop tasks in batches.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/batch-operation/tasks

Table 5-155 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-156 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-157 Request body parameters

Parameter	Mandatory	Type	Description
action_id	Yes	String	Operation type. • start • stop
list	No	Array of TaskBean objects	IDs of tasks to be started or stopped. The maximum length of the list array is 10.

Table 5-158 TaskBean

Parameter	Mandatory	Type	Description
task_id	No	String	Task ID. This parameter can be left empty.

Response Parameters

Status code: 200

Table 5-159 Response body parameters

Parameter	Type	Description
success_count	Integer	Success count.
failure_count	Integer	Failure count.
failure	Array of TaskBeanFacade objects	Failure details.
success	Array of TaskBeanFacade objects	Information about successful tasks.

Table 5-160 TaskBeanFacade

Parameter	Type	Description
task_id	String	Task ID.
task_name	String	Task name.
error_code	String	Error code.
error_msg	String	Error details.

Status code: 400**Table 5-161** Response body parameters

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

Status code: 404**Table 5-162** Response body parameters

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

Status code: 500**Table 5-163** Response body parameters

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

Example Requests

Start data integration tasks in batches.

```
{
  "action_id" : "start",
  "list" : [ {
    "task_id" : "49460e99d597464d885f871dd6acc894"
  } ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "FDI.3150",
```



```
{
  "error_msg" : "The task list is empty."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FDI.3083",
  "error_msg" : "One or more scheduled tasks are not configured with scheduled plans."
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.13 Creating a Composite Task

Function

Create a composite task.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks

Table 5-164 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-165 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-166 Request body parameters

Parameter	Mandatory	Type	Description
task_name	Yes	String	Task name. The value contains 3 to 100 characters, consisting of only letters, digits, periods (.), underscores (_), and hyphens (-). The value must start with a letter or digit.
task_id	No	String	Task ID. This parameter can be left empty.
task_type	No	String	Task type. Currently, composite tasks support only real-time tasks. ● REALTIME (real-time) ● TIMING (scheduled)
description	No	String	Description.
task_tag	No	String	Task tag, which can contain only letters, digits, hyphens (-), and underscores (_).
operation_types	Yes	Array of strings	Operation type to be supported. You can select multiple operation types. At least one of the following operation types must be selected: ● INSERT ● UPDATE ● DELETE
source_app_id	No	String	ID of the integration application to which the source data source belongs.

Parameter	Mandatory	Type	Description
target_app_id	No	String	ID of the integration application to which the destination data source belongs.

Response Parameters

Status code: 200

Table 5-167 Response body parameters

Parameter	Type	Description
task_id	String	Task ID. This parameter can be left empty.

Status code: 400

Table 5-168 Response body parameters

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

Status code: 404

Table 5-169 Response body parameters

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

Status code: 500

Table 5-170 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Create a real-time composite data integration task with the insert, update, and delete operations.

```
{
  "task_name" : "cdctest1",
  "task_id" : "a9fe65f41****6a5d646477c52",
  "task_type" : "REALTIME",
  "description" : "create",
  "task_tag" : "combination",
  "operation_types" : [ "INSERT", "UPDATE", "DELETE" ],
  "source_app_id" : "d5afd9af-a8fe-47f6-a98c-edbcba11a0da",
  "target_app_id" : "d5afd9af-a8fe-47f6-a98c-edbcba11a0da"
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "FDI.3150",
  "error_msg" : "The task list is empty."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FDI.3083",
  "error_msg" : "One or more scheduled tasks are not configured with scheduled plans."
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.14 Initializing a Composite Task

Function

Initialize the combined task, assign task IDs, and initialize mappings.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks/init

Table 5-171 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-172 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-173 Request body parameters

Parameter	Mandatory	Type	Description
ext_info	No	ext_info object	Extended attribute. Currently, server_id is supported and can be left empty.
source_datasource_id	No	String	Data source ID at the source.
target_datasource_id	No	String	Data source ID at the destination.

Parameter	Mandatory	Type	Description
task_id	No	String	Task ID. This parameter can be left empty. If it is left empty, a task ID is automatically assigned.
auto_mapping	No	Boolean	Whether to automatically create a mapping from the source to the destination.

Table 5-174 ext_info

Parameter	Mandatory	Type	Description
server_id	No	String	MySQL server ID.

Response Parameters

Status code: 200

Table 5-175 Response body parameters

Parameter	Type	Description
[items]	Array of MultiTaskInitElement objects	-

Table 5-176 MultiTaskInitElement

Parameter	Type	Description
ext_info	ext_info object	Extended attribute. Currently, only server_id is supported.
task_id	String	Task ID.
source_datasource_id	String	Data source ID at the source.
target_datasource_id	String	Data source ID at the destination.
source_group	String	Source group.
target_group	String	Target group.
source_ds_id	String	Data source ID at the source.

Parameter	Type	Description
target_ds_id	String	Data source ID at the destination.
source_instance_id	String	ID of the source instance.
target_instance_id	String	ID of the destination instance.
source_app_id	String	ID of the integration application to which the source data source belongs.
target_app_id	String	ID of the integration application to which the destination data source belongs.
source_datasource_name	String	Name of the source data source.
target_datasource_name	String	Name of the destination data source.
source_datasource_type	String	Source data source type.
target_datasource_type	String	Destination data source type.
mappings	Array of MultiTaskMappingElement objects	Mapping list. Only the first 10 records are returned.
schema_mappings	Array of MultiTaskSchemaMappingElement objects	Schema mappings. The first 10 records are returned.
mappings_total_count	Integer	Total number of mappings.

Table 5-177 ext_info

Parameter	Type	Description
server_id	String	MySQL server ID.

Table 5-178 MultiTaskMappingElement

Parameter	Type	Description
id	String	Unique ID of a mapping.
source_table	String	Source table name.

Parameter	Type	Description
target_table	String	Destination table name.
updated_time	Long	Time of last update.
mapping_percent	Integer	Matching percentage.
status	String	Mapping status. • AUTO • MANUAL • ADD • UPDATE • DELETE • USING
source_columns	Array of MultiTaskColumnInfo objects	Source field list.
target_columns	Array of MultiTaskColumnInfo objects	Destination field list.
mapping	Array of MappingInfo objects	Field mapping list.

Table 5-179 MultiTaskColumnInfo

Parameter	Type	Description
field_name	String	Field name.
field_type	String	Field type.
field_length	String	Field length.

Table 5-180 MappingInfo

Parameter	Type	Description
source_column	String	Source field.
source_column_type	String	Source field type.
source_column_length	String	Source field length.
target_column	String	Destination field.

Parameter	Type	Description
target_column_type	String	Destination field type.
target_column_length	String	Destination field length.

Table 5-181 MultiTaskSchemaMappingElement

Parameter	Type	Description
id	String	Unique mapping ID.
source_schema	String	Source schema name.
target_schema	String	Destination schema name.
updated_time	Long	Last modification time.
status	String	Mapping status. • AUTO: Auto mapping • MANUAL: Manually add • ADD: Automatically add • UPDATE • DELETE • USING

Status code: 400**Table 5-182** Response body parameters

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

Status code: 404**Table 5-183** Response body parameters

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

Status code: 500**Table 5-184** Response body parameters

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

Example Requests

Initialize a composite task based on specified source and destination data sources.

```
{
  "ext_info" : null,
  "source_datasource_id" : "30969b205e8f4392a25fb321112d1753",
  "target_datasource_id" : "30969b205e8f4392a25fb321112d1753",
  "task_id" : null,
  "auto_mapping" : false
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "FDI.3150",
  "error_msg" : "The task list is empty."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FDI.3083",
  "error_msg" : "One or more scheduled tasks are not configured with scheduled plans."
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.15 Modifying a Combined Task

Function

Modify a combined task.

URI

PUT /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks/{task_id}

Table 5-185 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-186 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-187 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Description.
task_tag	No	String	Task tag, which can contain only letters, digits, hyphens (-), and underscores (_).

Parameter	Mandatory	Type	Description
operation_types	Yes	Array of strings	Operation type to be supported. You can select multiple operation types. At least one of the following operation types must be selected: • INSERT • UPDATE • DELETE
repulling_snapshot	Yes	Boolean	Whether to synchronize existing data. This parameter is valid only when you edit a task.

Response Parameters

Status code: 200

Table 5-188 Response body parameters

Parameter	Type	Description
task_id	String	Task ID. This parameter can be left empty.

Status code: 400

Table 5-189 Response body parameters

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

Status code: 404

Table 5-190 Response body parameters

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

Status code: 500**Table 5-191** Response body parameters

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

Example Requests

Modify a specified composite data integration task by changing the operation type to insert and update and synchronizing existing data.

```
{
  "description" : "test",
  "task_tag" : "combinationaa",
  "operation_types" : [ "INSERT", "UPDATE" ],
  "repulling_snapshot" : true
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "FDI.3021",
  "error_msg" : "One or more tasks do not exist."
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.16 Resetting the Progress of the Combined Task

Function

Reset the progress of the combined task.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks/{task_id}/reset

Table 5-192 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-193 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-194 Request body parameters

Parameter	Mandatory	Type	Description
date_from	No	Long	Start time of task resetting. The value is a UTC timestamp and can be left empty.

Response Parameters

Status code: 200

Table 5-195 Response body parameters

Parameter	Type	Description
message	String	Task resetting result.

Status code: 400**Table 5-196** Response body parameters

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

Status code: 404**Table 5-197** Response body parameters

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

Status code: 500**Table 5-198** Response body parameters

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

Example Requests

Reset the progress of a specified composite data integration task to a specified time.

```
https://{{ServerHost}}/v2/c53626012ba84727b938ca8bf03108ef/fdi/instances/
fae7ff6c-8e07-4cf8-9e67-589cab2f017c/multi-tasks/15366328208d4d77b76532fe9f4006a6/reset
{
  "date_from" : 1630052714000
}
```

Example Responses

Status code: 200

OK

```
{  
  "message" : "Reset Success"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "FDI.3150",  
  "error_msg" : "The task list is empty."  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "FDI.3083",  
  "error_msg" : "One or more scheduled tasks are not configured with scheduled plans."  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.17 Creating Combined Task Mappings

Function

Create combined task mappings.

URI

POST /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks/{task_id}/mappings

Table 5-199 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.

Request Parameters

Table 5-200 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-201 Request body parameters

Parameter	Mandatory	Type	Description
ext_info	No	ext_info object	Extended attribute. Only server_id is supported.
source_datasource_id	Yes	String	Source data source ID (mandatory).
target_datasource_id	Yes	String	Destination data source ID (mandatory).
source_columns	No	Array of MultiTaskColumnInfo objects	Source fields.
target_columns	No	Array of MultiTaskColumnInfo objects	Destination fields.
source_table	No	String	Source table name.
target_table	No	String	Destination table name.

Parameter	Mandatory	Type	Description
mapping_columns	No	Array of MappingInfo objects	Field mappings.

Table 5-202 ext_info

Parameter	Mandatory	Type	Description
server_id	No	String	MySQL server ID. This parameter is mandatory for a MySQL data source.

Table 5-203 MultiTaskColumnInfo

Parameter	Mandatory	Type	Description
field_name	No	String	Field name.
field_type	No	String	Field type.
field_length	No	String	Field length.

Table 5-204 MappingInfo

Parameter	Mandatory	Type	Description
source_column	No	String	Source field.
source_column_type	No	String	Source field type.
source_column_length	No	String	Source field length.
target_column	No	String	Destination field.
target_column_type	No	String	Destination field type.
target_column_length	No	String	Destination field length.

Response Parameters

Status code: 200

Table 5-205 Response body parameters

Parameter	Type	Description
mapping_id	String	Unique ID of a mapping.

Status code: 400**Table 5-206** Response body parameters

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

Status code: 404**Table 5-207** Response body parameters

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

Status code: 500**Table 5-208** Response body parameters

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

Example Requests

Modify a specified composite data integration task by changing the operation type to insert and update and synchronizing existing data.

```
{  
  "description" : "test"  
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "FDI.3150",
  "error_msg" : "The task list is empty."
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "FDI.3083",
  "error_msg" : "One or more scheduled tasks are not configured with scheduled plans."
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.18 Querying Mappings of Combined Tasks**Function**

Query mappings of combined tasks.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks/{task_id}/mappings

Table 5-209 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
task_id	Yes	String	Task ID, the unique identifier of a task.

Table 5-210 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page in pagination query. The maximum value is 1000 and the minimum value is 1.
offset	No	Integer	Offset of pagination in pagination query. The query starts from this offset.
source_datasource_id	No	String	Source data source ID.
target_datasource_id	No	String	Destination data source ID.
source_table	No	String	Source table name.
target_table	No	String	Destination table name.
table_name	No	String	Source or destination table name.

Request Parameters

Table 5-211 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 5-212 Response body parameters

Parameter	Type	Description
ext_info	ext_info object	Extended attribute. Currently, only server_id is supported.
task_id	String	Task ID.
source_datasource_id	String	Data source ID at the source.
target_datasource_id	String	Data source ID at the destination.
source_group	String	Source group.
target_group	String	Target group.
source_ds_id	String	Data source ID at the source.
target_ds_id	String	Data source ID at the destination.
source_instance_id	String	ID of the source instance.
target_instance_id	String	ID of the destination instance.
source_app_id	String	ID of the integration application to which the source data source belongs.
target_app_id	String	ID of the integration application to which the destination data source belongs.
source_datasource_name	String	Name of the source data source.
target_datasource_name	String	Name of the destination data source.
source_datasource_type	String	Source data source type.
target_datasource_type	String	Destination data source type.
mappings	Array of MultiTaskMappingElement objects	Mapping list. Only the first 10 records are returned.
schema_mappings	Array of MultiTaskSchemaMappingElement objects	Schema mappings. The first 10 records are returned.
mappings_total_count	Integer	Total number of mappings.

Table 5-213 ext_info

Parameter	Type	Description
server_id	String	MySQL server ID.

Table 5-214 MultiTaskMappingElement

Parameter	Type	Description
id	String	Unique ID of a mapping.
source_table	String	Source table name.
target_table	String	Destination table name.
updated_time	Long	Time of last update.
mapping_percent	Integer	Matching percentage.
status	String	Mapping status. • AUTO • MANUAL • ADD • UPDATE • DELETE • USING
source_columns	Array of MultiTaskColumnInfo objects	Source field list.
target_columns	Array of MultiTaskColumnInfo objects	Destination field list.
mapping	Array of MappingInfo objects	Field mapping list.

Table 5-215 MultiTaskColumnInfo

Parameter	Type	Description
field_name	String	Field name.
field_type	String	Field type.
field_length	String	Field length.

Table 5-216 MappingInfo

Parameter	Type	Description
source_column	String	Source field.
source_column_type	String	Source field type.
source_column_length	String	Source field length.
target_column	String	Destination field.
target_column_type	String	Destination field type.
target_column_length	String	Destination field length.

Table 5-217 MultiTaskSchemaMappingElement

Parameter	Type	Description
id	String	Unique mapping ID.
source_schema	String	Source schema name.
target_schema	String	Destination schema name.
updated_time	Long	Last modification time.
status	String	Mapping status. • AUTO: Auto mapping • MANUAL: Manually add • ADD: Automatically add • UPDATE • DELETE • USING

Status code: 400**Table 5-218** Response body parameters

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

Status code: 404**Table 5-219** Response body parameters

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

Status code: 500**Table 5-220** Response body parameters

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

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

5.2.19 Modifying Combined Task Mappings

Function

Modify combined task mappings.

URI

PUT /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks/{task_id}/mappings/{mapping_id}

Table 5-221 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.
mapping_id	Yes	String	Unique ID of a composite task mapping.

Request Parameters

Table 5-222 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-223 Request body parameters

Parameter	Mandatory	Type	Description
ext_info	No	ext_info object	Extended attribute. Only server_id is supported.
source_datasource_id	Yes	String	Source data source ID (mandatory).

Parameter	Mandatory	Type	Description
target_data_source_id	Yes	String	Destination data source ID (mandatory).
source_columns	No	Array of MultiTaskColumnInfo objects	Source fields.
target_columns	No	Array of MultiTaskColumnInfo objects	Destination fields.
source_table	No	String	Source table name.
target_table	No	String	Destination table name.
mapping_columns	No	Array of MappingInfo objects	Field mappings.

Table 5-224 ext_info

Parameter	Mandatory	Type	Description
server_id	No	String	MySQL server ID. This parameter is mandatory for a MySQL data source.

Table 5-225 MultiTaskColumnInfo

Parameter	Mandatory	Type	Description
field_name	No	String	Field name.
field_type	No	String	Field type.
field_length	No	String	Field length.

Table 5-226 MappingInfo

Parameter	Mandatory	Type	Description
source_column	No	String	Source field.
source_column_type	No	String	Source field type.

Parameter	Mandatory	Type	Description
source_column_length	No	String	Source field length.
target_column	No	String	Destination field.
target_column_type	No	String	Destination field type.
target_column_length	No	String	Destination field length.

Response Parameters

Status code: 200

Table 5-227 Response body parameters

Parameter	Type	Description
mapping_id	String	Unique ID of a mapping.

Status code: 400

Table 5-228 Response body parameters

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

Status code: 404

Table 5-229 Response body parameters

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

Status code: 500

Table 5-230 Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "FDI.3150",
  "error_msg" : "The task list is empty."
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FDI.3083",
  "error_msg" : "One or more scheduled tasks are not configured with scheduled plans."
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.2.20 Deleting the Specified Task Mapping

Function

Delete the specified task mapping by ID.

URI

DELETE /v2/{project_id}/fdi/instances/{instance_id}/multi-tasks/{task_id}/
mappings/{mapping_id}

Table 5-231 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID, the unique identifier of a task.
mapping_id	Yes	String	Unique ID of a composite task mapping.

Request Parameters

Table 5-232 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 5-233 Response body parameters

Parameter	Type	Description
mapping_id	String	Unique ID of a mapping.

Status code: 400

Table 5-234 Response body parameters

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

Status code: 404**Table 5-235** Response body parameters

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

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found

Error Codes

See [Error Codes](#).

5.2.21 Automatically Mapping Composite Task Data

Function

Perform automatic mapping of composite tasks (a maximum of 2000 tables at a time).

URI

POST /v2/{project_id}/fdi/multi-tasks/mappings/auto

Table 5-236 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Request Parameters

Table 5-237 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 5-238 FormData parameters

Parameter	Mandatory	Type	Description
source_ds_id	Yes	String	Source data source ID.
source_group	No	String	Source group.
target_ds_id	Yes	String	Destination data source ID.
target_group	No	String	Destination group.
task_id	No	String	Task ID, the unique identifier of a task.
ext_info	No	String	Additional information.
task_type	No	Integer	1: real-time; 2: scheduled
mapping_prefix	No	String	Prefix for mapping. Destination table name = Prefix (optional) + source table name + suffix (optional)

Parameter	Mandatory	Type	Description
mapping_suffix	No	String	Suffix for mapping. Destination table name = Prefix (optional) + source table name + suffix (optional)
target_select_mapping_tables	No	String	Source table range to be mapped. Use commas (,) to separate multiple tables, for example, schema.table1,schema.table2, or specify the entire database using schema.*.
source_select_mapping_tables	No	String	Destination table range to be mapped. Use commas (,) to separate multiple tables, for example, schema.table1,schema.table2, or specify the entire database using schema.*.

Response Parameters

Status code: 400

Table 5-239 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

ok

```
[ {  
  "target_instance_id" : "62afe8b5-6bf0-40ea-b4f6-6b06a39be754",  
  "source_app_id" : "c24d7cf4-0e5a-416c-b197-30e6696b98f2",  
  "mapping" : [ {  
    "ext_info" : {  
      "server_id" : 1665647763438  
    },  
    "id" : "f1c1d7f3afc94c1c995628df55939ced",
```

```
"mapping" : [ {
  "is_add_boolean_mapping" : false,
  "is_add_custom_mapping" : false,
  "is_add_date_mapping" : false,
  "is_add_fdi_uuid_mapping" : false,
  "is_add_mapping" : false,
  "source_column" : "c1",
  "source_column_length" : "10",
  "source_column_type" : "INT",
  "target_column" : "c1",
  "target_column_length" : "10",
  "target_column_type" : "INT"
}, {
  "is_add_boolean_mapping" : false,
  "is_add_custom_mapping" : false,
  "is_add_date_mapping" : false,
  "is_add_fdi_uuid_mapping" : false,
  "is_add_mapping" : false,
  "source_column" : "c2",
  "source_column_length" : "100",
  "source_column_type" : "VARCHAR",
  "target_column" : "c2",
  "target_column_length" : "100",
  "target_column_type" : "VARCHAR"
} ],
"mapping_percent" : 100,
"project_id" : "0ab7e64afd80d2822fe0c00d26395a1f",
"source_columns" : [ {
  "field_length" : "10",
  "field_name" : "c1",
  "field_type" : "INT",
  "null_able" : "0",
  "unique" : "1"
}, {
  "field_length" : "100",
  "field_name" : "c2",
  "field_type" : "VARCHAR",
  "null_able" : "1",
  "unique" : "0"
} ],
"source_ds_id" : "984edcd6735c4988b15f6a497cb97c5a",
"source_group" : "SOURCE_GROUP1",
"source_table" : "test.t1",
"status" : "ADD",
"target_columns" : [ {
  "field_length" : "10",
  "field_name" : "c1",
  "field_type" : "INT",
  "null_able" : "0",
  "unique" : "0"
}, {
  "field_length" : "100",
  "field_name" : "c2",
  "field_type" : "VARCHAR",
  "null_able" : "1",
  "unique" : "0"
} ],
"target_ds_id" : "dd14c908aa4d446b85949550f523ff83",
"target_group" : "TARGET_GROUP1",
"target_table" : "fditest.t1",
"task_id" : "e530a006683d400e8b3bac1d7c00952b",
"updated_time" : 1665647764511
} ],
"target_ds_name" : "fdi_MySQL_zqx_205",
"target_app_id" : "c24d7cf4-0e5a-416c-b197-30e6696b98f2",
"source_instance_id" : "62afe8b5-6bf0-40ea-b4f6-6b06a39be754",
"task_id" : "e530a006683d400e8b3bac1d7c00952b",
"source_ds_type" : "MYSQL",
"ext_info" : {
```

```
"server_id" : 1665647763438
},
"target_ds_type" : "MYSQL",
"total" : 1,
"source_group" : "SOURCE_GROUP1",
"source_ds_id" : "984edcd6735c4988b15f6a497cb97c5a",
"target_group" : "TARGET_GROUP1",
"source_ds_name" : "mysql8.0.30",
"target_ds_id" : "dd14c908aa4d446b85949550f523ff83"
}]
```

Status Codes

Status Code	Description
200	ok
400	bad request

Error Codes

See [Error Codes](#).

5.3 Task Monitoring and Management

5.3.1 Querying the Task Monitoring Information List

Function

This API is used to query the monitoring information about all tasks.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/task-monitors

Table 5-240 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 5-241 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, where the query starts. The value starts from 1 (the value 0 is treated as 1).
limit	No	Integer	Number of records displayed on each page. The maximum value is 999. Excessive records are not returned.
task_name	No	String	Name of the task to be searched for. Fuzzy search is supported. This parameter is case sensitive and optional. If this parameter is left empty, the system searches for all tasks.
execute_statuses	No	String	Execution status of the task to be searched for. This parameter is optional. If it is left empty, the system searches for all tasks. • UNSTARTED • WAITING • RUNNING • SUCCESS • CANCELLED • ERROR

Request Parameters

Table 5-242 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-243 Response body parameters

Parameter	Type	Description
total	Integer	Total number.
size	Integer	Number of monitoring records on the current page.
entities	Array of TaskMonitorInfo objects	Elements on the current page of task monitoring information.

Table 5-244 TaskMonitorInfo

Parameter	Type	Description
task_id	String	Task ID.
task_name	String	Task name.
task_type	String	Task type. - REALTIME (real-time) - TIMING (scheduled)
status	Integer	Task status: 0 (stopped) 1 (running)
last_execute_time	Integer	Latest time when a task is executed. The value is in the format of timestamp(ms) and uses the UTC time zone.
use_quartz_cron	Boolean	Whether a task uses the Quartz expression. This parameter is available only for scheduled tasks.
cron	String	Cron expression. This parameter is available only when the scheduled task is used and use_quartz_cron is set to true.

Parameter	Type	Description
period	String	Unit of the scheduling period, such as day and hour. This parameter is available only for scheduled tasks and when use_quartz_cron is set to false. • MIN (minute) • HOUR (hour) • DAY (day) • WEEK (week) • MON (month)
dispatch_interval	Integer	Scheduling period, which is used together with the period field to determine the scheduling interval. This parameter is available only when the scheduled task is used and use_quartz_cron is set to false.
position	String	Phase to which the latest task is executed. • ADAPTER (initialization phase) • READER (reader phase) • WRITER (writer phase)
execute_status	String	Last execution status of a task. • UNSTARTED • WAITING • RUNNING • SUCCESS • CANCELLED • ERROR
source_app_id	String	ID of the application to which the source data source of the task belongs.
source_app_name	String	Name of the application to which the source data source of the task belongs.
source_instance_id	String	ID of the instance to which the source data source of the task belongs.
target_app_id	String	ID of the application to which the destination data source belongs.
target_app_name	String	Name of the application to which the destination data source belongs.
target_instance_id	String	ID of the instance to which the destination data source belongs.

Parameter	Type	Description
ext_type	String	Extended task type. If the current task is a CDC composite task, the value of this field is CDC. Otherwise, the value is null.
enterprise_project_id	String	ID of the enterprise project to which the task belongs. The default value is 0.
task_tag	String	Task tag.

Status code: 400**Table 5-245** Response body parameters

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

Status code: 500**Table 5-246** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 99999,
  "size" : 99999,
  "entities" : [ {
    "task_id" : "id123456789",
    "task_name" : "fdi_task_name",
    "task_type" : "TIMING",
    "status" : 0,
    "last_execute_time" : 1603243428000,
```

```
"use_quartz_cron" : false,
"cron" : "0 */15 * * * ?",
"period" : "DAY",
"dispatch_interval" : 1,
"position" : "READER",
"execute_status" : "RUNNING",
"source_app_id" : "28f61af50fc9452aa0ed5ea25c3cc3d3",
"source_app_name" : "source-app",
"source_instance_id" : "source-instance",
"target_app_id" : "28f61af50fc9452aa0ed5ea25c3cc3d3",
"target_app_name" : "target-app",
"target_instance_id" : "target-instance",
"ext_type" : "CDC",
"enterprise_project_id" : "string",
"task_tag" : "string"
} ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.3.2 Querying the Log Details of a Single Task

Function

This API is used to query all logs of a task.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/monitor-logs

Table 5-247 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID.

Table 5-248 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, where the query starts. The value starts from 1 (the value 0 is treated as 1).
limit	No	Integer	Number of records displayed on each page. The maximum value is 999. Excessive records are not returned.
begin_time	No	Integer	Start time for the logs to be queried. The value is in the format of timestamp(ms) and uses the UTC time zone.
end_time	No	Integer	End time for the logs to be queried. The value is in the format of timestamp(ms) and uses the UTC time zone.

Request Parameters

Table 5-249 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-250 Response body parameters

Parameter	Type	Description
total	Integer	Total number.
size	Integer	Number of logs on the current page.

Parameter	Type	Description
entities	Array of TaskMonitorLog objects	Elements on the current page of task monitoring logs.

Table 5-251 TaskMonitorLog

Parameter	Type	Description
id	String	Trace ID of a single task.
start_time	Integer	Start time of the current execution. The value is in the format of timestamp(ms) and uses the UTC time zone.
dispatch_time	Integer	Scheduled execution time. The value is in the format of timestamp(ms) and uses the UTC time zone.
end_time	Integer	End time of the current execution. The value is in the format of timestamp(ms) and uses the UTC time zone.
execute_status	String	Task execution status. • UNSTARTED • WAITING • RUNNING • SUCCESS • CANCELLED • ERROR
position	String	Phase to which the task is executed. • ADAPTER (initialization phase) • READER (reader phase) • WRITER (writer phase)

Parameter	Type	Description
position_status	String	Status of the current task execution phase. • NORMAL (currently running) • NODE_END (current node ends normally) • RUNTIME_CANCEL (task canceled) • TASK_END (current task ends normally) • RUNTIME_ERR (runtime error) • INTERNAL_ERR (internal program error)

Parameter	Type	Description
status	Integer	Detailed task execution status. The status codes are classified as follows: 100 to 499 for the reader side, 500 to 899 for the writer side, and 900 and beyond for others. • 16 (task forcibly canceled) • 99 (task starts) • 100 (reader task starts) • 101 (reader task ends) • 102 (reading data) • 103 (reading data source exception) • 104 (reading data ends) • 105 (0 reading data) • 106 (reading task forcibly canceled) • 107 (task interrupted in the reader plugin) • 108 (reader task resumes) • 500 (writer task starts) • 501 (writer task ends) • 502 (data being written) • 503 (destination exception) • 504 (data writing ends) • 505 (writer task forcibly canceled) • 506 (task interrupted in the writer plugin) • 507 (writer task resumed) • 900 (scheduling request received) • 901 (task execution ends) • 902 (task execution ends and data integrity check is being performed) • 903 (output data integrity check results) • 904 (Data loss detected after data integrity check. Data compensation is being performed.) • 905 (output data compensation results) • 906 (reader tasks being queued (platform resources)) • 907 (reader tasks rejected because last scheduling not completed yet)

Parameter	Type	Description
		• 908 (writer tasks being queued (platform resources)) • 909 (writer task rejected because last scheduling not completed yet) • 911 (Reader task not started normally. Check whether the network is normal and whether the parameters are correct.) • 912 (Writer task not started normally. Check whether the network is normal and whether the parameters are correct.) • 913 (task scheduling request failure) • 914 (task rejected because last scheduling not completed yet) • 915 (task not running properly) • 916 (task log report abnormal)
dirty_data_count	Integer	Number of abnormal data records.
data_count	Integer	Number of successful data records.
data_size	Number	Size of success data. The value is a floating-point number.
data_size_unit	String	Unit for measuring the size of success data.
spend_time	Integer	Execution duration, in milliseconds.
read_spend_time	Integer	Read execution duration, in milliseconds. This parameter is available only for scheduled tasks.
write_spend_time	Integer	Write execution duration, in milliseconds.
remarks	String	Brief information about the execution result.
detail_logs	Array of TaskMonitorDetailLog objects	Detailed track information about the current execution.

Table 5-252 TaskMonitorDetailLog

Parameter	Type	Description
id	String	Unique ID generated each time when a task is executed.

Parameter	Type	Description
status	Integer	Detailed task execution status. The status codes are classified as follows: 100 to 499 for the reader side, 500 to 899 for the writer side, and 900 and beyond for others. • 16 (task forcibly canceled) • 99 (task starts) • 100 (reader task starts) • 101 (reader task ends) • 102 (reading data) • 103 (reading data source exception) • 104 (reading data ends) • 105 (0 reading data) • 106 (reading task forcibly canceled) • 107 (task interrupted in the reader plugin) • 108 (reader task resumes) • 500 (writer task starts) • 501 (writer task ends) • 502 (data being written) • 503 (destination exception) • 504 (data writing ends) • 505 (writer task forcibly canceled) • 506 (task interrupted in the writer plugin) • 507 (writer task resumed) • 900 (scheduling request received) • 901 (task execution ends) • 902 (task execution ends and data integrity check is being performed) • 903 (output data integrity check results) • 904 (Data loss detected after data integrity check. Data compensation is being performed.) • 905 (output data compensation results) • 906 (reader tasks being queued (platform resources)) • 907 (reader tasks rejected because last scheduling not completed yet)

Parameter	Type	Description
		• 908 (writer tasks being queued (platform resources)) • 909 (writer task rejected because last scheduling not completed yet) • 911 (Reader task not started normally. Check whether the network is normal and whether the parameters are correct.) • 912 (Writer task not started normally. Check whether the network is normal and whether the parameters are correct.) • 913 (task scheduling request failure) • 914 (task rejected because last scheduling not completed yet) • 915 (task not running properly) • 916 (task log report abnormal)
position	String	Phase at which the current step is. • ADAPTER (initialization phase) • READER (reader phase) • WRITER (writer phase)
position_status	String	Status of the current step of a task. • NORMAL (currently running) • NODE_END (current node ends normally) • RUNTIME_CANCEL (task canceled) • TASK_END (current task ends normally) • RUNTIME_ERR (runtime error) • INTERNAL_ERR (internal program error)
stage	String	FDI plug-in to which the current step belongs, for example, adapter, apireader, and rdbwriter.
dirty_data_count	Integer	Number of abnormal data records.
data_count	Integer	Number of successful data records.
data_size	Number	Size of success data. The value is a floating-point number.

Parameter	Type	Description
data_size_unit	String	Unit for measuring the size of success data.
spend_time	Integer	Execution duration, in milliseconds.
remarks	String	Execution details.
step_begin_time	Integer	Start time of this step. The value is in the format of timestamp(ms) and uses the UTC time zone.
step_end_time	Integer	End time of this step. The value is in the format of timestamp(ms) and uses the UTC time zone.

Status code: 400**Table 5-253** Response body parameters

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

Status code: 404**Table 5-254** Response body parameters

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

Status code: 500**Table 5-255** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 99999,
  "size" : 99999,
  "entities" : [ {
    "id" : "id123456789",
    "start_time" : 1603243428000,
    "dispatch_time" : 1603243428000,
    "end_time" : 1603243428000,
    "execute_status" : "RUNNING",
    "position" : "READER",
    "position_status" : "NORMAL",
    "status" : 504,
    "dirty_data_count" : 0,
    "data_count" : 100,
    "data_size" : 1000,
    "data_size_unit" : "B",
    "spend_time" : 5000,
    "read_spend_time" : 5000,
    "write_spend_time" : 5000,
    "remarks" : "Task execute success",
    "detail_logs" : [ {
      "id" : "id123456789",
      "status" : 500,
      "position" : "READER",
      "position_status" : "NORMAL",
      "stage" : "adapter",
      "dirty_data_count" : 0,
      "data_count" : 100,
      "data_size" : 1000,
      "data_size_unit" : "B",
      "spend_time" : 5000,
      "remarks" : "task start successfully.",
      "step_begin_time" : 1603243428000,
      "step_end_time" : 1603243428000
    } ]
  } ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.4 Task Monitoring

5.4.1 Querying Scheduling Log Details

Function

This API is used to query the log details of a single scheduling.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/monitor-logs/{tracking_id}

Table 5-256 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID.
tracking_id	Yes	String	Task tracing ID.

Request Parameters

Table 5-257 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-258 Response body parameters

Parameter	Type	Description
id	String	Task tracing ID.
dirty_data_count	Integer	Dirty data amount.
detail_logs	Array of TaskMonitorDetailLog objects	Elements on the current page of task monitoring logs.

Table 5-259 TaskMonitorDetailLog

Parameter	Type	Description
id	String	Unique ID generated each time when a task is executed.

Parameter	Type	Description
status	Integer	Detailed task execution status. The status codes are classified as follows: 100 to 499 for the reader side, 500 to 899 for the writer side, and 900 and beyond for others. • 16 (task forcibly canceled) • 99 (task starts) • 100 (reader task starts) • 101 (reader task ends) • 102 (reading data) • 103 (reading data source exception) • 104 (reading data ends) • 105 (0 reading data) • 106 (reading task forcibly canceled) • 107 (task interrupted in the reader plugin) • 108 (reader task resumes) • 500 (writer task starts) • 501 (writer task ends) • 502 (data being written) • 503 (destination exception) • 504 (data writing ends) • 505 (writer task forcibly canceled) • 506 (task interrupted in the writer plugin) • 507 (writer task resumed) • 900 (scheduling request received) • 901 (task execution ends) • 902 (task execution ends and data integrity check is being performed) • 903 (output data integrity check results) • 904 (Data loss detected after data integrity check. Data compensation is being performed.) • 905 (output data compensation results) • 906 (reader tasks being queued (platform resources)) • 907 (reader tasks rejected because last scheduling not completed yet)

Parameter	Type	Description
		• 908 (writer tasks being queued (platform resources)) • 909 (writer task rejected because last scheduling not completed yet) • 911 (Reader task not started normally. Check whether the network is normal and whether the parameters are correct.) • 912 (Writer task not started normally. Check whether the network is normal and whether the parameters are correct.) • 913 (task scheduling request failure) • 914 (task rejected because last scheduling not completed yet) • 915 (task not running properly) • 916 (task log report abnormal)
position	String	Phase at which the current step is. • ADAPTER (initialization phase) • READER (reader phase) • WRITER (writer phase)
position_status	String	Status of the current step of a task. • NORMAL (currently running) • NODE_END (current node ends normally) • RUNTIME_CANCEL (task canceled) • TASK_END (current task ends normally) • RUNTIME_ERR (runtime error) • INTERNAL_ERR (internal program error)
stage	String	FDI plug-in to which the current step belongs, for example, adapter, apireader, and rdbwriter.
dirty_data_count	Integer	Number of abnormal data records.
data_count	Integer	Number of successful data records.
data_size	Number	Size of success data. The value is a floating-point number.

Parameter	Type	Description
data_size_unit	String	Unit for measuring the size of success data.
spend_time	Integer	Execution duration, in milliseconds.
remarks	String	Execution details.
step_begin_time	Integer	Start time of this step. The value is in the format of timestamp(ms) and uses the UTC time zone.
step_end_time	Integer	End time of this step. The value is in the format of timestamp(ms) and uses the UTC time zone.

Status code: 400**Table 5-260** Response body parameters

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

Status code: 404**Table 5-261** Response body parameters

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

Status code: 500**Table 5-262** Response body parameters

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

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

5.4.2 Querying Schedule Information About a Specified Task

Function

This API is used to query schedule information about a specified task.

URI

GET /v2/{project_id}/fdi/instances/{instance_id}/tasks/{task_id}/monitor-overview

Table 5-263 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
task_id	Yes	String	Task ID.

Request Parameters

Table 5-264 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-265 Response body parameters

Parameter	Type	Description
task_name	String	Task name.
total_num	Integer	Total number of tasks.
error_num	Integer	Number of failed tasks.
success_num	Integer	Number of successful tasks.
running_num	Integer	Number of running tasks
cancel_num	Integer	Number of canceled tasks.

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

6 Service Integration APIs

- [API Group Management](#)
- [API Management](#)
- [Environment Management](#)
- [Environment Variable Management](#)
- [Domain Name Management](#)
- [Request Throttling Policy Management](#)
- [Binding a Request Throttling Policy to an API](#)
- [Excluded Request Throttling Configuration](#)
- [Signature Key Management](#)
- [Binding Signature Keys](#)
- [Access Control Policy Management](#)
- [Binding Access Control Policies](#)
- [API Import and Export](#)
- [VPC Channel Management](#)
- [Credential Management](#)
- [Credential Quota Management](#)
- [Credential Authorization Management](#)
- [Custom Backend Management](#)
- [Custom Authorizer Management](#)
- [Querying Metrics](#)
- [Instance Management](#)
- [Instance Feature Management](#)
- [Tag Management](#)

[Configuration Management](#)
[Application Configuration Management](#)
[VPC Channel Management - Project-Level](#)
[SSL Certificate Management](#)
[Plug-in Management](#)
[Orchestration Rule Management](#)

6.1 API Group Management

6.1.1 Creating an API Group

Function

This API is used to create an API group. An API group is an API management unit and the entry to a service. A subdomain name is returned as the access entry when an API group is created. APIs in an API group should be correlated with each other.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/api-groups

Table 6-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-3 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	API group name. The value contains 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
remark	No	String	Description of the API group.
roma_app_id	No	String	ID of the integration application to which the API group belongs. This parameter is required when the group version is V2.
version	No	String	Group version: • V1: global group • V2: application-level group

Response Parameters

Status code: 201

Table 6-4 Response body parameters

Parameter	Type	Description
id	String	No.
name	String	API group name.
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.

Parameter	Type	Description
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.
sl_domains	Array of strings	Automatically allocated subdomain names.
remark	String	Description.
call_limits	Integer	Total number of times all APIs in the API group can be accessed. Consider the payload capacity of the backend service when setting this parameter. By default, there is no limit on the number of API calls. Not supported yet.
time_interval	Integer	Period of time for limiting the number of API calls. Not supported yet.
time_unit	String	Time unit for limiting the number of API calls. Not supported yet.
is_default	Integer	Whether the API group is the default group.
version	String	Group version: • V1: global group • V2: application-level group
roma_app_id	String	ID of the integration application to which the API group belongs. This parameter is required when the group version is V2.

Parameter	Type	Description
roma_app_name	String	Name of the integration application to which the API group belongs.

Table 6-5 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-6 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.

Parameter	Type	Description
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Status code: 400**Table 6-7** Response body parameters

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

Status code: 401**Table 6-8** Response body parameters

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

Status code: 403**Table 6-9** Response body parameters

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

Status code: 404

Table 6-10 Response body parameters

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

Status code: 500**Table 6-11** Response body parameters

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

Example Requests

Create an API group with a custom name.

```
{
  "name" : "api_group_001",
  "remark" : "group1"
}
```

Example Responses

Status code: 201

Created

```
{
  "update_time" : "2020-07-31T06:55:55.383169299Z",
  "name" : "api_group_001",
  "on_sell_status" : 2,
  "remark" : "group1",
  "sl_domains" : [ "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
    "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.cn" ],
  "sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
  "id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "register_time" : "2020-07-31T06:55:55.383169068Z",
  "status" : 1,
  "is_default" : 2,
  "version" : "V1",
  "sl_domain_access_enabled" : true
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.1.2 Modifying an API Group

Function

This API is used to modify the attributes of an API group. Only the name and remark attributes of an API group can be modified.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}

Table 6-12 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.

Request Parameters

Table 6-13 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-14 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	API group name. The value contains 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
remark	No	String	Description of the API group.

Response Parameters

Status code: 200

Table 6-15 Response body parameters

Parameter	Type	Description
id	String	No.
name	String	API group name.
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.
sl_domains	Array of strings	Automatically allocated subdomain names.
remark	String	Description.
call_limits	Integer	Total number of times all APIs in the API group can be accessed. Consider the payload capacity of the backend service when setting this parameter. By default, there is no limit on the number of API calls. Not supported yet.
time_interval	Integer	Period of time for limiting the number of API calls. Not supported yet.

Parameter	Type	Description
time_unit	String	Time unit for limiting the number of API calls. Not supported yet.
is_default	Integer	Whether the API group is the default group.
version	String	Group version: • V1: global group • V2: application-level group
roma_app_id	String	ID of the integration application to which the API group belongs. This parameter is required when the group version is V2.
roma_app_name	String	Name of the integration application to which the API group belongs.

Table 6-16 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Parameter	Type	Description
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-17 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Status code: 400**Table 6-18** Response body parameters

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

Status code: 401**Table 6-19** Response body parameters

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

Status code: 403**Table 6-20** Response body parameters

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

Status code: 404**Table 6-21** Response body parameters

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

Status code: 500**Table 6-22** Response body parameters

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

Example Requests

Modify the name and description of an API group.

```
{
  "name" : "api_group_001",
  "remark" : "group1"
}
```

Example Responses

Status code: 200

OK

```
{
  "update_time" : "2020-07-31T06:55:55Z.866474185Z",
  "name" : "api_group_001",
  "on_sell_status" : 2,
  "remark" : "group1",
  "sl_domains" : [ "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
    "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.cn" ],
  "sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
}
```

```
{
  "id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "register_time" : "2020-07-31T06:55:55Z",
  "status" : 1,
  "is_default" : 2,
  "version" : "V1",
  "sl_domain_access_enabled" : true
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3001",
  "error_msg" : "API group c77f5e81d9cb4424bf704ef2b0ac7600 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.1.3 Deleting an API Group

Function

This API is used to delete an API group.

An API group containing APIs cannot be deleted. Delete all APIs from the API group before you delete the group.

All resources (independent domain names and SSL certificates) directly or indirectly associated with the group will also be deleted. The operation will unbind the external domain names from the subdomain name based on the CNAME resolution mode.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}

Table 6-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.

Request Parameters

Table 6-24 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 401

Table 6-25 Response body parameters

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

Status code: 403

Table 6-26 Response body parameters

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

Status code: 404

Table 6-27 Response body parameters

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

Status code: 412

Table 6-28 Response body parameters

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

Status code: 500**Table 6-29** Response body parameters

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

Example Requests

None

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3001",
  "error_msg" : "API group c77f5e81d9cb4424bf704ef2b0ac7600 does not exist"
}
```

Status code: 412

PreconditionFailed

```
{
  "error_code" : "APIG.3415",
  "error_msg" : "The API group cannot be deleted because it contains
```

```
APIs,id:47eaed4659db4e99ba2e1b642d5d1323"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
412	PreconditionFailed
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.1.4 Querying Details of an API Group

Function

This API is used to query the details of an API group.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}

Table 6-30 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
group_id	Yes	String	API group ID.

Request Parameters

Table 6-31 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-32 Response body parameters

Parameter	Type	Description
id	String	No.
name	String	API group name.
status	Integer	Status. 1: Valid 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: 1: published 2: not published 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.

Parameter	Type	Description
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.
sl_domains	Array of strings	Automatically allocated subdomain names.
remark	String	Description.
call_limits	Integer	Total number of times all APIs in the API group can be accessed. Consider the payload capacity of the backend service when setting this parameter. By default, there is no limit on the number of API calls. Not supported yet.
time_interval	Integer	Period of time for limiting the number of API calls. Not supported yet.
time_unit	String	Time unit for limiting the number of API calls. Not supported yet.
is_default	Integer	Whether the API group is the default group.
version	String	Group version: • V1: global group • V2: application-level group
roma_app_id	String	ID of the integration application to which the API group belongs. This parameter is required when the group version is V2.
roma_app_name	String	Name of the integration application to which the API group belongs.

Table 6-33 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.

Parameter	Type	Description
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-34 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Status code: 400

Table 6-35 Response body parameters

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

Status code: 401**Table 6-36** Response body parameters

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

Status code: 403**Table 6-37** Response body parameters

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

Status code: 404**Table 6-38** Response body parameters

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

Status code: 500**Table 6-39** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "update_time" : "2020-07-31T06:55:55Z",
  "name" : "api_group_001",
  "on_sell_status" : 2,
  "remark" : "group1",
  "sl_domains" : [ "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.com",
    "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.cn" ],
  "sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.com",
  "id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "register_time" : "2020-07-31T06:55:55Z",
  "status" : 1,
  "is_default" : 2,
  "version" : "V1",
  "sl_domain_access_enabled" : true
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3001",
  "error_msg" : "API group c77f5e81d9cb4424bf704ef2b0ac7600 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.1.5 Querying API Groups

Function

This API is used to query an API group list.

If the operation is performed by a tenant, all groups of the tenant are queried. If the operation is performed by an administrator, the groups of all tenants are queried.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/api-groups

Table 6-40 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-41 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
id	No	String	API group ID.
name	No	String	API group name.
roma_app_id	No	String	Integration application ID.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, name and domain_name are supported.
domain_name	No	String	Domain name.

Request Parameters

Table 6-42 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-43 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.

Parameter	Type	Description
groups	Array of ApiGroupInfo objects	API groups.

Table 6-44 ApiGroupInfo

Parameter	Type	Description
id	String	No.
name	String	API group name.
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.
sl_domains	Array of strings	Automatically allocated subdomain names.
remark	String	Description.

Parameter	Type	Description
call_limits	Integer	Total number of times all APIs in the API group can be accessed. Consider the payload capacity of the backend service when setting this parameter. By default, there is no limit on the number of API calls. Not supported yet.
time_interval	Integer	Period of time for limiting the number of API calls. Not supported yet.
time_unit	String	Time unit for limiting the number of API calls. Not supported yet.
is_default	Integer	Whether the API group is the default group.
version	String	Group version: • V1: global group • V2: application-level group
roma_app_id	String	ID of the integration application to which the API group belongs. This parameter is required when the group version is V2.
roma_app_name	String	Name of the integration application to which the API group belongs.

Table 6-45 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.

Parameter	Type	Description
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-46 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Status code: 400**Table 6-47** Response body parameters

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

Status code: 401

Table 6-48 Response body parameters

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

Status code: 403**Table 6-49** Response body parameters

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

Status code: 404**Table 6-50** Response body parameters

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

Status code: 500**Table 6-51** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "total" : 2,
```

```
"size" : 2,
"groups" : [ {
  "update_time" : "2020-07-31T06:55:55Z",
  "name" : "api_group_001",
  "on_sell_status" : 2,
  "remark" : "group1",
  "sl_domains" : [ "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.com",
    "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.cn" ],
  "sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.com",
  "id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "register_time" : "2020-07-31T06:55:55Z",
  "status" : 1,
  "is_default" : 2,
  "version" : "V1",
  "sl_domain_access_enabled" : true
}, {
  "update_time" : "2020-06-24T15:29:42.421926Z",
  "name" : "api_group_002",
  "on_sell_status" : 2,
  "remark" : "group2",
  "sl_domain" : "02a8ab3cb2784de5a096852829671ae7.apic.****.com",
  "sl_domains" : [ "02a8ab3cb2784de5a096852829671ae7.apic.****.com",
    "02a8ab3cb2784de5a096852829671ae7.apic.****.cn" ],
  "id" : "02a8ab3cb2784de5a096852829671ae7",
  "register_time" : "2020-06-24T15:29:42.421926Z",
  "status" : 1,
  "is_default" : 2,
  "version" : "V1",
  "sl_domain_access_enabled" : true
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.1.6 Verifying an API Group Name

Function

This API is used to check whether the API group name exists.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/api-groups/check

Table 6-52 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-53 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-54 Request body parameters

Parameter	Mandatory	Type	Description
group_name	Yes	String	Name of the API group to be verified.
roma_app_id	No	String	Integration application ID. This parameter is mandatory for checking whether the group name is the same as that of an integrated application. If this parameter is not set, the system checks whether the global group name is the same as that of an integrated application by default.

Response Parameters

Status code: 400**Table 6-55** Response body parameters

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

Status code: 401

Table 6-56 Response body parameters

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

Status code: 403**Table 6-57** Response body parameters

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

Status code: 404**Table 6-58** Response body parameters

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

Status code: 500**Table 6-59** Response body parameters

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

Example Requests

Check whether a specified global API group exists.

```
{  
  "group_name" : "ApiGroup_demo"  
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3201",
  "error_msg" : "The API group name already exists"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.2 API Management

6.2.1 Creating an API

Function

This API is used to create an API. An API is an interface that encapsulates a set of service capabilities. The definition of an API is divided into two parts: how the API is called by users, and how ROMA Connect accesses the actual backend service requested by users. The following backend services are supported: HTTP/HTTPS web, FunctionGraph, and MOCK.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apis

Table 6-60 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-61 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-62 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
type	Yes	Integer	API type. • 1: public • 2: private
version	No	String	API version.
req_protocol	Yes	String	API request protocol. Options: • HTTP • HTTPS • BOTH: Both HTTP and HTTPS are supported. • GRPCS
req_method	Yes	String	API request method. If the request protocol is set to GRPC, the request method is fixed to POST.

Parameter	Mandatory	Type	Description
req_uri	Yes	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPC, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.
auth_type	Yes	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	No	AuthOpt object	Security authentication parameter.
cors	No	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported

Parameter	Mandatory	Type	Description
match_mode	No	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.
backend_type	Yes	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.
remark	No	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	Yes	String	ID of the API group to which the API belongs.
body_remark	No	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	No	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.

Parameter	Mandatory	Type	Description
result_failure_sample	No	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	No	String	ID of the frontend custom authorizer.
tags	No	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	No	String	Group response ID. This parameter is currently not supported.
roma_app_id	No	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	No	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	No	String	Tag. This field will be deprecated. You can use the tags field instead.

Parameter	Mandatory	Type	Description
content_type	No	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	No	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plugin with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend
mock_info	No	ApiMockCreate object	Mock backend details.
func_info	No	ApiFuncCreate object	FunctionGraph backend details.
req_params	No	Array of ReqParamBase objects	Request parameters. This is unavailable if the request protocol is set to GRPC.
backend_params	No	Array of BackendParamBase objects	Backend parameters. This is unavailable if the request protocol is set to GRPC.
policy_mocks	No	Array of ApiPolicyMockCreate objects	Mock policy backend information.
policy_functions	No	Array of ApiPolicyFunctionCreate objects	FunctionGraph policy backends
backend_api	No	BackendApiCreate object	Web backend details

Parameter	Mandatory	Type	Description
policy_https	No	Array of ApiPolicyHttpCreate objects	Web policy backends.

Table 6-63 AuthOpt

Parameter	Mandatory	Type	Description
app_code_auth_type	No	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. • DISABLE: AppCode authentication is disabled. • HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-64 ApiMockCreate

Parameter	Mandatory	Type	Description
remark	No	String	Description.
result_content	No	String	Response.
version	No	String	Version. Ensure that the version does not exceed 64 characters.
authorizer_id	No	String	Backend custom authorizer ID.

Parameter	Mandatory	Type	Description
status_code	No	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed",

Parameter	Mandatory	Type	Description
			"450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError", "501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	No	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).

Table 6-65 ApiFuncCreate

Parameter	Mandatory	Type	Description
function_urn	Yes	String	Function URN.
network_type	No	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC

Parameter	Mandatory	Type	Description
remark	No	String	Description.
invocation_type	Yes	String	Invocation mode. • async: asynchronous • sync: synchronous
version	No	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	No	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
timeout	Yes	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
authorizer_id	No	String	Backend custom authorizer ID.

Table 6-66 ReqParamBase

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	Yes	String	Parameter type.
location	Yes	String	Parameter location.
default_value	No	String	Default value.
sample_value	No	String	Example value.

Parameter	Mandatory	Type	Description
required	No	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	No	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	No	String	Description.
enumerations	No	String	Enumerated value.
min_num	No	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	No	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	No	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	No	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	No	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	No	String	JSON validation rule. This parameter is currently not supported.

Parameter	Mandatory	Type	Description
pass_through	No	Integer	Indicates whether to transparently transmit the parameter. • 1: The parameter is transparently transmitted. • 2: The parameter is not transparently transmitted.
orchestrations	No	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.

Table 6-67 ApiPolicyMockCreate

Parameter	Mandatory	Type	Description
result_content	No	String	Response.

Parameter	Mandatory	Type	Description
status_code	No	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed",

Parameter	Mandatory	Type	Description
			"450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError", "501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	No	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).
effect_mode	Yes	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
name	Yes	String	Backend name, which must start with a letter and can contain letters, digits, hyphens (-), and underscores (_).

Parameter	Mandatory	Type	Description
backend_parameters	No	Array of BackendParameterBase objects	Backend parameters. This is unavailable for the GRPC backend.
conditions	Yes	Array of ApiConditionCreate objects	Policy conditions
authorizer_id	No	String	Backend custom authorizer ID.

Table 6-68 ApiPolicyFunctionCreate

Parameter	Mandatory	Type	Description
function_urn	Yes	String	Function URN.
network_type	No	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC
invocation_type	Yes	String	Invocation mode. • async: asynchronous • sync: synchronous
timeout	Yes	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the <code>backend_timeout</code> configuration item. The maximum value is 600,000. Unit: ms
version	No	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	No	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.

Parameter	Mandatory	Type	Description
effect_mode	Yes	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
name	Yes	String	Backend name, which must start with a letter and can contain letters, digits, hyphens (-), and underscores (_).
backend_parameters	No	Array of BackendParameterBase objects	Backend parameters. This is unavailable for the GRPC backend.
conditions	Yes	Array of ApiConditionCreate objects	Policy conditions
authorizer_id	No	String	Backend custom authorizer ID.

Table 6-69 BackendApiCreate

Parameter	Mandatory	Type	Description
authorizer_id	No	String	Backend custom authorizer ID.
url_domain	No	String	Backend service address. If no VPC channel is used, url_domain is mandatory. The value consists of the host (IP address or domain name) and port number with a maximum of 255 characters, in the format of host:port number (for example, apig.example.com:7443). If the port number is not specified, HTTPS port number defaults to 443 and HTTP port number defaults to 80. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.

Parameter	Mandatory	Type	Description
req_protocol	Yes	String	Request protocol. You can select GRPC or GRPCS for the GRPC backend.
remark	No	String	Description.
req_method	Yes	String	Request method. For the GRPC backend, the request method is fixed to POST.
version	No	String	Web backend version, which can contain a maximum of 16 characters.
req_uri	Yes	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.
timeout	Yes	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	No	Boolean	Whether to enable two-way authentication.

Parameter	Mandatory	Type	Description
retry_count	No	String	Number of retry attempts to request the backend service. Default: -1 . Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	No	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
vpc_channel_info	No	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	No	Integer	Whether to use a VPC channel: • 1: yes • 2: no

Table 6-70 ApiPolicyHttpCreate

Parameter	Mandatory	Type	Description
url_domain	No	String	Endpoint of the policy backend. The value consists of a domain name (or an IP address) and a port number. The total length cannot exceed 255 characters. The value is in Domain name:Port number format, for example, apig.example.com:7443. If the port number is not specified, the default HTTPS port number is 443 and the default HTTP port number is 80.Environment variables are supported. If environment variables are used, each variable name must contain 3 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter.
req_protocol	Yes	String	Request protocol. Options include HTTP, HTTPS, GRPC, or GRPCS. You can select GRPC or GRPCS for the GRPC backend.
req_method	Yes	String	Request method. Options: GET, POST, PUT, DELETE, HEAD, PATCH, OPTIONS, and ANY. This is fixed to POST for the GRPC backend.

Parameter	Mandatory	Type	Description
req_uri	Yes	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.
timeout	No	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	No	Boolean	Whether to enable two-way authentication.
retry_count	No	String	Number of retry attempts to request the backend service. Default: -1. Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.

Parameter	Mandatory	Type	Description
enable_sm_channel	No	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
effect_mode	Yes	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
name	Yes	String	Backend name, which must start with a letter and can contain letters, digits, hyphens (-), and underscores (_).
backend_params	No	Array of BackendParamBase objects	Backend parameters. This is unavailable for the GRPC backend.
conditions	Yes	Array of ApiConditionCreate objects	Policy conditions
authorizer_id	No	String	Backend custom authorizer ID.
vpc_channel_info	No	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	No	Integer	Whether to use a VPC channel: • 1: yes • 2: no

Table 6-71 BackendParamBase

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name, which must start with a letter and can only contain letters, digits, hyphens (-), underscores (_), and periods (.).

Parameter	Mandatory	Type	Description
location	Yes	String	Parameter location. The value can be PATH, QUERY, or HEADER.
origin	Yes	String	Parameter type. The value can be REQUEST, CONSTANT, and SYSTEM.

Parameter	Mandatory	Type	Description
value	Yes	String	Parameter value, with a maximum of 255 characters. If the origin type is REQUEST, the value of this parameter is the parameter name in req_params. If the origin type is CONSTANT, the value is a constant. If the origin type is SYSTEM, the value is a system parameter name. System parameters include gateway parameters, frontend authentication parameters, and backend authentication parameters. You can set the frontend or backend authentication parameters after enabling custom frontend or backend authentication. The gateway parameters are as follows: • \$context.sourcelp: source IP address of the API caller • \$context.stage: deployment environment in which the API is called • \$context.apiName: API name • \$context.apild: API ID • \$context.appName: name of the app used by the API caller • \$context.appld: ID of the app used by the API caller • \$context.requestId: request ID generated when the API is called • \$context.serverAddr: address of the gateway server • \$context.serverName: name of the gateway server

Parameter	Mandatory	Type	Description
			• <code>\$context.handleTime</code>: processing time of the API request • <code>\$context.providerAppId</code>: ID of the app used by the API owner (not supported) • <code>\$context.clientCertCN</code>: client certificate CN carried in the API invoking when client authentication is enabled Frontend authentication parameter: prefixed with "<code>\$context.authorizer.frontend.</code>". For example, to return "aaa" upon successful custom authentication, set this parameter to "<code>\$context.authorizer.frontend.aaa</code>". Backend authentication parameter: prefixed with "<code>\$context.authorizer.backend.</code>". For example, to return "aaa" upon successful custom authentication, set this parameter to "<code>\$context.authorizer.backend.aaa</code>".
remark	No	String	Description.

Table 6-72 ApiConditionCreate

Parameter	Mandatory	Type	Description
req_param_name	No	String	Input parameter name. This parameter is required if the policy type is param.

Parameter	Mandatory	Type	Description
sys_param_name	No	String	System parameter name. This parameter is mandatory when the policy type is set to system. The following system parameters are supported: - req_path: request path, such as /a/b - req_method: request method, such as GET
cookie_param_name	No	String	COOKIE parameter name. This parameter is required if the policy type is cookie.
frontend_auth_orizer_param_name	No	String	Frontend authorizer parameter name (system parameter). This parameter is required if the policy type is frontend_authorizer . The frontend authentication parameter name is prefixed with \$context.authorizer.frontend. For example, if the frontend authentication parameter name is user_name , add the prefix and the value is \$context.authorizer.frontend.user_name.
condition_type	No	String	Policy condition. - exact: Exact match. - enum: Enumeration. - pattern: Regular expression. This parameter is mandatory when the policy type is param , cookie , or frontend_authorizer .

Parameter	Mandatory	Type	Description
condition_origin	Yes	String	Policy type • param: Parameter. • source: Source IP. • system: Built-in gateway parameter (system parameter). • cookie: COOKIE parameter. • frontend_authorizer: Frontend authorizer parameter (system parameter). • orchestration: Parameter orchestration rule.
condition_value	Yes	String	Policy value, which is required when the policy type is param , source , cookie , or frontend_authorizer .
mapped_parameter_name	No	String	Name of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. The generated parameter name must exist in the orchestration rule bound to the API.
mapped_parameter_location	No	String	Location of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. This location must exist in the orchestration rule bound to the API.

Table 6-73 VpcInfo

Parameter	Mandatory	Type	Description
ecs_id	No	String	Cloud server ID.
ecs_name	No	String	Cloud server name.
cascade_flag	No	Boolean	Indicates whether to use the cascading mode. This parameter is currently not supported.

Parameter	Mandatory	Type	Description
vpc_channel_proxy_host	No	String	Proxy host.
vpc_channel_id	Yes	String	VPC channel ID.
vpc_channel_port	No	Integer	VPC channel port.

Response Parameters

Status code: 201

Table 6-74 Response body parameters

Parameter	Type	Description
name	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
type	Integer	API type. 1: public 2: private
version	String	API version.
req_protocol	String	API request protocol. Options: - HTTP - HTTPS - BOTH: Both HTTP and HTTPS are supported. - GRPCS
req_method	String	API request method. If the request protocol is set to GRPCS, the request method is fixed to POST.

Parameter	Type	Description
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPC, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.
auth_type	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	AuthOpt object	Security authentication parameter.
cors	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.

Parameter	Type	Description
backend_type	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.
remark	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	String	ID of the API group to which the API belongs.
body_remark	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
result_failure_sample	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	String	ID of the frontend custom authorizer.

Parameter	Type	Description
tags	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	String	Group response ID. This parameter is currently not supported.
roma_app_id	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	String	Tag. This field will be deprecated. You can use the tags field instead.
content_type	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plug-in with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend

Parameter	Type	Description
id	String	API ID.
status	Integer	API status: • 1: Valid • 2: Locked
arrange_necessary	Integer	Whether to enable orchestration. Options: 1 (enable) and 2 (disable)
register_time	String	Time when the API is registered.
update_time	String	Time when the API was last modified.
group_name	String	Name of the API group to which the API belongs.
group_version	String	Version of the API group to which the API belongs.
run_env_name	String	Name of the environment in which the API has been published. Separate multiple environment names with vertical bars ().
run_env_id	String	ID of the environment in which the API has been published. Separate multiple environment IDs with vertical bars ().
publish_id	String	Publication record ID. Separate multiple publication record IDs with vertical bars ().
publish_time	String	Publication time. Separate the time of multiple publication records with vertical bars ().
roma_app_name	String	Name of the integration application to which the API belongs.
ld_api_id	String	ID of the corresponding custom backend API.
backend_api	BackendApi object	Web backend details
api_group_info	ApiGroupCommonInfo object	API group information.
func_info	ApiFunc object	FunctionGraph backend details.
mock_info	ApiMock object	Mock backend details.

Parameter	Type	Description
req_params	Array of ReqParam objects	Request parameters.
backend_params	Array of BackendParam objects	Backend parameters.
policy_functions	Array of ApiPolicyFunctionResp objects	FunctionGraph policy backends
policy_mock	Array of ApiPolicyMockResp objects	Mock policy backend information.
policy_https	Array of ApiPolicyHttpResp objects	Web policy backends.

Table 6-75 AuthOpt

Parameter	Type	Description
app_code_auth_type	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. - DISABLE: AppCode authentication is disabled. - HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-76 BackendApi

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
url_domain	String	Backend service address. If no VPC channel is used, url_domain is mandatory. The value consists of the host (IP address or domain name) and port number with a maximum of 255 characters, in the format of host:port number (for example, apig.example.com:7443). If the port number is not specified, HTTPS port number defaults to 443 and HTTP port number defaults to 80. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.
req_protocol	String	Request protocol. You can select GRPC or GRPCS for the GRPC backend.
remark	String	Description.
req_method	String	Request method. For the GRPC backend, the request method is fixed to POST.
version	String	Web backend version, which can contain a maximum of 16 characters.
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1 . Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
id	String	ID.
status	Integer	Backend status: 1: Valid
register_time	String	Registration time.
update_time	String	Modification time.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-77 ApiGroupCommonInfo

Parameter	Type	Description
id	String	No.
name	String	API group name.

Parameter	Type	Description
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.

Table 6-78 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.

Parameter	Type	Description
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-79 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Table 6-80 ApiFunc

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC
remark	String	Description.

Parameter	Type	Description
invocation_type	String	Invocation mode. • async: asynchronous • sync: synchronous
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
authorizer_id	String	Backend custom authorizer ID.
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: • 1: Valid
update_time	String	Modification time.

Table 6-81 ApiMock

Parameter	Type	Description
remark	String	Description.
result_content	String	Response.
version	String	Version. Ensure that the version does not exceed 64 characters.
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: 1: Valid
update_time	String	Modification time.

Table 6-82 ReqParam

Parameter	Type	Description
name	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	String	Parameter type.
location	String	Parameter location.

Parameter	Type	Description
default_value	String	Default value.
sample_value	String	Example value.
required	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	String	Description.
enumerations	String	Enumerated value.
min_num	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	String	JSON validation rule. This parameter is currently not supported.

Parameter	Type	Description
pass_through	Integer	Indicates whether to transparently transmit the parameter. 1: The parameter is transparently transmitted. 2: The parameter is not transparently transmitted.
orchestrations	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.
id	String	Parameter ID.

Table 6-83 ApiPolicyFunctionResp

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: - V1: non-VPC - V2: VPC
invocation_type	String	Invocation mode. - async: asynchronous - sync: synchronous

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.

Table 6-84 ApiPolicyMockResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions

Parameter	Type	Description
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.
result_content	String	Response.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).

Table 6-85 ApiPolicyHttpResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.
url_domain	String	Endpoint of the policy backend. The value consists of a domain name (or an IP address) and a port number. The total length cannot exceed 255 characters. The value is in Domain name:Port number format, for example, apig.example.com:7443. If the port number is not specified, the default HTTPS port number is 443 and the default HTTP port number is 80.Environment variables are supported. If environment variables are used, each variable name must contain 3 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter.
req_protocol	String	Request protocol. Options include HTTP, HTTPS, GRPC, or GRPCS. You can select GRPC or GRPCS for the GRPC backend.
req_method	String	Request method. Options: GET, POST, PUT, DELETE, HEAD, PATCH, OPTIONS, and ANY. This is fixed to POST for the GRPC backend.
req_uri	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1. Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-86 ConditionResp

Parameter	Type	Description
req_param_name	String	Input parameter name. This parameter is required if the policy type is param.
sys_param_name	String	System parameter name. This parameter is mandatory when the policy type is set to system. The following system parameters are supported: - req_path: request path, such as /a/b - req_method: request method, such as GET

Parameter	Type	Description
cookie_param_name	String	COOKIE parameter name. This parameter is required if the policy type is cookie.
frontend_authorizer_param_name	String	Frontend authorizer parameter name (system parameter). This parameter is required if the policy type is frontend_authorizer . The frontend authentication parameter name is prefixed with \$context.authorizer.frontend. For example, if the frontend authentication parameter name is user_name , add the prefix and the value is \$context.authorizer.frontend.user_name.
condition_type	String	Policy condition. • exact: Exact match. • enum: Enumeration. • pattern: Regular expression. This parameter is mandatory when the policy type is param , cookie , or frontend_authorizer .
condition_origin	String	Policy type • param: Parameter. • source: Source IP. • system: Built-in gateway parameter (system parameter). • cookie: COOKIE parameter. • frontend_authorizer: Frontend authorizer parameter (system parameter). • orchestration: Parameter orchestration rule.
condition_value	String	Policy value, which is required when the policy type is param , source , cookie , or frontend_authorizer .
mapped_param_name	String	Name of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. The generated parameter name must exist in the orchestration rule bound to the API.

Parameter	Type	Description
mapped_param_location	String	Location of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. This location must exist in the orchestration rule bound to the API.
id	String	ID.
req_param_id	String	Input parameter ID.
req_param_location	String	Input parameter location.

Table 6-87 BackendParam

Parameter	Type	Description
name	String	Parameter name, which must start with a letter and can only contain letters, digits, hyphens (-), underscores (_), and periods (.).
location	String	Parameter location. The value can be PATH, QUERY, or HEADER.
origin	String	Parameter type. The value can be REQUEST, CONSTANT, and SYSTEM.

Parameter	Type	Description
value	String	Parameter value, with a maximum of 255 characters. If the origin type is REQUEST, the value of this parameter is the parameter name in req_params. If the origin type is CONSTANT, the value is a constant. If the origin type is SYSTEM, the value is a system parameter name. System parameters include gateway parameters, frontend authentication parameters, and backend authentication parameters. You can set the frontend or backend authentication parameters after enabling custom frontend or backend authentication. The gateway parameters are as follows: • \$context.sourceIp: source IP address of the API caller • \$context.stage: deployment environment in which the API is called • \$context.apiName: API name • \$context.apid: API ID • \$context.appName: name of the app used by the API caller • \$context.appId: ID of the app used by the API caller • \$context.requestId: request ID generated when the API is called • \$context.serverAddr: address of the gateway server • \$context.serverName: name of the gateway server • \$context.handleTime: processing time of the API request • \$context.providerAppId: ID of the app used by the API owner (not supported) • \$context.clientCertCN: client certificate CN carried in the API invoking when client authentication is enabled

Parameter	Type	Description
		Frontend authentication parameter: prefixed with "\$context.authorizer.frontend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.frontend.aaa". Backend authentication parameter: prefixed with "\$context.authorizer.backend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.backend.aaa".
remark	String	Description.
id	String	Parameter ID.
req_param_id	String	Request parameter ID.

Table 6-88 VpcInfo

Parameter	Type	Description
ecs_id	String	Cloud server ID.
ecs_name	String	Cloud server name.
cascade_flag	Boolean	Indicates whether to use the cascading mode. This parameter is currently not supported.
vpc_channel_proxy_host	String	Proxy host.
vpc_channel_id	String	VPC channel ID.
vpc_channel_port	Integer	VPC channel port.

Status code: 400**Table 6-89** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-90** Response body parameters

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

Status code: 403**Table 6-91** Response body parameters

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

Status code: 404**Table 6-92** Response body parameters

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

Status code: 500**Table 6-93** Response body parameters

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

Example Requests

- Create an API with authentication mode as custom authorizer, matching mode as exact match, and backend type as web, and customize frontend and backend request parameters.

```
{
  "group_id": "c77f5e81d9cb4424bf704ef2b0ac7600",
  "match_mode": "NORMAL",
  "name": "Api_http",
  "auth_type": "AUTHORIZER",
  "authorizer_id": "0d982c1ac3da493dae47627b6439fc5c",
  "backend_type": "HTTP",
  "backend_api": {
    "url_domain": "10.10.10.156:12346",
    "req_protocol": "HTTP",
    "req_method": "GET",
    "req_uri": "/test/benchmark",
    "timeout": 5000
  },
  "req_protocol": "HTTPS",
  "req_uri": "/test/http",
  "remark": "Web backend API",
  "type": 1,
  "req_method": "GET",
  "result_normal_sample": "Normal response example",
  "result_failure_sample": "Failure response example",
  "tags": [ "webApi" ],
  "req_params": [ {
    "name": "query_demo",
    "location": "QUERY",
    "type": "STRING",
    "required": 1
  }, {
    "name": "header-demo",
    "location": "HEADER",
    "type": "STRING",
    "required": 2
  } ],
  "backend_params": [ {
    "name": "backHeader",
    "value": "header-demo",
    "location": "HEADER",
    "origin": "REQUEST"
  }, {
    "name": "backQuery",
    "value": "query_demo",
    "location": "QUERY",
    "origin": "REQUEST"
  }, {
    "name": "X-CONSTANT-HEADER",
    "value": "demo",
    "location": "HEADER",
    "origin": "CONSTANT",
    "remark": "constant_demo"
  }, {
    "name": "app-id",
    "value": "$context.appld",
    "location": "HEADER",
    "origin": "SYSTEM",
    "remark": "Application ID of the invoker."
  } ]
}
```

- Create an API with authentication mode as App, matching mode as exact match, and backend type as FunctionGraph. (This type of backend API cannot be created on Site instances.)(tag: Site)

```
{
  "group_id": "c77f5e81d9cb4424bf704ef2b0ac7600",
```

```
"match_mode" : "NORMAL",
"name" : "Api_function",
"auth_type" : "APP",
"backend_type" : "FUNCTION",
"func_info" : {
  "authorizer_id" : "5b8cd3f06f004115aec69c58f57272c9",
  "function_urn" :
"urn:fss:region01:73d69ae0cfcf460190522d06b60f05ad:function:default:auto_testfunc93749",
  "network_type" : "V1",
  "invocation_type" : "sync",
  "timeout" : 5000,
  "version" : "latest",
  "alias_urn" :
"urn:fss:region01:73d69ae0cfcf460190522d06b60f05ad:function:default:auto_testfunc93749:a1"
},
"req_protocol" : "HTTPS",
"req_uri" : "/test/function",
"remark" : "FunctionGraph backend API",
"type" : 1,
"req_method" : "GET",
"result_normal_sample" : "Normal response example",
"result_failure_sample" : "Failure response example",
"tags" : [ "functionApi" ]
}
```

- Create an API with authentication mode as App, matching mode as prefix match, and backend type as Mock.

```
{
  "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "match_mode" : "SWA",
  "name" : "Api_mock",
  "auth_type" : "APP",
  "backend_type" : "MOCK",
  "mock_info" : {
    "result_content" : "mock success"
  },
  "req_protocol" : "HTTPS",
  "req_uri" : "/test/mock",
  "remark" : "Mock backend API",
  "type" : 1,
  "req_method" : "GET",
  "result_normal_sample" : "Normal response example",
  "result_failure_sample" : "Failure response example",
  "tags" : [ "mockApi" ]
}
```

Example Responses

Status code: 201

Created

- Example 1

```
{
  "name" : "Api_http",
  "type" : 1,
  "version" : "V2",
  "req_protocol" : "HTTP",
  "req_method" : "GET",
  "req_uri" : "/test/http",
  "auth_type" : "APP",
  "auth_opt" : {
    "app_code_auth_type" : "DISABLE"
  },
  "cors" : false,
  "match_mode" : "NORMAL",
  "backend_type" : "HTTP",
}
```

```
"remark" : "Web backend API",
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"body_remark" : "",
"result_normal_sample" : "Normal response example",
"result_failure_sample" : "Failure response example",
"authorizer_id" : "",
"tags" : [ "webApi" ],
"roma_app_id" : "957dcd1e-d8f4-432e-8e71-df55cf772aba",
"domain_name" : "",
"tag" : "",
"id" : "5f918d104dc84480a75166ba99efff21",
"status" : 1,
"arrange_necessary" : 2,
"register_time" : "2022-02-09T02:46:36.913996908Z",
"update_time" : "2022-02-09T02:46:36.913997175Z",
"group_name" : "api_group_001",
"group_version" : "V2",
"run_env_name" : "",
"run_env_id" : "",
"publish_id" : "",
"roma_app_name" : "app-htyr",
"ld_api_id" : "",
"backend_api" : {
  "authorizer_id" : "",
  "url_domain" : "10.10.10.156:12346",
  "req_protocol" : "HTTP",
  "remark" : "",
  "req_method" : "GET",
  "version" : "",
  "req_uri" : "/test/bechmark",
  "timeout" : 5000,
  "enable_client_ssl" : false,
  "retry_count" : "-1",
  "id" : "86686e62cabe44b392ad4a0856165e92",
  "status" : 1,
  "register_time" : "2022-02-09T02:46:36.914978278Z",
  "update_time" : "2022-02-09T02:46:36.914978525Z",
  "vpc_channel_info" : {
    "cascade_flag" : false,
    "vpc_channel_id" : "",
    "vpc_channel_port" : 0
  },
  "vpc_channel_status" : 2
},
"api_group_info" : {
  "id" : "02b157a33b394babb0b08c010bc3d76b",
  "name" : "api_group",
  "status" : 1,
  "sl_domain" : "02b157a33b394babb0b08c010bc3d76b.apic.****.com",
  "register_time" : "2022-02-09T02:46:31Z",
  "update_time" : "2022-02-09T02:46:31Z",
  "on_sell_status" : 2,
  "url_domains" : [ {
    "id" : "e91b83b07744e8eb1872d695ed4743b",
    "domain" : "domain.com",
    "cname_status" : 3,
    "ssl_id" : "ddsa83b07744e8eb1872d695ed4743b",
    "ssl_name" : "certificate",
    "min_ssl_version" : "TLSv1.1"
  } ],
  "sl_domain_access_enabled" : true
},
"func_info" : null,
"mock_info" : null,
"req_params" : [ {
  "name" : "query_demo",
  "location" : "QUERY",
  "type" : "STRING",
  "valid_enable" : 2,
```

```
"required" : 1,
"id" : "57c8bf3c97ef40ee94eace95dff30014",
"pass_through" : 1
}, {
  "name" : "header-demo",
  "location" : "HEADER",
  "type" : "STRING",
  "valid_enable" : 2,
  "required" : 2,
  "id" : "8d993be96980415faa6b1fb2ebd647e0",
  "pass_through" : 1
}],
"backend_params" : [ {
  "name" : "backHeader",
  "value" : "header-demo",
  "location" : "HEADER",
  "origin" : "REQUEST",
  "id" : "709f0ea376b44aaf907aaaa37d8cce92",
  "req_param_id" : "8d993be96980415faa6b1fb2ebd647e0"
}, {
  "name" : "backQuery",
  "value" : "query_demo",
  "location" : "QUERY",
  "origin" : "REQUEST",
  "id" : "2f152d0fb54445039158d29c2a4f69ee",
  "req_param_id" : "57c8bf3c97ef40ee94eace95dff30014"
}, {
  "name" : "X-CONSTANT-HEADER",
  "value" : "demo",
  "location" : "HEADER",
  "origin" : "CONSTANT",
  "remark" : "constant_demo",
  "id" : "20142102c6aa4f3c97d5fd6ef4010ac2"
}, {
  "name" : "app-id",
  "value" : "$context.appId",
  "location" : "HEADER",
  "origin" : "SYSTEM",
  "remark" : "Application ID of the invoker.",
  "id" : "a1349c61016e4d999ca783a50bfeee2b"
} ],
"policy_functions" : null,
"policy_mock" : null,
"policy_https" : [ ]
}
```

- Example 2

```
{
  "name" : "Api_function",
  "type" : 1,
  "version" : "V0.0.1",
  "req_protocol" : "HTTPS",
  "req_method" : "GET",
  "req_uri" : "/test/function",
  "auth_type" : "APP",
  "auth_opt" : {
    "auth_code_auth_type" : "DISABLE"
  },
  "cors" : false,
  "match_mode" : "NORMAL",
  "backend_type" : "FUNCTION",
  "remark" : "FunctionGraph backend API",
  "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "body_remark" : "",
  "result_normal_sample" : "Normal response example",
  "result_failure_sample" : "Failure response example",
  "authorizer_id" : "",
  "tags" : [ "functionApi" ],
  "tag" : "",
  "roma_app_id" : "f77f5e81d9cb4424bf704ef2b0ac7690",
}
```

```
"domain_name" : "www.sss.com",
"id" : "abd9c4b2ff974888b0ba79be7e6b2763",
"status" : 1,
"arrange_necessary" : 2,
"register_time" : "2020-08-02T15:56:52.286099413Z",
"update_time" : "2020-08-02T15:56:52.286099715Z",
"group_name" : "api_group_001",
"group_version" : "V1",
"run_env_name" : "",
"run_env_id" : "",
"publish_id" : "",
"publish_time" : "",
"roma_app_name" : "app-dfge",
"ld_api_id" : "",
"backend_api" : null,
"api_group_info" : {
  "id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "name" : "api_group",
  "status" : 1,
  "sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
  "register_time" : "2020-08-02T15:56:52Z",
  "update_time" : "2020-08-02T15:56:52Z",
  "on_sell_status" : 2,
  "url_domains" : [ {
    "id" : "e91b83b07744e8eb1872d695ed4743b",
    "domain" : "domain.com",
    "cname_status" : 3,
    "ssl_id" : "ddsa83b07744e8eb1872d695ed4743b",
    "ssl_name" : "certificate",
    "min_ssl_version" : "TLSv1.1"
  } ],
  "sl_domain_access_enabled" : true
},
"mock_info" : null,
"func_info" : {
  "id" : "c0740524cd4c40e3801a7afe5375f8b0",
  "authorizer_id" : "5b8cd3f06f004115aec69c58f57272c9",
  "function_urn" :
"urn:fss:region01:73d69ae0cfcf460190522d06b60f05ad:function:default:auto_testfunc93749",
  "network_type" : "V1",
  "remark" : "",
  "invocation_type" : "sync",
  "timeout" : 5000,
  "version" : "latest",
  "alias_urn" :
"urn:fss:region01:73d69ae0cfcf460190522d06b60f05ad:function:default:auto_testfunc93749:!a1",
  "register_time" : "2020-08-02T15:36:19.897262803Z",
  "update_time" : "2020-08-02T15:36:19.897262993Z",
  "status" : 1
},
"req_params" : [ ],
"backend_params" : [ ],
"policy_functions" : null,
"policy_mocks" : [ ],
"policy_https" : null
}
```

- Example 3

```
{
  "name" : "Api_mock",
  "type" : 1,
  "version" : "V0.0.1",
  "req_protocol" : "HTTPS",
  "req_method" : "GET",
  "req_uri" : "/test/mock",
  "auth_type" : "APP",
  "auth_opt" : {
    "auth_code_auth_type" : "DISABLE"
  },
  "cors" : false,
```

```
"match_mode" : "SWA",
"backend_type" : "MOCK",
"remark" : "Mock backend API",
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"body_remark" : "",
"result_normal_sample" : "Normal response example",
"result_failure_sample" : "Failure response example",
"authorizer_id" : "",
"tags" : [ "mockApi" ],
>tag" : "",
"roma_app_id" : "f77f5e81d9cb4424bf704ef2b0ac7690",
"domain_name" : "www.sss.com",
"id" : "3a955b791bd24b1c9cd94c745f8d1aad",
"status" : 1,
"arrange_necessary" : 2,
"register_time" : "2020-08-02T15:56:52.286099413Z",
"update_time" : "2020-08-02T15:56:52.286099715Z",
"group_name" : "api_group_001",
"group_version" : "V1",
"run_env_name" : "",
"run_env_id" : "",
"publish_id" : "",
"publish_time" : "",
"roma_app_name" : "app-dfge",
"ld_api_id" : "",
"backend_api" : null,
"api_group_info" : {
  "id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "name" : "api_group",
  "status" : 1,
  "sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
  "register_time" : "2020-08-02T15:56:52Z",
  "update_time" : "2020-08-02T15:56:52Z",
  "on_sell_status" : 2,
  "url_domains" : [ {
    "id" : "e91b83b07744e8eb1872d695ed4743b",
    "domain" : "domain.com",
    "cname_status" : 3,
    "ssl_id" : "ddsa83b07744e8eb1872d695ed4743b",
    "ssl_name" : "certificate",
    "min_ssl_version" : "TLSv1.1"
  } ],
  "sl_domain_access_enabled" : true
},
"mock_info" : {
  "remark" : "",
  "result_content" : "mock success",
  "version" : "m1",
  "authorizer_id" : "",
  "status_code" : 200,
  "header" : [ ],
  "id" : "e74bbc75825c4c38ae84ccab6bdc6175",
  "register_time" : "2020-08-02T15:56:52.301790367Z",
  "status" : 1,
  "update_time" : "2020-08-02T15:56:52.301790686Z"
},
"func_info" : null,
"req_params" : [ ],
"backend_params" : [ ],
"policy_functions" : null,
"policy_mocks" : [ ],
"policy_https" : null
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
}
```

```
{
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3019",
  "error_msg" : "The function URN does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.2 Modifying an API

Function

This API is used to modify the information about an API, including its backend information.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}

Table 6-94 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Request Parameters

Table 6-95 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-96 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.

Parameter	Mandatory	Type	Description
type	Yes	Integer	API type. • 1: public • 2: private
version	No	String	API version.
req_protocol	Yes	String	API request protocol. Options: • HTTP • HTTPS • BOTH: Both HTTP and HTTPS are supported. • GRPCS
req_method	Yes	String	API request method. If the request protocol is set to GRPC, the request method is fixed to POST.
req_uri	Yes	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPC, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.

Parameter	Mandatory	Type	Description
auth_type	Yes	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	No	AuthOpt object	Security authentication parameter.
cors	No	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported
match_mode	No	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.
backend_type	Yes	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.

Parameter	Mandatory	Type	Description
remark	No	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	Yes	String	ID of the API group to which the API belongs.
body_remark	No	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	No	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
result_failure_sample	No	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	No	String	ID of the frontend custom authorizer.
tags	No	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	No	String	Group response ID. This parameter is currently not supported.

Parameter	Mandatory	Type	Description
roma_app_id	No	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	No	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	No	String	Tag. This field will be deprecated. You can use the tags field instead.
content_type	No	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	No	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plugin with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend
mock_info	No	ApiMockCreate object	Mock backend details.
func_info	No	ApiFuncCreate object	FunctionGraph backend details.

Parameter	Mandatory	Type	Description
req_params	No	Array of ReqParamBase objects	Request parameters. This is unavailable if the request protocol is set to GRPC.
backend_params	No	Array of BackendParamBase objects	Backend parameters. This is unavailable if the request protocol is set to GRPC.
policy_mock	No	Array of ApiPolicyMockCreate objects	Mock policy backend information.
policy_functions	No	Array of ApiPolicyFunctionCreate objects	FunctionGraph policy backends
backend_api	No	BackendApiCreate object	Web backend details
policy_https	No	Array of ApiPolicyHttpCreate objects	Web policy backends.

Table 6-97 AuthOpt

Parameter	Mandatory	Type	Description
app_code_auth_type	No	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. • DISABLE: AppCode authentication is disabled. • HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-98 ApiMockCreate

Parameter	Mandatory	Type	Description
remark	No	String	Description.

Parameter	Mandatory	Type	Description
result_content	No	String	Response.
version	No	String	Version. Ensure that the version does not exceed 64 characters.
authorizer_id	No	String	Backend custom authorizer ID.

Parameter	Mandatory	Type	Description
status_code	No	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed",

Parameter	Mandatory	Type	Description
			"450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError", "501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	No	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).

Table 6-99 ApiFuncCreate

Parameter	Mandatory	Type	Description
function_urn	Yes	String	Function URN.
network_type	No	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC

Parameter	Mandatory	Type	Description
remark	No	String	Description.
invocation_type	Yes	String	Invocation mode. • async: asynchronous • sync: synchronous
version	No	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	No	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
timeout	Yes	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
authorizer_id	No	String	Backend custom authorizer ID.

Table 6-100 ReqParamBase

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	Yes	String	Parameter type.
location	Yes	String	Parameter location.
default_value	No	String	Default value.
sample_value	No	String	Example value.

Parameter	Mandatory	Type	Description
required	No	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	No	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	No	String	Description.
enumerations	No	String	Enumerated value.
min_num	No	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	No	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	No	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	No	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	No	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	No	String	JSON validation rule. This parameter is currently not supported.

Parameter	Mandatory	Type	Description
pass_through	No	Integer	Indicates whether to transparently transmit the parameter. • 1: The parameter is transparently transmitted. • 2: The parameter is not transparently transmitted.
orchestrations	No	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.

Table 6-101 ApiPolicyMockCreate

Parameter	Mandatory	Type	Description
result_content	No	String	Response.

Parameter	Mandatory	Type	Description
status_code	No	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed",

Parameter	Mandatory	Type	Description
			"450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError", "501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	No	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).
effect_mode	Yes	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
name	Yes	String	Backend name, which must start with a letter and can contain letters, digits, hyphens (-), and underscores (_).

Parameter	Mandatory	Type	Description
backend_parameters	No	Array of BackendParameterBase objects	Backend parameters. This is unavailable for the GRPC backend.
conditions	Yes	Array of ApiConditionCreate objects	Policy conditions
authorizer_id	No	String	Backend custom authorizer ID.

Table 6-102 ApiPolicyFunctionCreate

Parameter	Mandatory	Type	Description
function_urn	Yes	String	Function URN.
network_type	No	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC
invocation_type	Yes	String	Invocation mode. • async: asynchronous • sync: synchronous
timeout	Yes	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
version	No	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	No	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.

Parameter	Mandatory	Type	Description
effect_mode	Yes	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
name	Yes	String	Backend name, which must start with a letter and can contain letters, digits, hyphens (-), and underscores (_).
backend_parameters	No	Array of BackendParameterBase objects	Backend parameters. This is unavailable for the GRPC backend.
conditions	Yes	Array of ApiConditionCreate objects	Policy conditions
authorizer_id	No	String	Backend custom authorizer ID.

Table 6-103 BackendApiCreate

Parameter	Mandatory	Type	Description
authorizer_id	No	String	Backend custom authorizer ID.
url_domain	No	String	Backend service address. If no VPC channel is used, url_domain is mandatory. The value consists of the host (IP address or domain name) and port number with a maximum of 255 characters, in the format of host:port number (for example, apig.example.com:7443). If the port number is not specified, HTTPS port number defaults to 443 and HTTP port number defaults to 80. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.

Parameter	Mandatory	Type	Description
req_protocol	Yes	String	Request protocol. You can select GRPC or GRPCS for the GRPC backend.
remark	No	String	Description.
req_method	Yes	String	Request method. For the GRPC backend, the request method is fixed to POST.
version	No	String	Web backend version, which can contain a maximum of 16 characters.
req_uri	Yes	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.
timeout	Yes	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	No	Boolean	Whether to enable two-way authentication.

Parameter	Mandatory	Type	Description
retry_count	No	String	Number of retry attempts to request the backend service. Default: -1 . Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	No	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
vpc_channel_info	No	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	No	Integer	Whether to use a VPC channel: • 1: yes • 2: no

Table 6-104 ApiPolicyHttpCreate

Parameter	Mandatory	Type	Description
url_domain	No	String	Endpoint of the policy backend. The value consists of a domain name (or an IP address) and a port number. The total length cannot exceed 255 characters. The value is in Domain name:Port number format, for example, apig.example.com:7443. If the port number is not specified, the default HTTPS port number is 443 and the default HTTP port number is 80.Environment variables are supported. If environment variables are used, each variable name must contain 3 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter.
req_protocol	Yes	String	Request protocol. Options include HTTP, HTTPS, GRPC, or GRPCS. You can select GRPC or GRPCS for the GRPC backend.
req_method	Yes	String	Request method. Options: GET, POST, PUT, DELETE, HEAD, PATCH, OPTIONS, and ANY. This is fixed to POST for the GRPC backend.

Parameter	Mandatory	Type	Description
req_uri	Yes	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.
timeout	No	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	No	Boolean	Whether to enable two-way authentication.
retry_count	No	String	Number of retry attempts to request the backend service. Default: -1. Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.

Parameter	Mandatory	Type	Description
enable_sm_channel	No	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
effect_mode	Yes	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
name	Yes	String	Backend name, which must start with a letter and can contain letters, digits, hyphens (-), and underscores (_).
backend_params	No	Array of BackendParamBase objects	Backend parameters. This is unavailable for the GRPC backend.
conditions	Yes	Array of ApiConditionCreate objects	Policy conditions
authorizer_id	No	String	Backend custom authorizer ID.
vpc_channel_info	No	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	No	Integer	Whether to use a VPC channel: • 1: yes • 2: no

Table 6-105 BackendParamBase

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name, which must start with a letter and can only contain letters, digits, hyphens (-), underscores (_), and periods (.).

Parameter	Mandatory	Type	Description
location	Yes	String	Parameter location. The value can be PATH, QUERY, or HEADER.
origin	Yes	String	Parameter type. The value can be REQUEST, CONSTANT, and SYSTEM.

Parameter	Mandatory	Type	Description
value	Yes	String	Parameter value, with a maximum of 255 characters. If the origin type is REQUEST, the value of this parameter is the parameter name in req_params. If the origin type is CONSTANT, the value is a constant. If the origin type is SYSTEM, the value is a system parameter name. System parameters include gateway parameters, frontend authentication parameters, and backend authentication parameters. You can set the frontend or backend authentication parameters after enabling custom frontend or backend authentication. The gateway parameters are as follows: • \$context.sourcelp: source IP address of the API caller • \$context.stage: deployment environment in which the API is called • \$context.apiName: API name • \$context.apild: API ID • \$context.appName: name of the app used by the API caller • \$context.appld: ID of the app used by the API caller • \$context.requestId: request ID generated when the API is called • \$context.serverAddr: address of the gateway server • \$context.serverName: name of the gateway server

Parameter	Mandatory	Type	Description
			• <code>\$context.handleTime</code>: processing time of the API request • <code>\$context.providerAppId</code>: ID of the app used by the API owner (not supported) • <code>\$context.clientCertCN</code>: client certificate CN carried in the API invoking when client authentication is enabled Frontend authentication parameter: prefixed with "<code>\$context.authorizer.frontend.</code>". For example, to return "aaa" upon successful custom authentication, set this parameter to "<code>\$context.authorizer.frontend.aaa</code>". Backend authentication parameter: prefixed with "<code>\$context.authorizer.backend.</code>". For example, to return "aaa" upon successful custom authentication, set this parameter to "<code>\$context.authorizer.backend.aaa</code>".
remark	No	String	Description.

Table 6-106 ApiConditionCreate

Parameter	Mandatory	Type	Description
req_param_name	No	String	Input parameter name. This parameter is required if the policy type is param.

Parameter	Mandatory	Type	Description
sys_param_name	No	String	System parameter name. This parameter is mandatory when the policy type is set to system. The following system parameters are supported: - req_path: request path, such as /a/b - req_method: request method, such as GET
cookie_param_name	No	String	COOKIE parameter name. This parameter is required if the policy type is cookie.
frontend_auth_orizer_param_name	No	String	Frontend authorizer parameter name (system parameter). This parameter is required if the policy type is frontend_authorizer . The frontend authentication parameter name is prefixed with \$context.authorizer.frontend. For example, if the frontend authentication parameter name is user_name , add the prefix and the value is \$context.authorizer.frontend.user_name.
condition_type	No	String	Policy condition. - exact: Exact match. - enum: Enumeration. - pattern: Regular expression. This parameter is mandatory when the policy type is param , cookie , or frontend_authorizer .

Parameter	Mandatory	Type	Description
condition_origin	Yes	String	Policy type • param: Parameter. • source: Source IP. • system: Built-in gateway parameter (system parameter). • cookie: COOKIE parameter. • frontend_authorizer: Frontend authorizer parameter (system parameter). • orchestration: Parameter orchestration rule.
condition_value	Yes	String	Policy value, which is required when the policy type is param , source , cookie , or frontend_authorizer .
mapped_parameter_name	No	String	Name of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. The generated parameter name must exist in the orchestration rule bound to the API.
mapped_parameter_location	No	String	Location of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. This location must exist in the orchestration rule bound to the API.

Table 6-107 VpcInfo

Parameter	Mandatory	Type	Description
ecs_id	No	String	Cloud server ID.
ecs_name	No	String	Cloud server name.
cascade_flag	No	Boolean	Indicates whether to use the cascading mode. This parameter is currently not supported.

Parameter	Mandatory	Type	Description
vpc_channel_proxy_host	No	String	Proxy host.
vpc_channel_id	Yes	String	VPC channel ID.
vpc_channel_port	No	Integer	VPC channel port.

Response Parameters

Status code: 200

Table 6-108 Response body parameters

Parameter	Type	Description
name	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
type	Integer	API type. 1: public 2: private
version	String	API version.
req_protocol	String	API request protocol. Options: - HTTP - HTTPS - BOTH: Both HTTP and HTTPS are supported. - GRPCS
req_method	String	API request method. If the request protocol is set to GRPCS, the request method is fixed to POST.

Parameter	Type	Description
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPC, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.
auth_type	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	AuthOpt object	Security authentication parameter.
cors	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.

Parameter	Type	Description
backend_type	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.
remark	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	String	ID of the API group to which the API belongs.
body_remark	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
result_failure_sample	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	String	ID of the frontend custom authorizer.

Parameter	Type	Description
tags	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	String	Group response ID. This parameter is currently not supported.
roma_app_id	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	String	Tag. This field will be deprecated. You can use the tags field instead.
content_type	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plug-in with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend

Parameter	Type	Description
id	String	API ID.
status	Integer	API status: • 1: Valid • 2: Locked
arrange_necessary	Integer	Whether to enable orchestration. Options: 1 (enable) and 2 (disable)
register_time	String	Time when the API is registered.
update_time	String	Time when the API was last modified.
group_name	String	Name of the API group to which the API belongs.
group_version	String	Version of the API group to which the API belongs.
run_env_name	String	Name of the environment in which the API has been published. Separate multiple environment names with vertical bars ().
run_env_id	String	ID of the environment in which the API has been published. Separate multiple environment IDs with vertical bars ().
publish_id	String	Publication record ID. Separate multiple publication record IDs with vertical bars ().
publish_time	String	Publication time. Separate the time of multiple publication records with vertical bars ().
roma_app_name	String	Name of the integration application to which the API belongs.
ld_api_id	String	ID of the corresponding custom backend API.
backend_api	BackendApi object	Web backend details
api_group_info	ApiGroupCommonInfo object	API group information.
func_info	ApiFunc object	FunctionGraph backend details.
mock_info	ApiMock object	Mock backend details.

Parameter	Type	Description
req_params	Array of ReqParam objects	Request parameters.
backend_params	Array of BackendParam objects	Backend parameters.
policy_functions	Array of ApiPolicyFunctionResp objects	FunctionGraph policy backends
policy_mock	Array of ApiPolicyMockResp objects	Mock policy backend information.
policy_https	Array of ApiPolicyHttpResp objects	Web policy backends.

Table 6-109 AuthOpt

Parameter	Type	Description
app_code_auth_type	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. - DISABLE: AppCode authentication is disabled. - HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-110 BackendApi

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
url_domain	String	Backend service address. If no VPC channel is used, url_domain is mandatory. The value consists of the host (IP address or domain name) and port number with a maximum of 255 characters, in the format of host:port number (for example, apig.example.com:7443). If the port number is not specified, HTTPS port number defaults to 443 and HTTP port number defaults to 80. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.
req_protocol	String	Request protocol. You can select GRPC or GRPCS for the GRPC backend.
remark	String	Description.
req_method	String	Request method. For the GRPC backend, the request method is fixed to POST.
version	String	Web backend version, which can contain a maximum of 16 characters.
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1 . Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
id	String	ID.
status	Integer	Backend status: 1: Valid
register_time	String	Registration time.
update_time	String	Modification time.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-111 ApiGroupCommonInfo

Parameter	Type	Description
id	String	No.
name	String	API group name.

Parameter	Type	Description
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.

Table 6-112 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.

Parameter	Type	Description
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-113 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Table 6-114 ApiFunc

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC
remark	String	Description.

Parameter	Type	Description
invocation_type	String	Invocation mode. • async: asynchronous • sync: synchronous
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
authorizer_id	String	Backend custom authorizer ID.
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: • 1: Valid
update_time	String	Modification time.

Table 6-115 ApiMock

Parameter	Type	Description
remark	String	Description.
result_content	String	Response.
version	String	Version. Ensure that the version does not exceed 64 characters.
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: • 1: Valid
update_time	String	Modification time.

Table 6-116 ReqParam

Parameter	Type	Description
name	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	String	Parameter type.
location	String	Parameter location.

Parameter	Type	Description
default_value	String	Default value.
sample_value	String	Example value.
required	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	String	Description.
enumerations	String	Enumerated value.
min_num	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	String	JSON validation rule. This parameter is currently not supported.

Parameter	Type	Description
pass_through	Integer	Indicates whether to transparently transmit the parameter. 1: The parameter is transparently transmitted. 2: The parameter is not transparently transmitted.
orchestrations	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.
id	String	Parameter ID.

Table 6-117 ApiPolicyFunctionResp

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: - V1: non-VPC - V2: VPC
invocation_type	String	Invocation mode. - async: asynchronous - sync: synchronous

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.

Table 6-118 ApiPolicyMockResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions

Parameter	Type	Description
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.
result_content	String	Response.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).

Table 6-119 ApiPolicyHttpResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.
url_domain	String	Endpoint of the policy backend. The value consists of a domain name (or an IP address) and a port number. The total length cannot exceed 255 characters. The value is in Domain name:Port number format, for example, apig.example.com:7443. If the port number is not specified, the default HTTPS port number is 443 and the default HTTP port number is 80.Environment variables are supported. If environment variables are used, each variable name must contain 3 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter.
req_protocol	String	Request protocol. Options include HTTP, HTTPS, GRPC, or GRPCS. You can select GRPC or GRPCS for the GRPC backend.
req_method	String	Request method. Options: GET, POST, PUT, DELETE, HEAD, PATCH, OPTIONS, and ANY. This is fixed to POST for the GRPC backend.
req_uri	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1. Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-120 ConditionResp

Parameter	Type	Description
req_param_name	String	Input parameter name. This parameter is required if the policy type is param.
sys_param_name	String	System parameter name. This parameter is mandatory when the policy type is set to system. The following system parameters are supported: - req_path: request path, such as /a/b - req_method: request method, such as GET

Parameter	Type	Description
cookie_param_name	String	COOKIE parameter name. This parameter is required if the policy type is cookie.
frontend_authorizer_param_name	String	Frontend authorizer parameter name (system parameter). This parameter is required if the policy type is frontend_authorizer . The frontend authentication parameter name is prefixed with \$context.authorizer.frontend. For example, if the frontend authentication parameter name is user_name , add the prefix and the value is \$context.authorizer.frontend.user_name.
condition_type	String	Policy condition. • exact: Exact match. • enum: Enumeration. • pattern: Regular expression. This parameter is mandatory when the policy type is param , cookie , or frontend_authorizer .
condition_origin	String	Policy type • param: Parameter. • source: Source IP. • system: Built-in gateway parameter (system parameter). • cookie: COOKIE parameter. • frontend_authorizer: Frontend authorizer parameter (system parameter). • orchestration: Parameter orchestration rule.
condition_value	String	Policy value, which is required when the policy type is param , source , cookie , or frontend_authorizer .
mapped_param_name	String	Name of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. The generated parameter name must exist in the orchestration rule bound to the API.

Parameter	Type	Description
mapped_param_location	String	Location of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. This location must exist in the orchestration rule bound to the API.
id	String	ID.
req_param_id	String	Input parameter ID.
req_param_location	String	Input parameter location.

Table 6-121 BackendParam

Parameter	Type	Description
name	String	Parameter name, which must start with a letter and can only contain letters, digits, hyphens (-), underscores (_), and periods (.).
location	String	Parameter location. The value can be PATH, QUERY, or HEADER.
origin	String	Parameter type. The value can be REQUEST, CONSTANT, and SYSTEM.

Parameter	Type	Description
value	String	Parameter value, with a maximum of 255 characters. If the origin type is REQUEST, the value of this parameter is the parameter name in req_params. If the origin type is CONSTANT, the value is a constant. If the origin type is SYSTEM, the value is a system parameter name. System parameters include gateway parameters, frontend authentication parameters, and backend authentication parameters. You can set the frontend or backend authentication parameters after enabling custom frontend or backend authentication. The gateway parameters are as follows: • \$context.sourceIp: source IP address of the API caller • \$context.stage: deployment environment in which the API is called • \$context.apiName: API name • \$context.apid: API ID • \$context.appName: name of the app used by the API caller • \$context.appId: ID of the app used by the API caller • \$context.requestId: request ID generated when the API is called • \$context.serverAddr: address of the gateway server • \$context.serverName: name of the gateway server • \$context.handleTime: processing time of the API request • \$context.providerAppId: ID of the app used by the API owner (not supported) • \$context.clientCertCN: client certificate CN carried in the API invoking when client authentication is enabled

Parameter	Type	Description
		Frontend authentication parameter: prefixed with "\$context.authorizer.frontend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.frontend.aaa". Backend authentication parameter: prefixed with "\$context.authorizer.backend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.backend.aaa".
remark	String	Description.
id	String	Parameter ID.
req_param_id	String	Request parameter ID.

Table 6-122 VpcInfo

Parameter	Type	Description
ecs_id	String	Cloud server ID.
ecs_name	String	Cloud server name.
cascade_flag	Boolean	Indicates whether to use the cascading mode. This parameter is currently not supported.
vpc_channel_proxy_host	String	Proxy host.
vpc_channel_id	String	VPC channel ID.
vpc_channel_port	Integer	VPC channel port.

Status code: 400**Table 6-123** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-124** Response body parameters

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

Status code: 403**Table 6-125** Response body parameters

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

Status code: 404**Table 6-126** Response body parameters

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

Status code: 500**Table 6-127** Response body parameters

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

Example Requests

Modify configurations of a specified API by changing its matching mode to exact match, authentication mode to App, and web backend to load balance channel, and adding backend parameters.

```
{
  "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "match_mode" : "NORMAL",
  "name" : "Api_http",
  "auth_type" : "APP",
  "backend_type" : "HTTP",
  "backend_api" : {
    "vpc_channel_status" : 1,
    "vpc_channel_info" : {
      "vpc_channel_id" : "56a7d7358e1b42459c9d730d65b14e59",
      "vpc_channel_proxy_host" : "www.example.com"
    },
    "req_protocol" : "HTTPS",
    "req_method" : "GET",
    "req_uri" : "/test/benchmark",
    "timeout" : 5000
  },
  "cors" : false,
  "req_protocol" : "HTTPS",
  "req_uri" : "/test/http",
  "remark" : "Web backend API",
  "type" : 1,
  "req_method" : "GET",
  "result_normal_sample" : "Normal response example",
  "result_failure_sample" : "Failure response example",
  "backend_params" : [ {
    "name" : "X-CONSTANT-HEADER",
    "value" : "demo",
    "location" : "HEADER",
    "origin" : "CONSTANT",
    "remark" : "constant_demo"
  }, {
    "name" : "app-id",
    "value" : "$context.appId",
    "location" : "HEADER",
    "origin" : "SYSTEM",
    "remark" : "Application ID of the invoker."
  } ],
  "tags" : [ "webApi" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "5f918d104dc84480a75166ba99efff21",
  "tags" : [ "webApi" ],
  "arrange_necessary" : 2,
  "backend_type" : "HTTP",
  "auth_type" : "APP",
  "auth_opt" : {
    "app_code_auth_type" : "DISABLE"
  },
  "backend_api" : {
    "update_time" : "2020-08-02T16:32:47.077028841Z",
    "vpc_channel_status" : 1,
    "vpc_channel_info" : {
      "vpc_channel_id" : "56a7d7358e1b42459c9d730d65b14e59",

```

```
"vpc_channel_proxy_host" : "www.example.com"
},
"url_domain" : "56a7d7358e1b42459c9d730d65b14e59",
"req_protocol" : "HTTPS",
"id" : "1ce8fda3586d4371bd83c955df37e102",
"req_method" : "GET",
"register_time" : "2020-07-31T12:42:51Z",
"req_uri" : "/test/benchmark",
"timeout" : 5000,
"status" : 1
},
"cors" : false,
"status" : 1,
"group_name" : "api_group_001",
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"group_version" : "V1",
"match_mode" : "NORMAL",
"name" : "Api_http",
"req_protocol" : "HTTPS",
"req_method" : "GET",
"req_uri" : "/test/http",
"type" : 1,
"version" : "V0.0.1",
"result_normal_sample" : "Normal response example",
"result_failure_sample" : "Failure response example",
"register_time" : "2020-07-31T12:42:51Z",
"update_time" : "2020-08-02T16:32:47.046288842Z",
"remark" : "Web backend API",
"backend_params" : [ {
  "name" : "X-CONSTANT-HEADER",
  "value" : "demo",
  "location" : "HEADER",
  "origin" : "CONSTANT",
  "remark" : "constant_demo",
  "id" : "8cb2eba19e7a4423a4e835647a8b8d76"
}, {
  "name" : "app-id",
  "value" : "$context.appld",
  "location" : "HEADER",
  "origin" : "SYSTEM",
  "remark" : "Application ID of the invoker.",
  "id" : "216ddda836e74d528f364ff589d9dd21"
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
}
```

```
{
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.3 Deleting an API

Function

This API is used to delete an API.

This operation will delete all related resources and binding relationships of the API, such as publication records, backend services, and app authorization information.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}

Table 6-128 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Request Parameters

Table 6-129 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 401

Table 6-130 Response body parameters

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

Status code: 403

Table 6-131 Response body parameters

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

Status code: 404

Table 6-132 Response body parameters

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

Status code: 409**Table 6-133** Response body parameters

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

Status code: 500**Table 6-134** Response body parameters

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

Example Requests

None

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 409**Conflict**

```
{
  "error_code" : "APIG.3416",
  "error_msg" : "The API cannot be deleted because it has been published"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
409	Conflict
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.4 Publishing an API or Taking an API Offline

Function

This API is used to publish an API or take an API offline.

An API can be called in an environment where the API has been published. APIs that have not been published cannot be called.

You can remove an API from an environment in which it has been published. After this operation, the API can no longer be called in the environment.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apis/action

Table 6-135 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-136 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-137 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Required action. • online: Publish • offline: Take offline
api_id	Yes	String	ID of the API to be published or taken offline.
env_id	Yes	String	ID of the environment to which the API is to be published.
remark	No	String	Description of the publish action. The value can contain a maximum of 255 characters.

Response Parameters

Status code: 201

Table 6-138 Response body parameters

Parameter	Type	Description
publish_id	String	Publication record ID.
api_id	String	API ID.
api_name	String	API name.
env_id	String	ID of the environment in which the API has been published.
remark	String	Description about the publication.
publish_time	String	Time when the API is published.
version_id	String	API version currently in use.

Status code: 400**Table 6-139** Response body parameters

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

Status code: 401**Table 6-140** Response body parameters

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

Status code: 403**Table 6-141** Response body parameters

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

Status code: 404**Table 6-142** Response body parameters

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

Status code: 500**Table 6-143** Response body parameters

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

Example Requests

Publish an API in a specified environment.

```
{
  "action": "online",
  "api_id": "5f918d104dc84480a75166ba99efff21",
  "env_id": "DEFAULT_ENVIRONMENT_RELEASE_ID"
}
```

Example Responses

Status code: 201

Created

```
{
  "api_id": "5f918d104dc84480a75166ba99efff21",
  "env_id": "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "publish_id": "9191cdb430724d4b8586ed7f1b962ca2",
  "publish_time": "2020-08-03T01:36:00.592970615Z",
  "version_id": "ee1a5a38d3d3493abf1dc4ed6cacfa0b",
  "remark": ""
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "Invalid parameter value,parameterName:action. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.5 Querying Details of an API

Function

This API is used to query the details of an API.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}

Table 6-144 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Request Parameters

Table 6-145 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-146 Response body parameters

Parameter	Type	Description
name	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
type	Integer	API type. 1: public 2: private

Parameter	Type	Description
version	String	API version.
req_protocol	String	API request protocol. Options: • HTTP • HTTPS • BOTH: Both HTTP and HTTPS are supported. • GRPCS
req_method	String	API request method. If the request protocol is set to GRPCS, the request method is fixed to POST.
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPCS, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.
auth_type	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	AuthOpt object	Security authentication parameter.
cors	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported

Parameter	Type	Description
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.
backend_type	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.
remark	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	String	ID of the API group to which the API belongs.
body_remark	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
result_failure_sample	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	String	ID of the frontend custom authorizer.

Parameter	Type	Description
tags	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	String	Group response ID. This parameter is currently not supported.
roma_app_id	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	String	Tag. This field will be deprecated. You can use the tags field instead.
content_type	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plug-in with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend

Parameter	Type	Description
id	String	API ID.
status	Integer	API status: • 1: Valid • 2: Locked
arrange_necessary	Integer	Whether to enable orchestration. Options: 1 (enable) and 2 (disable)
register_time	String	Time when the API is registered.
update_time	String	Time when the API was last modified.
group_name	String	Name of the API group to which the API belongs.
group_version	String	Version of the API group to which the API belongs.
run_env_name	String	Name of the environment in which the API has been published. Separate multiple environment names with vertical bars ().
run_env_id	String	ID of the environment in which the API has been published. Separate multiple environment IDs with vertical bars ().
publish_id	String	Publication record ID. Separate multiple publication record IDs with vertical bars ().
publish_time	String	Publication time. Separate the time of multiple publication records with vertical bars ().
roma_app_name	String	Name of the integration application to which the API belongs.
ld_api_id	String	ID of the corresponding custom backend API.
backend_api	BackendApi object	Web backend details
api_group_info	ApiGroupCommonInfo object	API group information.
func_info	ApiFunc object	FunctionGraph backend details.
mock_info	ApiMock object	Mock backend details.

Parameter	Type	Description
req_params	Array of ReqParam objects	Request parameters.
backend_params	Array of BackendParam objects	Backend parameters.
policy_functions	Array of ApiPolicyFunctionResp objects	FunctionGraph policy backends
policy_mock	Array of ApiPolicyMockResp objects	Mock policy backend information.
policy_https	Array of ApiPolicyHttpResp objects	Web policy backends.

Table 6-147 AuthOpt

Parameter	Type	Description
app_code_auth_type	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. - DISABLE: AppCode authentication is disabled. - HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-148 BackendApi

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
url_domain	String	Backend service address. If no VPC channel is used, url_domain is mandatory. The value consists of the host (IP address or domain name) and port number with a maximum of 255 characters, in the format of host:port number (for example, apig.example.com:7443). If the port number is not specified, HTTPS port number defaults to 443 and HTTP port number defaults to 80. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.
req_protocol	String	Request protocol. You can select GRPC or GRPCS for the GRPC backend.
remark	String	Description.
req_method	String	Request method. For the GRPC backend, the request method is fixed to POST.
version	String	Web backend version, which can contain a maximum of 16 characters.
req_uri	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1 . Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
id	String	ID.
status	Integer	Backend status: 1: Valid
register_time	String	Registration time.
update_time	String	Modification time.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-149 ApiGroupCommonInfo

Parameter	Type	Description
id	String	No.
name	String	API group name.

Parameter	Type	Description
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.

Table 6-150 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.

Parameter	Type	Description
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-151 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Table 6-152 ApiFunc

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC
remark	String	Description.

Parameter	Type	Description
invocation_type	String	Invocation mode. • async: asynchronous • sync: synchronous
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
authorizer_id	String	Backend custom authorizer ID.
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: • 1: Valid
update_time	String	Modification time.

Table 6-153 ApiMock

Parameter	Type	Description
remark	String	Description.
result_content	String	Response.
version	String	Version. Ensure that the version does not exceed 64 characters.
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: 1: Valid
update_time	String	Modification time.

Table 6-154 ReqParam

Parameter	Type	Description
name	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	String	Parameter type.
location	String	Parameter location.

Parameter	Type	Description
default_value	String	Default value.
sample_value	String	Example value.
required	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	String	Description.
enumerations	String	Enumerated value.
min_num	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	String	JSON validation rule. This parameter is currently not supported.

Parameter	Type	Description
pass_through	Integer	Indicates whether to transparently transmit the parameter. 1: The parameter is transparently transmitted. 2: The parameter is not transparently transmitted.
orchestrations	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.
id	String	Parameter ID.

Table 6-155 ApiPolicyFunctionResp

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: - V1: non-VPC - V2: VPC
invocation_type	String	Invocation mode. - async: asynchronous - sync: synchronous

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.

Table 6-156 ApiPolicyMockResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions

Parameter	Type	Description
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.
result_content	String	Response.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).

Table 6-157 ApiPolicyHttpResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.
url_domain	String	Endpoint of the policy backend. The value consists of a domain name (or an IP address) and a port number. The total length cannot exceed 255 characters. The value is in Domain name:Port number format, for example, apig.example.com:7443. If the port number is not specified, the default HTTPS port number is 443 and the default HTTP port number is 80.Environment variables are supported. If environment variables are used, each variable name must contain 3 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter.
req_protocol	String	Request protocol. Options include HTTP, HTTPS, GRPC, or GRPCS. You can select GRPC or GRPCS for the GRPC backend.
req_method	String	Request method. Options: GET, POST, PUT, DELETE, HEAD, PATCH, OPTIONS, and ANY. This is fixed to POST for the GRPC backend.
req_uri	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1. Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-158 ConditionResp

Parameter	Type	Description
req_param_name	String	Input parameter name. This parameter is required if the policy type is param.
sys_param_name	String	System parameter name. This parameter is mandatory when the policy type is set to system. The following system parameters are supported: - req_path: request path, such as /a/b - req_method: request method, such as GET

Parameter	Type	Description
cookie_param_name	String	COOKIE parameter name. This parameter is required if the policy type is cookie.
frontend_authorizer_param_name	String	Frontend authorizer parameter name (system parameter). This parameter is required if the policy type is frontend_authorizer . The frontend authentication parameter name is prefixed with \$context.authorizer.frontend. For example, if the frontend authentication parameter name is user_name , add the prefix and the value is \$context.authorizer.frontend.user_name.
condition_type	String	Policy condition. • exact: Exact match. • enum: Enumeration. • pattern: Regular expression. This parameter is mandatory when the policy type is param , cookie , or frontend_authorizer .
condition_origin	String	Policy type • param: Parameter. • source: Source IP. • system: Built-in gateway parameter (system parameter). • cookie: COOKIE parameter. • frontend_authorizer: Frontend authorizer parameter (system parameter). • orchestration: Parameter orchestration rule.
condition_value	String	Policy value, which is required when the policy type is param , source , cookie , or frontend_authorizer .
mapped_param_name	String	Name of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. The generated parameter name must exist in the orchestration rule bound to the API.

Parameter	Type	Description
mapped_param_location	String	Location of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. This location must exist in the orchestration rule bound to the API.
id	String	ID.
req_param_id	String	Input parameter ID.
req_param_location	String	Input parameter location.

Table 6-159 BackendParam

Parameter	Type	Description
name	String	Parameter name, which must start with a letter and can only contain letters, digits, hyphens (-), underscores (_), and periods (.).
location	String	Parameter location. The value can be PATH, QUERY, or HEADER.
origin	String	Parameter type. The value can be REQUEST, CONSTANT, and SYSTEM.

Parameter	Type	Description
value	String	Parameter value, with a maximum of 255 characters. If the origin type is REQUEST, the value of this parameter is the parameter name in req_params. If the origin type is CONSTANT, the value is a constant. If the origin type is SYSTEM, the value is a system parameter name. System parameters include gateway parameters, frontend authentication parameters, and backend authentication parameters. You can set the frontend or backend authentication parameters after enabling custom frontend or backend authentication. The gateway parameters are as follows: • \$context.sourceIp: source IP address of the API caller • \$context.stage: deployment environment in which the API is called • \$context.apiName: API name • \$context.apid: API ID • \$context.appName: name of the app used by the API caller • \$context.appId: ID of the app used by the API caller • \$context.requestId: request ID generated when the API is called • \$context.serverAddr: address of the gateway server • \$context.serverName: name of the gateway server • \$context.handleTime: processing time of the API request • \$context.providerAppId: ID of the app used by the API owner (not supported) • \$context.clientCertCN: client certificate CN carried in the API invoking when client authentication is enabled

Parameter	Type	Description
		Frontend authentication parameter: prefixed with "\$context.authorizer.frontend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.frontend.aaa". Backend authentication parameter: prefixed with "\$context.authorizer.backend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.backend.aaa".
remark	String	Description.
id	String	Parameter ID.
req_param_id	String	Request parameter ID.

Table 6-160 VpcInfo

Parameter	Type	Description
ecs_id	String	Cloud server ID.
ecs_name	String	Cloud server name.
cascade_flag	Boolean	Indicates whether to use the cascading mode. This parameter is currently not supported.
vpc_channel_proxy_host	String	Proxy host.
vpc_channel_id	String	VPC channel ID.
vpc_channel_port	Integer	VPC channel port.

Status code: 401**Table 6-161** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-162** Response body parameters

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

Status code: 404**Table 6-163** Response body parameters

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

Status code: 500**Table 6-164** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "id" : "5f918d104dc84480a75166ba99efff21",
  "tags" : [ "webApi" ],
  "arrange_necessary" : 2,
```

```
"backend_type" : "HTTP",
"auth_type" : "AUTHORIZER",
"auth_opt" : {
  "app_code_auth_type" : "DISABLE"
},
"authorizer_id" : "8d0443832a194eaa84244e0c1c1912ac",
"backend_api" : {
  "update_time" : "2020-08-02T16:32:47.077029Z",
  "vpc_channel_status" : 1,
  "vpc_channel_info" : {
    "vpc_channel_id" : "56a7d7358e1b42459c9d730d65b14e59",
    "vpc_channel_proxy_host" : "www.example.com"
  },
  "url_domain" : "56a7d7358e1b42459c9d730d65b14e59",
  "req_protocol" : "HTTPS",
  "id" : "1ce8fda3586d4371bd83c955df37e102",
  "req_method" : "GET",
  "register_time" : "2020-07-31T12:42:51Z",
  "req_uri" : "/test/benchmark",
  "timeout" : 5000,
  "status" : 1
},
"cors" : false,
"status" : 1,
"group_name" : "api_group_001",
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"group_version" : "V1",
"match_mode" : "NORMAL",
"name" : "Api_http",
"req_protocol" : "HTTPS",
"req_method" : "GET",
"req_uri" : "/test/http",
"type" : 1,
"version" : "V0.0.1",
"result_normal_sample" : "Normal response example",
"result_failure_sample" : "Failure response example",
"register_time" : "2020-07-31T12:42:51Z",
"update_time" : "2020-08-02T16:32:47.046289Z",
"remark" : "web backend api",
"backend_params" : [ {
  "name" : "X-CONSTANT-HEADER",
  "value" : "demo",
  "location" : "HEADER",
  "origin" : "CONSTANT",
  "remark" : "constant_demo",
  "id" : "8cb2eba19e7a4423a4e835647a8b8d76"
}, {
  "name" : "app-id",
  "value" : "$context.appId",
  "location" : "HEADER",
  "origin" : "SYSTEM",
  "remark" : "Application ID of the invoker.",
  "id" : "216ddda836e74d528f364ff589d9dd21"
} ]
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden


```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.6 Querying APIs

Function

This API is used to query APIs and return their details and publication information. Backend information and request parameters of the APIs will not be returned.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apis

Table 6-165 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-166 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
id	No	String	API ID.
name	No	String	API name.
group_id	No	String	API group ID.
req_protocol	No	String	Request protocol.
req_method	No	String	Request method.
req_uri	No	String	Request path.
auth_type	No	String	Authentication type.
env_id	No	String	ID of the environment in which the API has been published.
type	No	Integer	API type.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, only name, req_uri and vpc_channel_name are supported.
vpc_channel_id	No	String	Load channel ID.

Parameter	Mandatory	Type	Description
vpc_channel_name	No	String	Load channel name.
roma_app_name	No	String	Integration application name.
roma_app_id	No	String	Integration application ID.
return_data_mode	No	String	Additional information to be included in the returned API details. Separate multiple parameters with commas (,). "brief" does not take effect when used with any "include" parameters. Currently, only brief, include_group, and include_group_backend are supported. brief: default, indicating that no additional information will be included. include_group: The returned result will include api_group_info. include_group_backend: The returned result will include backend_api.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-167 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-168 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of ApilInfoPerPage objects	API list.

Table 6-169 ApilInfoPerPage

Parameter	Type	Description
name	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
type	Integer	API type. 1: public 2: private
version	String	API version.
req_protocol	String	API request protocol. Options: - HTTP - HTTPS - BOTH: Both HTTP and HTTPS are supported. - GRPCS
req_method	String	API request method. If the request protocol is set to GRPC, the request method is fixed to POST.

Parameter	Type	Description
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPC, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.
auth_type	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	AuthOpt object	Security authentication parameter.
cors	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.

Parameter	Type	Description
backend_type	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.
remark	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	String	ID of the API group to which the API belongs.
body_remark	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
result_failure_sample	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	String	ID of the frontend custom authorizer.

Parameter	Type	Description
tags	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	String	Group response ID. This parameter is currently not supported.
roma_app_id	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	String	Tag. This field will be deprecated. You can use the tags field instead.
content_type	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plug-in with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend

Parameter	Type	Description
id	String	API ID.
status	Integer	API status: • 1: Valid • 2: Locked
arrange_necessary	Integer	Whether to enable orchestration. Options: 1 (enable) and 2 (disable)
register_time	String	Time when the API is registered.
update_time	String	Time when the API was last modified.
group_name	String	Name of the API group to which the API belongs.
group_version	String	Version of the API group to which the API belongs.
run_env_name	String	Name of the environment in which the API has been published. Separate multiple environment names with vertical bars ().
run_env_id	String	ID of the environment in which the API has been published. Separate multiple environment IDs with vertical bars ().
publish_id	String	Publication record ID. Separate multiple publication record IDs with vertical bars ().
publish_time	String	Publication time. Separate the time of multiple publication records with vertical bars ().
roma_app_name	String	Name of the integration application to which the API belongs.
ld_api_id	String	ID of the corresponding custom backend API.
backend_api	BackendApi object	Backend information.
api_group_info	ApiGroupCommonInfo object	API group information.
req_params	Array of ReqParam objects	Request parameters.

Table 6-170 AuthOpt

Parameter	Type	Description
app_code_auth_type	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. - DISABLE: AppCode authentication is disabled. - HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-171 BackendApi

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.
url_domain	String	Backend service address. If no VPC channel is used, url_domain is mandatory. The value consists of the host (IP address or domain name) and port number with a maximum of 255 characters, in the format of host:port number (for example, apig.example.com:7443). If the port number is not specified, HTTPS port number defaults to 443 and HTTP port number defaults to 80. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.
req_protocol	String	Request protocol. You can select GRPC or GRPCS for the GRPC backend.
remark	String	Description.
req_method	String	Request method. For the GRPC backend, the request method is fixed to POST.
version	String	Web backend version, which can contain a maximum of 16 characters.

Parameter	Type	Description
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1. Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
id	String	ID.
status	Integer	Backend status: 1: Valid
register_time	String	Registration time.

Parameter	Type	Description
update_time	String	Modification time.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: • 1: yes • 2: no

Table 6-172 VpcInfo

Parameter	Type	Description
ecs_id	String	Cloud server ID.
ecs_name	String	Cloud server name.
cascade_flag	Boolean	Indicates whether to use the cascading mode. This parameter is currently not supported.
vpc_channel_proxy_host	String	Proxy host.
vpc_channel_id	String	VPC channel ID.
vpc_channel_port	Integer	VPC channel port.

Table 6-173 ApiGroupCommonInfo

Parameter	Type	Description
id	String	No.
name	String	API group name.
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.

Parameter	Type	Description
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.

Table 6-174 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Parameter	Type	Description
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-175 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Table 6-176 ReqParam

Parameter	Type	Description
name	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	String	Parameter type.
location	String	Parameter location.
default_value	String	Default value.
sample_value	String	Example value.

Parameter	Type	Description
required	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	String	Description.
enumerations	String	Enumerated value.
min_num	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	String	JSON validation rule. This parameter is currently not supported.
pass_through	Integer	Indicates whether to transparently transmit the parameter. • 1: The parameter is transparently transmitted. • 2: The parameter is not transparently transmitted.

Parameter	Type	Description
orchestrations	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.
id	String	Parameter ID.

Status code: 400**Table 6-177** Response body parameters

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

Status code: 401**Table 6-178** Response body parameters

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

Status code: 403

Table 6-179 Response body parameters

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

Status code: 404**Table 6-180** Response body parameters

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

Status code: 500**Table 6-181** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "apis" : [ {
    "name" : "Api_http",
    "type" : 1,
    "version" : "V0.0.1",
    "req_protocol" : "HTTPS",
    "req_method" : "GET",
    "req_uri" : "/test/http",
    "auth_type" : "AUTHORIZER",
    "auth_opt" : {
      "app_code_auth_type" : "DISABLE"
    },
    "cors" : false,
    "match_mode" : "NORMAL",
```



```
"backend_type" : "HTTP",
"remark" : "Web backend API",
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"body_remark" : "",
"result_normal_sample" : "",
"result_failure_sample" : "",
"authorizer_id" : "8d0443832a194eaa84244e0c1c1912ac",
"tags" : [ "webApi" ],
"roma_app_id" : "f37f5e81d9cb4424bf704ef2b0ac7600",
"domain_name" : "",
"id" : "5f918d104dc84480a75166ba99efff21",
"status" : 1,
"arrange_necessary" : 2,
"register_time" : "2020-07-31T12:42:51Z",
"update_time" : "2020-08-02T16:32:47.046289Z",
"group_name" : "api_group_001",
"group_version" : "V1",
"run_env_name" : "RELEASE",
"run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
"publish_id" : "6f918d104dc84480a75166ba99efff41",
"publish_time" : "2020-07-31 12:42:51",
"roma_app_name" : "roma-3xfg",
"ld_api_id" : "",
"backend_api" : null,
"api_group_info" : null,
"req_params" : null
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.7 Publishing APIs or Taking APIs Offline in Batches

Function

This API is used to publish multiple APIs in an environment or to remove multiple APIs from the environment in which they have been published.

Note: The `publish_id`, `version_id`, and `publish_time` fields in the API are valid only when `action` is set to `online`.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apis/publish

Table 6-182 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-183 Query Parameters

Parameter	Mandatory	Type	Description
action	Yes	String	- online: publishing the APIs - offline: taking the APIs offline

Request Parameters

Table 6-184 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-185 Request body parameters

Parameter	Mandatory	Type	Description
apis	No	Array of strings	IDs of the APIs to be published or taken offline.
env_id	Yes	String	Environment ID.
remark	No	String	Description of the publication. Ensure that the length does not exceed 255 characters.

Response Parameters

Status code: 200

Table 6-186 Response body parameters

Parameter	Type	Description
success	Array of PublishResp objects	Message for successful API publication or taking offline.
failure	Array of BatchFailure objects	Error message and APIs that fail to be published or taken offline.

Table 6-187 PublishResp

Parameter	Type	Description
publish_id	String	Publication record ID.
api_id	String	API ID.
api_name	String	API name.
env_id	String	ID of the environment in which the API has been published.
remark	String	Description about the publication.
publish_time	String	Time when the API is published.
version_id	String	API version currently in use.

Table 6-188 BatchFailure

Parameter	Type	Description
api_id	String	ID of an API that fails to be deleted.
api_name	String	Name of the API that fails to be operated.
error_code	String	Error code.
error_msg	String	Error information generated after an operation fails.

Status code: 400**Table 6-189** Response body parameters

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

Status code: 401**Table 6-190** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-191** Response body parameters

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

Status code: 404**Table 6-192** Response body parameters

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

Status code: 500**Table 6-193** Response body parameters

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

Example Requests

Publish multiple APIs in a specified environment.

```
{
  "apis" : [ "3a955b791bd24b1c9cd94c745f8d1aad", "abd9c4b2ff974888b0ba79be7e6b2762" ],
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "remark" : "Publish to the production environment"
}
```

Example Responses

Status code: 200

OK

```
{
  "success" : [ {
    "publish_id" : "9f27d1dc4f4242a9abf88e563dbfc33d",
    "api_id" : "3a955b791bd24b1c9cd94c745f8d1aad",
    "api_name" : "Api_mock",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "version_id" : "632b2c9e022941969af9a1d45735ae2c",
    "remark" : "Publish to the production environment",
    "publish_time" : "2020-08-03T03:01:31.26522821Z"
  } ],
  "failure" : [ {
    "api_id" : "abd9c4b2ff974888b0ba79be7e6b2762",
    "error_code" : "APIG.3002",
    "error_msg" : "Api abd9c4b2ff974888b0ba79be7e6b2762 not found"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value: parameter action should be \\\"online\\\" or \\\"offline\\\""
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.8 Debugging an API

Function

This API is used to debug an API in a specified environment. The API caller must have the permissions required for accessing this API.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apis/debug/{api_id}

Table 6-194 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Request Parameters

Table 6-195 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-196 Request body parameters

Parameter	Mandatory	Type	Description
body	No	String	Message body, with a maximum length of 2,097,152 bytes.
header	No	Map<String,Array<String>>	Header parameters, with each value being a character string array. Each parameter name must meet the following requirements: • Contains letters, digits, periods (.), or hyphens (-). • Starts with a letter, with a maximum of 32 bytes. • Case-insensitive and cannot start with X-Apig- or X-Sdk-. • Case-insensitive and cannot be X-Stage. • Case-insensitive and cannot be X-Auth-Token or Authorization when mode is set to MARKET or CONSUMER. NOTE Each header name is normalized before use. For example, x-MY-hEaDer is normalized as X-My-Header.
method	Yes	String	API request method.

Parameter	Mandatory	Type	Description
mode	Yes	String	Debugging mode. • DEVELOPER: Debugging the definition of an API that has not been published. • MARKET: Debugging the definition of an API purchased from the marketplace • CONSUMER: Debugging the definition of an API that has been published in a specified environment NOTE In DEVELOPER mode, the API caller must be the API provider. In MARKET mode, the API caller must be the API purchaser or owner. In CONSUMER mode, the API caller must be the API provider or has been authorized to access the API in a specific environment.
path	Yes	String	Request path of the API, starting with a slash (/) and containing up to 1024 characters. NOTE The request path must meet path requirements so that it can be correctly decoded after percent-encoding.

Parameter	Mandatory	Type	Description
query	No	Map<String,Array<String>>	Query strings, with each value being a character string array. Each parameter name must meet the following requirements: • Contains letters, digits, periods (.), hyphens (-), or underscores (_). • Starts with a letter, with a maximum of 32 bytes. - • Case-insensitive and cannot start with X-Apig- or X-Sdk-. • Case-insensitive and cannot be X-Stage.
scheme	Yes	String	API request protocol. • HTTP • HTTPS
app_key	No	String	AppKey used in the debugging request.
app_secret	No	String	AppSecret used in the debugging request.
domain	No	String	Access domain name of the API. If no value is specified, one of the following default values will be used based on the setting of mode: • For DEVELOPER, the subdomain name of the API group will be used. • For MARKET the domain name of the API group allocated by the marketplace will be used. • For CONSUMER, the subdomain name of the API group will be used.

Parameter	Mandatory	Type	Description
stage	No	String	Running environment specified by the debugging request. This parameter is available only if mode is set to CONSUMER. If this parameter is not specified, the following default value is used: • CONSUMER RELEASE

Response Parameters

Status code: 200

Table 6-197 Response body parameters

Parameter	Type	Description
request	String	Body of the debugging request.
response	String	Body of the debugging response, with a maximum of 2,097,152 bytes. Any content beyond this threshold will be truncated. NOTE Any content beyond the length limit will be truncated, and text [TRUNCATED] will be added to the response body.
latency	Integer	Debugging duration in milliseconds.
log	String	Debugging logs.

Status code: 400

Table 6-198 Response body parameters

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

Status code: 401

Table 6-199 Response body parameters

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

Status code: 403**Table 6-200** Response body parameters

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

Status code: 404**Table 6-201** Response body parameters

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

Status code: 500**Table 6-202** Response body parameters

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

Example Requests

Debug an unpublished API.

```
{
  "mode" : "DEVELOPER",
  "scheme" : "HTTPS",
  "method" : "GET",
  "path" : "/test/mock"
}
```

Example Responses

Status code: 200

OK

```
{
  "request" : "GET /test/mock HTTP/1.1\r\nHost: c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com\r\nUser-Agent: APIGatewayDebugClient/1.0\r\nX-Apig-Mode: debug\r\n\r\n",
  "response" : "HTTP/1.1 200 OK\r\nTransfer-Encoding: chunked\r\nConnection: keep-alive\r\nContent-Type: application/json\r\nDate: Mon, 03 Aug 2020 02:51:22 GMT\r\nServer: api-gateway\r\nX-Apig-Latency: 0\r\nX-Apig-Ratelimit-API: remain:99,limit:100,time:1 minute\r\nX-Apig-Ratelimit-API-Allenv: remain:14999,limit:15000,time:1 second\r\nX-Request-Id: d4ec6e33148bdeffe8f55b43472d1251\r\n\r\n\r\nmock success",
  "latency" : 5,
  "log" : ""
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:mode. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 3a955b791bd24b1c9cd94c745f8d1aad does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.9 Switching API Versions

Function

This API is used to switch the version of an API. A version is generated based on the current definition of an API when the API is published. The version records the definition and status of the API when it is published.

You can switch between multiple versions of an API, but only one version of an API takes effect in the same environment.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/apis/publish/{api_id}

Table 6-203 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Request Parameters

Table 6-204 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-205 Request body parameters

Parameter	Mandatory	Type	Description
version_id	Yes	String	API version ID.

Response Parameters

Status code: 200

Table 6-206 Response body parameters

Parameter	Type	Description
publish_id	String	Publication record ID.
api_id	String	API ID.
api_name	String	API name.
env_id	String	ID of the environment in which the API has been published.
remark	String	Description about the publication.
publish_time	String	Time when the API is published.
version_id	String	API version currently in use.

Status code: 400

Table 6-207 Response body parameters

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

Status code: 401**Table 6-208** Response body parameters

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

Status code: 403**Table 6-209** Response body parameters

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

Status code: 404**Table 6-210** Response body parameters

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

Status code: 500**Table 6-211** Response body parameters

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

Example Requests

Switch an API to a specified version.

```
{
  "version_id" : "ee1a5a38d3d3493abf1dc4ed6cacfa0b"
}
```


Example Responses

Status code: 200

OK

```
{
  "publish_id" : "9191cdb430724d4b8586ed7f1b962ca2",
  "api_id" : "5f918d104dc84480a75166ba99efff21",
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "version_id" : "ee1a5a38d3d3493abf1dc4ed6cacfa0b",
  "publish_time" : "2020-08-03T03:27:49.483295655Z",
  "remark" : ""
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2000",
  "error_msg" : "Parameter error: Serialization error: unexpected end of JSON input"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3022",
  "error_msg" : "The API version does not exist,id:ee1a5a38d3d3493abf1dc4ed6cacfa0b"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.10 Querying Details of an API Version

Function

This API is used to query the details of a specified API version.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apis/versions/{version_id}

Table 6-212 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
version_id	Yes	String	API version number.

Request Parameters

Table 6-213 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-214** Response body parameters

Parameter	Type	Description
name	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
type	Integer	API type. 1: public 2: private
version	String	API version.
req_protocol	String	API request protocol. Options: - HTTP - HTTPS - BOTH: Both HTTP and HTTPS are supported. - GRPCS
req_method	String	API request method. If the request protocol is set to GRPCS, the request method is fixed to POST.

Parameter	Type	Description
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPC, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.
auth_type	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	AuthOpt object	Security authentication parameter.
cors	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.

Parameter	Type	Description
backend_type	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.
remark	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	String	ID of the API group to which the API belongs.
body_remark	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
result_failure_sample	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	String	ID of the frontend custom authorizer.

Parameter	Type	Description
tags	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	String	Group response ID. This parameter is currently not supported.
roma_app_id	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	String	Tag. This field will be deprecated. You can use the tags field instead.
content_type	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plug-in with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend

Parameter	Type	Description
id	String	API ID.
status	Integer	API status: • 1: Valid • 2: Locked
arrange_necessary	Integer	Whether to enable orchestration. Options: 1 (enable) and 2 (disable)
register_time	String	Time when the API is registered.
update_time	String	Time when the API was last modified.
group_name	String	Name of the API group to which the API belongs.
group_version	String	Version of the API group to which the API belongs.
run_env_name	String	Name of the environment in which the API has been published. Separate multiple environment names with vertical bars ().
run_env_id	String	ID of the environment in which the API has been published. Separate multiple environment IDs with vertical bars ().
publish_id	String	Publication record ID. Separate multiple publication record IDs with vertical bars ().
publish_time	String	Release date.
roma_app_name	String	Name of the integration application to which the API belongs.
ld_api_id	String	ID of the corresponding custom backend API.
backend_api	BackendApi object	Web backend details
api_group_info	ApiGroupCommonInfo object	API group information.
func_info	ApiFunc object	FunctionGraph backend details.
mock_info	ApiMock object	Mock backend details.
req_params	Array of ReqParam objects	Request parameters.

Parameter	Type	Description
backend_params	Array of BackendParam objects	Backend parameters.
policy_functions	Array of ApiPolicyFunctionResp objects	FunctionGraph policy backends
policy_mock	Array of ApiPolicyMockResp objects	Mock policy backend information.
policy_https	Array of ApiPolicyHttpResp objects	Web policy backends.
sl_domain	String	Automatically allocated subdomain name.
sl_domains	Array of strings	Automatically allocated subdomain names.
version_id	String	API version ID.

Table 6-215 AuthOpt

Parameter	Type	Description
app_code_auth_type	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. - DISABLE: AppCode authentication is disabled. - HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-216 BackendApi

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
url_domain	String	Backend service address. If no VPC channel is used, url_domain is mandatory. The value consists of the host (IP address or domain name) and port number with a maximum of 255 characters, in the format of host:port number (for example, apig.example.com:7443). If the port number is not specified, HTTPS port number defaults to 443 and HTTP port number defaults to 80. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.
req_protocol	String	Request protocol. You can select GRPC or GRPCS for the GRPC backend.
remark	String	Description.
req_method	String	Request method. For the GRPC backend, the request method is fixed to POST.
version	String	Web backend version, which can contain a maximum of 16 characters.
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1 . Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
id	String	ID.
status	Integer	Backend status: 1: Valid
register_time	String	Registration time.
update_time	String	Modification time.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-217 ApiGroupCommonInfo

Parameter	Type	Description
id	String	No.
name	String	API group name.

Parameter	Type	Description
status	Integer	Status. • 1: Valid • 2: Locked
sl_domain	String	Subdomain name that the system automatically allocates to the API group.
register_time	String	Creation time.
update_time	String	Last modification time.
on_sell_status	Integer	Indicates whether the API group has been listed on the marketplace. The value can be: • 1: published • 2: not published • 3: being reviewed ROMA Connect is not connected to the marketplace. The default value 2 is returned.
url_domains	Array of UrlDomain objects	List of independent domain names bound to the API group.
sl_domain_access_enabled	Boolean	Whether the debugging domain name is accessible. Options: true and false.

Table 6-218 UrlDomain

Parameter	Type	Description
id	String	Domain ID.
domain	String	Domain name.
cname_status	Integer	CNAME resolution status of the domain name. • 1: not resolved • 2: resolving • 3: resolved • 4: resolving failed
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.

Parameter	Type	Description
min_ssl_version	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-219 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Table 6-220 ApiFunc

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: • V1: non-VPC • V2: VPC
remark	String	Description.

Parameter	Type	Description
invocation_type	String	Invocation mode. • async: asynchronous • sync: synchronous
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
authorizer_id	String	Backend custom authorizer ID.
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: • 1: Valid
update_time	String	Modification time.

Table 6-221 ApiMock

Parameter	Type	Description
remark	String	Description.
result_content	String	Response.
version	String	Version. Ensure that the version does not exceed 64 characters.
authorizer_id	String	Backend custom authorizer ID.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).
id	String	ID.
register_time	String	Registration time.
status	Integer	Backend status: 1: Valid
update_time	String	Modification time.

Table 6-222 ReqParam

Parameter	Type	Description
name	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	String	Parameter type.
location	String	Parameter location.

Parameter	Type	Description
default_value	String	Default value.
sample_value	String	Example value.
required	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	String	Description.
enumerations	String	Enumerated value.
min_num	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	String	JSON validation rule. This parameter is currently not supported.

Parameter	Type	Description
pass_through	Integer	Indicates whether to transparently transmit the parameter. 1: The parameter is transparently transmitted. 2: The parameter is not transparently transmitted.
orchestrations	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.
id	String	Parameter ID.

Table 6-223 ApiPolicyFunctionResp

Parameter	Type	Description
function_urn	String	Function URN.
network_type	String	Network architecture type of the function. Options: - V1: non-VPC - V2: VPC
invocation_type	String	Invocation mode. - async: asynchronous - sync: synchronous

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
version	String	Version of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
alias_urn	String	Alias URN of a function. If both the alias URN and version are specified, the version is ignored and only the alias URN is used.
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.

Table 6-224 ApiPolicyMockResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions

Parameter	Type	Description
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.
authorizer_id	String	Backend custom authorizer ID.
result_content	String	Response.

Parameter	Type	Description
status_code	Integer	Customized status code of the mock backend: "200": "OK", "201": "Created", "202": "Accepted", "203": "NonAuthoritativeInformation", "204": "NoContent", "205": "ResetContent", "206": "PartialContent", "300": "MultipleChoices", "301": "MovedPermanently", "302": "Found", "303": "SeeOther", "304": "NotModified", "305": "UseProxy", "306": "Unused", "307": "TemporaryRedirect", "400": "BadRequest", "401": "Unauthorized", "402": "PaymentRequired", "403": "Forbidden", "404": "NotFound", "405": "MethodNotAllowed", "406": "NotAcceptable", "407": "ProxyAuthenticationRequired", "408": "RequestTimeout", "409": "Conflict", "410": "Gone", "411": "LengthRequired", "412": "PreconditionFailed", "413": "RequestEntityTooLarge", "414": "RequestURITooLong", "415": "UnsupportedMediaType", "416": "RequestedRangeNotSatisfiable", "417": "ExpectationFailed", "450": "ParameterRequired", "451": "MethodConnectException", "500": "InternalServerError",

Parameter	Type	Description
		"501": "NotImplemented", "502": "BadGateway", "503": "ServiceUnavailable", "504": "GatewayTimeout", "505": "HTTPVersionNotSupported"
header	String	Custom response header of the mock backend. Format: [{"key":"","value":"","remark":""}, {"key2":"","value2":"","remark2":""}] Description: key: key of the mock backend's custom response header. It must start with a letter or digit, and can include only letters, digits, and hyphens (-) (max. 64 characters). value: value of the mock backend's custom response header. This parameter cannot be empty (max. 10,240 characters). remark: remark of the mock backend's custom response header. This parameter can be empty (max. 2048 characters).

Table 6-225 ApiPolicyHttpResp

Parameter	Type	Description
id	String	ID.
name	String	Backend name, which must start with a letter and can contain letters, digits, and underscores (_).
conditions	Array of ConditionResp objects	Policy conditions
backend_params	Array of BackendParam objects	Backend parameters
effect_mode	String	Effective mode of the backend policy. • ALL: All conditions are met. • ANY: Any condition is met.

Parameter	Type	Description
authorizer_id	String	Backend custom authorizer ID.
url_domain	String	Endpoint of the policy backend. The value consists of a domain name (or an IP address) and a port number. The total length cannot exceed 255 characters. The value is in Domain name:Port number format, for example, apig.example.com:7443. If the port number is not specified, the default HTTPS port number is 443 and the default HTTP port number is 80.Environment variables are supported. If environment variables are used, each variable name must contain 3 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter.
req_protocol	String	Request protocol. Options include HTTP, HTTPS, GRPC, or GRPCS. You can select GRPC or GRPCS for the GRPC backend.
req_method	String	Request method. Options: GET, POST, PUT, DELETE, HEAD, PATCH, OPTIONS, and ANY. This is fixed to POST for the GRPC backend.
req_uri	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications. For the GRPC backend, the request address is fixed to /.

Parameter	Type	Description
timeout	Integer	Timeout allowed for APIC to request the backend service. You can set the maximum timeout using the backend_timeout configuration item. The maximum value is 600,000. Unit: ms
enable_client_ssl	Boolean	Whether to enable two-way authentication.
retry_count	String	Number of retry attempts to request the backend service. Default: -1. Range: -1 to 10. -1 indicates that idempotent APIs will retry once and non-idempotent APIs will not retry. POST and PATCH are non-idempotent. GET, HEAD, PUT, OPTIONS, and DELETE are idempotent.
enable_sm_channel	Boolean	Whether to enable SM cryptographic algorithms. This feature is only available if the instance supports the SM cryptographic algorithms.
vpc_channel_info	VpcInfo object	VPC channel details. This parameter is required if vpc_channel_status is set to 1.
vpc_channel_status	Integer	Whether to use a VPC channel: 1: yes 2: no

Table 6-226 ConditionResp

Parameter	Type	Description
req_param_name	String	Input parameter name. This parameter is required if the policy type is param.
sys_param_name	String	System parameter name. This parameter is mandatory when the policy type is set to system. The following system parameters are supported: - req_path: request path, such as /a/b - req_method: request method, such as GET

Parameter	Type	Description
cookie_param_name	String	COOKIE parameter name. This parameter is required if the policy type is cookie.
frontend_authorizer_param_name	String	Frontend authorizer parameter name (system parameter). This parameter is required if the policy type is frontend_authorizer . The frontend authentication parameter name is prefixed with \$context.authorizer.frontend. For example, if the frontend authentication parameter name is user_name , add the prefix and the value is \$context.authorizer.frontend.user_name.
condition_type	String	Policy condition. • exact: Exact match. • enum: Enumeration. • pattern: Regular expression. This parameter is mandatory when the policy type is param , cookie , or frontend_authorizer .
condition_origin	String	Policy type • param: Parameter. • source: Source IP. • system: Built-in gateway parameter (system parameter). • cookie: COOKIE parameter. • frontend_authorizer: Frontend authorizer parameter (system parameter). • orchestration: Parameter orchestration rule.
condition_value	String	Policy value, which is required when the policy type is param , source , cookie , or frontend_authorizer .
mapped_param_name	String	Name of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. The generated parameter name must exist in the orchestration rule bound to the API.

Parameter	Type	Description
mapped_param_location	String	Location of a parameter generated after orchestration. This parameter is mandatory when condition_origin is set to orchestration. This location must exist in the orchestration rule bound to the API.
id	String	ID.
req_param_id	String	Input parameter ID.
req_param_location	String	Input parameter location.

Table 6-227 BackendParam

Parameter	Type	Description
name	String	Parameter name, which must start with a letter and can only contain letters, digits, hyphens (-), underscores (_), and periods (.).
location	String	Parameter location. The value can be PATH, QUERY, or HEADER.
origin	String	Parameter type. The value can be REQUEST, CONSTANT, and SYSTEM.

Parameter	Type	Description
value	String	Parameter value, with a maximum of 255 characters. If the origin type is REQUEST, the value of this parameter is the parameter name in req_params. If the origin type is CONSTANT, the value is a constant. If the origin type is SYSTEM, the value is a system parameter name. System parameters include gateway parameters, frontend authentication parameters, and backend authentication parameters. You can set the frontend or backend authentication parameters after enabling custom frontend or backend authentication. The gateway parameters are as follows: • \$context.sourceIp: source IP address of the API caller • \$context.stage: deployment environment in which the API is called • \$context.apiName: API name • \$context.apid: API ID • \$context.appName: name of the app used by the API caller • \$context.appId: ID of the app used by the API caller • \$context.requestId: request ID generated when the API is called • \$context.serverAddr: address of the gateway server • \$context.serverName: name of the gateway server • \$context.handleTime: processing time of the API request • \$context.providerAppId: ID of the app used by the API owner (not supported) • \$context.clientCertCN: client certificate CN carried in the API invoking when client authentication is enabled

Parameter	Type	Description
		Frontend authentication parameter: prefixed with "\$context.authorizer.frontend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.frontend.aaa". Backend authentication parameter: prefixed with "\$context.authorizer.backend.". For example, to return "aaa" upon successful custom authentication, set this parameter to "\$context.authorizer.backend.aaa".
remark	String	Description.
id	String	Parameter ID.
req_param_id	String	Request parameter ID.

Table 6-228 VpcInfo

Parameter	Type	Description
ecs_id	String	Cloud server ID.
ecs_name	String	Cloud server name.
cascade_flag	Boolean	Indicates whether to use the cascading mode. This parameter is currently not supported.
vpc_channel_proxy_host	String	Proxy host.
vpc_channel_id	String	VPC channel ID.
vpc_channel_port	Integer	VPC channel port.

Status code: 401**Table 6-229** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-230** Response body parameters

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

Status code: 404**Table 6-231** Response body parameters

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

Status code: 500**Table 6-232** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "name" : "Api_http",  
  "type" : 1,  
  "version" : "V0.0.1",  
}
```

```
"req_protocol" : "HTTPS",
"req_method" : "GET",
"req_uri" : "/test/http",
"auth_type" : "AUTHORIZER",
"auth_opt" : [ {
  "app_code_auth_type" : "DISABLE"
} ],
"cors" : false,
"match_mode" : "NORMAL",
"backend_type" : "HTTP",
"remark" : "Web backend Api",
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"body_remark" : "",
"result_normal_sample" : "Normal response example",
"result_failure_sample" : "Failure response example",
"authorizer_id" : "8d0443832a194eaa84244e0c1c1912ac",
"tags" : [ ],
"roma_app_id" : "f77f5e81d9cb4424bf704ef2b0ac7600",
"domain_name" : "",
"tag" : "",
"id" : "5f918d104dc84480a75166ba99efff21",
"status" : 1,
"arrange_necessary" : 2,
"register_time" : "2020-07-31T12:42:51Z",
"update_time" : "2020-08-02T16:32:47.046289Z",
"group_name" : "api_group_001",
"group_version" : "",
"run_env_name" : "RELEASE",
"run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
"publish_id" : "",
"publish_time" : "2020-08-03T01:36:00Z",
"roma_app_name" : "roma-test",
"ld_api_id" : "",
"backend_api" : {
  "url_domain" : "56a7d7358e1b42459c9d730d65b14e59",
  "req_protocol" : "HTTPS",
  "req_method" : "GET",
  "req_uri" : "/test/benchmark",
  "timeout" : 5000,
  "id" : "1ce8fda3586d4371bd83c955df37e102",
  "status" : 1,
  "register_time" : "2020-07-31T12:42:51Z",
  "update_time" : "2020-08-02T16:32:47.077029Z",
  "vpc_channel_status" : 1,
  "vpc_channel_info" : {
    "cascade_flag" : false,
    "vpc_channel_id" : "56a7d7358e1b42459c9d730d65b14e59",
    "vpc_channel_proxy_host" : "www.example.com",
    "vpc_channel_port" : 0
  }
},
"api_group_info" : null,
"backend_params" : [ {
  "name" : "X-CONSTANT-HEADER",
  "location" : "HEADER",
  "origin" : "CONSTANT",
  "value" : "demo",
  "remark" : "constant_demo",
  "id" : "8cb2eba19e7a4423a4e835647a8b8d76"
}, {
  "name" : "app-id",
  "location" : "HEADER",
  "origin" : "SYSTEM",
  "value" : "$context.appld",
  "remark" : "Application ID of the invoker.",
  "id" : "216ddda836e74d528f364ff589d9dd21"
} ],
"sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.com",
"sl_domains" : [ "c77f5e81d9cb4424bf704ef2b0ac7600.apic.****.com",
```

```
"c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.cn" ],
"version_id" : "ee1a5a38d3d3493abf1dc4ed6cacfa0b"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3022",
  "error_msg" : "The API version does not exist,id:ee1a5a38d3d3493abf1dc4ed6cacfa0b"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.11 Taking an API Version Offline

Function

This API is used to remove an effective version of an API. After this operation, the API cannot be called in the environment in which it takes effect.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/apis/versions/{version_id}

Table 6-233 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
version_id	Yes	String	API version number.

Request Parameters

Table 6-234 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 401

Table 6-235 Response body parameters

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

Status code: 403**Table 6-236** Response body parameters

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

Status code: 404**Table 6-237** Response body parameters

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

Status code: 500**Table 6-238** Response body parameters

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

Example Requests

None

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```


Status code: 404

Not Found

```
{
  "error_code" : "APIG.3022",
  "error_msg" : "The API version does not exist,id:ee1a5a38d3d3493abf1dc4ed6cacfa0b"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.2.12 Querying Historical Versions of an API****Function**

This API is used to query the historical versions of an API. APIC retains a maximum of 10 historical versions for each API in an environment.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apis/publish/{api_id}

Table 6-239 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Table 6-240 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
env_id	No	String	Environment ID.
env_name	No	String	Environment name.

Request Parameters

Table 6-241 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-242 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
api_versions	Array of ApiVersionResp objects	Historical version list

Table 6-243 ApiVersionResp

Parameter	Type	Description
version_id	String	API version ID.
version_no	String	API version number.
api_id	String	API ID.
env_id	String	ID of the environment in which the API has been published.
env_name	String	Name of the environment in which the API has been published.
remark	String	Description about the publication.
publish_time	String	Time when the API is published.
status	Integer	Version status. • 1: effective • 2: not effective

Status code: 400**Table 6-244** Response body parameters

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

Status code: 401

Table 6-245 Response body parameters

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

Status code: 403**Table 6-246** Response body parameters

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

Status code: 404**Table 6-247** Response body parameters

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

Status code: 500**Table 6-248** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "total" : 1,
```

```
"size" : 1,
"api_versions" : [ {
  "version_id" : "ee1a5a38d3d3493abf1dc4ed6cacfa0b",
  "version_no" : "20200803093600",
  "api_id" : "5f918d104dc84480a75166ba99efff21",
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "env_name" : "RELEASE",
  "remark" : "",
  "publish_time" : "2020-08-03T01:36:00Z",
  "status" : 1
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:env_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.13 Querying the Runtime Definition of an API

Function

This API is used to query the runtime definition of an API in a specified environment. The runtime definition of an API in the RELEASE environment is queried if no environment is specified.

The definition of an API is classified into the following types:

- Temporary definition: definition of an API used after the API was last edited.
- Runtime definition: snapshot of the temporary definition of an API captured when the API is published in an environment.

The runtime definition of an API is accessed when the API is called in an environment.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apis/runtime/{api_id}

Table 6-249 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Table 6-250 Query Parameters

Parameter	Mandatory	Type	Description
env_id	No	String	ID of the environment in which the API was published.

Request Parameters

Table 6-251 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-252 Response body parameters

Parameter	Type	Description
name	String	API name. The value can contain 3 to 255 characters, including letters, digits, hyphens (-), underscores (_), periods (.), slashes (/), parentheses, and colons (:). The value must start with a letter or digit.
type	Integer	API type. 1: public 2: private
version	String	API version.
req_protocol	String	API request protocol. Options: - HTTP - HTTPS - BOTH: Both HTTP and HTTPS are supported. - GRPCS

Parameter	Type	Description
req_method	String	API request method. If the request protocol is set to GRPC, the request method is fixed to POST.
req_uri	String	Request address. It can contain request parameters enclosed with braces {}. For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with the URI specifications. If the request protocol is set to GRPC, the request address is fixed to /. /apic/health_check is the preset health check path. If req_method is set to GET, req_uri=/apic/health_check is not supported. NOTE The address must comply with the URI specifications.
auth_type	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: custom authentication. When auth_type is set to AUTHORIZER, the authorizer_id field is mandatory.
auth_opt	AuthOpt object	Security authentication parameter.
cors	Boolean	Whether CORS is supported. • TRUE: supported • FALSE: not supported
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.

Parameter	Type	Description
backend_type	String	Backend type. Options: • HTTP: web backend • FUNCTION: FunctionGraph backend. When backend_type is set to FUNCTION, func_info is mandatory. • MOCK: Mock backend. When backend_type is set to MOCK, mock_info is mandatory. • GRPC: gRPC backend. Policy backends are not subject to this parameter.
remark	String	API description, with a maximum of 255 characters. Angle brackets (<>) are not allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
group_id	String	ID of the API group to which the API belongs.
body_remark	String	API request body, which can be an example request body, media type, or parameters.
result_normal_sample	String	Example response for a successful request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
result_failure_sample	String	Example response for a failed request. NOTE Chinese characters must be in UTF-8 or Unicode format. This is unavailable if the request protocol is set to GRPC.
authorizer_id	String	ID of the frontend custom authorizer.

Parameter	Type	Description
tags	Array of strings	Tags Use letters, digits, and special characters (-*#%.:_) and start with a letter. By default, 10 tags are supported. To increase the quota, contact technical support to modify the API_TAG_NUM_LIMIT configuration.
response_id	String	Group response ID. This parameter is currently not supported.
roma_app_id	String	ID of the integration application to which an API belongs. This parameter is mandatory when the API group is a global group or when an API is bound to a user-defined domain name.
domain_name	String	User-defined domain name bound to the API. If a user-defined domain name is used, the roma_app_id field is mandatory.
tag	String	Tag. This field will be deprecated. You can use the tags field instead.
content_type	String	Request content type: application/json application/xml multipart/form-data text/plain
is_send_fg_body_base64	Boolean	Specifies whether to perform Base64 encoding on the body for interaction with FunctionGraph. The body does not need to be encoded using Base64 only when content_type is set to application/json. Application scenarios: • Custom authentication • Bound circuit breaker plug-in with FunctionGraph backend downgrade policy • APIs with FunctionGraph backend

Parameter	Type	Description
id	String	API ID.
group_name	String	Name of the API group to which the API belongs.
run_env_name	String	Name of the environment in which the API has been published.
run_env_id	String	ID of the environment in which the API has been published.
publish_id	String	Publication record ID.
sl_domain	String	Subdomain name of the API group.
sl_domains	Array of strings	Automatically allocated subdomain names.
req_params	Array of ReqParam objects	Request parameters.

Table 6-253 AuthOpt

Parameter	Type	Description
app_code_auth_type	String	Indicates whether AppCode authentication is enabled. This parameter is valid only if auth_type is set to App. The default value is DISABLE. - DISABLE: AppCode authentication is disabled. - HEADER: AppCode authentication is enabled and the AppCode is located in the header.

Table 6-254 ReqParam

Parameter	Type	Description
name	String	Parameter name. The value can contain letters, digits, hyphens (-), underscores (_), and periods (.) and must start with a letter.
type	String	Parameter type.
location	String	Parameter location.

Parameter	Type	Description
default_value	String	Default value.
sample_value	String	Example value.
required	Integer	Indicates whether the parameter is mandatory. • 1: The parameter is mandatory. • 2: The parameter is optional. The value of this parameter is 1 if Location is set to PATH, and 2 if Location is set to another value.
valid_enable	Integer	Indicates whether validity check is enabled. • 1: enabled • 2: disabled
remark	String	Description.
enumerations	String	Enumerated value.
min_num	Integer	Minimum value. This parameter is valid when type is set to NUMBER.
max_num	Integer	Maximum value. This parameter is valid when type is set to NUMBER.
min_size	Integer	Minimum length. This parameter is valid when type is set to STRING.
max_size	Integer	Maximum length. This parameter is valid when type is set to STRING.
regular	String	Regular expression validation rule. This parameter is currently not supported.
json_schema	String	JSON validation rule. This parameter is currently not supported.

Parameter	Type	Description
pass_through	Integer	Indicates whether to transparently transmit the parameter. • 1: The parameter is transparently transmitted. • 2: The parameter is not transparently transmitted.
orchestrations	Array of strings	Request parameter orchestration rules. Request parameter orchestration rules are prioritized in the same sequence as the list. The none_value rule in a rule list has the highest priority. A maximum of one none_value rule can be bound. The default rule in a rule list has the lowest priority. A maximum of one default rule can be bound. The preprocessing orchestration rule cannot be used as the last orchestration rule except the default rule. Only one parameter of each API can be bound with unique orchestration rules. The number of orchestration rules that can be bound is limited by quota. For details, see "Quotas" in ROMA Connect Service Overview.
id	String	Parameter ID.

Status code: 401**Table 6-255** Response body parameters

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

Status code: 403

Table 6-256 Response body parameters

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

Status code: 404**Table 6-257** Response body parameters

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

Status code: 500**Table 6-258** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "name" : "Api_http",
  "type" : 1,
  "version" : "V0.0.1",
  "req_protocol" : "HTTPS",
  "req_method" : "GET",
  "req_uri" : "/test/http",
  "auth_type" : "AUTHORIZER",
  "authorizer_id" : "8d0443832a194eaa84244e0c1c1912ac",
  "auth_opt" : {
    "app_code_auth_type" : "DISABLE"
  },
  "cors" : false,
  "match_mode" : "NORMAL",
  "backend_type" : "HTTP",
  "remark" : "Web backend Api",
}
```

```
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"result_normal_sample" : "Normal response example",
"result_failure_sample" : "Failure response example",
"id" : "5f918d104dc84480a75166ba99efff21",
"group_name" : "api_group_001",
"run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
"run_env_name" : "RELEASE",
"publish_id" : "9191cdb430724d4b8586ed7f1b962ca2",
"sl_domain" : "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
"sl_domains" : [ "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.com",
                  "c77f5e81d9cb4424bf704ef2b0ac7600.apic.***.cn" ]
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.2.14 Verifying the API Definition

Function

This API is used to verify the API definition, that is, whether the API path or name already exists.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apis/check

Table 6-259 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-260 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-261 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	API name. This parameter is mandatory when type is set to name.
req_method	No	String	Request method. This parameter is mandatory when type is set to path.

Parameter	Mandatory	Type	Description
req_uri	No	String	Access address of the API. This parameter is mandatory when type is set to path.
match_mode	No	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match This parameter is mandatory when type is set to path.
group_id	No	String	API group ID. This parameter is mandatory when the API definition in the group is duplicate.
roma_app_id	No	String	Integration application ID. This parameter is mandatory when the API definition in the application is duplicate.
api_id	No	String	ID of the API to be compared.
type	Yes	String	Verification type: • path • name

Response Parameters

Status code: 400

Table 6-262 Response body parameters

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

Status code: 401

Table 6-263 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-264** Response body parameters

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

Status code: 404**Table 6-265** Response body parameters

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

Status code: 500**Table 6-266** Response body parameters

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

Example Requests

Check whether a specified API name already exists.

```
{
  "type" : "name",
  "name" : "api_demo"
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3202",
  "error_msg" : "The API name already exists, api_name:api_demo"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.3 Environment Management

6.3.1 Creating an Environment

Function

In actual production, an API provider may have multiple environments, such as the development, test, and production environments. Users can publish APIs to an environment for callers to invoke.

The API version, request address, and even request message may vary depending on the environment. For example, the v1.0 version of an API is a stable version and is published to the production environment. At the same time, the API is in iteration. The v1.1 version is the version delivered to the test personnel for testing and is published to the test environment. Concurrently, the development team is developing the v1.2 version, which can be published to the development environment for self-test.

To address such needs, APIC provides the multi-environment management function to allow tenants to maximize the simulation of actual scenarios and access APIC with low costs.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/envs

Table 6-267 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-268 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-269 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Environment name, which can contain only letters, digits, and underscores (_), and must start with a letter.
remark	No	String	Description.

Response Parameters

Status code: 201

Table 6-270 Response body parameters

Parameter	Type	Description
create_time	String	Creation time.
name	String	Environment name.
remark	String	Description.
id	String	Environment ID.

Status code: 400

Table 6-271 Response body parameters

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

Status code: 401

Table 6-272 Response body parameters

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

Status code: 403

Table 6-273 Response body parameters

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

Status code: 404**Table 6-274** Response body parameters

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

Status code: 500**Table 6-275** Response body parameters

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

Example Requests

Create an environment.

```
{
  "name" : "DEV",
  "remark" : "Development environment"
}
```

Example Responses

Status code: 201

Created

```
{
  "create_time" : "2020-07-31T06:41:43.511347628Z",
  "name" : "DEV",
  "remark" : "Development environment",
  "id" : "7a1ad0c350844ee69479b47df9a881cb"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.3.2 Modifying an Environment

Function

This API is used to modify the information about an environment. Only the name and remark attributes of an environment can be modified.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/envs/{env_id}

Table 6-276 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
env_id	Yes	String	Environment ID.

Request Parameters

Table 6-277 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-278 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Environment name, which can contain only letters, digits, and underscores (_), and must start with a letter.
remark	No	String	Description.

Response Parameters

Status code: 200

Table 6-279 Response body parameters

Parameter	Type	Description
create_time	String	Creation time.
name	String	Environment name.
remark	String	Description.
id	String	Environment ID.

Status code: 400

Table 6-280 Response body parameters

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

Status code: 401

Table 6-281 Response body parameters

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

Status code: 403

Table 6-282 Response body parameters

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

Status code: 404

Table 6-283 Response body parameters

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

Status code: 500**Table 6-284** Response body parameters

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

Example Requests

Modify the name and description of a specified environment.

```
{
  "name" : "DEV",
  "remark" : "Development environment"
}
```

Example Responses

Status code: 200

OK

```
{
  "create_time" : "2020-07-31T06:41:43Z",
  "name" : "DEV",
  "remark" : "Development environment",
  "id" : "7a1ad0c350844ee69479b47df9a881cb"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3003",
  "error_msg" : "Environment 7a1ad0c350844ee69479b47df9a881cb does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.3.3 Deleting an Environment

Function

This API is used to delete an environment.

This operation will cause the APIs published in the environment to become inaccessible to relevant apps and users. Ensure that you have notified users of the deletion or confirm that the APIs can be removed from the deleted environment. An environment that contains published APIs cannot be deleted.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/envs/{env_id}

Table 6-285 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
env_id	Yes	String	Environment ID.

Request Parameters

Table 6-286 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 401

Table 6-287 Response body parameters

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

Status code: 403

Table 6-288 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404**Table 6-289** Response body parameters

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

Status code: 409**Table 6-290** Response body parameters

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

Status code: 500**Table 6-291** Response body parameters

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

Example Requests

None

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3003",
  "error_msg" : "Environment 7a1ad0c350844ee69479b47df9a881cb does not exist"
}
```

Status code: 409

Conflict

```
{
  "error_code" : "APIG.3418",
  "error_msg" : "The environment contains published APIs"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
409	Conflict
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.3.4 Querying Environments

Function

This API is used to query environments.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/envs

Table 6-292 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-293 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
name	No	String	Environment name.

Request Parameters

Table 6-294 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-295 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
envs	Array of EnvInfo objects	Environment list.

Table 6-296 EnvInfo

Parameter	Type	Description
create_time	String	Creation time.
name	String	Environment name.
remark	String	Description.
id	String	Environment ID.

Status code: 400

Table 6-297 Response body parameters

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

Status code: 401

Table 6-298 Response body parameters

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

Status code: 403

Table 6-299 Response body parameters

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

Status code: 404**Table 6-300** Response body parameters

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

Status code: 500**Table 6-301** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "envs" : [ {
    "create_time" : "2019-02-12T19:42:19.914989Z",
    "name" : "RELEASE",
    "remark" : "xxx",
    "id" : "DEFAULT_ENVIRONMENT_RELEASE_ID"
  }, {
    "create_time" : "2020-07-31T06:41:43Z",
    "name" : "DEV",
    "remark" : "Development environment",
    "id" : "7a1ad0c350844ee69479b47df9a881cb"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.4 Environment Variable Management

6.4.1 Creating an Environment Variable

Function

After an API is published in different environments, the environment variables, such as the API service deployment address and request version number, may vary depending on the environment.

Users can define different environment variables when defining APIs. When an API is called, APIC replaces the variables with actual values to distinguish different environments.

Environment variables are defined in an API group and can be used by all APIs in the group.

NOTE

1. The name of an environment variable must be unique. That is, an API group cannot have two variables with the same name in the same environment.
1. Environment variables are case sensitive. That is, variables ABC and abc are different.
2. After an environment variable is set, the debugging function of the API that uses the variable cannot be used.
3. After the environment variables are defined, the places where the environment variables are used must be symmetric.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/env-variables

Table 6-302 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-303 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-304 Request body parameters

Parameter	Mandatory	Type	Description
variable_value	Yes	String	The variable value can contain 1 to 255 characters, including letters, digits, underscores (_), hyphens (-), slashes (/), periods (.), and colons (:).
env_id	Yes	String	Environment ID.
group_id	Yes	String	API group ID.
variable_name	Yes	String	Variable name, which can contain 3 to 32 characters, starting with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. The variable name is equivalent to "#Name#" in API definitions. Characters between the number signs are case-sensitive. The variable name will be replaced with the variable value after API publication.

Response Parameters

Status code: 201

Table 6-305 Response body parameters

Parameter	Type	Description
variable_value	String	The variable value can contain 1 to 255 characters, including letters, digits, underscores (_), hyphens (-), slashes (/), periods (.), and colons (:).
env_id	String	Environment ID.
group_id	String	API group ID.
variable_name	String	Variable name, which can contain 3 to 32 characters, starting with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. The variable name is equivalent to "#Name#" in API definitions. Characters between the number signs are case-sensitive. The variable name will be replaced with the variable value after API publication.
id	String	Environment variable ID.

Status code: 400**Table 6-306** Response body parameters

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

Status code: 401**Table 6-307** Response body parameters

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

Status code: 403

Table 6-308 Response body parameters

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

Status code: 404**Table 6-309** Response body parameters

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

Status code: 500**Table 6-310** Response body parameters

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

Example Requests

Create an environment variable in a specified environment.

```
{
  "variable_name": "address",
  "variable_value": "192.168.1.5",
  "env_id": "7a1ad0c350844ee69479b47df9a881cb",
  "group_id": "c77f5e81d9cb4424bf704ef2b0ac7600"
}
```

Example Responses

Status code: 201

Created

```
{
  "variable_value": "192.168.1.5",
  "env_id": "7a1ad0c350844ee69479b47df9a881cb",
  "group_id": "c77f5e81d9cb4424bf704ef2b0ac7600",
  "id": "25054838a624400bbf2267cf5b3a3f70",
  "variable_name": "address"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:variable_name"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "APIG.3003",
  "error_msg" : "Environment 7a1ad0c350844ee69479b47df9a881cb does not exist"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.4.2 Deleting an Environment Variable

Function

This API is used to delete an environment variable.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/env-variables/
{env_variable_id}

Table 6-311 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
env_variable_id	Yes	String	Environment variable ID.

Request Parameters

Table 6-312 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 401

Table 6-313 Response body parameters

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

Status code: 403**Table 6-314** Response body parameters

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

Status code: 404**Table 6-315** Response body parameters

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

Status code: 500**Table 6-316** Response body parameters

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

Example Requests

None

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3011",
  "error_msg" : "The environment variable does not exist, id: 25054838a624400bbf2267cf5b3a3f70"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.4.3 Querying Details of an Environment Variable****Function**

This API is used to query the details of an environment variable.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/env-variables/{env_variable_id}

Table 6-317 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
env_variable_id	Yes	String	Environment variable ID.

Request Parameters

Table 6-318 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-319 Response body parameters

Parameter	Type	Description
variable_value	String	The variable value can contain 1 to 255 characters, including letters, digits, underscores (_), hyphens (-), slashes (/), periods (.), and colons (:).
env_id	String	Environment ID.
group_id	String	API group ID.

Parameter	Type	Description
variable_name	String	Variable name, which can contain 3 to 32 characters, starting with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. The variable name is equivalent to "#Name#" in API definitions. Characters between the number signs are case-sensitive. The variable name will be replaced with the variable value after API publication.
id	String	Environment variable ID.

Status code: 401**Table 6-320** Response body parameters

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

Status code: 403**Table 6-321** Response body parameters

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

Status code: 404**Table 6-322** Response body parameters

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

Status code: 500

Table 6-323 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "variable_value" : "192.168.1.5",
  "env_id" : "7a1ad0c350844ee69479b47df9a881cb",
  "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "id" : "25054838a624400bbf2267cf5b3a3f70",
  "variable_name" : "address"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3011",
  "error_msg" : "The environment variable does not exist, id: 25054838a624400bbf2267cf5b3a3f70"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.4.4 Querying Environment Variables

Function

This API is used to query all environment variables under an API group.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/env-variables

Table 6-324 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-325 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page.
group_id	Yes	String	API group ID.
env_id	No	String	Environment ID.
variable_name	No	String	Environment variable name.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, only variable_name is supported.

Request Parameters

Table 6-326 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-327 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
variables	Array of EnvVariableInfo objects	Environment variable list.

Table 6-328 EnvVariableInfo

Parameter	Type	Description
variable_value	String	The variable value can contain 1 to 255 characters, including letters, digits, underscores (_), hyphens (-), slashes (/), periods (.), and colons (:).
env_id	String	Environment ID.
group_id	String	API group ID.
variable_name	String	Variable name, which can contain 3 to 32 characters, starting with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. The variable name is equivalent to "#Name#" in API definitions. Characters between the number signs are case-sensitive. The variable name will be replaced with the variable value after API publication.
id	String	Environment variable ID.

Status code: 400**Table 6-329** Response body parameters

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

Status code: 401**Table 6-330** Response body parameters

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

Status code: 403

Table 6-331 Response body parameters

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

Status code: 404**Table 6-332** Response body parameters

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

Status code: 500**Table 6-333** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "variables": [ {
    "variable_value": "8080",
    "env_id": "cca3616af3684b329064b2a631cb3eeb",
    "group_id": "73c58022f20d495aa18885d718647f09",
    "id": "09ab8135722440b9bf5d107f2a09d409",
    "variable_name": "port"
  }, {
    "variable_value": "192.168.1.5",
    "env_id": "7a1ad0c350844ee69479b47df9a881cb",
    "group_id": "c77f5e81d9cb4424bf704ef2b0ac7600",
    "id": "25054838a624400bbf2267cf5b3a3f70",
    "variable_name": "address"
  } ],
  "total": 2,
```

```
"size" : 2
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.4.5 Modifying an Environment Variable

Function

This API is used to modify an environment variable. If an environment variable is referenced by the backend service address of an API, modifying the environment variable will publish all APIs that use the variable again.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/env-variables/{env_variable_id}

Table 6-334 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
env_variable_id	Yes	String	Environment variable ID.

Request Parameters

Table 6-335 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-336 Request body parameters

Parameter	Mandatory	Type	Description
variable_value	Yes	String	The variable value can contain 1 to 255 characters, including letters, digits, underscores (_), hyphens (-), slashes (/), periods (.), and colons (:).

Response Parameters

Status code: 200

Table 6-337 Response body parameters

Parameter	Type	Description
variable_value	String	The variable value can contain 1 to 255 characters, including letters, digits, underscores (_), hyphens (-), slashes (/), periods (.), and colons (:).
env_id	String	Environment ID.
group_id	String	API group ID.
variable_name	String	Variable name, which can contain 3 to 32 characters, starting with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. The variable name is equivalent to "#Name#" in API definitions. Characters between the number signs are case-sensitive. The variable name will be replaced with the variable value after API publication.
id	String	Environment variable ID.

Status code: 400

Table 6-338 Response body parameters

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

Status code: 401**Table 6-339** Response body parameters

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

Status code: 403**Table 6-340** Response body parameters

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

Status code: 404**Table 6-341** Response body parameters

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

Status code: 500**Table 6-342** Response body parameters

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

Example Requests

Modify the value of a specified environment variable.

```
{  
  "variable_value" : "192.168.1.5"  
}
```

Example Responses

Status code: 200

OK

```
{
  "variable_value" : "192.168.1.5",
  "env_id" : "7a1ad0c350844ee69479b47df9a881cb",
  "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "id" : "25054838a624400bbf2267cf5b3a3f70",
  "variable_name" : "address"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:variable_name"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3003",
  "error_msg" : "Environment 7a1ad0c350844ee69479b47df9a881cb does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.5 Domain Name Management

6.5.1 Binding a Domain Name

Function

A user-defined domain name takes effect only after the CNAME is added to the subdomain name of the API group. For details, see section "Adding a Record Set of the CAME Type" in the Domain Name Service User Guide.

An API group can be bound to a maximum of five domain names. After you bind a domain name to an API group, APIs in the group can be called using the domain name.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains

Table 6-343 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.

Request Parameters

Table 6-344 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-345 Request body parameters

Parameter	Mandatory	Type	Description
min_ssl_version	No	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.
is_http_redirect_to_https	No	Boolean	Whether to enable HTTP redirection to HTTPS. The value false means disable and true means enable. The default value is false.
url_domain	Yes	String	Custom domain name. The value is a string of 0 to 255 characters and must comply with the domain name specifications (meeting the regular expression '^([a-zA-Z0-9?]{1,7}[a-zA-Z]{2,64}.?\$', or '^([a-zA-Z0-9]([a-zA-Z0-9]{0,61}[a-zA-Z0-9])?{1,6}.[a-zA-Z]{2,64}.?\$)').

Response Parameters

Status code: 201

Table 6-346 Response body parameters

Parameter	Type	Description
url_domain	String	Custom domain name.
id	String	Domain ID.

Parameter	Type	Description
status	Integer	CNAME resolution status. • 1: not parsed • 2: parsing • 3: parsing succeeded • 4: parsing failed
min_ssl_version	String	Minimum SSL version supported.
is_http_redirect_to_https	Boolean	Whether to enable HTTP redirection to HTTPS. The value false means disable and true means enable. The default value is false.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Status code: 400**Table 6-347** Response body parameters

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

Status code: 401**Table 6-348** Response body parameters

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

Status code: 403

Table 6-349 Response body parameters

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

Status code: 404**Table 6-350** Response body parameters

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

Status code: 500**Table 6-351** Response body parameters

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

Example Requests

Bind a domain name to an API group.

```
{
  "url_domain": "www.company.com"
}
```

Example Responses

Status code: 201

Created

```
{
  "url_domain": "www.company.com",
  "id": "c5e0d5ba62a34d26ad5c709ae22c1a17",
  "status": 3,
  "min_ssl_version": "TLSv1.1",
  "is_http_redirect_to_https": false,
  "verified_client_certificate_enabled": false
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2024",
  "error_msg" : "Invalid URL domain name"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3001",
  "error_msg" : "API group c77f5e81d9cb4424bf704ef2b0ac7600 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.5.2 Adding a Certificate to a Domain Name

Function

When you create an API to be accessed through HTTPS, you must add an SSL certificate to the independent domain name that has been bound to the group the API belongs to.

This API is used to add a certificate to a specific domain name.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}/certificate

Table 6-352 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.
domain_id	Yes	String	Domain ID.

Request Parameters

Table 6-353 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-354 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Certificate name, which can contain 4 to 50 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed.
cert_content	Yes	String	Certificate content.
private_key	Yes	String	Private key.
type	No	String	Certificate scope.
instance_id	No	String	Instance ID. Mandatory when type is set to instance.
trusted_root_ca	No	String	Trusted root certificate CA

Response Parameters

Status code: 201

Table 6-355 Response body parameters

Parameter	Type	Description
url_domain	String	Custom domain name.
id	String	Domain ID.
status	Integer	CNAME resolution status. • 1: not parsed • 2: parsing • 3: parsing succeeded • 4: parsing failed
min_ssl_version	String	Minimum SSL version supported.
is_http_redirect_to_https	Boolean	Whether to enable HTTP redirection to HTTPS. The value false means disable and true means enable. The default value is false.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Parameter	Type	Description
ssl_name	String	Certificate name.
ssl_id	String	Certificate ID.
ssl_infos	Array of SslInfo objects	SSL certificate list.

Table 6-356 SslInfo

Parameter	Type	Description
ssl_id	String	SSL certificate ID.
ssl_name	String	SSL certificate name.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
type	String	Certificate scope. Options: • instance: current instance • global: all instances

Status code: 400**Table 6-357** Response body parameters

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

Status code: 401**Table 6-358** Response body parameters

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

Status code: 403

Table 6-359 Response body parameters

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

Status code: 404**Table 6-360** Response body parameters

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

Status code: 500**Table 6-361** Response body parameters

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

Example Requests

Add a globally visible certificate for a bound domain name.

```
{
  "name" : "cert_demo",
  "private_key" : "-----BEGIN PRIVATE KEY-----THIS IS YOUR PRIVATE KEY-----END PRIVATE KEY-----",
  "cert_content" : "-----BEGIN CERTIFICATE-----THIS IS YOUR CERT CONTENT-----END CERTIFICATE-----"
}
```

Example Responses

Status code: 201

Created

```
{
  "ssl_name" : "cert_demo",
  "url_domain" : "www.example.com",
  "ssl_id" : "a27be832f2e9441c8127fe48e3b5ac67",
  "id" : "f6bb84ccf1c34035878aa51b7253b21c",
  "status" : 3
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.5.3 Modifying a Domain Name

Function

This API is used to modify the configuration of a domain name bound to an API group.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}

Table 6-362 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.
domain_id	Yes	String	Domain ID.

Request Parameters

Table 6-363 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-364 Request body parameters

Parameter	Mandatory	Type	Description
min_ssl_version	Yes	String	Minimum SSL version. TLS 1.1 and TLS 1.2 are supported.

Parameter	Mandatory	Type	Description
is_http_redirect_to_https	No	Boolean	Whether to enable HTTP redirection to HTTPS. The value false means disable and true means enable. The default value is false.
verified_client_certificate_enabled	No	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Response Parameters

Status code: 201

Table 6-365 Response body parameters

Parameter	Type	Description
url_domain	String	Custom domain name.
id	String	Domain ID.
status	Integer	CNAME resolution status. • 1: not parsed • 2: parsing • 3: parsing succeeded • 4: parsing failed
min_ssl_version	String	Minimum SSL version supported.
is_http_redirect_to_https	Boolean	Whether to enable HTTP redirection to HTTPS. The value false means disable and true means enable. The default value is false.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Status code: 400

Table 6-366 Response body parameters

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

Status code: 401**Table 6-367** Response body parameters

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

Status code: 403**Table 6-368** Response body parameters

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

Status code: 404**Table 6-369** Response body parameters

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

Status code: 500**Table 6-370** Response body parameters

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

Example Requests

Modify configurations of a bound domain name by changing the earliest SSL version to TLS 1.2.

```
{
  "min_ssl_version" : "TLSv1.2"
}
```

Example Responses

Status code: 201

Created

```
{
  "id" : "0a515af69f4e4dcca84fbf85f68c0e27",
  "url_domain" : "www.example.com",
  "status" : 3,
  "min_ssl_version" : "TLSv1.2",
  "is_http_redirect_to_https" : false,
  "verified_client_certificate_enabled" : false
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3474",
  "error_msg" : "The API group ID in the URL does not match the API group to which the URL domain has been bound"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
}
```

```
"error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.5.4 Unbinding a Domain Name

Function

This API is used to unbind a custom domain name from an API group.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}

Table 6-371 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.
domain_id	Yes	String	Domain ID.

Request Parameters

Table 6-372 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-373 Response body parameters

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

Status code: 401

Table 6-374 Response body parameters

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

Status code: 403

Table 6-375 Response body parameters

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

Status code: 404

Table 6-376 Response body parameters

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

Status code: 500**Table 6-377** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3474",
  "error_msg" : "The API group ID in the URL does not match the API group to which the URL domain has
been bound"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
}
```

```
{
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.5.5 Deleting a Certificate Bound to a Domain Name

Function

This API is used to delete a certificate that is no longer needed or has expired.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}/certificate/{certificate_id}

Table 6-378 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
group_id	Yes	String	API group ID.
domain_id	Yes	String	Domain ID.
certificate_id	Yes	String	Certificate ID.

Request Parameters

Table 6-379 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-380 Response body parameters

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

Status code: 401

Table 6-381 Response body parameters

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

Status code: 403

Table 6-382 Response body parameters

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

Status code: 404**Table 6-383** Response body parameters

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

Status code: 500**Table 6-384** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:domain_id. Please refer to the support
documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.5.6 Querying Details of the Certificate Bound to a Domain Name

Function

This API is used to query the details of the certificate bound to a domain name.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}/certificate/{certificate_id}

Table 6-385 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.
domain_id	Yes	String	Domain ID.
certificate_id	Yes	String	Certificate ID.

Request Parameters

Table 6-386 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-387 Response body parameters

Parameter	Type	Description
id	String	Certificate ID.
name	String	Certificate name.
type	String	Certificate type. Options: • global: all certificates • instance: certificates of the current instance

Parameter	Type	Description
instance_id	String	Instance ID. • <i>type</i> set to <i>global</i>: The default value is common. • <i>type</i> set to <i>instance</i>: The default value is the instance ID.
project_id	String	Project ID.
common_name	String	Domain name.
san	Array of strings	SAN.
not_after	String	Validity period end time.
signature_algorithm	String	Signature algorithm.
create_time	String	Creation time.
update_time	String	Update time.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
version	Integer	Version.
organization	Array of strings	Company/Organization.
organizational_unit	Array of strings	Department.
locality	Array of strings	City.
state	Array of strings	State/Province.
country	Array of strings	Country.
not_before	String	Validity period start time.
serial_number	String	Serial number.
issuer	Array of strings	Issuer.

Status code: 400

Table 6-388 Response body parameters

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

Status code: 401**Table 6-389** Response body parameters

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

Status code: 403**Table 6-390** Response body parameters

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

Status code: 404**Table 6-391** Response body parameters

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

Status code: 500**Table 6-392** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "serial_number" : "219450666855693268010130472645821723203",
  "version" : 3,
  "san" : [ "www.company.com" ],
  "not_before" : "2019-06-01T00:00:00Z",
  "issuer" : [ "mkcert development CA" ],
  "not_after" : "2030-08-04T07:41:19Z",
  "organization" : [ "mkcert development certificate" ],
  "signature_algorithm" : "SHA256-RSA",
  "organizational_unit" : [ "Country\\\\\\\\DESKTOP-L2TFOFH" ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:domain_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.6 Request Throttling Policy Management

6.6.1 Creating a Request Throttling Policy

Function

After an API goes online, the system attaches a request throttling policy to it by default. The API provider can change the request throttling policy based on the service capabilities and load of the API.

A request throttling policy restricts the maximum number of times an API can be called within a specified period.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/throttles

Table 6-393 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-394 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-395 Request body parameters

Parameter	Mandatory	Type	Description
app_call_limits	No	Integer	Maximum number of times the API can be accessed by an app within the same period. The value of this parameter must be less than that of user_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
name	Yes	String	Request throttling policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
time_unit	Yes	String	Time unit for limiting the number of API calls.
remark	No	String	Description of the request throttling policy, which can contain a maximum of 255 characters.
api_call_limits	Yes	Integer	Maximum number of times an API can be accessed within a specified period. The value of this parameter cannot exceed the default limit 200 TPS. You can change the default limit to meet service requirements. The maximum value is 2,147,483,647. The value is a positive integer.

Parameter	Mandatory	Type	Description
type	No	Integer	Type of the request throttling policy. • 1: basic, limiting the maximum number of times a single API bound to the policy can be called within the specified period. • 2: shared, limiting the maximum number of times all APIs bound to the policy can be called within the specified period.
enable_adaptive_control	No	String	Whether to enable dynamic request throttling. • TRUE • FALSE This parameter is currently not supported.
user_call_limits	No	Integer	Maximum number of times the API can be accessed by a user within the same period. The value of this parameter must be less than or equal to that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
time_interval	Yes	Integer	Period of time for limiting the number of API calls. This parameter applies with each of the preceding three API call limits. The maximum value is 2,147,483,647. The value is a positive integer.
ip_call_limits	No	Integer	Maximum number of times the API can be accessed by an IP address within the same period. The value of this parameter must be less than that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.

Response Parameters

Status code: 201

Table 6-396 Response body parameters

Parameter	Type	Description
app_call_limits	Integer	Maximum number of times the API can be accessed by an app within the same period. The value of this parameter must be less than that of user_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
name	String	Request throttling policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
time_unit	String	Time unit for limiting the number of API calls.
remark	String	Description of the request throttling policy, which can contain a maximum of 255 characters.
api_call_limits	Integer	Maximum number of times an API can be accessed within a specified period. The value of this parameter cannot exceed the default limit 200 TPS. You can change the default limit to meet service requirements. The maximum value is 2,147,483,647. The value is a positive integer.
type	Integer	Type of the request throttling policy. • 1: basic, limiting the maximum number of times a single API bound to the policy can be called within the specified period. • 2: shared, limiting the maximum number of times all APIs bound to the policy can be called within the specified period.

Parameter	Type	Description
enable_adaptive_c ontrol	String	Whether to enable dynamic request throttling. • TRUE • FALSE This parameter is currently not supported.
user_call_limits	Integer	Maximum number of times the API can be accessed by a user within the same period. The value of this parameter must be less than or equal to that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
time_interval	Integer	Period of time for limiting the number of API calls. This parameter applies with each of the preceding three API call limits. The maximum value is 2,147,483,647. The value is a positive integer.
ip_call_limits	Integer	Maximum number of times the API can be accessed by an IP address within the same period. The value of this parameter must be less than that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
id	String	Request throttling policy ID.
bind_num	Integer	Number of APIs to which the request throttling policy has been bound.
is_inclu_special_th rottle	Integer	Whether a special throttling configuration has been created: • 1: yes • 2: no
create_time	String	Creation time.

Status code: 400

Table 6-397 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-398** Response body parameters

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

Status code: 403**Table 6-399** Response body parameters

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

Status code: 404**Table 6-400** Response body parameters

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

Status code: 500**Table 6-401** Response body parameters

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

Example Requests

Create a basic request throttling policy, and set the maximum application, API, and IP address requests.

```
{
  "api_call_limits" : 800,
  "app_call_limits" : 300,
  "enable_adaptive_control" : "FALSE",
  "ip_call_limits" : 600,
  "name" : "throttle_demo",
  "remark" : "Throttling Policy 1",
  "time_interval" : 1,
  "time_unit" : "SECOND",
  "type" : 1,
  "user_call_limits" : 0
}
```

Example Responses

Status code: 201

Created

```
{
  "name" : "throttle_demo",
  "create_time" : "2020-07-31T08:44:02.205366118Z",
  "remark" : "Throttling Policy 1",
  "type" : 1,
  "time_interval" : 1,
  "ip_call_limits" : 600,
  "app_call_limits" : 300,
  "time_unit" : "SECOND",
  "api_call_limits" : 800,
  "id" : "3437448ad06f4e0c91a224183116e965",
  "user_call_limits" : 0,
  "enable_adaptive_control" : "FALSE",
  "bind_num" : 0,
  "is_inclu_special_throttle" : 2
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.6.2 Modifying a Request Throttling Policy****Function**

This API is used to modify the information about a request throttling policy.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/throttles/{throttle_id}

Table 6-402 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_id	Yes	String	ID of a request throttle policy.

Request Parameters

Table 6-403 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-404 Request body parameters

Parameter	Mandatory	Type	Description
app_call_limits	No	Integer	Maximum number of times the API can be accessed by an app within the same period. The value of this parameter must be less than that of user_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
name	Yes	String	Request throttling policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
time_unit	Yes	String	Time unit for limiting the number of API calls.
remark	No	String	Description of the request throttling policy, which can contain a maximum of 255 characters.

Parameter	Mandatory	Type	Description
api_call_limits	Yes	Integer	Maximum number of times an API can be accessed within a specified period. The value of this parameter cannot exceed the default limit 200 TPS. You can change the default limit to meet service requirements. The maximum value is 2,147,483,647. The value is a positive integer.
type	No	Integer	Type of the request throttling policy. • 1: basic, limiting the maximum number of times a single API bound to the policy can be called within the specified period. • 2: shared, limiting the maximum number of times all APIs bound to the policy can be called within the specified period.
enable_adaptive_control	No	String	Whether to enable dynamic request throttling. • TRUE • FALSE This parameter is currently not supported.
user_call_limits	No	Integer	Maximum number of times the API can be accessed by a user within the same period. The value of this parameter must be less than or equal to that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
time_interval	Yes	Integer	Period of time for limiting the number of API calls. This parameter applies with each of the preceding three API call limits. The maximum value is 2,147,483,647. The value is a positive integer.

Parameter	Mandatory	Type	Description
ip_call_limits	No	Integer	Maximum number of times the API can be accessed by an IP address within the same period. The value of this parameter must be less than that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.

Response Parameters

Status code: 200

Table 6-405 Response body parameters

Parameter	Type	Description
app_call_limits	Integer	Maximum number of times the API can be accessed by an app within the same period. The value of this parameter must be less than that of user_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
name	String	Request throttling policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
time_unit	String	Time unit for limiting the number of API calls.
remark	String	Description of the request throttling policy, which can contain a maximum of 255 characters.
api_call_limits	Integer	Maximum number of times an API can be accessed within a specified period. The value of this parameter cannot exceed the default limit 200 TPS. You can change the default limit to meet service requirements. The maximum value is 2,147,483,647. The value is a positive integer.

Parameter	Type	Description
type	Integer	Type of the request throttling policy. • 1: basic, limiting the maximum number of times a single API bound to the policy can be called within the specified period. • 2: shared, limiting the maximum number of times all APIs bound to the policy can be called within the specified period.
enable_adaptive_c ontrol	String	Whether to enable dynamic request throttling. • TRUE • FALSE This parameter is currently not supported.
user_call_limits	Integer	Maximum number of times the API can be accessed by a user within the same period. The value of this parameter must be less than or equal to that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
time_interval	Integer	Period of time for limiting the number of API calls. This parameter applies with each of the preceding three API call limits. The maximum value is 2,147,483,647. The value is a positive integer.
ip_call_limits	Integer	Maximum number of times the API can be accessed by an IP address within the same period. The value of this parameter must be less than that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
id	String	Request throttling policy ID.
bind_num	Integer	Number of APIs to which the request throttling policy has been bound.
is_inclu_special_th rottle	Integer	Whether a special throttling configuration has been created: • 1: yes • 2: no
create_time	String	Creation time.

Status code: 400**Table 6-406** Response body parameters

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

Status code: 401**Table 6-407** Response body parameters

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

Status code: 403**Table 6-408** Response body parameters

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

Status code: 404**Table 6-409** Response body parameters

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

Status code: 500

Table 6-410 Response body parameters

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

Example Requests

Modify a specified request throttling policy by changing its type to basic and resetting the values of maximum application, API, and IP address requests.

```
{
  "api_call_limits" : 800,
  "app_call_limits" : 300,
  "enable_adaptive_control" : "FALSE",
  "ip_call_limits" : 600,
  "name" : "throttle_demo",
  "remark" : "Throttling Policy 1",
  "time_interval" : 1,
  "time_unit" : "SECOND",
  "type" : 1,
  "user_call_limits" : 0
}
```

Example Responses

Status code: 200

OK

```
{
  "name" : "throttle_demo",
  "create_time" : "2020-07-31T08:44:02.205366118Z",
  "remark" : "Throttling Policy 1",
  "type" : 1,
  "time_interval" : 1,
  "ip_call_limits" : 600,
  "app_call_limits" : 300,
  "time_unit" : "SECOND",
  "api_call_limits" : 800,
  "id" : "3437448ad06f4e0c91a224183116e965",
  "user_call_limits" : 0,
  "enable_adaptive_control" : "FALSE",
  "bind_num" : 0,
  "is_inclu_special_throttle" : 2
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
}
```

```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3005",
  "error_msg": "Request throttling policy 3437448ad06f4e0c91a224183116e965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.6.3 Deleting a Request Throttling Policy

Function

This API is used to delete a request throttling policy and all binding relationships between the policy and APIs.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/throttles/{throttle_id}

Table 6-411 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_id	Yes	String	ID of a request throttle policy.

Request Parameters

Table 6-412 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 401

Table 6-413 Response body parameters

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

Status code: 403

Table 6-414 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404**Table 6-415** Response body parameters

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

Status code: 500**Table 6-416** Response body parameters

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

Example Requests

None

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3005",
}
```



```
{
  "error_msg": "Request throttling policy 3437448ad06f4e0c91a224183116e965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.6.4 Querying Request Throttling Policies

Function

This API is used to query all request throttling policies.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/throttles

Table 6-417 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-418 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
id	No	String	Request throttling policy ID.
name	No	String	Request throttling policy name.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (.). Currently, only name is supported.

Request Parameters

Table 6-419 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-420 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.

Parameter	Type	Description
throttles	Array of ThrottlesInfo objects	Request throttling policy list.

Table 6-421 ThrottlesInfo

Parameter	Type	Description
app_call_limits	Integer	Maximum number of times the API can be accessed by an app within the same period. The value of this parameter must be less than that of user_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
name	String	Request throttling policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
time_unit	String	Time unit for limiting the number of API calls.
remark	String	Description of the request throttling policy, which can contain a maximum of 255 characters.
api_call_limits	Integer	Maximum number of times an API can be accessed within a specified period. The value of this parameter cannot exceed the default limit 200 TPS. You can change the default limit to meet service requirements. The maximum value is 2,147,483,647. The value is a positive integer.
type	Integer	Type of the request throttling policy. • 1: basic, limiting the maximum number of times a single API bound to the policy can be called within the specified period. • 2: shared, limiting the maximum number of times all APIs bound to the policy can be called within the specified period.

Parameter	Type	Description
enable_adaptive_c ontrol	String	Whether to enable dynamic request throttling. • TRUE • FALSE This parameter is currently not supported.
user_call_limits	Integer	Maximum number of times the API can be accessed by a user within the same period. The value of this parameter must be less than or equal to that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
time_interval	Integer	Period of time for limiting the number of API calls. This parameter applies with each of the preceding three API call limits. The maximum value is 2,147,483,647. The value is a positive integer.
ip_call_limits	Integer	Maximum number of times the API can be accessed by an IP address within the same period. The value of this parameter must be less than that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
id	String	Request throttling policy ID.
bind_num	Integer	Number of APIs to which the request throttling policy has been bound.
is_inclu_special_th rottle	Integer	Whether a special throttling configuration has been created: • 1: yes • 2: no
create_time	String	Creation time.

Status code: 400

Table 6-422 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-423** Response body parameters

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

Status code: 403**Table 6-424** Response body parameters

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

Status code: 404**Table 6-425** Response body parameters

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

Status code: 500**Table 6-426** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "throttles" : [ {
    "name" : "throttle_demo",
    "create_time" : "2020-07-31T08:44:02.205366118Z",
    "remark" : "Throttling Policy 1",
    "type" : 1,
    "time_interval" : 1,
    "ip_call_limits" : 600,
    "app_call_limits" : 300,
    "time_unit" : "SECOND",
    "api_call_limits" : 800,
    "id" : "3437448ad06f4e0c91a224183116e965",
    "user_call_limits" : 0,
    "enable_adaptive_control" : "FALSE",
    "bind_num" : 0,
    "is_inclu_special_throttle" : 2
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.6.5 Querying Details of a Request Throttling Policy

Function

This API is used to query the details of a request throttling policy.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/throttles/{throttle_id}

Table 6-427 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_id	Yes	String	ID of a request throttle policy.

Request Parameters

Table 6-428 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-429** Response body parameters

Parameter	Type	Description
app_call_limits	Integer	Maximum number of times the API can be accessed by an app within the same period. The value of this parameter must be less than that of user_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
name	String	Request throttling policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
time_unit	String	Time unit for limiting the number of API calls.
remark	String	Description of the request throttling policy, which can contain a maximum of 255 characters.
api_call_limits	Integer	Maximum number of times an API can be accessed within a specified period. The value of this parameter cannot exceed the default limit 200 TPS. You can change the default limit to meet service requirements. The maximum value is 2,147,483,647. The value is a positive integer.

Parameter	Type	Description
type	Integer	Type of the request throttling policy. • 1: basic, limiting the maximum number of times a single API bound to the policy can be called within the specified period. • 2: shared, limiting the maximum number of times all APIs bound to the policy can be called within the specified period.
enable_adaptive_control	String	Whether to enable dynamic request throttling. • TRUE • FALSE This parameter is currently not supported.
user_call_limits	Integer	Maximum number of times the API can be accessed by a user within the same period. The value of this parameter must be less than or equal to that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
time_interval	Integer	Period of time for limiting the number of API calls. This parameter applies with each of the preceding three API call limits. The maximum value is 2,147,483,647. The value is a positive integer.
ip_call_limits	Integer	Maximum number of times the API can be accessed by an IP address within the same period. The value of this parameter must be less than that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
id	String	Request throttling policy ID.
bind_num	Integer	Number of APIs to which the request throttling policy has been bound.
is_inclu_special_throttle	Integer	Whether a special throttling configuration has been created: • 1: yes • 2: no
create_time	String	Creation time.

Status code: 401**Table 6-430** Response body parameters

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

Status code: 403**Table 6-431** Response body parameters

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

Status code: 404**Table 6-432** Response body parameters

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

Status code: 500**Table 6-433** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "name" : "throttle_demo",
  "create_time" : "2020-07-31T08:44:02.205366118Z",
  "remark" : "Throttling Policy 1",
  "type" : 1,
  "time_interval" : 1,
  "ip_call_limits" : 600,
  "app_call_limits" : 300,
  "time_unit" : "SECOND",
  "api_call_limits" : 800,
  "id" : "3437448ad06f4e0c91a224183116e965",
  "user_call_limits" : 0,
  "enable_adaptive_control" : "FALSE",
  "bind_num" : 0,
  "is_inclu_special_throttle" : 2
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3005",
  "error_msg" : "Request throttling policy 3437448ad06f4e0c91a224183116e965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.7 Binding a Request Throttling Policy to an API

6.7.1 Binding a Request Throttling Policy

Function

The request throttling policy bound to an API will control access of all users to the API.

If the number of API calls within a specified period reaches the limit, subsequent access will be rejected, protecting the backend API from abnormal traffic and ensuring stable service running.

This API is used to bind a request throttling policy to an API that has been published in an environment. You can bind different request throttling policies to an API in different environments, but can bind only one request throttling policy to the API in each environment.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/throttle-bindings

Table 6-434 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-435 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-436 Request body parameters

Parameter	Mandatory	Type	Description
strategy_id	Yes	String	Request throttling policy ID.
publish_ids	Yes	Array of strings	API publication record ID.

Response Parameters

Status code: 201

Table 6-437 Response body parameters

Parameter	Type	Description
throttle_applys	Array of ThrottleApiBinding objects	List of binding relationships between APIs and request throttling policies.

Table 6-438 ThrottleApiBinding

Parameter	Type	Description
publish_id	String	API publication record ID.
scope	Integer	Scope of the request throttling policy. • 1: the entire API • 2: a user • 3: an app Currently, only 1 is supported.
strategy_id	String	Request throttling policy ID.
apply_time	String	Time when the policy is bound to the API.

Parameter	Type	Description
id	String	Binding record ID.

Status code: 401**Table 6-439** Response body parameters

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

Status code: 403**Table 6-440** Response body parameters

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

Status code: 404**Table 6-441** Response body parameters

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

Status code: 500**Table 6-442** Response body parameters

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

Example Requests

Bind a request throttling policy to an API.

```
{
  "publish_ids" : [ "40e7162dc6b94bbbb1a60d2a24b1b0c" ],
  "strategy_id" : "3437448ad06f4e0c91a224183116e965"
}
```

Example Responses

Status code: 201

Created

```
{
  "throttle_applies" : [ {
    "publish_id" : "40e7162dc6b94bbbb1a60d2a24b1b0c",
    "scope" : 1,
    "strategy_id" : "3437448ad06f4e0c91a224183116e965",
    "apply_time" : "2020-08-03T12:25:52.257613934Z",
    "id" : "3e06ac135e18477e918060d3c59d6f6a"
  } ]
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3005",
  "error_msg" : "Request throttling policy 3437448ad06f4e0c91a224183116e965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.7.2 Unbinding a Request Throttling Policy

Function

This API is used to unbind a request throttling policy from an API.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/throttle-bindings/{throttle_binding_id}

Table 6-443 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_binding_id	Yes	String	ID of the binding relationship between the API and request throttling policy.

Request Parameters

Table 6-444 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-445 Response body parameters

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

Status code: 401

Table 6-446 Response body parameters

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

Status code: 403

Table 6-447 Response body parameters

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

Status code: 404

Table 6-448 Response body parameters

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

Status code: 500**Table 6-449** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3012",
  "error_msg" : "The request throttling policy binding record does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.7.3 Querying APIs Bound with a Request Throttling Policy****Function**

This API is used to query the APIs to which a specified request throttling policy has been bound.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/throttle-bindings/binded-apis

Table 6-450 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-451 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
throttle_id	Yes	String	Request throttling policy ID.
env_id	No	String	Environment ID.
group_id	No	String	API group ID.
api_id	No	String	API ID.
api_name	No	String	API name.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-452 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-453 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.

Parameter	Type	Description
total	Long	Number of resources that match the query conditions.
apis	Array of ApiForThrottle objects	API list.

Table 6-454 ApiForThrottle

Parameter	Type	Description
auth_type	String	API authentication mode.
run_env_name	String	Name of the environment in which the API has been published.
group_name	String	API group name.
publish_id	String	Publication record ID.
group_id	String	ID of the API group to which the API belongs.
name	String	API name.
remark	String	API description.
run_env_id	String	ID of the environment in which the API has been published.
id	String	API ID.
req_uri	String	API request address.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.
type	Integer	API type.
throttle_apply_id	String	ID of a request throttling policy binding record.
throttle_name	String	Name of the request throttling policy bound to the API.
apply_time	String	Binding time.

Status code: 400

Table 6-455 Response body parameters

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

Status code: 401**Table 6-456** Response body parameters

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

Status code: 403**Table 6-457** Response body parameters

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

Status code: 404**Table 6-458** Response body parameters

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

Status code: 500**Table 6-459** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "apis" : [ {
    "run_env_name" : "RELEASE",
    "group_name" : "api_group_001",
    "publish_id" : "40e7162dc6b94bbbbb1a60d2a24b1b0c",
    "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
    "throttle_apply_id" : "3e06ac135e18477e918060d3c59d6f6a",
    "name" : "Api_http",
    "apply_time" : "2020-08-03T12:25:52Z",
    "remark" : "Web backend Api",
    "run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "id" : "5f918d104dc84480a75166ba99efff21",
    "type" : 1,
    "throttle_name" : "throttle_demo",
    "auth_type" : "APP",
    "req_uri" : "/test/http"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:throttle_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3005",
  "error_msg" : "Request throttling policy 3437448ad06f4e0c91a224183116e965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.7.4 Querying APIs Not Bound with a Request Throttling Policy

Function

This API is used to query the self-developed APIs to which a request throttling policy has not been bound. Only published APIs will be displayed.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/throttle-bindings/unbound-apis

Table 6-460 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-461 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
throttle_id	Yes	String	Request throttling policy ID.
env_id	No	String	Environment ID.
group_id	No	String	API group ID.
api_id	No	String	API ID.
api_name	No	String	API name.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-462 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-463 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.

Parameter	Type	Description
total	Long	Number of resources that match the query conditions.
apis	Array of ApiForThrottle objects	API list.

Table 6-464 ApiForThrottle

Parameter	Type	Description
auth_type	String	API authentication mode.
run_env_name	String	Name of the environment in which the API has been published.
group_name	String	API group name.
publish_id	String	Publication record ID.
group_id	String	ID of the API group to which the API belongs.
name	String	API name.
remark	String	API description.
run_env_id	String	ID of the environment in which the API has been published.
id	String	API ID.
req_uri	String	API request address.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.
type	Integer	API type.
throttle_apply_id	String	ID of a request throttling policy binding record.
throttle_name	String	Name of the request throttling policy bound to the API.
apply_time	String	Binding time.

Status code: 400

Table 6-465 Response body parameters

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

Status code: 401**Table 6-466** Response body parameters

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

Status code: 403**Table 6-467** Response body parameters

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

Status code: 404**Table 6-468** Response body parameters

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

Status code: 500**Table 6-469** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "apis" : [ {
    "run_env_name" : "RELEASE",
    "group_name" : "api_group_001",
    "publish_id" : "9f27d1dc4f4242a9abf88e563dbfc33d",
    "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
    "name" : "Api_mock",
    "remark" : "Mock backend API",
    "run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "id" : "3a955b791bd24b1c9cd94c745f8d1aad",
    "type" : 1,
    "auth_type" : "IAM",
    "req_uri" : "/test/mock"
  }, {
    "run_env_name" : "RELEASE",
    "group_name" : "APIGroup_d00511069",
    "publish_id" : "0c613568c8644a1b92172156f77a5759",
    "group_id" : "d7d0b9a54469424f942e16a6b6026936",
    "name" : "API_nevj",
    "run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "id" : "9e07bc00a1864ab4aafd4a23d19dd1c2",
    "type" : 1,
    "auth_type" : "APP",
    "req_uri" : "/fdasf"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:throttle_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3005",
  "error_msg" : "Request throttling policy 3437448ad06f4e0c91a224183116e965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.7.5 Querying Request Throttling Policies Bound to an API

Function

This API is used to query the request throttling policies that have been bound to an API. Only one request throttling policy can be bound to an API in an environment.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/throttle-bindings/binded-throttles

Table 6-470 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-471 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
api_id	Yes	String	API ID.
throttle_id	No	String	ID of a request throttling policy.
throttle_name	No	String	Request throttling policy name.
env_id	No	String	Environment ID.

Request Parameters

Table 6-472 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-473 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
throttles	Array of ThrottleForApi objects	Request throttling policy list.

Table 6-474 ThrottleForApi

Parameter	Type	Description
app_call_limits	Integer	Maximum number of times the API can be accessed by an app within the same period. The value of this parameter must be less than that of user_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
name	String	Request throttling policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
time_unit	String	Time unit for limiting the number of API calls.
remark	String	Description of the request throttling policy, which can contain a maximum of 255 characters.
api_call_limits	Integer	Maximum number of times an API can be accessed within a specified period. The value of this parameter cannot exceed the default limit 200 TPS. You can change the default limit to meet service requirements. The maximum value is 2,147,483,647. The value is a positive integer.

Parameter	Type	Description
type	Integer	Type of the request throttling policy. • 1: basic, limiting the maximum number of times a single API bound to the policy can be called within the specified period. • 2: shared, limiting the maximum number of times all APIs bound to the policy can be called within the specified period.
enable_adaptive_control	String	Whether to enable dynamic request throttling. • TRUE • FALSE This parameter is currently not supported.
user_call_limits	Integer	Maximum number of times the API can be accessed by a user within the same period. The value of this parameter must be less than or equal to that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
time_interval	Integer	Period of time for limiting the number of API calls. This parameter applies with each of the preceding three API call limits. The maximum value is 2,147,483,647. The value is a positive integer.
ip_call_limits	Integer	Maximum number of times the API can be accessed by an IP address within the same period. The value of this parameter must be less than that of api_call_limits. The maximum value is 2,147,483,647. The value is a positive integer.
id	String	Request throttling policy ID.
bind_num	Integer	Number of APIs to which the request throttling policy has been bound.
is_inclu_special_throttle	Integer	Whether a special throttling configuration has been created: • 1: yes • 2: no
create_time	String	Creation time.

Parameter	Type	Description
env_name	String	Environment in which the request throttling policy takes effect.
bind_id	String	Policy binding record ID.
bind_time	String	Time when the policy is bound to the API.

Status code: 400**Table 6-475** Response body parameters

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

Status code: 401**Table 6-476** Response body parameters

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

Status code: 403**Table 6-477** Response body parameters

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

Status code: 404

Table 6-478 Response body parameters

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

Status code: 500**Table 6-479** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "throttles" : [ {
    "id" : "3437448ad06f4e0c91a224183116e965",
    "name" : "throttle_demo",
    "api_call_limits" : 800,
    "user_call_limits" : 0,
    "app_call_limits" : 300,
    "ip_call_limits" : 600,
    "time_interval" : 1,
    "time_unit" : "SECOND",
    "create_time" : "2020-07-31T08:44:02Z",
    "remark" : "Throttling Policy 1",
    "is_inclu_special_throttle" : 2,
    "env_name" : "RELEASE",
    "type" : 1,
    "bind_id" : "3e06ac135e18477e918060d3c59d6f6a",
    "bind_time" : "2020-08-03T12:25:52Z",
    "bind_num" : 0,
    "enable_adaptive_control" : "FALSE"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:throttle_name. Please refer to the support
```

```
documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.7.6 Unbinding Request Throttling Policies

Function

This API is used to unbind request throttling policies from APIs.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/throttle-bindings

Table 6-480 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-481 Query Parameters

Parameter	Mandatory	Type	Description
action	Yes	String	The value must be delete.

Request Parameters

Table 6-482 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-483 Request body parameters

Parameter	Mandatory	Type	Description
throttle_bindings	No	Array of strings	Request throttling policy binding records to be canceled.

Response Parameters

Status code: 200

Table 6-484 Response body parameters

Parameter	Type	Description
success_count	Integer	Number of request throttling policies that have been successfully unbound from APIs.
failure	Array of ThrottleBinding-BatchFailure objects	Error message and request throttling policies that fail to be unbound.

Table 6-485 ThrottleBindingBatchFailure

Parameter	Type	Description
bind_id	String	ID of a binding record that fails to be canceled.
error_code	String	Error code displayed for a binding failure.
error_msg	String	Error message displayed for a binding failure.
api_id	String	ID of an API from which a policy fails to be unbound.
api_name	String	Name of the API from which a policy fails to be unbound.

Status code: 400

Table 6-486 Response body parameters

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

Status code: 401

Table 6-487 Response body parameters

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

Status code: 403**Table 6-488** Response body parameters

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

Status code: 404**Table 6-489** Response body parameters

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

Status code: 500**Table 6-490** Response body parameters

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

Example Requests

Unbind request throttling policies from APIs.

```
{
  "throttle_bindings" : [ "6a6a75b425df416cbdc7821da30be8d", "b11e5970f732440dbea647580647d57f" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "failure": [ {
    "bind_id": "b11e5970f732440dbea647580647d57f",
    "error_code": "APIG.3012",
    "error_msg": "The request throttling policy binding record does not exist"
  } ],
  "success_count": 1
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "parameter action should be \\\\\"delete\\\\\\"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3030",
  "error_msg": "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.8 Excluded Request Throttling Configuration

6.8.1 Creating an Excluded Request Throttling Configuration

Function

A request throttling policy controls the maximum number of times an API can be accessed within a specified period and the maximum numbers of times the API can be accessed by a tenant or an app within the same period.

When necessary, you can create an excluded request throttling configuration to specify the threshold of API calls for a specific app. For example, after you set the API call threshold for all apps to 500 calls/minute, you can specify the API call threshold of app 1 as 800 calls/minute.

You can add excluded apps or tenants to a request throttling policy.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/throttles/{throttle_id}/throttle-specials

Table 6-491 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_id	Yes	String	ID of a request throttle policy.

Request Parameters

Table 6-492 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-493 Request body parameters

Parameter	Mandatory	Type	Description
call_limits	Yes	Integer	Maximum number of times that a special object can access an API within the throttling period.
object_id	Yes	String	Special credential ID. Or special tenant account ID.
object_type	Yes	String	Excluded object type.

Response Parameters

Status code: 201

Table 6-494 Response body parameters

Parameter	Type	Description
id	String	Excluded request throttling configuration ID.
call_limits	Integer	Maximum number of times the excluded object can access an API within the throttling period.
apply_time	String	Time when the excluded request throttling configuration is created.
app_name	String	Name of the app to which the excluded request throttling configuration applies.
app_id	String	ID of the app to which the excluded request throttling configuration applies.

Parameter	Type	Description
object_id	String	ID of an object specified in the excluded configuration.
object_type	String	Excluded object type, which can be APP or USER.
object_name	String	Object credential or tenant name.
throttle_id	String	Request throttling policy ID.

Status code: 400**Table 6-495** Response body parameters

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

Status code: 401**Table 6-496** Response body parameters

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

Status code: 403**Table 6-497** Response body parameters

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

Status code: 404

Table 6-498 Response body parameters

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

Status code: 500**Table 6-499** Response body parameters

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

Example Requests

Add an excluded app to a specified request throttling policy.

```
{
  "call_limits": 150,
  "object_id": "356de8eb7a8742168586e5daf5339965",
  "object_type": "APP"
}
```

Example Responses

Status code: 201

Created

```
{
  "call_limits": 150,
  "app_name": "app_demo",
  "object_name": "app_demo",
  "object_id": "356de8eb7a8742168586e5daf5339965",
  "throttle_id": "3437448ad06f4e0c91a224183116e965",
  "apply_time": "2020-08-04T02:40:56.717710961Z",
  "id": "a3e9ff8db55544ed9db91d8b048770c0",
  "app_id": "356de8eb7a8742168586e5daf5339965",
  "object_type": "APP"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2003",
  "error_msg": "The parameter value is too large,parameterName:call_limits. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 356de8eb7a8742168586e5daf5339965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.8.2 Modifying an Excluded Request Throttling Configuration

Function

This API is used to modify an excluded configuration of a request throttling policy.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/throttles/{throttle_id}/throttle-specials/{strategy_id}

Table 6-500 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_id	Yes	String	ID of a request throttle policy.
strategy_id	Yes	String	ID of an excluded configuration.

Request Parameters

Table 6-501 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-502 Request body parameters

Parameter	Mandatory	Type	Description
call_limits	Yes	Integer	Maximum number of times that an excluded object can access an API within the throttling period.

Response Parameters

Status code: 200

Table 6-503 Response body parameters

Parameter	Type	Description
id	String	Excluded request throttling configuration ID.
call_limits	Integer	Maximum number of times the excluded object can access an API within the throttling period.
apply_time	String	Time when the excluded request throttling configuration is created.
app_name	String	Name of the app to which the excluded request throttling configuration applies.
app_id	String	ID of the app to which the excluded request throttling configuration applies.
object_id	String	ID of an object specified in the excluded configuration.
object_type	String	Excluded object type, which can be APP or USER.
object_name	String	Object credential or tenant name.
throttle_id	String	Request throttling policy ID.

Status code: 400**Table 6-504** Response body parameters

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

Status code: 401**Table 6-505** Response body parameters

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

Status code: 403**Table 6-506** Response body parameters

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

Status code: 404**Table 6-507** Response body parameters

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

Status code: 500**Table 6-508** Response body parameters

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

Example Requests

Modify call_limits of an excluded object of a specified request throttling policy.

```
{  
  "call_limits" : 150  
}
```

Example Responses

Status code: 200

OK

```
{  
  "call_limits" : 200,  
  "app_name" : "app_demo",  
  "object_name" : "app_demo",  
  "object_id" : "356de8eb7a8742168586e5daf5339965",  
  "throttle_id" : "3437448ad06f4e0c91a224183116e965",  
  "apply_time" : "2020-08-04T02:40:56Z",  
  "id" : "a3e9ff8db55544ed9db91d8b048770c0",  
  "app_id" : "356de8eb7a8742168586e5daf5339965",  
}
```

```
"object_type" : "APP"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2003",
  "error_msg" : "The parameter value is too large,parameterName:call_limits. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3013",
  "error_msg" : "Excluded request throttling configuration a3e9ff8db55544ed9db91d8b048770c0 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.8.3 Deleting an Excluded Request Throttling Configuration

Function

This API is used to delete an excluded configuration of a request throttling policy.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/throttles/{throttle_id}/throttle-specials/{strategy_id}

Table 6-509 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_id	Yes	String	ID of a request throttle policy.
strategy_id	Yes	String	ID of an excluded configuration.

Request Parameters

Table 6-510 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-511 Response body parameters

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

Status code: 401

Table 6-512 Response body parameters

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

Status code: 403

Table 6-513 Response body parameters

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

Status code: 404

Table 6-514 Response body parameters

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

Status code: 500

Table 6-515 Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3013",
  "error_msg" : "Excluded request throttling configuration a3e9ff8db55544ed9db91d8b048770c0 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.8.4 Querying Excluded Request Throttling Configurations

Function

This API is used to query all excluded configurations of a request throttling policy.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/throttles/{throttle_id}/throttle-specials

Table 6-516 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
throttle_id	Yes	String	ID of a request throttle policy.

Table 6-517 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
object_type	No	String	Object type, which can be APP or USER.
app_name	No	String	Name of an excluded app.

Request Parameters

Table 6-518 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-519 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
throttle_specials	Array of ThrottleSpecialInfo objects	Excluded configuration list.

Table 6-520 ThrottleSpecialInfo

Parameter	Type	Description
id	String	Excluded request throttling configuration ID.
call_limits	Integer	Maximum number of times the excluded object can access an API within the throttling period.
apply_time	String	Time when the excluded request throttling configuration is created.
app_name	String	Name of the app to which the excluded request throttling configuration applies.
app_id	String	ID of the app to which the excluded request throttling configuration applies.
object_id	String	ID of an object specified in the excluded configuration.
object_type	String	Excluded object type, which can be APP or USER.
object_name	String	Object credential or tenant name.
throttle_id	String	Request throttling policy ID.

Status code: 400**Table 6-521** Response body parameters

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

Status code: 401**Table 6-522** Response body parameters

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

Status code: 403**Table 6-523** Response body parameters

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

Status code: 404**Table 6-524** Response body parameters

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

Status code: 500**Table 6-525** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "throttle_specials" : [ {
    "call_limits" : 200,
    "app_name" : "app_demo",
    "object_name" : "app_demo",
    "object_id" : "356de8eb7a8742168586e5daf5339965",
    "throttle_id" : "3437448ad06f4e0c91a224183116e965",
    "apply_time" : "2020-08-04T02:40:56Z",
    "id" : "a3e9ff8db55544ed9db91d8b048770c0",
    "app_id" : "356de8eb7a8742168586e5daf5339965",
    "object_type" : "APP"
  }
]
```

```
  }]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:app_name. Please refer to the support  
documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3005",  
  "error_msg" : "Request throttling policy 3437448ad06f4e0c91a224183116e965 does not exist"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.9 Signature Key Management

6.9.1 Creating a Signature Key

Function

To ensure API security, tenants are advised to provide a protection mechanism for API access. That is, for APIs exposed by tenants, the request sources must be authenticated. Requests that do not meet the authentication requirements will be rejected. The signature key is one of the API security protection mechanisms. A tenant creates a signature key and binds it to an API. When requesting the API, APIC uses the bound signature key to encrypt the request parameters and generate a signature. When a tenant's backend service receives a request, it verifies the signature. If the signature verification fails, the request is not sent by APIC. In this case, the tenant can reject the request to ensure API security and prevent the API from being attacked by requests from unknown sources.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/signs

Table 6-526 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-527 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-528 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Signature key name. The value can contain only letters, digits, and underscores(_) and must start with a letter.
sign_type	No	String	Signature key type: • hmac • basic • public_key • aes To use a Basic or AES signature key, ensure that your instance version supports it. If your instance does not support this type of signature key, contact technical support to upgrade your instance. To use a public_key signature key, ensure that the public_key feature has been configured for your instance. For details, see "Appendix" > "Supported Features". If your instance does not support this feature, contact technical support to enable it.

Parameter	Mandatory	Type	Description
sign_key	No	String	Signature key. • hmac signature key: The value contains 8 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature key: The value contains 4 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature key: The value contains 8 to 512 characters, including letters, digits, underscores (_), hyphens (-), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • aes signature key: The value supports letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). If the signature algorithm is aes-128-cfb, the value is 16 characters. If the signature algorithm is aes-256-cfb, the value is 32 characters. A key is automatically generated by

Parameter	Mandatory	Type	Description
			the backend if no key is specified.

Parameter	Mandatory	Type	Description
sign_secret	No	String	Signature secret. • hmac signature secret: The value contains 16 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature secret: The value contains 8 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature secret: The value contains 15 to 2048 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • Vector of the AES signature secret: The value contains up to 16 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!),

Parameter	Mandatory	Type	Description
			at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified.
sign_algorithm	No	String	Signature algorithm. The default value is empty. Only AES signature keys support the signature algorithm. Other signature keys do not support the signature algorithm.

Response Parameters

Status code: 201

Table 6-529 Response body parameters

Parameter	Type	Description
name	String	Signature key name. The value can contain only letters, digits, and underscores(_) and must start with a letter.

Parameter	Type	Description
sign_type	String	Signature key type: • hmac • basic • public_key • aes To use a Basic or AES signature key, ensure that your instance version supports it. If your instance does not support this type of signature key, contact technical support to upgrade your instance. To use a public_key signature key, ensure that the public_key feature has been configured for your instance. For details, see "Appendix" > "Supported Features". If your instance does not support this feature, contact technical support to enable it.

Parameter	Type	Description
sign_key	String	Signature key. • hmac signature key: The value contains 8 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature key: The value contains 4 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature key: The value contains 8 to 512 characters, including letters, digits, underscores (_), hyphens (-), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • aes signature key: The value supports letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). If the signature algorithm is aes-128-cfb, the value is 16 characters. If the signature algorithm is aes-256-cfb, the value is 32 characters. A key is automatically generated by the backend if no key is specified.

Parameter	Type	Description
sign_secret	String	Signature secret. • hmac signature secret: The value contains 16 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature secret: The value contains 8 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature secret: The value contains 15 to 2048 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • Vector of the AES signature secret: The value contains up to 16 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified.

Parameter	Type	Description
sign_algorithm	String	Signature algorithm. The default value is empty. Only AES signature keys support the signature algorithm. Other signature keys do not support the signature algorithm.
update_time	String	Update time.
create_time	String	Creation time.
id	String	Signature key ID.

Status code: 400**Table 6-530** Response body parameters

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

Status code: 401**Table 6-531** Response body parameters

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

Status code: 403**Table 6-532** Response body parameters

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

Status code: 404

Table 6-533 Response body parameters

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

Status code: 412**Table 6-534** Response body parameters

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

Status code: 500**Table 6-535** Response body parameters

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

Example Requests

Create a signature key of the default type.

```
{
  "name" : "signature_demo",
  "sign_key" : "signkeysignkey",
  "sign_secret" : "sig*****ret"
}
```

Example Responses

Status code: 201

Created

```
{
  "sign_secret" : "sig*****ret",
  "update_time" : "2020-08-03T03:39:38.119032888Z",
  "create_time" : "2020-08-03T03:39:38.119032659Z",
  "name" : "signature_demo",
  "id" : "0b0e8f456b8742218af75f945307173c",
  "sign_key" : "signkeysignkey",
  "sign_type" : "hmac"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 412

PreconditionFailed

```
{
  "error_code" : "APIG.3548",
  "error_msg" : "sign_type=public_key not supported by instance 6a29d4e9-69a0-412a-aabe-9898ec0903b0"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
412	PreconditionFailed
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.9.2 Modifying a Signature Key

Function

This API is used to modify the information about a signature key.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/signs/{sign_id}

Table 6-536 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
sign_id	Yes	String	Signature key ID.

Request Parameters

Table 6-537 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-538 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Signature key name. The value can contain only letters, digits, and underscores(_) and must start with a letter.
sign_type	No	String	Signature key type: • hmac • basic • public_key • aes To use a Basic or AES signature key, ensure that your instance version supports it. If your instance does not support this type of signature key, contact technical support to upgrade your instance. To use a public_key signature key, ensure that the public_key feature has been configured for your instance. For details, see "Appendix" > "Supported Features". If your instance does not support this feature, contact technical support to enable it.

Parameter	Mandatory	Type	Description
sign_key	No	String	Signature key. • hmac signature key: The value contains 8 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature key: The value contains 4 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature key: The value contains 8 to 512 characters, including letters, digits, underscores (_), hyphens (-), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • aes signature key: The value supports letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). If the signature algorithm is aes-128-cfb, the value is 16 characters. If the signature algorithm is aes-256-cfb, the value is 32 characters. A key is automatically generated by

Parameter	Mandatory	Type	Description
			the backend if no key is specified.

Parameter	Mandatory	Type	Description
sign_secret	No	String	Signature secret. • hmac signature secret: The value contains 16 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature secret: The value contains 8 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature secret: The value contains 15 to 2048 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • Vector of the AES signature secret: The value contains up to 16 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!),

Parameter	Mandatory	Type	Description
			at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified.
sign_algorithm	No	String	Signature algorithm. The default value is empty. Only AES signature keys support the signature algorithm. Other signature keys do not support the signature algorithm.

Response Parameters

Status code: 200

Table 6-539 Response body parameters

Parameter	Type	Description
name	String	Signature key name. The value can contain only letters, digits, and underscores(_) and must start with a letter.

Parameter	Type	Description
sign_type	String	Signature key type: • hmac • basic • public_key • aes To use a Basic or AES signature key, ensure that your instance version supports it. If your instance does not support this type of signature key, contact technical support to upgrade your instance. To use a public_key signature key, ensure that the public_key feature has been configured for your instance. For details, see "Appendix" > "Supported Features". If your instance does not support this feature, contact technical support to enable it.

Parameter	Type	Description
sign_key	String	Signature key. • hmac signature key: The value contains 8 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature key: The value contains 4 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature key: The value contains 8 to 512 characters, including letters, digits, underscores (_), hyphens (-), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • aes signature key: The value supports letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). If the signature algorithm is aes-128-cfb, the value is 16 characters. If the signature algorithm is aes-256-cfb, the value is 32 characters. A key is automatically generated by the backend if no key is specified.

Parameter	Type	Description
sign_secret	String	Signature secret. • hmac signature secret: The value contains 16 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature secret: The value contains 8 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature secret: The value contains 15 to 2048 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • Vector of the AES signature secret: The value contains up to 16 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified.

Parameter	Type	Description
sign_algorithm	String	Signature algorithm. The default value is empty. Only AES signature keys support the signature algorithm. Other signature keys do not support the signature algorithm.
update_time	String	Update time.
create_time	String	Creation time.
id	String	Signature key ID.

Status code: 400**Table 6-540** Response body parameters

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

Status code: 401**Table 6-541** Response body parameters

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

Status code: 403**Table 6-542** Response body parameters

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

Status code: 404

Table 6-543 Response body parameters

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

Status code: 412**Table 6-544** Response body parameters

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

Status code: 500**Table 6-545** Response body parameters

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

Example Requests

Modify the name of a specified signature key.

```
{
  "name" : "signature_demo"
}
```

Example Responses

Status code: 200

OK

```
{
  "sign_secret" : "dc0*****2b3",
  "update_time" : "2020-08-03T03:50:14.989785802Z",
  "create_time" : "2020-08-03T03:39:38Z",
  "name" : "signature_demo",
  "id" : "0b0e8f456b8742218af75f945307173c",
  "sign_key" : "a071a20d460a4f639a636c3d7e3d8163",
  "sign_type" : "hmac"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "APIG.3017",
  "error_msg" : "Signature key 0b0e8f456b8742218af75f945307173c does not exist"
}
```

Status code: 412**PreconditionFailed**

```
{
  "error_code" : "APIG.3548",
  "error_msg" : "sign_type=public_key not supported by instance 6a29d4e9-69a0-412a-aabe-9898ec0903b0"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
412	PreconditionFailed
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.9.3 Deleting a Signature Key

Function

This API is used to delete a signature key. This operation will invalidate the signature key and unbind it from the APIs to which it was bound.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/signs/{sign_id}

Table 6-546 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
sign_id	Yes	String	Signature key ID.

Request Parameters

Table 6-547 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 401

Table 6-548 Response body parameters

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

Status code: 403

Table 6-549 Response body parameters

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

Status code: 404

Table 6-550 Response body parameters

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

Status code: 500

Table 6-551 Response body parameters

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

Example Requests

None

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3017",
  "error_msg" : "Signature key 0b0e8f456b8742218af75f945307173c does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.9.4 Querying Signature Keys

Function

This API is used to query all the signature keys.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/signs

Table 6-552 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-553 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
id	No	String	Signature key ID.
name	No	String	Signature key name.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, only name is supported.

Request Parameters

Table 6-554 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-555 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
signs	Array of SignatureWithBindNum objects	Signature key list.

Table 6-556 SignatureWithBindNum

Parameter	Type	Description
name	String	Signature key name. The value can contain only letters, digits, and underscores(_) and must start with a letter.

Parameter	Type	Description
sign_type	String	Signature key type: • hmac • basic • public_key • aes To use a Basic or AES signature key, ensure that your instance version supports it. If your instance does not support this type of signature key, contact technical support to upgrade your instance. To use a public_key signature key, ensure that the public_key feature has been configured for your instance. For details, see "Appendix" > "Supported Features". If your instance does not support this feature, contact technical support to enable it.

Parameter	Type	Description
sign_key	String	Signature key. • hmac signature key: The value contains 8 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature key: The value contains 4 to 32 characters, including letters, digits, underscores (_), and hyphens (-). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature key: The value contains 8 to 512 characters, including letters, digits, underscores (_), hyphens (-), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • aes signature key: The value supports letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must start with a letter, digit, plus sign (+), or slash (/). If the signature algorithm is aes-128-cfb, the value is 16 characters. If the signature algorithm is aes-256-cfb, the value is 32 characters. A key is automatically generated by the backend if no key is specified.

Parameter	Type	Description
sign_secret	String	Signature secret. • hmac signature secret: The value contains 16 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • basic signature secret: The value contains 8 to 64 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), and percent signs (%). The value must start with a letter or digit. A key is automatically generated by the backend if no key is specified. • public_key signature secret: The value contains 15 to 2048 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified. • Vector of the AES signature secret: The value contains up to 16 characters, including letters, digits, underscores (_), hyphens (-), exclamation marks (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), plus signs (+), slashes (/), and equal signs (=). The value must with a letter, digit, plus sign (+), or slash (/). A key is automatically generated by the backend if no key is specified.

Parameter	Type	Description
sign_algorithm	String	Signature algorithm. The default value is empty. Only AES signature keys support the signature algorithm. Other signature keys do not support the signature algorithm.
update_time	String	Update time.
create_time	String	Creation time.
id	String	Signature key ID.
bind_num	Integer	Number of APIs bound.
ldapi_bind_num	Integer	Number of custom backends bound.

Status code: 400**Table 6-557** Response body parameters

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

Status code: 401**Table 6-558** Response body parameters

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

Status code: 403**Table 6-559** Response body parameters

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

Status code: 404

Table 6-560 Response body parameters

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

Status code: 500

Table 6-561 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "signs" : [ {
    "sign_secret" : "sig*****ret",
    "update_time" : "2018-02-07T02:00:27.964766Z",
    "create_time" : "2018-02-06T12:17:36Z",
    "name" : "signature_demo",
    "id" : "0b0e8f456b8742218af75f945307173c",
    "sign_key" : "signkeysignkey",
    "sign_type" : "hmac",
    "bind_num" : 0,
    "ldapi_bind_num" : 0
  }, {
    "sign_secret" : "9ce*****16a",
    "update_time" : "2020-07-30T03:56:58Z",
    "create_time" : "2020-07-30T03:56:58Z",
    "name" : "Signature_udlu",
    "id" : "9dc388382fba485aadd19f932303f4c9",
    "sign_key" : "ca50c5b670044c83b5b890a9a68a30d5",
    "sign_type" : "hmac",
    "bind_num" : 0,
    "ldapi_bind_num" : 0
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.10 Binding Signature Keys

6.10.1 Binding a Signature Key

Function

A signature key takes effect only after being bound to an API.

When requesting the backend service, APIC uses the signature key to cryptographically sign requests. The backend service verifies the signature to identify request sources.

This API is used to bind a signature key to one or more published APIs. You can bind different signature keys to an API in different environments, but can bind only one signature key to the API in each environment.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/sign-bindings

Table 6-562 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-563 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-564 Request body parameters

Parameter	Mandatory	Type	Description
sign_id	Yes	String	Cloud server list.
publish_ids	Yes	Array of strings	ID of an API publication record.

Response Parameters

Status code: 201

Table 6-565 Response body parameters

Parameter	Type	Description
bindings	Array of SignApiBindingInfo objects	List of binding relationships between APIs and signature keys.

Table 6-566 SignApiBindingInfo

Parameter	Type	Description
publish_id	String	API publication ID.
api_id	String	API ID.
group_name	String	API group name.
binding_time	String	Time when the policy is bound to the API.
env_id	String	ID of the environment in which the API was published.
env_name	String	Name of the environment in which the API was published.
api_type	Integer	API type.
api_name	String	API name.
id	String	Binding record ID.
api_remark	String	API description.
sign_id	String	Signature key ID.

Parameter	Type	Description
sign_name	String	Signature key name, The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.
sign_key	String	Signature key. • hmac: The value must start with a letter or digit and can include letters, digits, underscores (_), and hyphens (-) (8 to 32 characters). If not specified, a key is automatically generated. • basic: The value must start with a letter and can include letters, digits, underscores (_), and hyphens (-) (4 to 32 characters). If not specified, a key is automatically generated. • public_key: The value can start with a letter, digit, plus sign (+), or slash (/), and can include letters, digits, underscores (_), hyphens (-), plus signs (+), and slashes (/) (8 to 512 characters). If not specified, a key is automatically generated. • aes: The value contains 16 characters if the aes-128-cfb algorithm is used or 32 characters if the aes-256-cfb algorithm is used. Letters, digits, and special characters (_-!@#\$%+/=) are allowed. It must start with a letter, digit, plus sign (+), or slash (/). If not specified, a key is automatically generated.

Parameter	Type	Description
sign_secret	String	Signature secret. • hmac: The value must start with a letter or digit, and can include letters, digits, and special characters (_-!@#\$%) (16 to 64 characters). If not specified, a key is automatically generated. • basic: The value must start with a letter or digit, and can include letters, digits, and special characters (_-!@#\$%) (8 to 64 characters). If not specified, a key is automatically generated. • public_key: The value can start with a letter, digit, plus sign (+), or slash (/), and can include letters, digits, and special characters (_-!@#\$% +/=) (15 to 2048 characters). If not specified, a key is automatically generated. • aes: The value contains 16 characters, including letters, digits, and special characters (_-!@#\$% +/=). It must start with a letter, digit, plus sign (+), or slash (/). If not specified, a key is automatically generated.

Parameter	Type	Description
sign_type	String	Signature key type: • hmac • basic • public_key • aes To use a basic signature key, ensure that your instance version supports it. Contact technical support to upgrade your instance if needed. To use a public_key signature key, ensure that the public_key feature has been configured for your instance. For details, see "Appendix" > "APIC Features Supported by ROMA Connect Instances". If your instance does not support this feature, contact technical support to enable it. To use an AES signature key, ensure that your instance version supports it. Contact technical support to upgrade your instance if needed.

Status code: 400**Table 6-567** Response body parameters

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

Status code: 401**Table 6-568** Response body parameters

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

Status code: 403

Table 6-569 Response body parameters

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

Status code: 404**Table 6-570** Response body parameters

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

Status code: 500**Table 6-571** Response body parameters

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

Example Requests

Bind a specified signature key to an API.

```
{
  "sign_id" : "0b0e8f456b8742218af75f945307173c",
  "publish_ids" : [ "40e7162dc6b94bbbbb1a60d2a24b1b0c" ]
}
```

Example Responses

Status code: 201

Created

```
{
  "bindings" : [ {
    "api_id" : "5f918d104dc84480a75166ba99efff21",
    "sign_secret" : "dc0*****2b3",
    "group_name" : "api_group_001",
    "sign_id" : "0b0e8f456b8742218af75f945307173c",
    "sign_key" : "a071a20d460a4f639a636c3d7e3d8163",
    "binding_time" : "2020-08-03T04:00:11.638167852Z",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "sign_name" : "signature_demo",
  } ]
}
```

```
"api_type" : 1,  
"api_name" : "Api_http",  
"id" : "25082bd52f74442bb1d273993d567938",  
"api_remark" : "Web backend Api",  
"publish_id" : "66a645f1d6294fa6899cb1ed1c51bc4c",  
"sign_type" : "hmac"  
}]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:sign_id. Please refer to the support documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3017",  
  "error_msg" : "Signature key 0b0e8f456b8742218af75f945307173c does not exist"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.10.2 Unbinding a Signature Key

Function

This API is used to unbind a signature key from an API.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/sign-bindings/{sign_bindings_id}

Table 6-572 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
sign_bindings_id	Yes	String	ID of the binding relationship between an API and a signature key.

Request Parameters

Table 6-573 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-574 Response body parameters

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

Status code: 401

Table 6-575 Response body parameters

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

Status code: 403

Table 6-576 Response body parameters

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

Status code: 404

Table 6-577 Response body parameters

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

Status code: 500

Table 6-578 Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3018",
  "error_msg" : "The signature key binding record does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.10.3 Querying Signature Keys Bound to an API

Function

This API is used to query the signature keys that have been bound to a specified API. Only one signature key can be bound to an API in an environment.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/sign-bindings/binded-signs

Table 6-579 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-580 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
api_id	Yes	String	API ID.
sign_id	No	String	Signature key ID.
sign_name	No	String	Signature key name.
env_id	No	String	Environment ID.

Request Parameters

Table 6-581 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-582 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
bindings	Array of SignApiBindingInfo objects	List of binding relationships between APIs and signature keys.

Table 6-583 SignApiBindingInfo

Parameter	Type	Description
publish_id	String	API publication ID.
api_id	String	API ID.
group_name	String	API group name.
binding_time	String	Time when the policy is bound to the API.
env_id	String	ID of the environment in which the API was published.
env_name	String	Name of the environment in which the API was published.
api_type	Integer	API type.
api_name	String	API name.
id	String	Binding record ID.
api_remark	String	API description.
sign_id	String	Signature key ID.
sign_name	String	Signature key name, The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.

Parameter	Type	Description
sign_key	String	Signature key. • hmac: The value must start with a letter or digit and can include letters, digits, underscores (_), and hyphens (-) (8 to 32 characters). If not specified, a key is automatically generated. • basic: The value must start with a letter and can include letters, digits, underscores (_), and hyphens (-) (4 to 32 characters). If not specified, a key is automatically generated. • public_key: The value can start with a letter, digit, plus sign (+), or slash (/), and can include letters, digits, underscores (_), hyphens (-), plus signs (+), and slashes (/) (8 to 512 characters). If not specified, a key is automatically generated. • aes: The value contains 16 characters if the aes-128-cfb algorithm is used or 32 characters if the aes-256-cfb algorithm is used. Letters, digits, and special characters (_-!@#\$%+/=) are allowed. It must start with a letter, digit, plus sign (+), or slash (/). If not specified, a key is automatically generated.

Parameter	Type	Description
sign_secret	String	Signature secret. • hmac: The value must start with a letter or digit, and can include letters, digits, and special characters (_-!@#\$%) (16 to 64 characters). If not specified, a key is automatically generated. • basic: The value must start with a letter or digit, and can include letters, digits, and special characters (_-!@#\$%) (8 to 64 characters). If not specified, a key is automatically generated. • public_key: The value can start with a letter, digit, plus sign (+), or slash (/), and can include letters, digits, and special characters (_-!@#\$% +/=) (15 to 2048 characters). If not specified, a key is automatically generated. • aes: The value contains 16 characters, including letters, digits, and special characters (_-!@#\$% +/=). It must start with a letter, digit, plus sign (+), or slash (/). If not specified, a key is automatically generated.

Parameter	Type	Description
sign_type	String	Signature key type: • hmac • basic • public_key • aes To use a basic signature key, ensure that your instance version supports it. Contact technical support to upgrade your instance if needed. To use a public_key signature key, ensure that the public_key feature has been configured for your instance. For details, see "Appendix" > "APIC Features Supported by ROMA Connect Instances". If your instance does not support this feature, contact technical support to enable it. To use an AES signature key, ensure that your instance version supports it. Contact technical support to upgrade your instance if needed.

Status code: 400**Table 6-584** Response body parameters

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

Status code: 401**Table 6-585** Response body parameters

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

Status code: 403

Table 6-586 Response body parameters

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

Status code: 404**Table 6-587** Response body parameters

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

Status code: 500**Table 6-588** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "bindings": [ {
    "api_id": "5f918d104dc84480a75166ba99efff21",
    "group_name": "api_group_001",
    "binding_time": "2020-08-03T04:00:11Z",
    "env_id": "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name": "RELEASE",
    "sign_id": "0b0e8f456b8742218af75f945307173c",
    "sign_name": "signature_demo",
    "sign_key": "a071a20d460a4f639a636c3d7e3d8163",
    "sign_secret": "dc0*****2b3",
    "api_type": 1,
    "api_name": "Api_http",
    "id": "25082bd52f74442bb1d273993d567938",
```

```
{
  "api_remark" : "Web backend Api",
  "publish_id" : "66a645f1d6294fa6899cb1ed1c51bc4c",
  "sign_type" : "hmac"
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.10.4 Querying APIs Not Bound with a Signature Key

Function

This API is used to query the APIs to which a signature key has not been bound. Only published APIs will be displayed.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/sign-bindings/unbinded-apis

Table 6-589 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-590 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
sign_id	Yes	String	Signature key ID.
env_id	No	String	Environment ID.
api_id	No	String	API ID.

Parameter	Mandatory	Type	Description
api_name	No	String	API name.
group_id	No	String	API group ID.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-591 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-592 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of ApiForSign objects	API list.

Table 6-593 ApiForSign

Parameter	Type	Description
auth_type	String	API authentication mode.

Parameter	Type	Description
run_env_name	String	Name of the environment in which the API has been published.
group_name	String	API group name.
publish_id	String	Publication record ID.
group_id	String	ID of the API group to which the API belongs.
name	String	API name.
remark	String	API description.
run_env_id	String	ID of the environment in which the API has been published.
id	String	API ID.
req_uri	String	API request address.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.
type	Integer	API type.
signature_name	String	Name of the signature key bound to the API.

Status code: 400**Table 6-594** Response body parameters

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

Status code: 401**Table 6-595** Response body parameters

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

Status code: 403**Table 6-596** Response body parameters

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

Status code: 404**Table 6-597** Response body parameters

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

Status code: 500**Table 6-598** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "apis" : [ {
    "run_env_name" : "RELEASE",
    "group_name" : "api_group_001",
    "remark" : "Mock backend API",
    "publish_id" : "9f27d1dc4f4242a9abf88e563dbfc33d",
    "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
    "name" : "Api_mock",
    "run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "id" : "3a955b791bd24b1c9cd94c745f8d1aad",
    "type" : 1,
```

```
{
  "auth_type" : "IAM",
  "req_uri" : "/test/mock",
  "signature_name" : ""
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3017",
  "error_msg" : "Signature key 0b0e8f456b8742218af75f945307173c does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.10.5 Querying APIs Bound with a Signature Key

Function

This API is used to query the APIs to which a signature key has been bound.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/sign-bindings/binded-apis

Table 6-599 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-600 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
sign_id	Yes	String	Signature key ID.
env_id	No	String	Environment ID.
api_id	No	String	API ID.
api_name	No	String	API name.

Parameter	Mandatory	Type	Description
group_id	No	String	API group ID.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-601 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-602 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
bindings	Array of SignApiBindingBase objects	List of signature key binding records.

Table 6-603 SignApiBindingBase

Parameter	Type	Description
publish_id	String	API publication ID.
api_id	String	API ID.

Parameter	Type	Description
group_name	String	API group name.
binding_time	String	Time when the policy is bound to the API.
env_id	String	ID of the environment in which the API was published.
env_name	String	Name of the environment in which the API was published.
api_type	Integer	API type.
api_name	String	API name.
id	String	Binding record ID.
api_remark	String	API description.
sign_id	String	Signature key ID.
sign_name	String	Signature key name, The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.

Status code: 400**Table 6-604** Response body parameters

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

Status code: 401**Table 6-605** Response body parameters

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

Status code: 403**Table 6-606** Response body parameters

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

Status code: 404**Table 6-607** Response body parameters

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

Status code: 500**Table 6-608** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "bindings" : [ {
    "publish_id" : "40e7162dc6b94bbbb1a60d2a24b1b0c",
    "api_id" : "5f918d104dc84480a75166ba99efff21",
    "group_name" : "api_group_001",
    "binding_time" : "2020-08-03T04:00:11Z",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "api_type" : 1,
    "api_name" : "Api_http",
    "id" : "25082bd52f74442bb1d273993d567938",
```

```
{
  "api_remark" : "Web backend Api",
  "sign_id" : "1885a4864bf4404283b6772fe339c249",
  "sign_name" : "signature_demo"
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3017",
  "error_msg" : "Signature key 0b0e8f456b8742218af75f945307173c does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.11 Access Control Policy Management

6.11.1 Creating an Access Control Policy

Function

This API is used to create an access control policy to allow or deny API access from certain IP addresses or tenants. The `acl_value` value of a domain is a tenant name rather than a domain name (such as `www.exampleDomain.com`).

URI

POST `/v2/{project_id}/apic/instances/{instance_id}/acls`

Table 6-609 Path Parameters

Parameter	Mandatory	Type	Description
<code>project_id</code>	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
<code>instance_id</code>	Yes	String	Instance ID.

Request Parameters

Table 6-610 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-611 Request body parameters

Parameter	Mandatory	Type	Description
acl_name	Yes	String	Access control policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
acl_type	Yes	String	Access control type. • PERMIT (whitelist) • DENY (blacklist)
acl_value	Yes	String	One or more objects from which the access will be controlled. Separate multiple objects with commas. • If entity_type is set to IP, enter up to 100 IP addresses. • If entity_type is set to DOMAIN, enter account names. Each account name can contain up to 64 ASCII characters except commas (,). Do not use only digits. The total length cannot exceed 1,024 characters. • If entity_type is set to DOMAIN_ID, enter account IDs. For details about how to obtain an account ID, see "Appendix" > "Obtaining an Account Name and Account ID" in this document.
entity_type	Yes	String	Object type. • IP: IP address. • DOMAIN: Account name. • DOMAIN_ID: Account ID.

Response Parameters

Status code: 201

Table 6-612 Response body parameters

Parameter	Type	Description
acl_name	String	Name.
acl_type	String	Type. • PERMIT (whitelist) • DENY (blacklist)
acl_value	String	Access control objects.
entity_type	String	Object type. • IP • DOMAIN • DOMAIN_ID
id	String	ID.
update_time	String	Update time.

Status code: 400**Table 6-613** Response body parameters

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

Status code: 401**Table 6-614** Response body parameters

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

Status code: 403**Table 6-615** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404**Table 6-616** Response body parameters

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

Status code: 500**Table 6-617** Response body parameters

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

Example Requests

Create an access control policy with type as PERMIT and object as IP.

```
{
  "acl_name": "acl_demo",
  "acl_type": "PERMIT",
  "acl_value": "192.168.1.5,192.168.10.1",
  "entity_type": "IP"
}
```

Example Responses

Status code: 201

Created

```
{
  "id": "7eb619ecf2a24943b099833cd24a01ba",
  "acl_name": "acl_demo",
  "entity_type": "IP",
  "acl_type": "PERMIT",
  "acl_value": "192.168.1.5,192.168.10.1",
  "update_time": "2020-08-04T08:42:43.461276217Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:acl_type. Please refer to the support
documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.11.2 Modifying an Access Control Policy

Function

This API is used to modify a specified access control policy. Only attributes `acl_name`, `acl_type`, and `acl_value` can be modified.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/acls/{acl_id}

Table 6-618 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
acl_id	Yes	String	Access control policy ID.

Request Parameters

Table 6-619 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-620 Request body parameters

Parameter	Mandatory	Type	Description
acl_name	Yes	String	Access control policy name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). It must start with a letter.
acl_type	Yes	String	Access control type. • PERMIT (whitelist) • DENY (blacklist)

Parameter	Mandatory	Type	Description
acl_value	Yes	String	One or more objects from which the access will be controlled. Separate multiple objects with commas. • If entity_type is set to IP, enter up to 100 IP addresses. • If entity_type is set to DOMAIN, enter account names. Each account name can contain up to 64 ASCII characters except commas (,). Do not use only digits. The total length cannot exceed 1,024 characters. • If entity_type is set to DOMAIN_ID, enter account IDs. For details about how to obtain an account ID, see "Appendix" > "Obtaining an Account Name and Account ID" in this document.
entity_type	Yes	String	Object type. • IP: IP address. • DOMAIN: Account name. • DOMAIN_ID: Account ID.

Response Parameters

Status code: 200

Table 6-621 Response body parameters

Parameter	Type	Description
acl_name	String	Name.
acl_type	String	Type. • PERMIT (whitelist) • DENY (blacklist)
acl_value	String	Access control objects.

Parameter	Type	Description
entity_type	String	Object type. • IP • DOMAIN • DOMAIN_ID
id	String	ID.
update_time	String	Update time.

Status code: 400**Table 6-622** Response body parameters

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

Status code: 401**Table 6-623** Response body parameters

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

Status code: 403**Table 6-624** Response body parameters

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

Status code: 404

Table 6-625 Response body parameters

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

Status code: 500**Table 6-626** Response body parameters

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

Example Requests

Modify objects of a specified access control policy.

```
{
  "acl_name" : "acl_demo",
  "acl_type" : "PERMIT",
  "acl_value" : "192.168.1.5,192.168.10.1",
  "entity_type" : "IP"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "7eb619ecf2a24943b099833cd24a01ba",
  "acl_name" : "acl_demo",
  "entity_type" : "IP",
  "acl_type" : "PERMIT",
  "acl_value" : "192.168.1.5,192.168.10.1",
  "update_time" : "2020-08-04T08:54:55.975856802Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:acl_type. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
}
```



```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3006",
  "error_msg": "Access control policy 7eb619ecf2a24943b099833cd24a01ba does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.11.3 Deleting an Access Control Policy

Function

This API is used to delete an access control policy. Access control policies bound to APIs cannot be deleted.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/acls/{acl_id}

Table 6-627 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
acl_id	Yes	String	Access control policy ID.

Request Parameters

Table 6-628 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-629 Response body parameters

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

Status code: 401

Table 6-630 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-631** Response body parameters

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

Status code: 404**Table 6-632** Response body parameters

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

Status code: 500**Table 6-633** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3006",
  "error_msg" : "Access control policy 7eb619ecf2a24943b099833cd24a01ba does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.11.4 Deleting Multiple Access Control Policies

Function

This API is used to delete multiple access control policies.

Access control policies bound to APIs cannot be deleted.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/acls

Table 6-634 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-635 Query Parameters

Parameter	Mandatory	Type	Description
action	Yes	String	The value must be delete.

Request Parameters

Table 6-636 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-637 Request body parameters

Parameter	Mandatory	Type	Description
acls	No	Array of strings	IDs of the access control policies to be deleted.

Response Parameters

Status code: 200

Table 6-638 Response body parameters

Parameter	Type	Description
success_count	Integer	Number of access control policies that have been successfully deleted.
failure	Array of AclBatchFailure objects	Error message and access control policies that fail to be deleted.

Table 6-639 AclBatchFailure

Parameter	Type	Description
acl_id	String	ID of an access control policy that fails to be deleted.
acl_name	String	Name of the access control policy.
error_code	String	Error code displayed for a deletion failure.
error_msg	String	Error message displayed for a deletion failure.

Status code: 400

Table 6-640 Response body parameters

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

Status code: 401

Table 6-641 Response body parameters

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

Status code: 403**Table 6-642** Response body parameters

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

Status code: 404**Table 6-643** Response body parameters

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

Status code: 500**Table 6-644** Response body parameters

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

Example Requests

Delete multiple access control policies.

```
{
  "acls" : [ "7eb619ecf2a24943b099833cd24a01ba", "3a68d39f115d4c128fccd6f624ea6109" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "failure" : [ {
    "acl_id" : "7eb619ecf2a24943b099833cd24a01ba",
    "acl_name" : "acl_demo",
    "error_code" : "APIG.3447",
    "error_msg" : "The Acl Strategy has already binded to APIs"
  } ],
  "success_count" : 1
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value: parameter action should be \\\\\"delete\\\\\\\""
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.11.5 Querying Details of an Access Control Policy

Function

This API is used to query the details of an access control policy.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/acls/{acl_id}

Table 6-645 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
acl_id	Yes	String	Access control policy ID.

Request Parameters

Table 6-646 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-647 Response body parameters

Parameter	Type	Description
acl_name	String	Name.

Parameter	Type	Description
acl_type	String	Type. • PERMIT (whitelist) • DENY (blacklist)
acl_value	String	Access control objects.
entity_type	String	Object type. • IP • DOMAIN • DOMAIN_ID
id	String	ID.
update_time	String	Update time.

Status code: 400**Table 6-648** Response body parameters

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

Status code: 401**Table 6-649** Response body parameters

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

Status code: 403**Table 6-650** Response body parameters

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

Status code: 404**Table 6-651** Response body parameters

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

Status code: 500**Table 6-652** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "id" : "7eb619ecf2a24943b099833cd24a01ba",
  "acl_name" : "acl_demo",
  "entity_type" : "IP",
  "acl_type" : "PERMIT",
  "acl_value" : "192.168.1.5,192.168.10.1",
  "update_time" : "2020-08-04T08:42:43Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3006",
  "error_msg" : "Access control policy 7eb619ecf2a24943b099833cd24a01ba does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.11.6 Querying Access Control Policies

Function

This API is used to query all the access control policies.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/acls

Table 6-653 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-654 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
id	No	String	Access control policy ID.
name	No	String	Access control policy name.
acl_type	No	String	Access control type. • PERMIT (whitelist) • DENY (blacklist)
entity_type	No	String	Application object type. • IP • DOMAIN
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, only name is supported.

Request Parameters

Table 6-655 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-656** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
acls	Array of ApiAclInfoWithBindNum objects	Access control policy list.

Table 6-657 ApiAclInfoWithBindNum

Parameter	Type	Description
acl_name	String	Access control policy name.
acl_type	String	Type. - PERMIT (whitelist) - DENY (blacklist)
acl_value	String	Access control objects.
bind_num	Integer	Number of bound APIs.
entity_type	String	Object type. - IP - DOMAIN - DOMAIN_ID
id	String	Access control policy ID.
update_time	String	Update time.

Status code: 400**Table 6-658** Response body parameters

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

Status code: 401**Table 6-659** Response body parameters

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

Status code: 403**Table 6-660** Response body parameters

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

Status code: 404**Table 6-661** Response body parameters

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

Status code: 500**Table 6-662** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "acls" : [ {
    "bind_num" : 0,
    "id" : "7eb619ecf2a24943b099833cd24a01ba",
    "acl_name" : "acl_demo",
    "entity_type" : "IP",
    "acl_type" : "PERMIT",
    "acl_value" : "192.168.1.5,192.168.10.1",
    "update_time" : "2020-08-04T08:42:43Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```


Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.12 Binding Access Control Policies

6.12.1 Binding an Access Control Policy to an API

Function

This API is used to bind an access control policy to a specified API.

You can bind different access control policies to an API in different environments, but you can bind only one access control policy to the API in each environment.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/acl-bindings

Table 6-663 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-664 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-665 Request body parameters

Parameter	Mandatory	Type	Description
acl_id	Yes	String	Access control policy ID.
publish_ids	Yes	Array of strings	API publication record ID.

Response Parameters

Status code: 201

Table 6-666 Response body parameters

Parameter	Type	Description
acl_bindings	Array of AclApiBindingInfo objects	Access control policy binding record list.

Table 6-667 AclApiBindingInfo

Parameter	Type	Description
id	String	Binding ID.
api_id	String	API ID.
env_id	String	Environment ID.
acl_id	String	Access control policy ID.
create_time	String	Time when the policy is bound to the API.

Status code: 400**Table 6-668** Response body parameters

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

Status code: 401**Table 6-669** Response body parameters

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

Status code: 403**Table 6-670** Response body parameters

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

Status code: 404

Table 6-671 Response body parameters

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

Status code: 500**Table 6-672** Response body parameters

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

Example Requests

Bind a specific access control policy to an API.

```
{
  "acl_id" : "7eb619ecf2a24943b099833cd24a01ba",
  "publish_ids" : [ "40e7162dc6b94bbbb1a60d2a24b1b0c" ]
}
```

Example Responses

Status code: 201

Created

```
{
  "acl_bindings" : [ {
    "id" : "332c5db1458a477b89b2ea741fec94a3",
    "api_id" : "5f918d104dc84480a75166ba99efff21",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "acl_id" : "7eb619ecf2a24943b099833cd24a01ba",
    "create_time" : "2020-08-04T08:58:03.001228747Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:acl_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
}
```

```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3006",
  "error_msg": "Access control policy 7eb619ecf2a24943b099833cd24a01ba does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.12.2 Unbinding an Access Control Policy from an API

Function

This API is used to unbind an access control policy from an API.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/acl-bindings/{acl_bindings_id}

Table 6-673 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
acl_bindings_id	Yes	String	Binding ID.

Request Parameters

Table 6-674 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-675 Response body parameters

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

Status code: 401

Table 6-676 Response body parameters

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

Status code: 403**Table 6-677** Response body parameters

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

Status code: 404**Table 6-678** Response body parameters

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

Status code: 500**Table 6-679** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3010",
  "error_msg" : "The access control policy binding record does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.12.3 Unbinding Multiple Access Control Policies from APIs

Function

Unbinding Multiple Access Control Policies from APIs

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/acl-bindings

Table 6-680 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-681 Query Parameters

Parameter	Mandatory	Type	Description
action	Yes	String	The value must be delete.

Request Parameters

Table 6-682 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-683 Request body parameters

Parameter	Mandatory	Type	Description
acl_bindings	No	Array of strings	Access control policy binding records to be canceled.

Response Parameters

Status code: 200

Table 6-684 Response body parameters

Parameter	Type	Description
success_count	Integer	Number of access control policies that have been successfully unbound from the API.
failure	Array of AclBindingBatch-Failure objects	Error message and access control policies that fail to be unbound.

Table 6-685 AclBindingBatchFailure

Parameter	Type	Description
bind_id	String	ID of a binding record that fails to be canceled.
error_code	String	Error code displayed for a binding failure.
error_msg	String	Error message displayed for a binding failure.
api_id	String	ID of an API from which a policy fails to be unbound.
api_name	String	Name of the API from which a policy fails to be unbound.

Status code: 400**Table 6-686** Response body parameters

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

Status code: 401**Table 6-687** Response body parameters

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

Status code: 403**Table 6-688** Response body parameters

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

Status code: 404**Table 6-689** Response body parameters

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

Status code: 500**Table 6-690** Response body parameters

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

Example Requests

Unbind access control policies from APIs.

```
{
  "acl_bindings" : [ "332c5db1458a477b89b2ea741fec94a3" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "failure" : [ {
    "bind_id" : "3a68d39f115d4c128fccd6f624ea6109",
    "error_code" : "APIG.3010",
    "error_msg" : "The access control policy binding record does not exist"
  } ],
  "success_count" : 1
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value: parameter action should be \\\\\"delete\\\\\\\""
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.12.4 Querying APIs Bound with an Access Control Policy

Function

Querying APIs Bound with an Access Control Policy

URI

GET /v2/{project_id}/apic/instances/{instance_id}/acl-bindings/binded-apis

Table 6-691 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-692 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
acl_id	Yes	String	ACL ID.
api_name	No	String	API name.
env_id	No	String	Environment ID.
group_id	No	String	API group ID.

Parameter	Mandatory	Type	Description
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-693 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-694 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of AclBindApiInfo objects	API list.

Table 6-695 AclBindApiInfo

Parameter	Type	Description
api_id	String	API ID.
api_name	String	API name.
group_name	String	API group name.

Parameter	Type	Description
api_type	Integer	API type.
api_remark	String	API description.
env_id	String	ID of the environment in which the API takes effect.
env_name	String	Name of the environment in which the API takes effect.
bind_id	String	Binding ID.
bind_time	String	Time when the policy is bound to the API.
publish_id	String	API publication record ID.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.

Status code: 400**Table 6-696** Response body parameters

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

Status code: 401**Table 6-697** Response body parameters

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

Status code: 403**Table 6-698** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404

Table 6-699 Response body parameters

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

Status code: 500

Table 6-700 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "apis": [ {
    "api_id": "5f918d104dc84480a75166ba99efff21",
    "api_name": "Api_http",
    "group_name": "api_group_001",
    "api_type": 1,
    "api_remark": "Web backend Api",
    "env_id": "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name": "RELEASE",
    "bind_id": "332c5db1458a477b89b2ea741fec94a3",
    "bind_time": "2020-08-04T08:58:03Z",
    "publish_id": "40e7162dc6b94bbbbb1a60d2a24b1b0c"
  } ]
}
```

Status code: 400

Bad Request


```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3006",
  "error_msg" : "Access control policy 7eb619ecf2a24943b099833cd24a01ba does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.12.5 Querying APIs Not Bound with an Access Control Policy

Function

This API is used to query the published APIs to which an access control policy has not been bound.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/acl-bindings/unbinded-apis

Table 6-701 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-702 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
acl_id	Yes	String	Access control policy ID.
api_id	No	String	API ID.
api_name	No	String	API name.
env_id	No	String	Environment ID.
group_id	No	String	API group ID.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-703 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-704** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of UnbindApiForAcl objects	API list.

Table 6-705 UnbindApiForAcl

Parameter	Type	Description
auth_type	String	API authentication mode.
run_env_name	String	Name of the environment in which the API has been published.
group_name	String	API group name.
publish_id	String	Publication record ID.
group_id	String	ID of the API group to which the API belongs.
name	String	API name.
remark	String	API description.
run_env_id	String	ID of the environment in which the API has been published.
id	String	API ID.

Parameter	Type	Description
req_uri	String	API request address.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.
type	Integer	API type.
acl_name	String	Name of the same type of access control policy bound to the API.

Status code: 400**Table 6-706** Response body parameters

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

Status code: 401**Table 6-707** Response body parameters

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

Status code: 403**Table 6-708** Response body parameters

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

Status code: 404

Table 6-709 Response body parameters

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

Status code: 500

Table 6-710 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "apis": [ {
    "auth_type": "IAM",
    "run_env_name": "RELEASE",
    "group_name": "api_group_001",
    "publish_id": "9f27d1dc4f4242a9abf88e563dbfc33d",
    "group_id": "c77f5e81d9cb4424bf704ef2b0ac7600",
    "name": "Api_mock",
    "remark": "Mock backend API",
    "run_env_id": "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "id": "3a955b791bd24b1c9cd94c745f8d1aad",
    "req_uri": "/test/mock",
    "type": 1,
    "acl_name": ""
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3006",
  "error_msg" : "Access control policy 7eb619ecf2a24943b099833cd24a01ba does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.12.6 Querying Access Control Policies Bound to an API

Function

Querying Access Control Policies Bound to an API

URI

GET /v2/{project_id}/apic/instances/{instance_id}/acl-bindings/binded-acls

Table 6-711 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-712 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
api_id	Yes	String	API ID.
env_id	No	String	Environment ID.
env_name	No	String	Environment name.
acl_id	No	String	Access control policy ID.
acl_name	No	String	Access control policy name.

Request Parameters

Table 6-713 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-714 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
acls	Array of ApiBindAclInfo objects	Access control policy list.

Table 6-715 ApiBindAclInfo

Parameter	Type	Description
acl_id	String	Access control policy ID.
acl_name	String	Access control policy name.
entity_type	String	Object type.
acl_type	String	Access control policy type. • PERMIT: whitelist • DENY: blacklist
acl_value	String	Access control objects.
env_id	String	ID of the environment in which the API takes effect.
env_name	String	Name of the environment in which the API takes effect.
bind_id	String	Binding ID.
bind_time	String	Time when the policy is bound to the API.

Status code: 400

Table 6-716 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-717** Response body parameters

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

Status code: 403**Table 6-718** Response body parameters

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

Status code: 404**Table 6-719** Response body parameters

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

Status code: 500**Table 6-720** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "acls" : [ {
    "acl_id" : "7eb619ecf2a24943b099833cd24a01ba",
    "acl_name" : "acl_demo",
    "entity_type" : "IP",
    "acl_type" : "PERMIT",
    "acl_value" : "192.168.1.5,192.168.10.1",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "bind_id" : "332c5db1458a477b89b2ea741fec94a3",
    "bind_time" : "2020-08-04T08:58:03Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:acl_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.13 API Import and Export

6.13.1 Exporting APIs

Function

This API is used to export API definition information in an API group. The exported file content must comply with the Swagger standard.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/openapi/export

Table 6-721 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-722 Query Parameters

Parameter	Mandatory	Type	Description
oas_version	No	String	Exported OpenAPI version. 2.0 (default): Swagger 2.0 3.0: OpenAPI 3.0

Request Parameters

Table 6-723 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-724 Request body parameters

Parameter	Mandatory	Type	Description
env_id	Yes	String	ID of the environment in which the API group was published.
group_id	Yes	String	API group ID.

Parameter	Mandatory	Type	Description
define	No	String	Definition scope of the export API: • spec: basic definition, including only the API frontend definition. • proxy: full definition, including the API frontend and backend definitions. • all: extended definition, including the API frontend and backend definitions, as well as extended definitions such as request throttle, access control, and customized authentication. • dev: development definition, including the frontend and backend definitions of APIs that are not published.
type	No	String	Format of the exported API definition.
version	No	String	Version of the exported API definition. The default value is the current time.
apis	No	Array of strings	List of exported API IDs.

Response Parameters

Status code: 200

Table 6-725 Response body parameters

Parameter	Type	Description
-	File	-

Status code: 400

Table 6-726 Response body parameters

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

Status code: 401**Table 6-727** Response body parameters

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

Status code: 403**Table 6-728** Response body parameters

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

Status code: 404**Table 6-729** Response body parameters

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

Status code: 500**Table 6-730** Response body parameters

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

Example Requests

Export APIs in a specified API group with definition scope as all.

```
{
  "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "define" : "all"
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2001",
  "error_msg" : "The request parameters must be specified,parameterName:env_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3001",
  "error_msg" : "API group c77f5e81d9cb4424bf704ef2b0ac7600 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.13.2 Importing APIs

Function

This API is used to import APIs. The content of the imported file must comply with the Swagger standard. For details about the customized extended fields, see "Appendix: Swagger Extension Definition of Frontend APIs" in the ROMA Connect User Guide.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/openapi/import

Table 6-731 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-732 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-733 FormData parameters

Parameter	Mandatory	Type	Description
is_create_group	No	Boolean	Whether to create a new group.
group_id	No	String	API group ID. This parameter is mandatory when is_create_group is set to false.
app_id	No	String	Application ID. This parameter is mandatory when is_create_group is set to false and the integration application group is used.
extend_mode	No	String	Import mode of extended information. • merge: Retain the original extended information if a conflict occurs. • override: Override the original extended information if a conflict occurs.
simple_mode	No	Boolean	Whether to enable fast import.
mock_mode	No	Boolean	Whether to enable the Mock backend.

Parameter	Mandatory	Type	Description
api_mode	No	String	Import mode. - merge: Retain the original API information if a conflict occurs. - override: Override the original API information if a conflict occurs.
file_name	Yes	File	Request body in JSON or YAML format for importing APIs

Response Parameters

Status code: 200

Table 6-734 Response body parameters

Parameter	Type	Description
success	Array of Success objects	Import success information.
failure	Array of Failure objects	Import failure information.
swagger	Swagger object	Swagger file import result. This parameter is currently not supported.
group_id	String	API group ID.
ignore	Array of Ignore objects	APIs that are not imported.

Table 6-735 Success

Parameter	Type	Description
path	String	API request path.
method	String	API request method.
action	String	Import type. - update: Update the APIs in an existing API group. - create: Create APIs for a new API group.

Parameter	Type	Description
id	String	ID of an imported API.

Table 6-736 Failure

Parameter	Type	Description
path	String	API request path.
error_msg	String	Error message displayed for an import failure.
method	String	API request method.
error_code	String	Error code displayed for an import failure.

Table 6-737 Swagger

Parameter	Type	Description
id	String	Swagger file No.
result	String	Import result description.

Table 6-738 Ignore

Parameter	Type	Description
method	String	API request method.
path	String	API request path.

Status code: 400**Table 6-739** Response body parameters

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

Status code: 401

Table 6-740 Response body parameters

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

Status code: 403**Table 6-741** Response body parameters

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

Status code: 404**Table 6-742** Response body parameters

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

Status code: 500**Table 6-743** Response body parameters

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

Example Requests

Import an API. Field file_name indicates the file type.

```
{  
  "file_name" : "APIGroup_test.yaml"  
}
```

Example Responses

Status code: 200

OK

```
{
  "group_id" : "d9ce8c9eede54b3f841ec324fe0bfdc2",
  "failure" : [ {
    "path" : "/test/demo",
    "error_msg" : "The API already exists, An API with the same combination of the method, path, and x-
apigateway-match-mode fields already exists. API name: API_demo",
    "method" : "GET",
    "error_code" : "APIG.3301"
  } ],
  "success" : [ {
    "path" : "/test",
    "method" : "GET",
    "action" : "create",
    "id" : "8ae6bcfab6f49d78242bff26ad8a4f0"
  } ],
  "swagger" : {
    "id" : "412488ba965041f9838a5266a5f8e574",
    "result" : "Success"
  }
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3201",
  "error_msg" : "The API group name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3001",
  "error_msg" : "API group not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.13.3 Exporting Custom Backend APIs

Function

This API is used to export custom backend APIs. The exported file content must comply with the swagger standard.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/openapi/livedata-apis/export

Table 6-744 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-745 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-746 Request body parameters

Parameter	Mandatory	Type	Description
app_id	No	String	ID of the Application to which an API belongs.
format	No	String	Format for exporting API definitions.
apis	No	Array of strings	List of exported custom backend API IDs.
status	No	Integer	Status of the exported backend API. • 1: pending development • 3: developing • 4: deployed

Response Parameters

Status code: 200

Table 6-747 Response body parameters

Parameter	Type	Description
-	File	

Status code: 400

Table 6-748 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-749** Response body parameters

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

Status code: 403**Table 6-750** Response body parameters

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

Status code: 404**Table 6-751** Response body parameters

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

Status code: 500**Table 6-752** Response body parameters

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

Example Requests

Export custom backends of an integration application.

```
{
  "app_id" : "e311fea0-57d0-462d-b96b-949548adcb67 "
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3001",
  "error_msg" : "API group c77f5e81d9cb4424bf704ef2b0ac7600 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.13.4 Importing Custom Backend APIs

Function

This API is used to import custom backend APIs. The content of the imported file must comply with the Swagger standard. For details about the customized extended fields, see "Appendix: Swagger Extension Definition of Backend APIs" in the ROMA Connect User Guide.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/openapi/livedata-apis/import

Table 6-753 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-754 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-755 FormData parameters

Parameter	Mandatory	Type	Description
extend_mode	No	String	Import mode of extended information. • merge: Retain the original extended information if a conflict occurs. • override: Override the original extended information if a conflict occurs.
api_mode	No	String	Import mode. • merge: Retain the original API information if a conflict occurs. • override: Override the original API information if a conflict occurs.
file_name	Yes	File	Request body in JSON or YAML format for importing APIs

Response Parameters

Status code: 200**Table 6-756** Response body parameters

Parameter	Type	Description
success	Array of Success objects	Import success information.

Parameter	Type	Description
failure	Array of Failure objects	Import failure information.
swagger	Swagger object	Swagger file import result. This parameter is currently not supported.

Table 6-757 Success

Parameter	Type	Description
path	String	API request path.
method	String	API request method.
action	String	Import type. • update: Update the APIs in an existing API group. • create: Create APIs for a new API group.
id	String	ID of an imported API.

Table 6-758 Failure

Parameter	Type	Description
path	String	API request path.
error_msg	String	Error message displayed for an import failure.
method	String	API request method.
error_code	String	Error code displayed for an import failure.

Table 6-759 Swagger

Parameter	Type	Description
id	String	Swagger file No.
result	String	Import result description.

Status code: 400

Table 6-760 Response body parameters

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

Status code: 401**Table 6-761** Response body parameters

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

Status code: 403**Table 6-762** Response body parameters

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

Status code: 404**Table 6-763** Response body parameters

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

Status code: 500**Table 6-764** Response body parameters

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

Example Requests

Import a custom backend API. Field `file_name` indicates the file type.

```
{
  "file_name": "livedataApi.yaml"
}
```

Example Responses

Status code: 200

OK

```
{
  "failure": [ {
    "path": "/test/demo",
    "error_msg": "The backend API already exists",
    "method": "GET",
    "error_code": "APIG.3314"
  } ],
  "success": [ {
    "path": "/test",
    "method": "GET",
    "action": "create",
    "id": "8ae6bcfab6f49d78242bff26ad8a4f0"
  } ],
  "swagger": { }
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.3201",
  "error_msg": "The API group name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3001",
  "error_msg": "API group not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14 VPC Channel Management

6.14.1 Creating a VPC Channel

Function

This API is used to create a VPC channel from APIC to your private VPC resources. Afterwards, when creating an API, you can configure your backend service to use this VPC channel so that can directly access your private VPC resources.

NOTE

You can create a maximum of 200 VPC channels. If you need to support more VPC channels, contact technical support to adjust the quota.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/vpc-channels

Table 6-765 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-766 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-767 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Yes	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Yes	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing

Parameter	Mandatory	Type	Description
member_type	Yes	String	Member type of the VPC channel. • ip • ecs
type	No	Integer	VPC channel type. • 2: Server • 3: Microservice If vpc_channel_type is empty, the load balance channel type is determined by the type field. If the value of type is not 3 or the value of microservice_info is empty, the VPC channel type is server by default. If the value of type is 3 and the value of microservice_info is not empty, the VPC channel type is microservice. When you modify a load balance channel, the VPC channel type will remain unchanged. This field is to be discarded. Use the vpc_channel_type field to specify the load balance channel type.

Parameter	Mandatory	Type	Description
vpc_channel_type	No	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	No	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
member_groups	No	Array of MemberGroupCreate objects	Backend server groups of the VPC channel. If service_type in microservice_info is set to NACOS, the weight of the server group cannot be manually set.
members	No	Array of MemberInfo objects	Backend instances of the VPC channel. This field will not be used to add or update backend instances for a reference load balance channel.
vpc_health_config	No	VpcHealthConfig object	Health check details.

Parameter	Mandatory	Type	Description
microservice_info	No	MicroService Create object	Microservice details.

Table 6-768 MemberGroupCreate

Parameter	Mandatory	Type	Description
member_group_name	Yes	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	No	String	Description of the VPC channel's backend server group.
member_group_weight	No	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	No	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	No	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Mandatory	Type	Description
microservice_port	No	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	No	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	No	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).

Table 6-769 MicroserviceLabel

Parameter	Mandatory	Type	Description
label_name	Yes	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	Yes	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-770 MemberInfo

Parameter	Mandatory	Type	Description
host	No	String	Backend server address. This parameter is valid when the member type is IP address.

Parameter	Mandatory	Type	Description
weight	No	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	No	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	No	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	No	Integer	Backend server status. • 1: available • 2: unavailable
port	No	Integer	Backend server port.
ecs_id	No	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).

Parameter	Mandatory	Type	Description
ecs_name	No	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).

Table 6-771 VpcHealthConfig

Parameter	Mandatory	Type	Description
protocol	Yes	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	No	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	No	String	Request method for health checks.
port	No	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Yes	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Yes	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.

Parameter	Mandatory	Type	Description
time_interval	Yes	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	No	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	No	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	No	Integer	Health check status • 1: available • 2: unavailable
timeout	Yes	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.

Table 6-772 MicroServiceCreate

Parameter	Mandatory	Type	Description
service_type	No	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos registration center. nacos_info is mandatory.
cse_info	No	MicroServiceInfoCSEBase object	CES basic information
cce_info	No	MicroServiceInfoCCEBase object	Not supported
cce_service_info	No	MicroServiceInfoCCEServiceBase object	Not supported currently.
nacos_info	No	MicroServiceInfoNacosBase object	Nacos basic information.

Table 6-773 MicroServiceInfoCSEBase

Parameter	Mandatory	Type	Description
engine_id	Yes	String	Microservice engine ID.
service_id	Yes	String	Microservice ID.

Table 6-774 MicroServiceInfoCCEBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace.
workload_type	Yes	String	Workload type. Options: • deployment • statefulset • daemonset

Parameter	Mandatory	Type	Description
app_name	No	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	No	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_./:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	No	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-775 MicroServiceInfoCCEServiceBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	Yes	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-776 MicroServiceInfoNacosBase

Parameter	Mandatory	Type	Description
namespace	No	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	No	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	No	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	Yes	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Yes	Array of NacosServerConfig objects	Nacos server configurations.
user_info	Yes	NacosUserInfo object	Nacos user information.

Table 6-777 NacosServerConfig

Parameter	Mandatory	Type	Description
ip_address	Yes	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Yes	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	No	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-778 NacosUserInfo

Parameter	Mandatory	Type	Description
user_name	Yes	String	Nacos username.
password	Yes	String	Nacos password.

Response Parameters

Status code: 201

Table 6-779 Response body parameters

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	String	Member type of the VPC channel. • ip • ecs
type	Integer	VPC channel type: 2: BUILTIN 3: MICROSERVICE

Parameter	Type	Description
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
microservice_info	MicroServiceInfo object	Response object of the microservice.

Table 6-780 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_groupRemark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-781 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-782 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID
service_type	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos engine. nacos_info is mandatory.
cse_info	MicroServiceInfo CSE object	CSE information.
cce_info	MicroServiceInfo CCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfo CCEService object	CCE microservice service details.
nacos_info	MicroServiceInfo - NacosBase object	Nacos basic information.

Parameter	Type	Description
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-783 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-784 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-785 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-786 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters

Parameter	Type	Description
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_), and colons (:) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-787 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-788 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.
password	String	Nacos password.

Status code: 400

Table 6-789 Response body parameters

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

Status code: 401**Table 6-790** Response body parameters

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

Status code: 403**Table 6-791** Response body parameters

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

Status code: 404**Table 6-792** Response body parameters

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

Status code: 500**Table 6-793** Response body parameters

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

Example Requests

Create a VPC channel of the server type with member type as IP, and add backend servers.

```
{
  "balance_strategy": 1,
  "member_type": "ip",
  "name": "VPC_demo",
  "port": 22,
  "type": 2,
  "vpc_health_config": {
    "http_code": "200",
    "path": "/vpc/demo",
    "port": 22,
    "protocol": "http",
    "threshold_abnormal": 5,
    "threshold_normal": 2,
    "time_interval": 10,
    "timeout": 5,
    "enable_client_ssl": false
  },
  "member_groups": [ {
    "member_group_name": "test",
    "member_group_weight": 1,
    "member_group_remark": "remark"
  }, {
    "member_group_name": "default",
    "member_group_weight": 2,
    "member_group_remark": "remark"
  } ],
  "members": [ {
    "host": "192.168.0.5",
    "weight": 1,
    "member_group_name": "test"
  }, {
    "host": "192.168.1.124",
    "weight": 2,
    "member_group_name": "default"
  } ]
}
```

Example Responses

Status code: 201

Created

- Example 1

```
{
  "name": "VPC_demo",
  "id": "105c6902457144a4820dff8b1ad63331",
  "balance_strategy": 1,
  "dict_code": "",
  "create_time": "2020-07-23T07:11:57.244829604Z",
  "member_type": "ip",
  "port": 22,
  "status": 1,
  "member_groups": [ {
    "member_group_id": "c1ce135c705c4066853a0460b318fe16",
    "member_group_name": "test",
    "member_group_weight": 1,
    "member_group_remark": "remark",
    "create_time": "2020-07-23T07:11:57.244829604Z",
    "update_time": "2020-07-23T07:11:57.244829604Z",
    "microservice_version": "",
    "microservice_port": 0
  } ]
}
```

```
}, {
  "member_group_id" : "c1ce135c705c4066853a0460b318fe17",
  "member_group_name" : "default",
  "member_group_weight" : 2,
  "member_group_remark" : "remark",
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "update_time" : "2020-07-23T07:11:57.244829604Z",
  "microservice_version" : "",
  "microservice_port" : 0
}],
"type" : 2,
"microservice_info" : {
  "id" : "",
  "instance_id" : "",
  "service_type" : "",
  "cse_info" : {
    "cse_app_id" : "",
    "engine_id" : "",
    "engine_name" : "",
    "register_address" : "",
    "service_id" : "",
    "service_name" : "",
    "version" : ""
  },
  "cce_info" : {
    "cluster_id" : "",
    "cluster_name" : "",
    "namespace" : "",
    "workload_type" : "",
    "app_name" : ""
  },
  "create_time" : "",
  "update_time" : ""
}
}
```

- Example 2

```
{
  "name" : "VPC_demo",
  "id" : "105c6902457144a4820dff8b1ad63331",
  "balance_strategy" : 1,
  "dict_code" : "",
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "member_type" : "ip",
  "port" : 22,
  "status" : 1,
  "member_groups" : [ {
    "member_group_id" : "c1ce135c705c4066853a0460b318fe16",
    "member_group_name" : "test",
    "member_group_weight" : 1,
    "member_group_remark" : "remark",
    "create_time" : "2020-07-23T07:11:57.244829604Z",
    "update_time" : "2020-07-23T07:11:57.244829604Z",
    "microservice_version" : "v1",
    "microservice_port" : 80
  }, {
    "member_group_id" : "c1ce135c705c4066853a0460b318fe17",
    "member_group_name" : "default",
    "member_group_weight" : 2,
    "member_group_remark" : "remark",
    "create_time" : "2020-07-23T07:11:57.244829604Z",
    "update_time" : "2020-07-23T07:11:57.244829604Z",
    "microservice_version" : "v2",
    "microservice_port" : 80
  } ],
"type" : 3,
"microservice_info" : {
  "id" : "9483afa235be45158a70c19ab817ac65",
  "project_id" : "73d69ae0cfcf460190522d06b60f05ad",
  "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",

```

```
{
  "service_type": "CCE",
  "cse_info": {
    "cse_app_id": "",
    "engine_id": "",
    "engine_name": "",
    "register_address": "",
    "service_id": "",
    "service_name": "",
    "version": ""
  },
  "cce_info": {
    "cluster_id": "ab1485b4f91b45abbcd560be591f7309",
    "cluster_name": "cce-test",
    "namespace": "default",
    "workload_type": "deployment",
    "app_name": "testapp"
  },
  "create_time": "2020-07-23T07:11:57.244829604Z",
  "update_time": "2020-07-23T07:11:57.244829604Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2001",
  "error_msg": "The request parameters must be specified, parameter name:members"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3030",
  "error_msg": "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.2 Modifying a VPC Channel

Function

This API is used to update the parameters of a VPC channel.

If the VPC channel is overwritten with an empty backend server group list, all the existing backend server groups will be deleted.

For compatibility, if the backend server list is empty, the existing backend servers will not be deleted. To delete the backend servers, use the API for deleting backend servers.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}

Table 6-794 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-795 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-796 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Yes	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Yes	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	Yes	String	Member type of the VPC channel. • ip • ecs

Parameter	Mandatory	Type	Description
type	No	Integer	VPC channel type. • 2: Server • 3: Microservice If vpc_channel_type is empty, the load balance channel type is determined by the type field. If the value of type is not 3 or the value of microservice_info is empty, the VPC channel type is server by default. If the value of type is 3 and the value of microservice_info is not empty, the VPC channel type is microservice. When you modify a load balance channel, the VPC channel type will remain unchanged. This field is to be discarded. Use the vpc_channel_type field to specify the load balance channel type.

Parameter	Mandatory	Type	Description
vpc_channel_type	No	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	No	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
member_groups	No	Array of MemberGroupCreate objects	Backend server groups of the VPC channel. If service_type in microservice_info is set to NACOS, the weight of the server group cannot be manually set.
members	No	Array of MemberInfo objects	Backend instances of the VPC channel. This field will not be used to add or update backend instances for a reference load balance channel.
vpc_health_config	No	VpcHealthConfig object	Health check details.

Parameter	Mandatory	Type	Description
microservice_info	No	MicroService Create object	Microservice details.

Table 6-797 MemberGroupCreate

Parameter	Mandatory	Type	Description
member_group_name	Yes	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	No	String	Description of the VPC channel's backend server group.
member_group_weight	No	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	No	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	No	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Mandatory	Type	Description
microservice_port	No	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	No	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	No	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).

Table 6-798 MicroserviceLabel

Parameter	Mandatory	Type	Description
label_name	Yes	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	Yes	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-799 MemberInfo

Parameter	Mandatory	Type	Description
host	No	String	Backend server address. This parameter is valid when the member type is IP address.

Parameter	Mandatory	Type	Description
weight	No	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	No	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	No	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	No	Integer	Backend server status. • 1: available • 2: unavailable
port	No	Integer	Backend server port.
ecs_id	No	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).

Parameter	Mandatory	Type	Description
ecs_name	No	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).

Table 6-800 VpcHealthConfig

Parameter	Mandatory	Type	Description
protocol	Yes	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	No	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	No	String	Request method for health checks.
port	No	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Yes	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Yes	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.

Parameter	Mandatory	Type	Description
time_interval	Yes	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	No	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	No	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	No	Integer	Health check status • 1: available • 2: unavailable
timeout	Yes	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.

Table 6-801 MicroServiceCreate

Parameter	Mandatory	Type	Description
service_type	No	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos registration center. nacos_info is mandatory.
cse_info	No	MicroServiceInfoCSEBase object	CES basic information
cce_info	No	MicroServiceInfoCCEBase object	Not supported
cce_service_info	No	MicroServiceInfoCCEServiceBase object	Not supported currently.
nacos_info	No	MicroServiceInfoNacosBase object	Nacos basic information.

Table 6-802 MicroServiceInfoCSEBase

Parameter	Mandatory	Type	Description
engine_id	Yes	String	Microservice engine ID.
service_id	Yes	String	Microservice ID.

Table 6-803 MicroServiceInfoCCEBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace.
workload_type	Yes	String	Workload type. Options: • deployment • statefulset • daemonset

Parameter	Mandatory	Type	Description
app_name	No	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	No	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_./:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	No	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-804 MicroServiceInfoCCEServiceBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	Yes	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-805 MicroServiceInfoNacosBase

Parameter	Mandatory	Type	Description
namespace	No	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	No	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	No	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	Yes	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Yes	Array of NacosServerConfig objects	Nacos server configurations.
user_info	Yes	NacosUserInfo object	Nacos user information.

Table 6-806 NacosServerConfig

Parameter	Mandatory	Type	Description
ip_address	Yes	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Yes	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	No	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-807 NacosUserInfo

Parameter	Mandatory	Type	Description
user_name	Yes	String	Nacos username.
password	Yes	String	Nacos password.

Response Parameters

Status code: 200

Table 6-808 Response body parameters

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	String	Member type of the VPC channel. • ip • ecs
type	Integer	VPC channel type: 2: BUILTIN 3: MICROSERVICE

Parameter	Type	Description
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
microservice_info	MicroServiceInfo object	Response object of the microservice.

Table 6-809 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_groupRemark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-810 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-811 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID
service_type	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos engine. nacos_info is mandatory.
cse_info	MicroServiceInfo CSE object	CSE information.
cce_info	MicroServiceInfo CCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfo CCEService object	CCE microservice service details.
nacos_info	MicroServiceInfo - NacosBase object	Nacos basic information.

Parameter	Type	Description
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-812 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-813 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-814 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-815 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters

Parameter	Type	Description
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_), and colons (:) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-816 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-817 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.
password	String	Nacos password.

Status code: 400

Table 6-818 Response body parameters

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

Status code: 401**Table 6-819** Response body parameters

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

Status code: 403**Table 6-820** Response body parameters

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

Status code: 404**Table 6-821** Response body parameters

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

Status code: 500**Table 6-822** Response body parameters

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

Example Requests

Modify a specified VPC channel of the server type by changing the distribution algorithm to WLC and the backend server configuration.

```
{
  "balance_strategy": 2,
  "member_type": "ip",
  "name": "VPC_demo",
  "port": 22,
  "type": 2,
  "vpc_health_config": {
    "http_code": "200",
    "path": "/vpc/demo",
    "port": 22,
    "protocol": "http",
    "threshold_abnormal": 5,
    "threshold_normal": 2,
    "time_interval": 10,
    "timeout": 5,
    "enable_client_ssl": false
  },
  "member_groups": [ {
    "member_group_name": "test",
    "member_group_weight": 1,
    "member_group_remark": "remark"
  }, {
    "member_group_name": "default",
    "member_group_weight": 2,
    "member_group_remark": "remark"
  } ],
  "members": [ {
    "host": "192.168.0.5",
    "weight": 1,
    "member_group_name": "test"
  }, {
    "host": "192.168.1.124",
    "weight": 2,
    "member_group_name": "default"
  } ]
}
```

Example Responses

Status code: 200

OK

- Example 1

```
{
  "name": "VPC_demo",
  "port": 22,
  "balance_strategy": 2,
  "member_type": "ip",
  "dict_code": "",
  "create_time": "2020-07-23T07:11:57Z",
  "id": "18174f5f4f1a4dc29f33aeadd9788e5f",
  "status": 1,
  "member_groups": [ {
    "member_group_id": "c1ce135c705c4066853a0460b318fe16",
    "member_group_name": "test",
    "member_group_weight": 1,
    "member_group_remark": "remark",
    "create_time": "2020-07-23T07:11:57.244829604Z",
    "update_time": "2020-07-23T07:11:57.244829604Z"
  }, {
    "member_group_id": "c1ce135c705c4066853a0460b318fe17",
```

```
"member_group_name" : "default",
"member_group_weight" : 2,
"member_group_remark" : "remark",
"create_time" : "2020-07-23T07:11:57.244829604Z",
"update_time" : "2020-07-23T07:11:57.244829604Z"
}],
"type" : 2,
"microservice_info" : {
  "id" : "",
  "instance_id" : "",
  "service_type" : "",
  "cse_info" : {
    "cse_app_id" : "",
    "engine_id" : "",
    "engine_name" : "",
    "register_address" : "",
    "service_id" : "",
    "service_name" : "",
    "version" : ""
  },
  "cce_info" : {
    "cluster_id" : "",
    "cluster_name" : "",
    "namespace" : "",
    "workload_type" : "",
    "app_name" : ""
  },
  "create_time" : "",
  "update_time" : ""
}
}
```

- Example 2

```
{
  "name" : "VPC_demo",
  "id" : "105c6902457144a4820dff8b1ad63331",
  "balance_strategy" : 1,
  "dict_code" : "",
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "member_type" : "ip",
  "port" : 22,
  "status" : 1,
  "member_groups" : [ {
    "member_group_id" : "c1ce135c705c4066853a0460b318fe16",
    "member_group_name" : "test",
    "member_group_weight" : 1,
    "member_group_remark" : "remark",
    "create_time" : "2020-07-23T07:11:57.244829604Z",
    "update_time" : "2020-07-23T07:11:57.244829604Z",
    "microservice_version" : "v1",
    "microservice_port" : 80
  }, {
    "member_group_id" : "c1ce135c705c4066853a0460b318fe17",
    "member_group_name" : "default",
    "member_group_weight" : 2,
    "member_group_remark" : "remark",
    "create_time" : "2020-07-23T07:11:57.244829604Z",
    "update_time" : "2020-07-23T07:11:57.244829604Z",
    "microservice_version" : "v2",
    "microservice_port" : 80
  } ],
  "type" : 3,
  "microservice_info" : {
    "id" : "9483afa235be45158a70c19ab817ac65",
    "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",
    "service_type" : "CCE",
    "cse_info" : {
      "cse_app_id" : "",
      "engine_id" : "",
      "engine_name" : ""
    }
  }
}
```

```
{
  "register_address" : "",
  "service_id" : "",
  "service_name" : "",
  "version" : ""
},
"cce_info" : {
  "cluster_id" : "ab1485b4f91b45abbcd560be591f7309",
  "cluster_name" : "cce-test",
  "namespace" : "default",
  "workload_type" : "deployment",
  "app_name" : "testapp"
},
"create_time" : "2020-07-23T07:11:57.244829604Z",
"update_time" : "2020-07-23T07:11:57.244829604Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2001",
  "error_msg" : "The request parameters must be specified, parameter name:members"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3023",
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.3 Deleting a VPC Channel

Function

This API is used to delete a VPC channel.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}

Table 6-823 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-824 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400**Table 6-825** Response body parameters

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

Status code: 401**Table 6-826** Response body parameters

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

Status code: 403**Table 6-827** Response body parameters

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

Status code: 404

Table 6-828 Response body parameters

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

Status code: 500**Table 6-829** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3023",
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.14.4 Querying Details of a VPC Channel

Function

This API is used to query the details of a VPC channel.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}

Table 6-830 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-831 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-832** Response body parameters

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	String	Member type of the VPC channel. • ip • ecs
type	Integer	VPC channel type: 2: BUILTIN 3: MICROSERVICE

Parameter	Type	Description
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
microservice_info	MicroServiceInfo object	Response object of the microservice.
members	Array of VpcMemberInfo objects	Backend instance list.
vpc_health_config	VpcHealthConfigInfo object	Health check details.

Table 6-833 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_groupRemark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-834 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-835 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID
service_type	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos engine. nacos_info is mandatory.
cse_info	MicroServiceInfo CSE object	CSE information.
cce_info	MicroServiceInfo CCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfo CCEService object	CCE microservice service details.
nacos_info	MicroServiceInfo - NacosBase object	Nacos basic information.

Parameter	Type	Description
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-836 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-837 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-838 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-839 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters

Parameter	Type	Description
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_), and colons (:) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-840 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-841 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.
password	String	Nacos password.

Table 6-842 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	Integer	Backend server status. 1: available 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.

Parameter	Type	Description
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.
member_group_id	String	Time when the backend server is added to the VPC channel.
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Table 6-843 VpcHealthConfigInfo

Parameter	Type	Description
protocol	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	String	Request method for health checks.
port	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.

Parameter	Type	Description
time_interval	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	Integer	Health check status • 1: available • 2: unavailable
timeout	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.
vpc_channel_id	String	VPC channel ID.
id	String	Health check ID.
create_time	String	Creation time.

Status code: 400**Table 6-844** Response body parameters

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

Status code: 401

Table 6-845 Response body parameters

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

Status code: 403**Table 6-846** Response body parameters

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

Status code: 404**Table 6-847** Response body parameters

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

Status code: 500**Table 6-848** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

● Example 1

```
{
  "name": "VPC_demo",
  "port": 22,
  "balance_strategy": 1,
  "member_type": "ip",
  "dict_code": "",
  "create_time": "2020-07-23T07:11:57.244829604Z",
  "id": "56a7d7358e1b42459c9d730d65b14e59",
  "status": 1,
  "member_groups": [],
  "type": 2,
  "members": [ {
    "host": "192.168.0.5",
    "weight": 1,
    "is_backup": false,
    "member_group_name": "",
    "status": 1,
    "port": 22,
    "ecs_id": "192.168.0.5",
    "ecs_name": "192.168.0.5",
    "id": "be63c6260a1043888187f84af39c9f0e",
    "vpc_channel_id": "56a7d7358e1b42459c9d730d65b14e59",
    "create_time": "2020-07-23T07:11:57Z",
    "member_group_id": "",
    "health_status": "healthy"
  }, {
    "host": "192.168.1.124",
    "weight": 2,
    "is_backup": false,
    "member_group_name": "",
    "status": 1,
    "port": 22,
    "ecs_id": "192.168.1.124",
    "ecs_name": "192.168.1.124",
    "id": "a57b13f1b89b417ca8acd76909e6df67",
    "vpc_channel_id": "56a7d7358e1b42459c9d730d65b14e59",
    "create_time": "2020-07-23T07:11:57Z",
    "member_group_id": "",
    "health_status": "unhealthy"
  } ],
  "vpc_health_config": {
    "protocol": "http",
    "path": "/vpc/demo",
    "method": "GET",
    "port": 22,
    "threshold_normal": 2,
    "threshold_abnormal": 5,
    "time_interval": 10,
    "http_code": "200",
    "enable_client_ssl": false,
    "status": 1,
    "timeout": 5,
    "vpc_channel_id": "56a7d7358e1b42459c9d730d65b14e59",
    "id": "3b3d02026c5f402d85e8645ea95b0816",
    "create_time": "2020-07-23T07:11:57Z"
  },
  "microservice_info": {
    "id": "",
    "instance_id": "",
    "service_type": "",
    "cse_info": {
      "cse_app_id": "",
      "engine_id": "",
      "engine_name": "",
      "register_address": "",
      "service_id": "",
      "service_name": "",
      "version": ""
    }
  }
}
```

```
},
"cce_info": {
  "cluster_id": "",
  "cluster_name": "",
  "namespace": "",
  "workload_type": "",
  "app_name": ""
},
"create_time": "",
"update_time": ""
}
}
```

- Example 2

```
{
  "name": "VPC_demo",
  "id": "105c6902457144a4820dff8b1ad63331",
  "balance_strategy": 1,
  "dict_code": "",
  "create_time": "2020-07-23T07:11:57.244829604Z",
  "member_type": "ip",
  "port": 22,
  "status": 1,
  "member_groups": [ {
    "member_group_id": "c1ce135c705c4066853a0460b318fe16",
    "member_group_name": "test",
    "member_group_weight": 1,
    "member_group_remark": "remark",
    "create_time": "2020-07-23T07:11:57.244829604Z",
    "update_time": "2020-07-23T07:11:57.244829604Z",
    "microservice_version": "v1",
    "microservice_port": 80
  }, {
    "member_group_id": "c1ce135c705c4066853a0460b318fe17",
    "member_group_name": "default",
    "member_group_weight": 2,
    "member_group_remark": "remark",
    "create_time": "2020-07-23T07:11:57.244829604Z",
    "update_time": "2020-07-23T07:11:57.244829604Z",
    "microservice_version": "v2",
    "microservice_port": 80
  } ],
  "type": 3,
  "vpc_health_config": {
    "protocol": "http",
    "path": "/vpc/demo",
    "method": "GET",
    "port": 22,
    "threshold_normal": 2,
    "threshold_abnormal": 5,
    "time_interval": 10,
    "http_code": "200",
    "enable_client_ssl": false,
    "status": 1,
    "timeout": 5,
    "vpc_channel_id": "56a7d7358e1b42459c9d730d65b14e59",
    "id": "3b3d02026c5f402d85e8645ea95b0816",
    "create_time": "2020-07-23T07:11:57Z"
  },
  "microservice_info": {
    "id": "9483afa235be45158a70c19ab817ac65",
    "project_id": "73d69ae0cfcf460190522d06b60f05ad",
    "instance_id": "f0fa1789-3b76-433b-a787-9892951c620e",
    "service_type": "CCE",
    "cse_info": {
      "cse_app_id": "",
      "engine_id": "",
      "engine_name": "",
      "register_address": "",
      "service_id": ""
    }
  }
}
```

```
{
  "service_name" : "",
  "version" : ""
},
"cce_info" : {
  "cluster_id" : "ab1485b4f91b45abbcd560be591f7309",
  "cluster_name" : "cce-test",
  "namespace" : "default",
  "workload_type" : "deployment",
  "app_name" : "testapp"
},
"create_time" : "2020-07-23T07:11:57.244829604Z",
"update_time" : "2020-07-23T07:11:57.244829604Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3023",
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.5 Querying VPC Channels

Function

This API is used to query the VPC channels.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/vpc-channels

Table 6-849 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-850 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Parameter	Mandatory	Type	Description
id	No	String	VPC channel ID.
name	No	String	VPC channel name.
dict_code	No	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, name and member_group_name are supported.
member_host	No	String	Backend server address. By default, exact query is supported and fuzzy query is not supported.]
member_port	No	Integer	Backend server port.
member_group_name	No	String	Name of the backend server group.
member_group_id	No	String	ID of the backend server group.
vpc_channel_type	No	String	VPC channel type. • builtin: server type • microservice: microservice type • reference: reference load balance channel

Request Parameters

Table 6-851 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-852 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
vpc_channels	Array of VpcChannelInfo objects	Backend instance list.

Table 6-853 VpcChannelInfo

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.

Parameter	Type	Description
balance_strategy	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	String	Member type of the VPC channel. • ip • ecs
type	Integer	VPC channel type: 2: BUILTIN 3: MICROSERVICE
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal

Parameter	Type	Description
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
microservice_info	MicroServiceInfo object	Response object of the microservice.

Table 6-854 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroServiceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Type	Description
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.
update_time	String	Time when the backend server group is updated.

Table 6-855 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-856 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID
service_type	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos engine. nacos_info is mandatory.

Parameter	Type	Description
cse_info	MicroServiceInfoCSE object	CSE information.
cce_info	MicroServiceInfoCCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfoCCEService object	CCE microservice service details.
nacos_info	MicroServiceInfoNacosBase object	Nacos basic information.
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-857 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-858 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset

Parameter	Type	Description
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-859 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-860 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-861 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Integer	Port number of the Nacos server. Range: 1-65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1-65535.

Table 6-862 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.

Parameter	Type	Description
password	String	Nacos password.

Status code: 400

Table 6-863 Response body parameters

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

Status code: 401

Table 6-864 Response body parameters

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

Status code: 403

Table 6-865 Response body parameters

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

Status code: 404

Table 6-866 Response body parameters

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

Status code: 500

Table 6-867 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "vpc_channels" : [ {
    "name" : "channel 1",
    "port" : 8080,
    "balance_strategy" : 1,
    "member_type" : "ip",
    "dict_code" : "",
    "create_time" : "2020-07-23T07:24:33Z",
    "id" : "105c6902457144a4820dff8b1ad63331",
    "status" : 1,
    "member_groups" : [ ],
    "type" : 2,
    "microservice_info" : {
      "id" : "",
      "instance_id" : "",
      "service_type" : "",
      "cse_info" : {
        "cse_app_id" : "",
        "engine_id" : "",
        "engine_name" : "",
        "register_address" : "",
        "service_id" : "",
        "service_name" : "",
        "version" : ""
      },
      "cce_info" : {
        "cluster_id" : "",
        "cluster_name" : "",
        "namespace" : "",
        "workload_type" : "",
        "app_name" : ""
      },
      "create_time" : "",
      "update_time" : ""
    }
  }, {
    "name" : "channel 2",
    "port" : 8088,
    "balance_strategy" : 2,
    "member_type" : "ip",
    "dict_code" : "",
    "create_time" : "2020-07-23T07:11:57Z",
    "id" : "56a7d7358e1b42459c9d730d65b14e59",
    "status" : 1,
```

```
"member_groups" : [ ],
"type" : 3,
"microservice_info" : {
  "id" : "9483afa235be45158a70c19ab817ac65",
  "project_id" : "73d69ae0cfcf460190522d06b60f05ad",
  "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",
  "service_type" : "CCE",
  "cse_info" : {
    "cse_app_id" : "",
    "engine_id" : "",
    "engine_name" : "",
    "register_address" : "",
    "service_id" : "",
    "service_name" : "",
    "version" : ""
  },
  "cce_info" : {
    "cluster_id" : "ab1485b4f91b45abbcd560be591f7309",
    "cluster_name" : "cce-test",
    "namespace" : "default",
    "workload_type" : "deployment",
    "app_name" : "testapp"
  },
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "update_time" : "2020-07-23T07:11:57.244829604Z"
}
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "The request parameters must be specified,parameterName=name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.6 Adding or Updating Backend Instances

Function

This API is used to add backend instances to a VPC channel.

If a backend instance with the specified address already exists, the instance information is updated. If the request body contains multiple backend instance definitions with the same address, the first definition is used.

Backend instances cannot be added or updated for a reference load balance channel.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/members

Table 6-868 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-869 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-870 Request body parameters

Parameter	Mandatory	Type	Description
members	Yes	Array of MemberInfo objects	Backend server list.

Table 6-871 MemberInfo

Parameter	Mandatory	Type	Description
host	No	String	Backend server address. This parameter is valid when the member type is IP address.
weight	No	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.

Parameter	Mandatory	Type	Description
is_backup	No	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	No	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	No	Integer	Backend server status. • 1: available • 2: unavailable
port	No	Integer	Backend server port.
ecs_id	No	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	No	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).

Response Parameters

Status code: 201

Table 6-872 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
members	Array of VpcMemberInfo objects	Backend server group ID.

Table 6-873 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.

Parameter	Type	Description
status	Integer	Backend server status. • 1: available • 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.
member_group_id	String	Time when the backend server is added to the VPC channel.
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Status code: 400**Table 6-874** Response body parameters

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

Status code: 401

Table 6-875 Response body parameters

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

Status code: 403**Table 6-876** Response body parameters

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

Status code: 404**Table 6-877** Response body parameters

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

Status code: 500**Table 6-878** Response body parameters

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

Example Requests

- Add a backend server IP address to a specified VPC channel.

```
{
  "members" : [ {
    "host" : "192.168.2.25",
    "weight" : 1,
    "member_group_name" : "test"
  } ]
}
```


- Add a cloud server to a specified VPC channel.

```
{
  "members" : [ {
    "ecs_id" : "1082720c-3c15-409c-9ae3-4983ddfb6a9d",
    "ecs_name" : "APIGtest02",
    "weight" : 2
  } ]
}
```

Example Responses

Status code: 201

Created

- Example 1

```
{
  "total" : 1,
  "size" : 1,
  "members" : [ {
    "host" : "192.168.2.25",
    "weight" : 1,
    "is_backup" : false,
    "member_group_name" : "test",
    "status" : 1,
    "port" : 22,
    "ecs_id" : "3082720c-3c15-409c-9ae3-4983ddfb6a9d",
    "ecs_name" : "APIGtest",
    "id" : "683b6807cad54122a6777ad047a6178e",
    "vpc_channel_id" : "105c6902457144a4820dff8b1ad63331",
    "create_time" : "2020-07-23T09:13:24Z",
    "member_group_id" : "cf868f0224084710a1e188b7d3057c52"
  } ]
}
```

- Example 2

```
{
  "total" : 2,
  "size" : 2,
  "members" : [ {
    "host" : "192.168.0.17",
    "weight" : 2,
    "is_backup" : false,
    "member_group_name" : "test02",
    "status" : 1,
    "port" : 22,
    "ecs_id" : "1082720c-3c15-409c-9ae3-4983ddfb6a9d",
    "ecs_name" : "APIGtest02",
    "id" : "5c868f0224084710a1e188b7d3057c52",
    "vpc_channel_id" : "105c6902457144a4820dff8b1ad63331",
    "create_time" : "2020-07-23T09:03:53Z",
    "member_group_id" : "df868f0224084710a1e188b7d3057c52"
  }, {
    "host" : "192.168.0.39",
    "weight" : 1,
    "is_backup" : false,
    "member_group_name" : "test01",
    "status" : 1,
    "port" : 22,
    "ecs_id" : "ebe1104f-1254-4ac6-8ed7-366bec84f36e",
    "ecs_name" : "APIGtest01",
    "id" : "33ac0e39d005492eb1f4683e66d1a0d1",
    "vpc_channel_id" : "105c6902457144a4820dff8b1ad63331",
    "create_time" : "2020-07-23T07:24:34Z",
    "member_group_id" : "ef868f0224084710a1e188b7d3057c42"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2004",
  "error_msg" : "The parameter value is outside the allowable range,parameterName:weight. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3023",
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.7 Querying Backend Servers of a VPC Channel

Function

This API is used to query the backend servers of a VPC channel.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/members

Table 6-879 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Table 6-880 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
name	No	String	Cloud server name.
member_group_name	No	String	Name of the backend server group.
member_group_id	No	String	ID of the backend server group.

Parameter	Mandatory	Type	Description
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, name and member_group_name are supported.

Request Parameters

Table 6-881 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-882 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
members	Array of VpcMemberInfo objects	Backend server group ID.

Table 6-883 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.

Parameter	Type	Description
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	Integer	Backend server status. • 1: available • 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.

Parameter	Type	Description
member_group_id	String	Time when the backend server is added to the VPC channel.
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Status code: 400**Table 6-884** Response body parameters

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

Status code: 401**Table 6-885** Response body parameters

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

Status code: 403**Table 6-886** Response body parameters

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

Status code: 404

Table 6-887 Response body parameters

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

Status code: 500

Table 6-888 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "members" : [ {
    "host" : "192.168.0.5",
    "weight" : 1,
    "is_backup" : false,
    "member_group_name" : "",
    "status" : 1,
    "port" : 22,
    "ecs_id" : "192.168.0.5",
    "ecs_name" : "192.168.0.5",
    "id" : "be63c6260a1043888187f84af39c9f0e",
    "vpc_channel_id" : "56a7d7358e1b42459c9d730d65b14e59",
    "create_time" : "2020-07-23T07:11:57Z",
    "health_status" : "unhealthy",
    "member_group_id" : ""
  }, {
    "host" : "192.168.1.124",
    "weight" : 2,
    "is_backup" : false,
    "member_group_name" : "",
    "status" : 1,
    "port" : 22,
    "ecs_id" : "192.168.1.124",
    "ecs_name" : "192.168.1.124",
    "id" : "a57b13f1b89b417ca8acd76909e6df67",
    "vpc_channel_id" : "56a7d7358e1b42459c9d730d65b14e59",
    "create_time" : "2020-07-23T07:11:57Z",
    "member_group_id" : "",
    "health_status" : "unhealthy"
  } ]
}
```

```
  }]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3023",  
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.8 Updating Backend Instances

Function

This API is used to update the backend instances of a specified VPC channel. During the update, the request parameters overwrite the backend instances of the corresponding cloud server group. If no cloud server group is specified, all cloud server groups are overwritten.

Backend instances cannot be updated for a reference load balance channel.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/members

Table 6-889 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-890 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-891 Request body parameters

Parameter	Mandatory	Type	Description
members	No	Array of MemberInfo objects	Backend server list.
member_group_name	No	String	Backend server group to be modified. If this parameter is not specified, all backends defined by members for the VPC channel are modified. If this parameter is specified, only the backend instances in the backend server group defined by members are modified. Input parameters of other backend server groups are ignored. For example, if member_group_name=primary is passed, only backend instances of backend server group primary in members are modified.

Table 6-892 MemberInfo

Parameter	Mandatory	Type	Description
host	No	String	Backend server address. This parameter is valid when the member type is IP address.
weight	No	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.

Parameter	Mandatory	Type	Description
is_backup	No	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	No	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	No	Integer	Backend server status. • 1: available • 2: unavailable
port	No	Integer	Backend server port.
ecs_id	No	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	No	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).

Response Parameters

Status code: 200

Table 6-893 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
members	Array of VpcMemberInfo objects	Backend server group ID.

Table 6-894 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.

Parameter	Type	Description
status	Integer	Backend server status. • 1: available • 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.
member_group_id	String	Time when the backend server is added to the VPC channel.
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Status code: 400**Table 6-895** Response body parameters

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

Status code: 401

Table 6-896 Response body parameters

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

Status code: 403**Table 6-897** Response body parameters

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

Status code: 404**Table 6-898** Response body parameters

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

Status code: 500**Table 6-899** Response body parameters

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

Example Requests

- Modify the IP backend server information of a specified VPC channel server group by changing backend server to a non-standby node and resetting the weight.

```
{
  "member_group_name": "primary",
  "members": [ {
    "host": "192.168.2.25",
    "weight": 1,
    "is_backup": false,
```

```
    "member_group_name" : "primary"
  } ]
}
```

- Modify the information about a cloud-server backend server of a specified VPC channel by changing the weight.

```
{
  "members" : [ {
    "ecs_id" : "1082720c-3c15-409c-9ae3-4983ddfb6a9d",
    "ecs_name" : "APIGtest02",
    "weight" : 2
  } ]
}
```

Example Responses

Status code: 200

OK

- Example 1

```
{
  "total" : 1,
  "size" : 1,
  "members" : [ {
    "host" : "192.168.2.25",
    "weight" : 1,
    "is_backup" : false,
    "member_group_name" : "primary",
    "port" : 22,
    "status" : 1,
    "ecs_id" : "192.168.2.25",
    "ecs_name" : "192.168.2.25",
    "id" : "683b6807cad54122a6777ad047a6178e",
    "vpc_channel_id" : "56a7d7358e1b42459c9d730d65b14e59",
    "create_time" : "2020-07-23T09:13:24Z",
    "member_group_id" : "631b551cddda40478ef720163a9412ed"
  } ]
}
```

- Example 2

```
{
  "total" : 1,
  "size" : 1,
  "members" : [ {
    "host" : "192.168.0.17",
    "weight" : 2,
    "is_backup" : false,
    "member_group_name" : "primary",
    "port" : 22,
    "status" : 1,
    "ecs_id" : "1082720c-3c15-409c-9ae3-4983ddfb6a9d",
    "ecs_name" : "APIGtest02",
    "id" : "5c868f0224084710a1e188b7d3057c52",
    "vpc_channel_id" : "105c6902457144a4820dff8b1ad63331",
    "create_time" : "2020-07-23T09:03:53Z",
    "member_group_id" : "631b551cddda40478ef720163a9412ed"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2004",
  "error_msg" : "The parameter value is outside the allowable range,parameterName:weight. Please refer to
```

```
the support documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3023",  
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.9 Deleting a Backend Server

Function

This API is used to delete a backend instance from a specified VPC channel.

Backend instances cannot be deleted for a reference load balance channel.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/
{vpc_channel_id}/members/{member_id}

Table 6-900 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.
member_id	Yes	String	Backend instance object ID.

Request Parameters

Table 6-901 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-902 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-903** Response body parameters

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

Status code: 403**Table 6-904** Response body parameters

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

Status code: 404**Table 6-905** Response body parameters

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

Status code: 500**Table 6-906** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3024",
  "error_msg" : "The VPC instance does not exist,id:be63c6260a1043888187f84af39c9f0e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.10 Enabling Backend Servers in Batches

Function

This API is used to enable backend servers of a VPC channel.

The statuses of backend servers cannot be modified for a reference load balance channel.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/members/batch-enable

Table 6-907 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-908 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-909 Request body parameters

Parameter	Mandatory	Type	Description
member_ids	No	Array of strings	List of backend server IDs.

Response Parameters

Status code: 401

Table 6-910 Response body parameters

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

Status code: 403

Table 6-911 Response body parameters

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

Status code: 404

Table 6-912 Response body parameters

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

Status code: 500**Table 6-913** Response body parameters

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

Example Requests

Enable specified backend servers.

```
{
  "member_ids" : [ "b20a5be94ded40cc8f2872ea3005cfb7", "5f918d104dc84480a75166ba99efff21" ]
}
```

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.11 Disabling Backend Servers in Batches

Function

This API is used to disable backend servers of a VPC channel.

The statuses of backend servers cannot be modified for a reference load balance channel.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/members/batch-disable

Table 6-914 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-915 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-916 Request body parameters

Parameter	Mandatory	Type	Description
member_ids	No	Array of strings	List of backend server IDs.

Response Parameters

Status code: 401

Table 6-917 Response body parameters

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

Status code: 403

Table 6-918 Response body parameters

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

Status code: 404

Table 6-919 Response body parameters

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

Status code: 500**Table 6-920** Response body parameters

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

Example Requests

Disable specified backend servers.

```
{
  "member_ids" : [ "b20a5be94ded40cc8f2872ea3005cfb7", "5f918d104dc84480a75166ba99efff21" ]
}
```

Example Responses

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.12 Modifying VPC Channel Health Checks

Function

Modify VPC channel health checks.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/health-config

Table 6-921 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-922 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-923 Request body parameters

Parameter	Mandatory	Type	Description
protocol	Yes	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	No	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	No	String	Request method for health checks.
port	No	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Yes	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Yes	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.

Parameter	Mandatory	Type	Description
time_interval	Yes	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	No	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	No	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	No	Integer	Health check status • 1: available • 2: unavailable
timeout	Yes	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.

Response Parameters

Status code: 200

Table 6-924 Response body parameters

Parameter	Type	Description
protocol	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	String	Request method for health checks.
port	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.
time_interval	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.

Parameter	Type	Description
enable_client_ssl	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	Integer	Health check status 1: available 2: unavailable
timeout	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.
vpc_channel_id	String	VPC channel ID.
id	String	Health check ID.
create_time	String	Creation time.

Status code: 401**Table 6-925** Response body parameters

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

Status code: 403**Table 6-926** Response body parameters

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

Status code: 404

Table 6-927 Response body parameters

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

Status code: 500**Table 6-928** Response body parameters

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

Example Requests

Modify the health check configuration of a specified VPC channel by changing the protocol to HTTP and disabling two-way authentication.

```
{
  "http_code" : "200",
  "path" : "/vpc/demo",
  "port" : 22,
  "protocol" : "http",
  "threshold_abnormal" : 5,
  "threshold_normal" : 2,
  "time_interval" : 10,
  "timeout" : 5,
  "enable_client_ssl" : false
}
```

Example Responses

Status code: 200

OK

```
{
  "protocol" : "http",
  "path" : "/vpc/demo",
  "method" : "GET",
  "port" : 22,
  "threshold_abnormal" : 5,
  "threshold_normal" : 2,
  "time_interval" : 10,
  "http_code" : "200",
  "enable_client_ssl" : false,
  "status" : 1,
  "timeout" : 5,
  "id" : "3b3d02026c5f402d85e8645ea95b0816",
  "vpc_channel_id" : "d38c55c926ca44c2bfb37886d93b9a0d",
  "create_time" : "2020-07-23T07:11:57Z"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.13 Adding a Backend Server Group to a VPC Channel

Function

On APIC, create a VPC backend server group. You can determine whether to associate a VPC backend instance with a backend instance server group to manage backend server nodes.

If the backend server group with the specified name already exists, the system updates the information about the backend server group. If the request body contains multiple backend server definitions with duplicate names, the first definition is used.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/member-groups

Table 6-929 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Request Parameters

Table 6-930 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-931 Request body parameters

Parameter	Mandatory	Type	Description
member_groups	No	Array of MemberGroupCreate objects	List of backend server groups.

Table 6-932 MemberGroupCreate

Parameter	Mandatory	Type	Description
member_group_name	Yes	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	No	String	Description of the VPC channel's backend server group.
member_group_weight	No	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	No	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	No	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	No	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	No	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Mandatory	Type	Description
reference_vpc_channel_id	No	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).

Table 6-933 MicroserviceLabel

Parameter	Mandatory	Type	Description
label_name	Yes	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	Yes	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Response Parameters

Status code: 201

Table 6-934 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
member_groups	Array of MemberGroupInfo objects	Backend server groups of the VPC channel.

Table 6-935 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_groupRemark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-936 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Status code: 400**Table 6-937** Response body parameters

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

Status code: 401**Table 6-938** Response body parameters

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

Status code: 403

Table 6-939 Response body parameters

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

Status code: 404**Table 6-940** Response body parameters

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

Status code: 500**Table 6-941** Response body parameters

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

Example Requests

Create a server-type backend server group for a specified VPC channel and set the weight.

```
{
  "member_groups": [ {
    "member_group_name": "vpc_member_group",
    "member_group_weight": 10
  } ]
}
```

Example Responses

Status code: 201

Created

```
{
  "total": 1,
  "size": 1,
  "member_groups": [ {
    "member_group_name": "vpc_member_group",
    "member_group_id": "105c6902457144a4820dff8b1ad63331",
    "member_group_remark": ""
  } ]
}
```

```
"member_group_weight" : 10,  
"create_time" : "2020-07-23T07:24:33Z",  
"update_time" : "2020-07-23T07:24:33Z"  
}]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2001",  
  "error_msg" : "The request parameters must be specified, parameter name:name"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3030",  
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.14 Querying the List of Backend Cloud Service Groups of a VPC Channel

Function

Query the list of backend cloud service groups of a VPC channel.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/member-groups

Table 6-942 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.

Table 6-943 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Parameter	Mandatory	Type	Description
dict_code	No	String	Dictionary code. The value can contain letters, digits, and special characters (-_.). Not supported currently.
member_group_name	No	String	Name of the backend cloud service group of the VPC channel.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, member_group_name is supported.

Request Parameters

Table 6-944 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-945 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
member_groups	Array of MemberGroupInfo objects	Backend server groups of the VPC channel.

Table 6-946 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_groupRemark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-947 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Status code: 400**Table 6-948** Response body parameters

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

Status code: 401**Table 6-949** Response body parameters

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

Status code: 403

Table 6-950 Response body parameters

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

Status code: 404**Table 6-951** Response body parameters

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

Status code: 500**Table 6-952** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "member_groups": [ {
    "member_group_name": "vpc_member_group",
    "member_group_remark": "remark",
    "member_group_weight": 1,
    "dict_code": "",
    "member_group_id": "105c6902457144a4820dff8b1ad63331",
    "create_time": "2020-07-23T07:24:33Z",
    "update_time": "2020-07-23T07:24:33Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "The request parameters must be specified,parameterName:name. Please refer to the
support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.15 Viewing Details About a Backend Server Group of a VPC Channel

Function

View details about a backend server group of the specified VPC channel.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/member-groups/{member_group_id}

Table 6-953 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.
member_group_id	Yes	String	ID of the backend server group of the VPC channel.

Request Parameters

Table 6-954 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-955 Response body parameters

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_groupRemark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-956 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Status code: 400**Table 6-957** Response body parameters

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

Status code: 401**Table 6-958** Response body parameters

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

Status code: 403

Table 6-959 Response body parameters

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

Status code: 404**Table 6-960** Response body parameters

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

Status code: 500**Table 6-961** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "member_group_name" : "vpc_member_group",
  "member_group_id" : "105c6902457144a4820dff8b1ad63331",
  "dict_code" : "",
  "member_group_remark" : "",
  "create_time" : "2020-07-23T07:24:33Z",
  "update_time" : "2020-07-23T07:24:33Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
}
```

```
{
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3023",
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.16 Deleting a VPC Backend Server Group

Function

Delete the backend server group of the specified VPC channel.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/
{vpc_channel_id}/member-groups/{member_group_id}

Table 6-962 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.
member_group_id	Yes	String	ID of the backend server group of the VPC channel.

Request Parameters

Table 6-963 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-964 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-965** Response body parameters

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

Status code: 403**Table 6-966** Response body parameters

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

Status code: 404**Table 6-967** Response body parameters

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

Status code: 500**Table 6-968** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3023",
  "error_msg" : "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.14.17 Modifying a Backend Server Group of a VPC Channel

Function

This API is used to update a backend server group of a VPC channel. If the load balance channel is the Nacos microservice, the server group weight cannot be modified.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/vpc-channels/{vpc_channel_id}/member-groups/{member_group_id}

Table 6-969 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
vpc_channel_id	Yes	String	VPC channel ID.
member_group_id	Yes	String	ID of the backend server group of the VPC channel.

Request Parameters

Table 6-970 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-971 Request body parameters

Parameter	Mandatory	Type	Description
member_group_name	Yes	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	No	String	Description of the VPC channel's backend server group.
member_group_weight	No	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	No	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	No	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Mandatory	Type	Description
microservice_port	No	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	No	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	No	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).

Table 6-972 MicroserviceLabel

Parameter	Mandatory	Type	Description
label_name	Yes	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	Yes	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Response Parameters

Status code: 200

Table 6-973 Response body parameters

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_groupRemark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-974 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Status code: 400**Table 6-975** Response body parameters

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

Status code: 401**Table 6-976** Response body parameters

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

Status code: 403

Table 6-977 Response body parameters

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

Status code: 404**Table 6-978** Response body parameters

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

Status code: 500**Table 6-979** Response body parameters

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

Example Requests

Modify a server-type server group of a specified VPC channel by changing the weight.

```
{
  "member_group_name": "vpc_member_group",
  "member_group_weight": 10
}
```

Example Responses

Status code: 200

OK

- Example 1

```
{
  "member_group_name": "vpc_member_group",
  "member_group_id": "105c6902457144a4820dff8b1ad63331",
  "member_group_remark": "",
  "member_group_weight": 10,
  "create_time": "2020-07-23T07:24:33Z",
  "update_time": "2020-07-23T07:24:33Z"
}
```

- Example 2

```
{
  "member_group_name": "vpc_member_group",
  "member_group_id": "105c6902457144a4820dff8b1ad63331",
  "member_group_remark": "",
  "member_group_weight": 10,
  "create_time": "2020-07-23T07:24:33Z",
  "update_time": "2020-07-23T07:24:33Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2001",
  "error_msg": "The request parameters must be specified, parameter name:name"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3023",
  "error_msg": "The VPC channel does not exist,id:56a7d7358e1b42459c9d730d65b14e59"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15 Credential Management

6.15.1 Querying Apps

Function

This API is used to query apps.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apps

Table 6-980 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-981 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Parameter	Mandatory	Type	Description
id	No	String	App ID.
name	No	String	App name.
status	No	Integer	App status.
app_key	No	String	AppKey.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, only name is supported.

Request Parameters

Table 6-982 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-983 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apps	Array of AppInfoWithBindNum objects	Applications.

Table 6-984 AppInfoWithBindNum

Parameter	Type	Description
id	String	ID.
name	String	Name.
remark	String	Description.
creator	String	Creator of an application: • USER: created by a user • MARKET: allocated by KooGallery MARKET is not supported yet.
update_time	String	Creator of an application: • USER: created by a user • MARKET: allocated by KooGallery MARKET is not supported yet.
app_key	String	Update time.
app_secret	String	Key.
register_time	String	Registration time.
status	Integer	Status: • 1: Valid
app_type	String	Application type: • apig: existing APIG application (not recommended) • roma: ROMA integration application
roma_app_type	String	ROMA application type. • subscription • integration
bind_num	Integer	Number of APIs bound.

Status code: 400**Table 6-985** Response body parameters

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

Status code: 401**Table 6-986** Response body parameters

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

Status code: 403**Table 6-987** Response body parameters

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

Status code: 404**Table 6-988** Response body parameters

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

Status code: 500**Table 6-989** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "apps" : [ {
    "id" : "356de8eb7a8742168586e5daf5339965",
    "name" : "app_demo",
    "remark" : "app example",
    "creator" : "USER",
    "update_time" : "2020-08-03T13:09:13Z",
    "app_key" : "ee8f878c252747028f07eb116c2cd91b",
    "app_secret" : "416*****ab8",
    "register_time" : "2020-08-03T13:09:13Z",
    "status" : 1,
    "app_type" : "roma",
    "roma_app_type" : "integration",
    "bind_num" : 0
  }, {
    "id" : "9ed8b7fe84224de681e7d7a5587e76dc",
    "name" : "app_001",
    "remark" : "remark",
    "creator" : "USER",
    "update_time" : "2020-05-27T10:38:03.133586Z",
    "app_key" : "840b8b5b1efc4ec686639759c2c584da",
    "app_secret" : "0a4*****c6e",
    "register_time" : "2020-03-28T11:09:06Z",
    "status" : 1,
    "app_type" : "roma",
    "roma_app_type" : "integration",
    "bind_num" : 3
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.15.2 Checking Credential Details****Function**

This API is used to query the details of an app.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}

Table 6-990 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-991 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-992** Response body parameters

Parameter	Type	Description
id	String	ID.
name	String	Name.
remark	String	Description.
creator	String	Creator of an application: • USER: created by a user • MARKET: allocated by KooGallery MARKET is not supported yet.
update_time	String	Creator of an application: • USER: created by a user • MARKET: allocated by KooGallery MARKET is not supported yet.
app_key	String	Update time.
app_secret	String	Key.
register_time	String	Registration time.
status	Integer	Status: • 1: Valid
app_type	String	Application type: • apig: existing APIG application (not recommended) • roma: ROMA integration application

Parameter	Type	Description
roma_app_type	String	ROMA application type. • subscription • integration

Status code: 400**Table 6-993** Response body parameters

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

Status code: 401**Table 6-994** Response body parameters

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

Status code: 403**Table 6-995** Response body parameters

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

Status code: 404**Table 6-996** Response body parameters

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

Status code: 500**Table 6-997** Response body parameters

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

Example Requests

None

Example Responses**Status code: 200**

OK

```
{
  "creator" : "USER",
  "update_time" : "2020-08-03T13:09:13Z",
  "app_key" : "ee8f878c252747028f07eb116c2cd91b",
  "name" : "app_demo",
  "remark" : "app example",
  "id" : "356de8eb7a8742168586e5daf5339965",
  "app_secret" : "416*****ab8",
  "register_time" : "2020-08-03T13:09:13Z",
  "status" : 1,
  "app_type" : "apig"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "App 356de8eb7a8742168586e5daf5339965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15.3 Creating an AppCode

Function

This API is used to query an AppCode for simple app authentication.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-codes

Table 6-998 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-999 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1000 Request body parameters

Parameter	Mandatory	Type	Description
app_code	Yes	String	AppCode value. An AppCode value contains 64 to 180 characters, including letters and the following special characters are allowed: +_!@#\$/=. The value must start with a letter, plus sign (+), or slash (/).

Response Parameters

Status code: 201

Table 6-1001 Response body parameters

Parameter	Type	Description
app_code	String	AppCode value. An AppCode value contains 64 to 180 characters, including letters and the following special characters are allowed: +_!@#\$/=. The value must start with a letter, plus sign (+), or slash (/).
id	String	ID.

Parameter	Type	Description
app_id	String	App ID.
create_time	String	Creation time.

Status code: 400**Table 6-1002** Response body parameters

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

Status code: 401**Table 6-1003** Response body parameters

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

Status code: 403**Table 6-1004** Response body parameters

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

Status code: 404**Table 6-1005** Response body parameters

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

Status code: 500**Table 6-1006** Response body parameters

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

Example Requests

Create an AppCode with a specified value.

```
{
  "app_code" : "GjOD3g80AABuuFeEJpVQADBlAjBh3UzC7W
+gr4VJBB5BtJ4fdVOQoSvoji3gFxUDb5pWBz9wUcw9+8/bFZ1B/4pq29wCMQC0pQWX6zTndljDEl99As1pw
+WntAU9xcq+ffagoH6zDpKUvdxV6Ezj8LcCcPZN6BU="
}
```

Example Responses**Status code: 201**

Created

```
{
  "app_code" : "GjOD3g80AABuuFeEJpVQADBlAjBh3UzC7W
+gr4VJBB5BtJ4fdVOQoSvoji3gFxUDb5pWBz9wUcw9+8/bFZ1B/4pq29wCMQC0pQWX6zTndljDEl99As1pw
+WntAU9xcq+ffagoH6zDpKUvdxV6Ezj8LcCcPZN6BU=",
  "app_id" : "9ed8b7fe84224de681e7d7a5587e76dc",
  "id" : "32dc8ca22d1b4b9cb94022186880576b",
  "create_time" : "2020-07-24T02:37:24.835128293Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15.4 Generating an AppCode

Function

This API is used to generate a random AppCode.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-codes

Table 6-1007 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-1008 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 201

Table 6-1009 Response body parameters

Parameter	Type	Description
app_code	String	AppCode value. An AppCode value contains 64 to 180 characters, including letters and the following special characters are allowed: +_!@#\$/=. The value must start with a letter, plus sign (+), or slash (/).
id	String	ID.
app_id	String	App ID.
create_time	String	Creation time.

Status code: 400

Table 6-1010 Response body parameters

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

Status code: 401**Table 6-1011** Response body parameters

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

Status code: 403**Table 6-1012** Response body parameters

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

Status code: 404**Table 6-1013** Response body parameters

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

Status code: 500**Table 6-1014** Response body parameters

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

Example Requests

None

Example Responses

Status code: 201

Created

```
{
  "app_code" : "fdc8d90a30174460a91ddacfa54d6f04c92e523a85cc4a1894f87cb13b6f572a",
  "app_id" : "9ed8b7fe84224de681e7d7a5587e76dc",
  "id" : "b3d34f746d0847fb95138670e10207ed",
  "create_time" : "2020-07-24T02:31:45.790909295Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15.5 Querying AppCodes of an App

Function

This API is used to query the AppCodes of an app.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-codes

Table 6-1015 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Table 6-1016 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Request Parameters

Table 6-1017 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1018 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
app_codes	Array of AppCodeBaseInfo objects	AppCode list.

Table 6-1019 AppCodeBaseInfo

Parameter	Type	Description
app_code	String	AppCode value. An AppCode value contains 64 to 180 characters, including letters and the following special characters are allowed: +_!@#\$%/. The value must start with a letter, plus sign (+), or slash (/).
id	String	ID.
app_id	String	App ID.
create_time	String	Creation time.

Status code: 400**Table 6-1020** Response body parameters

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

Status code: 401**Table 6-1021** Response body parameters

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

Status code: 403**Table 6-1022** Response body parameters

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

Status code: 404**Table 6-1023** Response body parameters

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

Status code: 500**Table 6-1024** Response body parameters

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

Example Requests

None

Example Responses**Status code: 200**

OK

```
{
  "total" : 2,
  "size" : 2,
  "app_codes" : [ {
    "app_code" : "GjOD3g80AABuuFeEJpVQADBIAjBh3UzC7W
+gr4VJBB5BtJ4fdVOQoSvoji3gFxUDb5pWBz9wUcw9+8/bFZ1B/4pq29wCMQC0pQWX6zTndljDEL99As1pw
+WntAU9xcq+ffagoH6zDpKUvdxV6Ezj8LcCcPZN6BU=",
    "app_id" : "9ed8b7fe84224de681e7d7a5587e76dc",
    "id" : "32dc8ca22d1b4b9cb94022186880576b",
    "create_time" : "2020-07-24T02:37:24Z"
  }, {
    "app_code" : "fdc8d90a30174460a91ddacfa54d6f04c92e523a85cc4a1894f87cb13b6f572a",
    "app_id" : "9ed8b7fe84224de681e7d7a5587e76dc",
    "id" : "b3d34f746d0847fb95138670e10207ed",
    "create_time" : "2020-07-24T02:31:45Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15.6 Querying Details of an AppCode

Function

This API is used to query an AppCode for simple app authentication.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-codes/{app_code_id}

Table 6-1025 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID
app_code_id	Yes	String	AppCode ID.

Request Parameters

Table 6-1026 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1027 Response body parameters

Parameter	Type	Description
app_code	String	AppCode value. An AppCode value contains 64 to 180 characters, including letters and the following special characters are allowed: +_!@#\$\$%/. The value must start with a letter, plus sign (+), or slash (/).
id	String	ID.

Parameter	Type	Description
app_id	String	App ID.
create_time	String	Creation time.

Status code: 400**Table 6-1028** Response body parameters

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

Status code: 401**Table 6-1029** Response body parameters

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

Status code: 403**Table 6-1030** Response body parameters

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

Status code: 404**Table 6-1031** Response body parameters

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

Status code: 500**Table 6-1032** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "app_code" : "fdc8d90a30174460a91ddacfa54d6f04c92e523a85cc4a1894f87cb13b6f572a",
  "app_id" : "9ed8b7fe84224de681e7d7a5587e76dc",
  "id" : "b3d34f746d0847fb95138670e10207ed",
  "create_time" : "2020-07-24T02:31:45Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.15.7 Deleting an AppCode****Function**

This API is used to delete an AppCode. Deleted AppCodes cannot be used for simple authentication.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-codes/{app_code_id}

Table 6-1033 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID
app_code_id	Yes	String	AppCode ID.

Request Parameters

Table 6-1034 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1035 Response body parameters

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

Status code: 401

Table 6-1036 Response body parameters

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

Status code: 403

Table 6-1037 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404**Table 6-1038** Response body parameters

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

Status code: 500**Table 6-1039** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
}
```



```
{
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15.8 Querying Quotas Associated with a Credential

Function

This API is used to query quotas associated with a specified credential.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/bound-quota

Table 6-1040 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-1041 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1042 Response body parameters

Parameter	Type	Description
app_quota_id	String	Credential quota ID.
name	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
call_limits	Integer	Maximum number of times a credential quota can be called.
time_unit	String	Time unit. The options are SECOND, MINUTE, HOUR, and DAY.
time_interval	Integer	Time limit of a quota.
remark	String	Parameter description.

Parameter	Type	Description
reset_time	String	Time when the quota is reset for the first time. If this parameter is not specified, the time is calculated based on the first calling time by default.
create_time	String	Creation time.
bound_app_num	Integer	Number of applications bound to the quota policy.

Status code: 400**Table 6-1043** Response body parameters

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

Status code: 401**Table 6-1044** Response body parameters

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

Status code: 403**Table 6-1045** Response body parameters

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

Status code: 404

Table 6-1046 Response body parameters

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

Status code: 500**Table 6-1047** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "app_quota_id" : "c900c5612dbe451bb43bcc49cfaf2f3",
  "name" : "ClientQuota_demo",
  "call_limits" : 1000,
  "time_unit" : "DAY",
  "time_interval" : 1,
  "remark" : "remark",
  "reset_time" : "2020-09-20 00:00:00 +0000 +0000",
  "create_time" : "2020-09-19T07:27:47Z",
  "bound_app_num" : 0
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "App 98df09fb-d459-4cbf-83a7-2b55ca6f3d5d does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.15.9 Configuring Access Control Settings for a Credential

Function

This API is used to configure access control settings for a credential.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-acl

Table 6-1048 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-1049 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1050 Request body parameters

Parameter	Mandatory	Type	Description
app_acl_type	Yes	String	Access control type. • PERMIT (whitelist) • DENY (blacklist)
app_acl_values	Yes	Array of strings	ACL policy value. The value can be an IP address, IP address segment, or CIDR block. Use hyphens (-) to separate IP address segments.

Response Parameters

Status code: 201

Table 6-1051 Response body parameters

Parameter	Type	Description
app_id	String	App ID.

Parameter	Type	Description
app_acl_type	String	Access control type. • PERMIT (whitelist) • DENY (blacklist)
app_acl_values	Array of strings	ACL policy value. The value can be an IP address, IP address segment, or CIDR block. Use hyphens (-) to separate IP address segments.

Status code: 400**Table 6-1052** Response body parameters

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

Status code: 401**Table 6-1053** Response body parameters

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

Status code: 403**Table 6-1054** Response body parameters

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

Status code: 404

Table 6-1055 Response body parameters

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

Status code: 500**Table 6-1056** Response body parameters

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

Example Requests

Configuring a whitelist access control policy for the credential authorized for an API

```
{
  "app_acl_type" : "PERMIT",
  "app_acl_values" : [ "192.168.0.1", "192.168.0.5-192.168.0.10", "192.168.0.100/28" ]
}
```

Example Responses

Status code: 201

Ok

```
{
  "app_id" : "9ed8b7fe84224de681e7d7a5587e76dc",
  "app_acl_type" : "PERMIT",
  "app_acl_values" : [ "192.168.0.1", "192.168.0.5-192.168.0.10", "192.168.0.100/28" ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Ok
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15.10 Querying Details About App Access Control

Function

This API is used to query the details about the app access control.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-acl

Table 6-1057 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-1058 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1059 Response body parameters

Parameter	Type	Description
app_id	String	App ID.
app_acl_type	String	Access control type. • PERMIT (whitelist) • DENY (blacklist)
app_acl_values	Array of strings	ACL policy value. The value can be an IP address, IP address segment, or CIDR block. Use hyphens (-) to separate IP address segments.

Status code: 400

Table 6-1060 Response body parameters

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

Status code: 401**Table 6-1061** Response body parameters

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

Status code: 403**Table 6-1062** Response body parameters

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

Status code: 404**Table 6-1063** Response body parameters

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

Status code: 500**Table 6-1064** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "app_id" : "9ed8b7fe84224de681e7d7a5587e76dc",
  "app_acl_type" : "PERMIT",
  "app_acl_values" : [ "192.168.0.1", "192.168.0.5-192.168.0.10", "192.168.0.100/28" ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.15.11 Removing Access Control for a Credential

Function

This API is used to remove access control of a credential.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/app-acl

Table 6-1065 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-1066 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400**Table 6-1067** Response body parameters

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

Status code: 401**Table 6-1068** Response body parameters

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

Status code: 403**Table 6-1069** Response body parameters

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

Status code: 404

Table 6-1070 Response body parameters

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

Status code: 500**Table 6-1071** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 9ed8b7fe84224de681e7d7a5587e76dc does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16 Credential Quota Management

6.16.1 Creating a Credential Quota

Function

This API is used to create a credential quota.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/app-quotas

Table 6-1072 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1073 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1074 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
call_limits	Yes	Integer	Maximum number of times a credential quota can be called.
time_unit	Yes	String	Time unit. The options are SECOND, MINUTE, HOUR, and DAY.
time_interval	Yes	Integer	Unit of the time interval for throttling.
reset_time	No	String	Time when the quota is reset for the first time. If this parameter is not specified, the time is calculated based on the first calling time by default.
remark	No	String	Parameter description, which cannot contain < and >.

Response Parameters

Status code: 201

Table 6-1075 Response body parameters

Parameter	Type	Description
app_quota_id	String	Credential quota ID.
name	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
call_limits	Integer	Maximum number of times a credential quota can be called.
time_unit	String	Time unit. The options are SECOND, MINUTE, HOUR, and DAY.
time_interval	Integer	Time limit of a quota.
remark	String	Parameter description.
reset_time	String	Time when the quota is reset for the first time. If this parameter is not specified, the time is calculated based on the first calling time by default.
create_time	String	Creation time.
bound_app_num	Integer	Number of applications bound to the quota policy.

Status code: 400**Table 6-1076** Response body parameters

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

Status code: 401**Table 6-1077** Response body parameters

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

Status code: 403

Table 6-1078 Response body parameters

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

Status code: 404**Table 6-1079** Response body parameters

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

Status code: 500**Table 6-1080** Response body parameters

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

Example Requests

Creating a credential quota with time limit as one day

```
{
  "call_limits" : 1000,
  "name" : "ClientQuota_demo",
  "reset_time" : "2020-09-20 00:00:00",
  "time_interval" : 1,
  "time_unit" : "DAY"
}
```

Example Responses

Status code: 201

OK

```
{
  "app_quota_id" : "c900c5612dbe451bb43cbcc49cfaf2f3",
  "call_limits" : 1000,
  "create_time" : "2020-09-19T15:27:47.60571141+08:00",
  "name" : "ClientQuota_demo",
  "reset_time" : "2020-09-20 00:00:00",
  "time_interval" : 1,
}
```

```
{  
  "time_unit" : "DAY"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.3325",  
  "error_msg" : "The API quota name already exists"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3030",  
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
201	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16.2 Modifying a Credential Quota

Function

This API is used to modify a credential quota.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/app-quotas/{app_quota_id}

Table 6-1081 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_quota_id	Yes	String	Credential quota ID.

Request Parameters

Table 6-1082 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1083 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.

Parameter	Mandatory	Type	Description
call_limits	Yes	Integer	Maximum number of times a credential quota can be called.
time_unit	Yes	String	Time unit. The options are SECOND, MINUTE, HOUR, and DAY.
time_interval	Yes	Integer	Unit of the time interval for throttling.
reset_time	No	String	Time when the quota is reset for the first time. If this parameter is not specified, the time is calculated based on the first calling time by default.
remark	No	String	Parameter description, which cannot contain < and >.

Response Parameters

Status code: 200

Table 6-1084 Response body parameters

Parameter	Type	Description
app_quota_id	String	Credential quota ID.
name	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
call_limits	Integer	Maximum number of times a credential quota can be called.
time_unit	String	Time unit. The options are SECOND, MINUTE, HOUR, and DAY.
time_interval	Integer	Time limit of a quota.
remark	String	Parameter description.
reset_time	String	Time when the quota is reset for the first time. If this parameter is not specified, the time is calculated based on the first calling time by default.
create_time	String	Creation time.

Parameter	Type	Description
bound_app_num	Integer	Number of applications bound to the quota policy.

Status code: 400**Table 6-1085** Response body parameters

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

Status code: 401**Table 6-1086** Response body parameters

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

Status code: 403**Table 6-1087** Response body parameters

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

Status code: 404**Table 6-1088** Response body parameters

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

Status code: 500**Table 6-1089** Response body parameters

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

Example Requests

Modifying the call limit and interval of a credential quota

```
{
  "call_limits" : 1000,
  "name" : "ClientQuota_demo",
  "reset_time" : "2020-09-20 00:00:00",
  "time_interval" : 1,
  "time_unit" : "DAY"
}
```

Example Responses

Status code: 200

OK

```
{
  "app_quota_id" : "c900c5612dbe451bb43bcc49cfaf2f3",
  "call_limits" : 1000,
  "create_time" : "2020-09-19T07:27:47Z",
  "name" : "ClientQuota_demo",
  "reset_time" : "2020-09-20 00:00:00",
  "time_interval" : 1,
  "time_unit" : "DAY"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3325",
  "error_msg" : "The API quota name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
}
```



```
{
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3093",
  "error_msg" : "App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16.3 Deleting a Credential Quota

Function

This API is used to delete a credential quota. When a credential quota is deleted, the association between the quota and credential is also deleted.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/app-quotas/{app_quota_id}

Table 6-1090 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_quota_id	Yes	String	Credential quota ID.

Request Parameters

Table 6-1091 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1092 Response body parameters

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

Status code: 401

Table 6-1093 Response body parameters

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

Status code: 403

Table 6-1094 Response body parameters

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

Status code: 404**Table 6-1095** Response body parameters

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

Status code: 500**Table 6-1096** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support
documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3093",
  "error_msg" : "App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16.4 This API is used to query credential quota details.

Function

Querying Credential Quota Details

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-quotas/{app_quota_id}

Table 6-1097 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_quota_id	Yes	String	Credential quota ID.

Request Parameters

Table 6-1098 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1099 Response body parameters

Parameter	Type	Description
app_quota_id	String	Credential quota ID.
name	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
call_limits	Integer	Maximum number of times a credential quota can be called.
time_unit	String	Time unit. The options are SECOND, MINUTE, HOUR, and DAY.
time_interval	Integer	Time limit of a quota.
remark	String	Parameter description.

Parameter	Type	Description
reset_time	String	Time when the quota is reset for the first time. If this parameter is not specified, the time is calculated based on the first calling time by default.
create_time	String	Creation time.
bound_app_num	Integer	Number of applications bound to the quota policy.

Status code: 400**Table 6-1100** Response body parameters

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

Status code: 401**Table 6-1101** Response body parameters

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

Status code: 403**Table 6-1102** Response body parameters

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

Status code: 404

Table 6-1103 Response body parameters

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

Status code: 500**Table 6-1104** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "app_quota_id" : "c900c5612dbe451bb43bcc49cfaf2f3",
  "call_limits" : 1000,
  "create_time" : "2020-09-19T07:27:47Z",
  "name" : "ClientQuota_demo",
  "reset_time" : "2020-09-20 00:00:00 +0000 +0000",
  "time_interval" : 1,
  "time_unit" : "DAY"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3093",
  "error_msg" : "App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16.5 Querying Credential Quotas

Function

This API is used to query credential quotas. Fuzzy query by name is supported.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-quotas

Table 6-1105 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1106 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
name	No	String	Credential quota name.

Request Parameters

Table 6-1107 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1108 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.

Parameter	Type	Description
quotas	Array of AppQuotaInfo objects	Credential quotas.

Table 6-1109 AppQuotaInfo

Parameter	Type	Description
app_quota_id	String	Credential quota ID.
name	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
call_limits	Integer	Maximum number of times a credential quota can be called.
time_unit	String	Time unit. The options are SECOND, MINUTE, HOUR, and DAY.
time_interval	Integer	Time limit of a quota.
remark	String	Parameter description.
reset_time	String	Time when the quota is reset for the first time. If this parameter is not specified, the time is calculated based on the first calling time by default.
create_time	String	Creation time.
bound_app_num	Integer	Number of applications bound to the quota policy.

Status code: 400**Table 6-1110** Response body parameters

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

Status code: 401

Table 6-1111 Response body parameters

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

Status code: 403**Table 6-1112** Response body parameters

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

Status code: 500**Table 6-1113** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "quotas" : [ {
    "app_quota_id" : "c900c5612dbe451bb43cbcc49cfaf2f3",
    "call_limits" : 1000,
    "create_time" : "2020-09-19T07:27:47Z",
    "name" : "ClientQuota_demo",
    "reset_time" : "2020-09-20 00:00:00 +0000 +0000",
    "time_interval" : 1,
    "time_unit" : "DAY"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16.6 Binding a Credential Quota with Credentials

Function

This API is used to bind a credential quota with credentials.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/app-quotas/{app_quota_id}/binding-apps

Table 6-1114 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_quota_id	Yes	String	Credential quota ID.

Request Parameters

Table 6-1115 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1116 Request body parameters

Parameter	Mandatory	Type	Description
app_ids	Yes	Array of strings	Credential IDs.

Response Parameters

Status code: 201

Table 6-1117 Response body parameters

Parameter	Type	Description
applies	Array of AppQuotaAppBinding objects	Credential and credential quota binding list.

Table 6-1118 AppQuotaAppBinding

Parameter	Type	Description
app_quota_id	String	Credential quota ID.
app_id	String	Credential ID.
bound_time	String	Time when the policy is bound to the API.

Status code: 400**Table 6-1119** Response body parameters

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

Status code: 401**Table 6-1120** Response body parameters

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

Status code: 403**Table 6-1121** Response body parameters

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

Status code: 404

Table 6-1122 Response body parameters

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

Status code: 500**Table 6-1123** Response body parameters

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

Example Requests

Binding a credential quota to a credential

```
{
  "app_ids" : [ "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d" ]
}
```

Example Responses

Status code: 201

OK

```
{
  "applies" : [ {
    "app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
    "app_quota_id" : "c900c5612dbe451bb43bcc49cfaf2f3",
    "bound_time" : "2020-09-19T07:43:11.948178051Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3093",
  "error_msg" : "The App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.16.7 Unbinding a Credential Quota from a Credential****Function**

This API is used to unbind a credential quota from a credential.

URI

```
DELETE /v2/{project_id}/apic/instances/{instance_id}/app-quotas/{app_quota_id}/
bound-apps/{app_id}
```


Table 6-1124 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_quota_id	Yes	String	Credential quota ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-1125 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1126 Response body parameters

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

Status code: 401

Table 6-1127 Response body parameters

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

Status code: 403**Table 6-1128** Response body parameters

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

Status code: 404**Table 6-1129** Response body parameters

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

Status code: 500**Table 6-1130** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
```

```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3093",
  "error_msg": "The App quota c900c5612dbe451bb43bcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16.8 Querying the Credentials Bound to a Specified Quota

Function

This API is used to query the credentials bound to a specified credential quota. Fuzzy match by credential name is supported.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-quotas/{app_quota_id}/bound-apps

Table 6-1131 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_quota_id	Yes	String	Credential quota ID.

Table 6-1132 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
app_name	No	String	Credential name.

Request Parameters

Table 6-1133 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1134 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apps	Array of AppQuotaAppInfo objects	Credentials.

Table 6-1135 AppQuotaAppInfo

Parameter	Type	Description
app_id	String	Credential ID.
name	String	Credential name.
status	Integer	Credential status. Options: • 1: Enabled. • 2: Disabled.
app_key	String	Credential key.
remark	String	Credential description.
register_time	String	Creation time.
update_time	String	Update time.
app_quota_id	String	Credential quota ID.
app_quota_name	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
bound_time	String	Time when the policy is bound to the API.

Status code: 400**Table 6-1136** Response body parameters

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

Status code: 401**Table 6-1137** Response body parameters

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

Status code: 403**Table 6-1138** Response body parameters

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

Status code: 404**Table 6-1139** Response body parameters

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

Status code: 500**Table 6-1140** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "apps" : [ {
    "app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
    "app_key" : "9b93db07-4634-4b7a-99d8-869933ed055d",
    "app_quota_name" : "ClientQuota_demo",
    "bound_time" : "2020-09-19T07:43:11Z",
    "name" : "app-demo",
    "register_time" : "2020-09-18T09:25:19Z",
    "status" : 1,
    "update_time" : "2020-09-18T09:25:19Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3093",
  "error_msg" : "The App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.16.9 Querying Credentials That Can Be Bound to a Credential Quota

Function

This API is used to query the credentials that can be bound to a credential quota. Fuzzy search by credential name is supported.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-quotas/{app_quota_id}/bindable-apps

Table 6-1141 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_quota_id	Yes	String	Credential quota ID.

Table 6-1142 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
app_name	No	String	Application name.

Request Parameters

Table 6-1143 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1144 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apps	Array of AppQuotaAppInfo objects	Credentials.

Table 6-1145 AppQuotaAppInfo

Parameter	Type	Description
app_id	String	Credential ID.
name	String	Credential name.

Parameter	Type	Description
status	Integer	Credential status. Options: • 1: Enabled. • 2: Disabled.
app_key	String	Credential key.
remark	String	Credential description.
register_time	String	Creation time.
update_time	String	Update time.
app_quota_id	String	Credential quota ID.
app_quota_name	String	Quota name. The value contains 3 to 255 characters, including letters, digits, and underscores (_). The value must start with a letter.
bound_time	String	Time when the policy is bound to the API.

Status code: 400**Table 6-1146** Response body parameters

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

Status code: 401**Table 6-1147** Response body parameters

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

Status code: 403

Table 6-1148 Response body parameters

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

Status code: 404**Table 6-1149** Response body parameters

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

Status code: 500**Table 6-1150** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "apps" : [ {
    "app_id" : "ac18a23f-8f06-40ac-8093-f790de2ba95b",
    "app_key" : "ac18a23f-8f06-40ac-8093-f790de2ba95b",
    "bound_time" : "0001-01-01T00:00:00Z",
    "name" : "app-test",
    "register_time" : "2020-08-22T07:57:01Z",
    "status" : 1,
    "update_time" : "2020-08-22T07:57:01Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3093",
  "error_msg" : "The App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.17 Credential Authorization Management

6.17.1 Credential Authorization

Function

An app cannot access any APIs after being created. To access an API in a specific environment, bind the app to the API in the environment. After this operation, the app can access the API in the environment.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/app-auths

Table 6-1151 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1152 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1153 Request body parameters

Parameter	Mandatory	Type	Description
env_id	Yes	String	ID of the environment in which the apps will be authorized.
app_ids	Yes	Array of strings	App IDs
api_ids	Yes	Array of strings	API list. You can specify both self-developed and purchased APIs.
auth_tunnel	No	String	Authorization channel type. • GREEN: green channel • NORMAL: non-green channel The green channel can be enabled when the green_tunnel feature is enabled. If this field is left blank, the green channel is not used by default.
auth_whitelist	No	Array of strings	Green channel authorization whitelist. IP addresses in the whitelist can be accessed without authentication information. This parameter takes effect when auth_tunnel is set to GREEN.
auth_blacklist	No	Array of strings	Green channel authorization whitelist. This parameter is valid when auth_tunnel is set to GREEN.
visit_params	No	Array of ApiAuthVisitParam objects	List of access parameters.

Table 6-1154 ApiAuthVisitParam

Parameter	Mandatory	Type	Description
api_id	Yes	String	ID of the environment in which the apps will be authorized.

Parameter	Mandatory	Type	Description
app_id	No	String	ID of the app to be authorized.
visit_param	Yes	String	Access parameters. The value can contain letters, digits, underscores (_), and hyphens (-). Multiple parameters are separated by commas (,). Each parameter must end with a letter or digit and must be unique. The length of a single parameter cannot exceed 255 characters.

Response Parameters

Status code: 201

Table 6-1155 Response body parameters

Parameter	Type	Description
auths	Array of ApiAuthRelations objects	App authorization record list.

Table 6-1156 ApiAuthRelations

Parameter	Type	Description
api_id	String	API ID.
auth_result	AuthResult object	Authorization result.
auth_time	String	Authorization time.
id	String	Authorization record ID.
app_id	String	App ID.
auth_role	String	Authorizer. • PROVIDER: API provider • CONSUMER: API user

Parameter	Type	Description
auth_tunnel	String	Authorization channel type. - GREEN: green channel - NORMAL: non-green channel If this field is left blank, the green channel is not used by default.
auth_whitelist	Array of strings	Green channel authorization whitelist. IP addresses in the whitelist can access APIs without being authenticated.
auth_blacklist	Array of strings	Authorization blacklist for the green channel.
visit_params	String	Access parameters.

Table 6-1157 AuthResult

Parameter	Type	Description
status	String	Authorization result. - SUCCESS - SKIPPED - FAILED
error_msg	String	Error message displayed for an authentication failure.
error_code	String	Error code displayed for an authentication failure.
api_name	String	Name of the API for which authorization fails.
app_name	String	Name of the API for which authorization fails.

Status code: 400**Table 6-1158** Response body parameters

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

Status code: 401**Table 6-1159** Response body parameters

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

Status code: 403**Table 6-1160** Response body parameters

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

Status code: 404**Table 6-1161** Response body parameters

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

Status code: 500**Table 6-1162** Response body parameters

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

Example Requests

Bind an app to an API in a specified environment.

```
{
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "app_ids" : [ "356de8eb7a8742168586e5daf5339965" ],
  "api_ids" : [ "5f918d104dc84480a75166ba99efff21" ]
}
```

Example Responses

Status code: 201

Created

```
{
  "auths" : [ {
    "api_id" : "5f918d104dc84480a75166ba99efff21",
    "auth_result" : {
      "status" : "SUCCESS"
    },
    "auth_time" : "2020-08-04T04:02:22.482227344Z",
    "id" : "dd29b33ae4394e3b924b582c6b40880b",
    "app_id" : "356de8eb7a8742168586e5daf5339965",
    "auth_role" : "PROVIDER",
    "auth_tunnel" : "NORMAL",
    "auth_whitelist" : [ ],
    "auth_blacklist" : [ ]
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:api_ids. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 356de8eb7a8742168586e5daf5339965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.17.2 Canceling Authorization

Function

This API is used to cancel the authorization of an app for accessing an API. After this operation, the app can no longer call the API.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/app-auths/{app_auth_id}

Table 6-1163 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_auth_id	Yes	String	Authorization ID.

Request Parameters

Table 6-1164 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1165 Response body parameters

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

Status code: 401

Table 6-1166 Response body parameters

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

Status code: 403

Table 6-1167 Response body parameters

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

Status code: 404

Table 6-1168 Response body parameters

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

Status code: 500**Table 6-1169** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3009",
  "error_msg" : "The app authorization record does not exist,id:dd29b33ae4394e3b924b582c6b40880b"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.17.3 Querying APIs Bound with an App****Function**

This API is used to query the APIs to which a specified app has been bound.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-auths/binded-apis

Table 6-1170 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1171 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
app_id	Yes	String	Application ID
api_id	No	String	API ID.
api_name	No	String	API name.
group_id	No	String	API group ID.
group_name	No	String	API group name.
env_id	No	String	ID of the environment in which the app has been authorized.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-1172 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1173 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
auths	Array of ApiAuthInfo objects	API list.

Table 6-1174 ApiAuthInfo

Parameter	Type	Description
id	String	Authorization record ID.
api_id	String	API ID.
api_name	String	API name.
group_name	String	Name of the API group to which the API belongs.
api_type	Integer	API type.
api_remark	String	API description.
env_id	String	ID of the environment in which the app has been authorized to call the API.
auth_role	String	Authorizer.
auth_time	String	Authorization time.
app_name	String	App name.
app_remark	String	App description.
app_type	String	App type. - apig: inventory APIC client. New instances do not support this type. - roma: ROMA integration client.
app_creator	String	Creator of the app. - USER: The app is created by the API user. - MARKET: The app is assigned by the API market. This value is not supported currently.
publish_id	String	API publication ID.

Parameter	Type	Description
group_id	String	ID of the API group to which the API belongs.
auth_tunnel	String	Authorization channel type. • NORMAL: normal channel • GREEN: green channel
auth_whitelist	Array of strings	Whitelist for the green channel.
auth_blacklist	Array of strings	Blacklist for the green channel.
visit_param	String	Access parameters.
roma_app_type	String	ROMA app type. • subscription: subscription application • integration: integration application
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.
env_name	String	Name of the environment in which the app has been authorized to call the API.
app_id	String	App ID.

Status code: 400**Table 6-1175** Response body parameters

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

Status code: 401**Table 6-1176** Response body parameters

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

Status code: 403**Table 6-1177** Response body parameters

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

Status code: 404**Table 6-1178** Response body parameters

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

Status code: 500**Table 6-1179** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "auths" : [ {
    "id" : "dd29b33ae4394e3b924b582c6b40880b",
    "api_id" : "5f918d104dc84480a75166ba99efff21",
    "api_name" : "Api_http",
    "group_name" : "api_group_001",
    "api_type" : 1,
    "api_remark" : "Web backend Api",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "auth_role" : "PROVIDER",
    "auth_time" : "2020-08-04T04:02:22Z",
```

```
"app_name" : "app_demo",
"app_remark" : "remark",
"app_type" : "roma",
"app_creator" : "USER",
"publish_id" : "40e7162dc6b94bbbb1a60d2a24b1b0c",
"group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
"auth_tunnel" : "NORMAL",
"auth_whitelist" : [ ],
"auth_blacklist" : [ ],
"roma_app_type" : "integration",
"env_name" : "RELEASE",
"app_id" : "356de8eb7a8742168586e5daf5339965"
} ]
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 356de8eb7a8742168586e5daf5339965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.17.4 Querying APIs Not Bound with an App

Function

This API is used to query the self-developed and purchased APIs to which an app has not been bound in a specified environment.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-auths/unbinded-apis

Table 6-1180 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1181 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
app_id	Yes	String	App ID.
env_id	Yes	String	Environment ID.
group_id	No	String	API group ID.
api_id	No	String	API ID.
api_name	No	String	API name.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-1182 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1183 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.

Parameter	Type	Description
total	Long	Number of resources that match the query conditions.
apis	Array of ApiOutline objects	API list.

Table 6-1184 ApiOutline

Parameter	Type	Description
auth_type	String	API authentication mode.
run_env_name	String	Name of the environment in which the API has been published.
group_name	String	API group name.
publish_id	String	Publication record ID.
group_id	String	ID of the API group to which the API belongs.
name	String	API name.
remark	String	API description.
run_env_id	String	ID of the environment in which the API has been published.
id	String	API ID.
req_uri	String	API request address.
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.

Status code: 400**Table 6-1185** Response body parameters

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

Status code: 401

Table 6-1186 Response body parameters

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

Status code: 403**Table 6-1187** Response body parameters

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

Status code: 404**Table 6-1188** Response body parameters

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

Status code: 500**Table 6-1189** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "total" : 2,
```

```
"size" : 2,
"apis" : [ {
  "auth_type" : "APP",
  "run_env_name" : "",
  "group_name" : "api_group_001",
  "publish_id" : "",
  "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
  "name" : "Api_function",
  "remark" : "FunctionGraph backend API",
  "run_env_id" : "",
  "id" : "abd9c4b2ff974888b0ba79be7e6b2763",
  "req_uri" : "/test/function"
}, {
  "auth_type" : "APP",
  "run_env_name" : "RELEASE",
  "group_name" : "APIGroup_d3da",
  "publish_id" : "ca2631e233a74a758744ae1e19cc5ad7",
  "group_id" : "6acd94abe58747ee8a73b10c70817bac",
  "name" : "API_test",
  "remark" : "FunctionGraph backend API",
  "run_env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "id" : "11cbec3a7a8345ca981b86d161bc436e",
  "req_uri" : "/appcode"
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 356de8eb7a8742168586e5daf5339965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
}
```



```
"error_msg": "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.17.5 Querying APIs with Path Conflicts in an App

Function

This API is used to query the APIs with path conflicts in a specified app.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-auths/duplicate-apis

Table 6-1190 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1191 Query Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	App ID.

Request Parameters

Table 6-1192 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1193** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of ApiDuplicationInfo objects	APIs with duplicate paths in the application.

Table 6-1194 ApiDuplicationInfo

Parameter	Type	Description
req_method	String	Request method.
req_uri	String	Access address of the API.
match_mode	String	Match mode of an API. - SWA: prefix match - NORMAL: exact match (default) The default value is NORMAL.
duplicated_apis	Array of DuplicateApiInfo objects	List of conflicting APIs in the path.

Table 6-1195 DuplicateApiInfo

Parameter	Type	Description
api_id	String	API ID
api_name	String	API name.
group_name	String	Group name.
group_id	String	API group ID.
remark	String	API description.
api_type	String	API type. - self-owned: self-owned API - authorized: authorized API

Status code: 400**Table 6-1196** Response body parameters

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

Status code: 401**Table 6-1197** Response body parameters

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

Status code: 403**Table 6-1198** Response body parameters

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

Status code: 404

Table 6-1199 Response body parameters

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

Status code: 500

Table 6-1200 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "apis": [ {
    "req_uri": "/test/function",
    "req_method": "GET",
    "match_mode": "NORMAL",
    "duplicated_apis": [ {
      "api_id": "e25fcb255a664e80aa40759d37d043e9",
      "api_name": "api_demo",
      "group_id": "86d75a6b1d6c4cca99e1bed795074167",
      "group_name": "DEFAULT",
      "api_type": "self-owned"
    }, {
      "api_id": "d41f91f14ecc476fa9bdef54afb37f06",
      "api_name": "api_demo_duplicate",
      "group_id": "c3053da9dcd54ffba3bf6e0fb7721a82",
      "group_name": "EchoDemo",
      "api_type": "self-owned"
    } ]
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2012",
}
```

```
{
  "error_msg" : "Invalid parameter value,parameterName:api_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3004",
  "error_msg" : "App 356de8eb7a8742168586e5daf5339965 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.17.6 Querying Apps Bound to an API

Function

This API is used to query the apps that have been bound to a specified API.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/app-auths/binded-apps

Table 6-1201 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1202 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
api_id	No	String	API ID.
app_name	No	String	App name.
app_id	No	String	App ID.
env_id	No	String	Environment ID.

Request Parameters

Table 6-1203 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1204** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
auths	Array of ApiAuthInfo objects	API list.

Table 6-1205 ApiAuthInfo

Parameter	Type	Description
id	String	Authorization record ID.
api_id	String	API ID.
api_name	String	API name.
group_name	String	Name of the API group to which the API belongs.
api_type	Integer	API type.
api_remark	String	API description.
env_id	String	ID of the environment in which the app has been authorized to call the API.
auth_role	String	Authorizer.
auth_time	String	Authorization time.

Parameter	Type	Description
app_name	String	App name.
app_remark	String	App description.
app_type	String	App type. - apig: inventory APIC client. New instances do not support this type. - roma: ROMA integration client.
app_creator	String	Creator of the app. - USER: The app is created by the API user. - MARKET: The app is assigned by the API market. This value is not supported currently.
publish_id	String	API publication ID.
group_id	String	ID of the API group to which the API belongs.
auth_tunnel	String	Authorization channel type. - NORMAL: normal channel - GREEN: green channel
auth_whitelist	Array of strings	Whitelist for the green channel.
auth_blacklist	Array of strings	Blacklist for the green channel.
visit_param	String	Access parameters.
roma_app_type	String	ROMA app type. - subscription: subscription application - integration: integration application
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.
env_name	String	Name of the environment in which the app has been authorized to call the API.
app_id	String	App ID.

Status code: 400

Table 6-1206 Response body parameters

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

Status code: 401**Table 6-1207** Response body parameters

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

Status code: 403**Table 6-1208** Response body parameters

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

Status code: 404**Table 6-1209** Response body parameters

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

Status code: 500**Table 6-1210** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "auths" : [ {
    "id" : "dd29b33ae4394e3b924b582c6b40880b",
    "api_id" : "5f918d104dc84480a75166ba99efff21",
    "api_name" : "Api_http",
    "group_name" : "api_group_001",
    "api_type" : 1,
    "api_remark" : "Web backend Api",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "auth_role" : "PROVIDER",
    "auth_time" : "2020-08-04T04:02:22Z",
    "app_name" : "app_demo",
    "app_remark" : "remark",
    "app_type" : "roma",
    "app_creator" : "USER",
    "publish_id" : "",
    "group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
    "auth_tunnel" : "NORMAL",
    "auth_whitelist" : [ ],
    "auth_blacklist" : [ ],
    "roma_app_type" : "roma_client",
    "env_name" : "RELEASE",
    "app_id" : "356de8eb7a8742168586e5daf5339965"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:app_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18 Custom Backend Management

6.18.1 Creating a Backend API

Function

This API is used to create a backend API in an instance.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/livedata-apis

Table 6-1211 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1212 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1213 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters - _./():
path	Yes	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.

Parameter	Mandatory	Type	Description
method	Yes	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	No	String	Backend API description, which cannot contain < and >.
version	Yes	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	Yes	String	Type of the returned backend API.
api_signature_id	No	String	ID of the signature key bound to the API for signature authentication
roma_app_id	Yes	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	No	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	No	Array of LdApiParameter objects	Backend API request parameters.

Table 6-1214 LdApiParameter

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	Yes	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	No	String	Default value.
description	No	String	Parameter description, which cannot contain < and >.

Parameter	Mandatory	Type	Description
required	No	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Response Parameters

Status code: 201

Table 6-1215 Response body parameters

Parameter	Type	Description
name	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters -_./():
path	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.
method	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	String	Backend API description, which cannot contain < and >.
version	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	String	Type of the returned backend API.
api_signature_id	String	ID of the signature key bound to the API for signature authentication

Parameter	Type	Description
roma_app_id	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	Array of LdApiParameter objects	Backend API request parameters.
id	String	Backend API ID.
instance	String	ID of the instance to which the backend API belongs.
type	String	Backend API type: • data • function
status	Integer	Backend API status: • 1: to be developed • 3: developing • 4: deployed
created_time	String	Time when the backend API is created.
modified_time	String	Time when the backend API is modified.
scripts	Array of LdApiScript objects	Backend API script.
roma_app_name	String	Name of the integration application to which the backend API belongs.

Table 6-1216 LdApiParameter

Parameter	Type	Description
name	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	String	Default value.
description	String	Parameter description, which cannot contain < and >.
required	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Table 6-1217 LdApiScript

Parameter	Type	Description
ds_id	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	String	Data source name.
ds_type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)
type	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	String	Returned object.
content	String	API script content. Perform Base64 encoding on the script.
enable_result_pagination	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_preparation	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.
created_time	String	Time when the backend API script is created.

Parameter	Type	Description
modified_time	String	Time when the backend API script is modified.

Status code: 400**Table 6-1218** Response body parameters

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

Status code: 401**Table 6-1219** Response body parameters

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

Status code: 403**Table 6-1220** Response body parameters

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

Status code: 404**Table 6-1221** Response body parameters

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

Status code: 500**Table 6-1222** Response body parameters

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

Example Requests

Create a custom backend with request method as GET and return type as JSON.

```
{
  "content_type": "json",
  "method": "GET",
  "name": "livedata_api_demo",
  "path": "/test/function",
  "return_format": false,
  "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "version": "1.0.1"
}
```

Example Responses**Status code: 201**

Created

```
{
  "content_type": "json",
  "created_time": "2020-09-18T09:25:59Z",
  "description": "",
  "id": "bd42841c20184da6bbf457c6d8a06e37",
  "instance": "f0fa1789-3b76-433b-a787-9892951c620e",
  "method": "GET",
  "modified_time": "2020-09-18T09:25:59Z",
  "name": "livedata_api_demo",
  "parameters": [ ],
  "path": "/test/function",
  "return_format": false,
  "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "scripts": [ ],
  "status": 1,
  "type": "",
  "version": "1.0.1"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
}
```

```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3030",
  "error_msg": "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.2 Modifying a Backend API

Function

This API is used to update backend API parameters in an instance.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}

Table 6-1223 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1224 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1225 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters - _./():
path	Yes	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.

Parameter	Mandatory	Type	Description
method	Yes	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	No	String	Backend API description, which cannot contain < and >.
version	Yes	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	Yes	String	Type of the returned backend API.
api_signature_id	No	String	ID of the signature key bound to the API for signature authentication
roma_app_id	Yes	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	No	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	No	Array of LdApiParameter objects	Backend API request parameters.

Table 6-1226 LdApiParameter

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	Yes	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	No	String	Default value.
description	No	String	Parameter description, which cannot contain < and >.

Parameter	Mandatory	Type	Description
required	No	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Response Parameters

Status code: 200

Table 6-1227 Response body parameters

Parameter	Type	Description
name	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters -_./():
path	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.
method	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	String	Backend API description, which cannot contain < and >.
version	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	String	Type of the returned backend API.
api_signature_id	String	ID of the signature key bound to the API for signature authentication

Parameter	Type	Description
roma_app_id	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	Array of LdApiParameter objects	Backend API request parameters.
id	String	Backend API ID.
instance	String	ID of the instance to which the backend API belongs.
type	String	Backend API type: • data • function
status	Integer	Backend API status: • 1: to be developed • 3: developing • 4: deployed
created_time	String	Time when the backend API is created.
modified_time	String	Time when the backend API is modified.
scripts	Array of LdApiScript objects	Backend API script.
roma_app_name	String	Name of the integration application to which the backend API belongs.

Table 6-1228 LdApiParameter

Parameter	Type	Description
name	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	String	Default value.
description	String	Parameter description, which cannot contain < and >.
required	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Table 6-1229 LdApiScript

Parameter	Type	Description
ds_id	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	String	Data source name.
ds_type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)
type	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	String	Returned object.
content	String	API script content. Perform Base64 encoding on the script.
enable_result_pagination	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_preparation	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.
created_time	String	Time when the backend API script is created.

Parameter	Type	Description
modified_time	String	Time when the backend API script is modified.

Status code: 400**Table 6-1230** Response body parameters

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

Status code: 401**Table 6-1231** Response body parameters

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

Status code: 403**Table 6-1232** Response body parameters

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

Status code: 404**Table 6-1233** Response body parameters

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

Status code: 500**Table 6-1234** Response body parameters

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

Example Requests

Modify the configuration of a specified custom backend by changing the request method, request path, and version.

```
{
  "content_type": "json",
  "method": "GET",
  "name": "livedata_api_demo",
  "path": "/test/function",
  "return_format": false,
  "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "version": "1.0.1"
}
```

Example Responses**Status code: 200**

OK

```
{
  "content_type": "json",
  "created_time": "2020-09-18T09:25:59Z",
  "description": "",
  "id": "bd42841c20184da6bbf457c6d8a06e37",
  "instance": "f0fa1789-3b76-433b-a787-9892951c620e",
  "method": "GET",
  "modified_time": "2020-09-18T09:25:59Z",
  "name": "livedata_api_demo",
  "parameters": [ ],
  "path": "/test/function",
  "return_format": false,
  "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "scripts": [ ],
  "status": 1,
  "type": "",
  "version": "1.0.1"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3084",
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.3 Deleting a Backend API

Function

This API is used to delete a backend API from an instance.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}

Table 6-1235 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1236 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1237 Response body parameters

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

Status code: 401

Table 6-1238 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-1239** Response body parameters

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

Status code: 404**Table 6-1240** Response body parameters

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

Status code: 500**Table 6-1241** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3084",
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.18.4 Querying Details of a Backend API

Function

This API is used to query details of a backend API.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}

Table 6-1242 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1243 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1244 Response body parameters

Parameter	Type	Description
name	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters -_./():

Parameter	Type	Description
path	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.
method	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	String	Backend API description, which cannot contain < and >.
version	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	String	Type of the returned backend API.
api_signature_id	String	ID of the signature key bound to the API for signature authentication
roma_app_id	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	Array of LdApiParameter objects	Backend API request parameters.
id	String	Backend API ID.

Parameter	Type	Description
instance	String	ID of the instance to which the backend API belongs.
type	String	Backend API type: • data • function
status	Integer	Backend API status: • 1: to be developed • 3: developing • 4: deployed
created_time	String	Time when the backend API is created.
modified_time	String	Time when the backend API is modified.
scripts	Array of LdApiScript objects	Backend API script.
roma_app_name	String	Name of the integration application to which the backend API belongs.

Table 6-1245 LdApiParameter

Parameter	Type	Description
name	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	String	Default value.
description	String	Parameter description, which cannot contain < and >.
required	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Table 6-1246 LdApiScript

Parameter	Type	Description
ds_id	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	String	Data source name.
ds_type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)
type	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	String	Returned object.
content	String	API script content. Perform Base64 encoding on the script.
enable_result_pagination	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_preparation	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.
created_time	String	Time when the backend API script is created.

Parameter	Type	Description
modified_time	String	Time when the backend API script is modified.

Status code: 400**Table 6-1247** Response body parameters

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

Status code: 401**Table 6-1248** Response body parameters

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

Status code: 403**Table 6-1249** Response body parameters

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

Status code: 404**Table 6-1250** Response body parameters

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

Status code: 500**Table 6-1251** Response body parameters

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

Example Requests

None

Example Responses**Status code: 200**

OK

```
{
  "content_type": "json",
  "created_time": "2020-09-18T09:25:59Z",
  "description": "",
  "id": "bd42841c20184da6bbf457c6d8a06e37",
  "instance": "f0fa1789-3b76-433b-a787-9892951c620e",
  "method": "GET",
  "modified_time": "2020-09-18T09:25:59Z",
  "name": "livedata_api_demo",
  "parameters": [ ],
  "path": "/test/function",
  "return_format": false,
  "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "scripts": [ ],
  "status": 1,
  "type": "",
  "version": "1.0.1"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
}
```

```
{
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3084",
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.5 Querying Backend APIs

Function

This API is used to obtain all backend APIs of an instance.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/livedata-apis

Table 6-1252 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1253 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
app_id	No	String	ID of the integration application to which the backend API belongs.
app_name	No	String	Name of the integration application to which the backend API belongs.
name	No	String	Backend API name.
status	No	String	Backend API status. The value can be 1, 3, or 4, indicating to be developed, developing, and deployed, respectively.
path	No	String	Backend API request path.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, name, path, and status are supported.

Request Parameters

Table 6-1254 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1255** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of LdApiInfo objects	API list.

Table 6-1256 LdApiInfo

Parameter	Type	Description
name	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters -_./():
path	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.

Parameter	Type	Description
method	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	String	Backend API description, which cannot contain < and >.
version	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	String	Type of the returned backend API.
api_signature_id	String	ID of the signature key bound to the API for signature authentication
roma_app_id	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	Array of LdApiParameter objects	Backend API request parameters.
id	String	Backend API ID.
instance	String	ID of the instance to which the backend API belongs.
type	String	Backend API type: • data • function

Parameter	Type	Description
status	Integer	Backend API status: • 1: to be developed • 3: developing • 4: deployed
created_time	String	Time when the backend API is created.
modified_time	String	Time when the backend API is modified.
scripts	Array of LdApiScript objects	Backend API script.
roma_app_name	String	Name of the integration application to which the backend API belongs.

Table 6-1257 LdApiParameter

Parameter	Type	Description
name	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.

Parameter	Type	Description
in	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	String	Default value.
description	String	Parameter description, which cannot contain < and >.
required	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Table 6-1258 LdApiScript

Parameter	Type	Description
ds_id	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	String	Data source name.
ds_type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)

Parameter	Type	Description
type	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	String	Returned object.
content	String	API script content. Perform Base64 encoding on the script.
enable_result_pagination	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_preparation	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.
created_time	String	Time when the backend API script is created.
modified_time	String	Time when the backend API script is modified.

Status code: 400**Table 6-1259** Response body parameters

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

Status code: 401**Table 6-1260** Response body parameters

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

Status code: 403

Table 6-1261 Response body parameters

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

Status code: 404**Table 6-1262** Response body parameters

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

Status code: 500**Table 6-1263** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "apis": [ {
    "content_type": "json",
    "created_time": "2020-09-18T09:25:59Z",
    "description": "",
    "id": "bd42841c20184da6bbf457c6d8a06e37",
    "instance": "f0fa1789-3b76-433b-a787-9892951c620e",
    "method": "GET",
    "modified_time": "2020-09-18T09:37:28Z",
    "name": "livedata_api_demo",
    "parameters": [ ],
    "path": "/test/function",
    "return_format": false,
    "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
```

```
"roma_app_name" : "app-demo",  
"scripts" : [ ],  
"status" : 1,  
"type" : "",  
"version" : "1.0.1"  
}]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2011",  
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support  
documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3030",  
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.6 Creating a Backend API Script

Function

This API is used to create a backend API script in an instance.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}/scripts

Table 6-1264 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1265 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1266 Request body parameters

Parameter	Mandatory	Type	Description
api_type	No	String	API type. • data: a data API • function: a function API
scripts	No	Array of LdApiScriptBase objects	API script information list.

Table 6-1267 LdApiScriptBase

Parameter	Mandatory	Type	Description
ds_id	No	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	No	String	Data source name.
ds_type	No	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)
type	No	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	Yes	String	Returned object.

Parameter	Mandatory	Type	Description
content	Yes	String	API script content. Perform Base64 encoding on the script.
enable_result_paging	No	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_prepar estationment	No	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.

Response Parameters

Status code: 200

Table 6-1268 Response body parameters

Parameter	Type	Description
name	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters -_./():
path	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.
method	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	String	Backend API description, which cannot contain < and >.

Parameter	Type	Description
version	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	String	Type of the returned backend API.
api_signature_id	String	ID of the signature key bound to the API for signature authentication
roma_app_id	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	Array of LdApiParameter objects	Backend API request parameters.
id	String	Backend API ID.
instance	String	ID of the instance to which the backend API belongs.
type	String	Backend API type: • data • function
status	Integer	Backend API status: • 1: to be developed • 3: developing • 4: deployed
created_time	String	Time when the backend API is created.
modified_time	String	Time when the backend API is modified.
scripts	Array of LdApiScript objects	Backend API script.

Parameter	Type	Description
roma_app_name	String	Name of the integration application to which the backend API belongs.

Table 6-1269 LdApiParameter

Parameter	Type	Description
name	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	String	Default value.
description	String	Parameter description, which cannot contain < and >.

Parameter	Type	Description
required	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Table 6-1270 LdApiScript

Parameter	Type	Description
ds_id	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	String	Data source name.
ds_type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)
type	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	String	Returned object.
content	String	API script content. Perform Base64 encoding on the script.

Parameter	Type	Description
enable_result_paging	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_preparation	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.
created_time	String	Time when the backend API script is created.
modified_time	String	Time when the backend API script is modified.

Status code: 400**Table 6-1271** Response body parameters

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

Status code: 401**Table 6-1272** Response body parameters

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

Status code: 403**Table 6-1273** Response body parameters

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

Status code: 404**Table 6-1274** Response body parameters

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

Status code: 500**Table 6-1275** Response body parameters

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

Example Requests

Create a SQL script for a specified custom backend with backend type as FunctionGraph.

```
{
  "api_type": "function",
  "scripts": [ {
    "type": "SQL",
    "object_name": "fun",
    "content": "ZnVuY3Rpb24gZXhly3V0ZShkYXRhKSB7CiAgICByZXR1cm4gIkhlbGxvIHdvcmxkiSikfQ=="
  } ]
}
```

Example Responses**Status code: 200**

OK

```
{
  "content_type": "json",
  "created_time": "2020-09-18T09:25:59Z",
  "description": "",
  "id": "bd42841c20184da6bbf457c6d8a06e37",
  "instance": "f0fa1789-3b76-433b-a787-9892951c620e",
  "method": "GET",
  "modified_time": "2020-09-18T09:25:59Z",
  "name": "livedata_api_demo",
  "parameters": [ ],
  "path": "/test/function",
  "return_format": false,
  "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "scripts": [ {
    "type": "SQL",
    "object_name": "fun",
    "content": "ZnVuY3Rpb24gZXhly3V0ZShkYXRhKSB7CiAgICByZXR1cm4gIkhlbGxvIHdvcmxkiSikfQ==",
    "created_time": "2020-09-19T06:29:35Z",
  } ]
}
```

```
"modified_time" : "2020-09-19T06:29:35Z"
  },
  "status" : 1,
  "type" : "function",
  "version" : "1.0.1"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3081",
  "error_msg" : "authorizer with id: 0d982c1ac3da493dae47627b6439fc5c not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.7 Testing a Backend API

Function

This API is used to test whether a backend API is available.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}/test

Table 6-1276 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1277 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1278 Request body parameters

Parameter	Mandatory	Type	Description
parameters	No	Array of LdApiParameter objects	Backend API request parameters.

Table 6-1279 LdApiParameter

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.

Parameter	Mandatory	Type	Description
in	Yes	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	No	String	Default value.
description	No	String	Parameter description, which cannot contain < and >.
required	No	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Response Parameters

Status code: 200

Table 6-1280 Response body parameters

Parameter	Type	Description
test_status_code	String	Returned status code.
test_request	String	Request method.
test_used_time	Integer	Test duration.
test_operator	String	Project ID of the tester.
test_response	String	Test response content.
test_method	String	Request method.
test_id	Integer	Test ID.
test_date	String	Test time.
ld_api_id	String	Backend API ID.
debug_log	Array of strings	Test log list.

Status code: 400

Table 6-1281 Response body parameters

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

Status code: 401**Table 6-1282** Response body parameters

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

Status code: 403**Table 6-1283** Response body parameters

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

Status code: 404**Table 6-1284** Response body parameters

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

Status code: 500**Table 6-1285** Response body parameters

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

Example Requests

Test a specified custom backend and add a header during the test.

```
{
  "parameters": [ {
    "name": "header",
    "in": "Headers",
    "required": false,
    "default": "test"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "ld_api_id": "bd42841c20184da6bbf457c6d8a06e37",
  "test_date": "2020-09-19T06:40:52Z",
  "test_id": 2524356,
  "test_method": "GET",
  "test_operator": "73d69ae0cfcf460190522d06b60f05ad",
  "test_request": "{\"apiUUID\":\"bd42841c20184da6bbf457c6d8a06e37\",\"method\":\"GET\",\"params\":\n[{\n\"paramDesc\":\"\",\"paramName\":\"header\",\"paramRequired\":\"0\",\"paramType\":\"Headers\n\",\"paramValue\":\"test\"}],\"testUrl\":\"/test/function\"}\",\n  \"test_response\": \"Hello world!\",\n  \"test_status_code\": \"200\",\n  \"test_used_time\": 29,\n  \"debug_log\": [ \"2021-04-20 16:52:47 | 226e613ca72f4997b87def5445dac75c | 111\", \"2021-04-20 16:52:47\n| 226e613ca72f4997b87def5445dac75c | message:bbb\" ]\n}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "Invalid parameter value,parameterName:instance_id. Please refer to the support\ndocumentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3084",
}
```



```
{
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.8 Querying the Backend API Test Result

Function

This API is used to query the test results of a backend API in an instance.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}/test

Table 6-1286 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
ld_api_id	Yes	String	Backend API ID.

Table 6-1287 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Request Parameters

Table 6-1288 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1289 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
histories	Array of LdApiTestHistoryInfoV2 objects	Test result objects.

Table 6-1290 LdApiTestHistoryInfoV2

Parameter	Type	Description
test_status_code	String	Returned status code.
test_request	String	Request method.
test_used_time	Integer	Test duration.
test_operator	String	Project ID of the tester.
test_response	String	Test response content.
test_method	String	Request method.
test_id	Integer	Test ID.
test_date	String	Test time.
ld_api_id	String	Backend API ID.

Status code: 400**Table 6-1291** Response body parameters

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

Status code: 401**Table 6-1292** Response body parameters

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

Status code: 403**Table 6-1293** Response body parameters

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

Status code: 404**Table 6-1294** Response body parameters

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

Status code: 500**Table 6-1295** Response body parameters

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

Example Requests

None

Example Responses**Status code: 200**

OK

```
{
  "total" : 1,
  "size" : 1,
  "histories" : [ {
    "id_api_id" : "bd42841c20184da6bbf457c6d8a06e37",
    "test_date" : "2020-09-19T06:40:52Z",
    "test_id" : 2524356,
    "test_method" : "GET",
    "test_operator" : "73d69ae0cfcf460190522d06b60f05ad",
    "test_request" : "{\"apiUUID\":\"bd42841c20184da6bbf457c6d8a06e37\",\"method\":\"GET\",\"params\":\n[{\n\"paramDesc\":\"\",\"paramName\":\"header\",\"paramRequired\":\"0\",\"paramType\":\"Headers\n\",\"paramValue\":\"test\"}],\"testUrl\":\"/test/function\"}",
    "test_response" : "Hello world!",
    "test_status_code" : "200",
    "test_used_time" : 29
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support\ndocumentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3084",
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.18.9 Deploying a Backend API

Function

This API is used to deploy a backend API in an instance.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}/deploy

Table 6-1296 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1297 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1298 Request body parameters

Parameter	Mandatory	Type	Description
ld_api_id	No	String	Backend API ID

Parameter	Mandatory	Type	Description
deploy_front_api	No	Boolean	Whether the backend is automatically published as a frontend API. • true: The frontend API is automatically created and published after the backend is deployed. • false: No frontend API is created after the backend is deployed.
auth_type	No	String	Authentication mode. • NONE • APP • IAM • AUTHORIZER
authorizer_id	No	String	Custom authorizer ID. This parameter is mandatory only if the auth_type is set to AUTHORIZER.
group_id	No	String	ID of the deployed frontend API group.
env_id	No	String	ID of the deployed environment.
protocol	No	String	Request protocol. • HTTP • HTTPS • BOTH: Both HTTP and HTTPS are supported.
backend_timeout	No	Integer	Timeout.
path	No	String	Request path.
method	No	String	Request method.
cors	No	Boolean	Whether CORS is supported. • true: supported • false: not supported

Parameter	Mandatory	Type	Description
roma_app_id	No	String	ID of the application to which the API deployed on the frontend belongs, which must be the same as the ID of the application to which the backend belongs.
retry_count	No	String	Number of retry times for the ROMA Connect APIC to request the backend service. The default value is -1. The value ranges from -1 to 10.

Response Parameters

Status code: 200

Table 6-1299 Response body parameters

Parameter	Type	Description
id	String	Deployment ID.
ld_api_id	String	ID of the deployed backend API.
group_id	String	ID of the deployed frontend API group.
env_id	String	ID of the deployed environment.
api_id	String	ID of the deployed frontend API.
deploy_time	String	Deployment time.
api_definition	LdApiInfo object	Custom backend API details.

Table 6-1300 LdApiInfo

Parameter	Type	Description
name	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters -_./():

Parameter	Type	Description
path	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.
method	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	String	Backend API description, which cannot contain < and >.
version	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	String	Type of the returned backend API.
api_signature_id	String	ID of the signature key bound to the API for signature authentication
roma_app_id	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.
parameters	Array of LdApiParameter objects	Backend API request parameters.
id	String	Backend API ID.

Parameter	Type	Description
instance	String	ID of the instance to which the backend API belongs.
type	String	Backend API type: • data • function
status	Integer	Backend API status: • 1: to be developed • 3: developing • 4: deployed
created_time	String	Time when the backend API is created.
modified_time	String	Time when the backend API is modified.
scripts	Array of LdApiScript objects	Backend API script.
roma_app_name	String	Name of the integration application to which the backend API belongs.

Table 6-1301 LdApiParameter

Parameter	Type	Description
name	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	String	Default value.
description	String	Parameter description, which cannot contain < and >.
required	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Table 6-1302 LdApiScript

Parameter	Type	Description
ds_id	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	String	Data source name.
ds_type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)
type	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	String	Returned object.
content	String	API script content. Perform Base64 encoding on the script.
enable_result_pagination	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_preparation	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.
created_time	String	Time when the backend API script is created.

Parameter	Type	Description
modified_time	String	Time when the backend API script is modified.

Status code: 400**Table 6-1303** Response body parameters

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

Status code: 401**Table 6-1304** Response body parameters

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

Status code: 403**Table 6-1305** Response body parameters

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

Status code: 404**Table 6-1306** Response body parameters

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

Status code: 409**Table 6-1307** Response body parameters

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

Status code: 500**Table 6-1308** Response body parameters

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

Example Requests

Deploy a specified custom backend and publish the corresponding frontend API with authentication mode as App, request method as GET, and request protocol as HTTPS.

```
{
  "auth_type": "APP",
  "authorizer_id": "",
  "backend_timeout": 5000,
  "cors": false,
  "deploy_front_api": true,
  "env_id": "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "group_id": "01ce7564a2544713b80c7c08eb85f5d0",
  "method": "GET",
  "path": "/test/function",
  "protocol": "HTTPS",
  "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d"
}
```

Example Responses

Status code: 200

OK

```
{
  "api_definition": {
    "content_type": "json",
    "created_time": "2020-09-18T09:25:59Z",
    "description": "",
    "id": "bd42841c20184da6bbf457c6d8a06e37",
    "instance": "f0fa1789-3b76-433b-a787-9892951c620e",
    "method": "GET",
    "modified_time": "2020-09-19T06:29:35Z",
    "name": "livedata_api_demo",
    "parameters": [ ],

```

```
"path" : "/test/function",
"return_format" : false,
"roma_app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
"roma_app_name" : "app-demo",
"scripts" : [ {
  "type" : "SQL",
  "object_name" : "fun",
  "content" : "ZnVuY3Rpb24gZXh1Y3V0ZShkYXRhKSB7CiAgICByZXR1cm4gIklhIbGxvIHdvcmxkISIkfQ==",
  "created_time" : "2020-09-19T06:29:35Z",
  "modified_time" : "2020-09-19T06:29:35Z"
} ],
"status" : 4,
"type" : "function",
"version" : "1.0.1"
},
"api_id" : "1d0432f1a82a49d08b9308ae7bd96ca6",
"deploy_time" : "2020-09-19T06:58:13Z",
"env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
"group_id" : "01ce7564a2544713b80c7c08eb85f5d0",
"id" : "5e19590f54444d8a9b8fe698ce26e9fe",
"ld_api_id" : "bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:auth_type. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3084",
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 409

Conflict

```
{
  "error_code" : "APIG.3479",
  "error_msg" : "the roma app used for deploy must be the same as the roma app of the ld api"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
409	Conflict
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.10 Querying the Deployment History of a Backend API

Function

This API is used to query the deployment records of a backend API in an instance.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}/deploy

Table 6-1309 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1310 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1311** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
histories	Array of LdApiDeployHistoryInfo objects	Deployment history objects of a backend API.

Table 6-1312 LdApiDeployHistoryInfo

Parameter	Type	Description
id	String	Deployment ID.
ld_api_id	String	ID of the deployed backend API.
group_id	String	ID of the deployed frontend API group.
env_id	String	ID of the deployed environment.
api_id	String	ID of the deployed frontend API.
deploy_time	String	Deployment time.
api_definition	LdApiInfo object	Custom backend API details.

Table 6-1313 LdApilInfo

Parameter	Type	Description
name	String	Backend API name. Must start with a letter or digit and can include letters, digits, and special characters -_./():
path	String	Backend API request path. Start with a slash (/), and use letters, digits, hyphens (-), underscores (_), and periods (.). When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request path cannot be modified.
method	String	Backend API request method: GET, PUT, POST, and DELETE When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the backend API request method cannot be modified.
description	String	Backend API description, which cannot contain < and >.
version	String	Backend API version, which contains 2 to 16 characters excluding < and >.
content_type	String	Type of the returned backend API.
api_signature_id	String	ID of the signature key bound to the API for signature authentication
roma_app_id	String	ID of the integration application to which a backend API belongs. When updating a backend API, status=4 indicates that the backend API has been deployed. In this status, the ID of the integration application to which the backend API belongs cannot be modified.
return_format	Boolean	Indicates whether to format the API response information. true: The response information is formatted. false: The response information is not formatted.

Parameter	Type	Description
parameters	Array of LdApiParameter objects	Backend API request parameters.
id	String	Backend API ID.
instance	String	ID of the instance to which the backend API belongs.
type	String	Backend API type: • data • function
status	Integer	Backend API status: • 1: to be developed • 3: developing • 4: deployed
created_time	String	Time when the backend API is created.
modified_time	String	Time when the backend API is modified.
scripts	Array of LdApiScript objects	Backend API script.
roma_app_name	String	Name of the integration application to which the backend API belongs.

Table 6-1314 LdApiParameter

Parameter	Type	Description
name	String	Parameter name. • If the parameter is located in Headers or Parameters, the value can contain letters, digits, periods (.), hyphens (-), and underscores (_), and must start with a letter. The value is case-insensitive. • If the parameter is located in Body, it is named application/json, application/xml, or application/text. However, the key-value pair in Body is used as the parameter name and parameter value. For example, if the parameter name is application/json and the parameter value is {"table":"apic01","id":"1"}, the backend uses table:apic01 and id:1 as input parameters. • Note: The parameter name must be unique. Otherwise, the parameters will be overwritten. When the parameters in Headers and Parameters are duplicate, the parameters will be overwritten. When the key-value pairs in Parameters and Body are duplicate, the parameters will be overwritten.
in	String	Position of the parameter during API calling: • Headers • Parameters • Body
default	String	Default value.
description	String	Parameter description, which cannot contain < and >.
required	Boolean	Whether the parameter is mandatory. true: The parameter is mandatory. false: The parameter is optional.

Table 6-1315 LdApiScript

Parameter	Type	Description
ds_id	String	Data source ID. This parameter is mandatory only if api_type is set to data.
ds_name	String	Data source name.
ds_type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid) • dm: Dameng(tag:hcs) • opengauss(tag:hcs)
type	String	Script type. • SQL: SQL statement • SP: stored procedure
object_name	String	Returned object.
content	String	API script content. Perform Base64 encoding on the script.
enable_result_pagination	Boolean	Indicates whether to display the data script result on multiple pages. This parameter is mandatory only if api_type is set to data.
enable_preparation	Boolean	Indicates whether to pre-compile the data script. This parameter is mandatory only if api_type is set to data.
created_time	String	Time when the backend API script is created.

Parameter	Type	Description
modified_time	String	Time when the backend API script is modified.

Status code: 400**Table 6-1316** Response body parameters

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

Status code: 401**Table 6-1317** Response body parameters

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

Status code: 403**Table 6-1318** Response body parameters

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

Status code: 404**Table 6-1319** Response body parameters

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

Status code: 500

Table 6-1320 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "histories" : {
    "api_id" : "1d0432f1a82a49d08b9308ae7bd96ca6",
    "deploy_time" : "2020-09-28T11:01:09Z",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "group_id" : "01ce7564a2544713b80c7c08eb85f5d0",
    "id" : "abbe44b56eda428d84172343674c9cd6",
    "ld_api_id" : "bd42841c20184da6bbf457c6d8a06e37"
  }
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3084",
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.11 Canceling Deployment of a Backend API

Function

This API is used to cancel the deployment of a backend API in an instance.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}/undeploy

Table 6-1321 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
ld_api_id	Yes	String	Backend API ID.

Request Parameters

Table 6-1322 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1323 Response body parameters

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

Status code: 401

Table 6-1324 Response body parameters

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

Status code: 403

Table 6-1325 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404**Table 6-1326** Response body parameters

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

Status code: 500**Table 6-1327** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3084",
  "error_msg" : "The livedata API does not exist, id: bd42841c20184da6bbf457c6d8a06e37"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.12 Verifying the Definition of a Custom Backend API

Function

This API is used to verify the definition of a custom backend API, that is, whether the API path or name already exists.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/livedata-apic/check

Table 6-1328 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1329 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1330 Request body parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Verification type. - path: path type - name: name type
ld_api_name	No	String	Name of the custom backend API. This parameter is mandatory when type is set to name.
ld_api_method	No	String	Request method of the custom backend API. This parameter is mandatory when type is set to path.
ld_api_path	No	String	Access address of the custom backend API. This parameter is mandatory when type is set to path.

Parameter	Mandatory	Type	Description
roma_app_id	No	String	Integration application ID. This parameter is mandatory when you need to check whether backend API definitions are duplicate in an integration application.

Response Parameters

Status code: 400

Table 6-1331 Response body parameters

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

Status code: 401

Table 6-1332 Response body parameters

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

Status code: 403

Table 6-1333 Response body parameters

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

Status code: 404

Table 6-1334 Response body parameters

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

Status code: 500**Table 6-1335** Response body parameters

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

Example Requests

Check whether the name of a specified custom backend already exists.

```
{
  "type" : "name",
  "ld_api_name" : "ld_api_demo"
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3215",
  "error_msg" : "The livedata API name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.13 Querying the Quota of a Custom Backend Service

Function

This API is used to query the quota of a custom backend service.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/livedata-quota

Table 6-1336 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1337 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1338 Response body parameters

Parameter	Type	Description
datasource	String	Data source quota.
api	String	Backend API quota.
scripts	String	Script quota.
datasource_used	String	Number of used data sources.
api_used	String	Number of used backend APIs.

Status code: 400

Table 6-1339 Response body parameters

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

Status code: 401

Table 6-1340 Response body parameters

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

Status code: 403**Table 6-1341** Response body parameters

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

Status code: 404**Table 6-1342** Response body parameters

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

Status code: 500**Table 6-1343** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "api" : "10000",
```

```
"api_used" : "4",  
"datasource" : "3",  
"datasource_used" : "0",  
"scripts" : "5"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2011",  
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support  
documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3030",  
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.18.14 Querying Data Sources of a Custom Backend Service

Function

This API is used to query the data sources of a custom backend service.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/data-sources

Table 6-1344 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1345 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
app_id	Yes	String	Application ID
name	No	String	Data source name.

Request Parameters

Table 6-1346 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1347** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
data_sources	Array of LdDatasourceInfo objects	Data source list.

Table 6-1348 LdDatasourceInfo

Parameter	Type	Description
name	String	Data source name.

Parameter	Type	Description
type	String	Data source type. • oracle • mysql • mongodb • redis • postgresql • hive • mssql: SQL Server • sqlserver: SQL Server • dws • gauss100 • zenith • hana • clickhouse • mrshive(tag:Site_hybrid)
description	String	Data source description.
url	String	Data source connection string.
user	String	Username.
password	String	Password. Sensitive information will not be returned as a response.
remotepath	String	Path on FTP server to which backup files are uploaded. This parameter is reserved.
id	String	Data source ID.
status	String	Data source status: • old • new
created_time	String	Time when the data source is created.
modified_time	String	Time when the data source is updated.

Status code: 400

Table 6-1349 Response body parameters

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

Status code: 401**Table 6-1350** Response body parameters

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

Status code: 403**Table 6-1351** Response body parameters

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

Status code: 404**Table 6-1352** Response body parameters

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

Status code: 500**Table 6-1353** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "size" : 1,
  "total" : 1,
  "data_sources" : [ {
    "created_time" : "2020-09-19T07:10:12Z",
    "id" : "b71d74cd5889433bb90083f6fbc3adae",
    "modified_time" : "2020-09-19T07:10:12Z",
    "name" : "fdi_ds_demo",
    "status" : "new",
    "type" : "mysql",
    "url" : "jdbc:mysql://10.10.10.156:3306/apic?allowPublicKeyRetrieval=true&characterEncoding=UTF-8",
    "user" : "apictest"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
}
```

```
"error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.19 Custom Authorizer Management

6.19.1 Creating a Custom Authorizer

Function

Creating a Custom Authorizer

URI

POST /v2/{project_id}/apic/instances/{instance_id}/authorizers

Table 6-1354 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1355 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1356 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Custom authorizer name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). The value must start with a letter.
type	Yes	String	Custom authorizer type. • FRONTEND • BACKEND
authorizer_type	Yes	String	Type of the custom authentication function. • LD: custom backend function • FUNC: FunctionGraph function
authorizer_uri	Yes	String	Function URN. Note: To use a custom backend function API, the API request method must be POST and the API status must be Deployed.
network_type	No	String	Function network architecture: • V1: non-VPC • V2: VPC Note: This field does not take effect in APIC scenarios.

Parameter	Mandatory	Type	Description
authorizer_version	No	String	Function version. If both the alias and version are specified, the version will be ignored and only the alias will be used.
authorizer_alias_uri	No	String	Function alias. If both the alias and version are specified, the version will be ignored and only the alias will be used.
identities	No	Array of Identity objects	Authentication source.
ttl	No	Integer	Cache time.
user_data	No	String	User data.
ld_api_id	No	String	Custom backend service ID. This parameter is mandatory when the type of the user-defined authentication function is LD.
need_body	No	Boolean	Indicates whether to send request body.
auth_downgrade_enabled	No	Boolean	Relaxed mode. (Whether the gateway receives requests from clients when the function authentication service cannot be connected or returns an error code starting with "5".)

Table 6-1357 Identity

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. The value must start with a digit or letter, and can include digits, letters, underscores (_), hyphens (-), and periods (.).
location	Yes	String	Parameter location.

Parameter	Mandatory	Type	Description
validation	No	String	Parameter verification expression. The default value is null, indicating that no verification is performed.

Response Parameters

Status code: 201

Table 6-1358 Response body parameters

Parameter	Type	Description
name	String	Custom authorizer name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). The value must start with a letter.
type	String	Custom authorizer type. • FRONTEND • BACKEND
authorizer_type	String	Type of the custom authentication function. • LD: custom backend function • FUNC: FunctionGraph function
authorizer_uri	String	Function URN. Note: To use a custom backend function API, the API request method must be POST and the API status must be Deployed.
network_type	String	Function network architecture: • V1: non-VPC • V2: VPC Note: This field does not take effect in APIC scenarios.
authorizer_version	String	Function version. If both the alias and version are specified, the version will be ignored and only the alias will be used.

Parameter	Type	Description
authorizer_alias_uri	String	Function alias. If both the alias and version are specified, the version will be ignored and only the alias will be used.
identities	Array of Identity objects	Authentication source.
ttl	Integer	Cache time.
user_data	String	User data.
ld_api_id	String	Custom backend service ID. This parameter is mandatory when the type of the user-defined authentication function is LD.
need_body	Boolean	Indicates whether to send request body.
auth_downgrade_enabled	Boolean	Relaxed mode. (Whether the gateway receives requests from clients when the function authentication service cannot be connected or returns an error code starting with "5".)
id	String	Custom authorizer ID.
create_time	String	Creation time.
roma_app_id	String	ID of the application to which the custom authorizer belongs.
roma_app_name	String	Name of the application to which the custom authorizer belongs.

Table 6-1359 Identity

Parameter	Type	Description
name	String	Parameter name. The value must start with a digit or letter, and can include digits, letters, underscores (_), hyphens (-), and periods (.).
location	String	Parameter location.
validation	String	Parameter verification expression. The default value is null, indicating that no verification is performed.

Status code: 400**Table 6-1360** Response body parameters

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

Status code: 401**Table 6-1361** Response body parameters

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

Status code: 403**Table 6-1362** Response body parameters

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

Status code: 404**Table 6-1363** Response body parameters

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

Status code: 500**Table 6-1364** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Example Requests

Create a custom frontend authorizer with function type as custom backend function and authentication source as header.

```
{
  "name" : "Authorizer_demo",
  "type" : "FRONTEND",
  "authorizer_type" : "LD",
  "ld_api_id" : "6f8e61317e4e4fbf8e8220cc19fcced9",
  "authorizer_uri" : "/test",
  "network_type" : "",
  "authorizer_version" : "",
  "authorizer_alias_uri" : "",
  "identities" : [ {
    "name" : "header",
    "location" : "HEADER"
  } ],
  "ttl" : 5
}
```

Example Responses

Status code: 201

Created

```
{
  "name" : "Authorizer_demo",
  "type" : "FRONTEND",
  "authorizer_type" : "LD",
  "authorizer_uri" : "/test",
  "network_type" : "",
  "authorizer_version" : "",
  "authorizer_alias_uri" : "",
  "identities" : [ {
    "name" : "header",
    "location" : "HEADER"
  } ],
  "ttl" : 5,
  "id" : "0d982c1ac3da493dae47627b6439fc5c",
  "create_time" : "2020-09-23T02:32:10.354159293Z",
  "need_body" : true
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:type. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
}
```

```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3019",
  "error_msg": "The function URN does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.19.2 Modifying a Custom Authorizer

Function

Modifying a Custom Authorizer

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/authorizers/{authorizer_id}

Table 6-1365 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
authorizer_id	Yes	String	Custom authorizer ID.

Request Parameters

Table 6-1366 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1367 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Custom authorizer name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). The value must start with a letter.
type	Yes	String	Custom authorizer type. • FRONTEND • BACKEND
authorizer_type	Yes	String	Type of the custom authentication function. • LD: custom backend function • FUNC: FunctionGraph function

Parameter	Mandatory	Type	Description
authorizer_uri	Yes	String	Function URN. Note: To use a custom backend function API, the API request method must be POST and the API status must be Deployed.
network_type	No	String	Function network architecture: • V1: non-VPC • V2: VPC Note: This field does not take effect in APIC scenarios.
authorizer_version	No	String	Function version. If both the alias and version are specified, the version will be ignored and only the alias will be used.
authorizer_alias_uri	No	String	Function alias. If both the alias and version are specified, the version will be ignored and only the alias will be used.
identities	No	Array of Identity objects	Authentication source.
ttl	No	Integer	Cache time.
user_data	No	String	User data.
ld_api_id	No	String	Custom backend service ID. This parameter is mandatory when the type of the user-defined authentication function is LD.
need_body	No	Boolean	Indicates whether to send request body.
auth_downgrade_enabled	No	Boolean	Relaxed mode. (Whether the gateway receives requests from clients when the function authentication service cannot be connected or returns an error code starting with "5".)

Table 6-1368 Identity

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter name. The value must start with a digit or letter, and can include digits, letters, underscores (_), hyphens (-), and periods (.).
location	Yes	String	Parameter location.
validation	No	String	Parameter verification expression. The default value is null, indicating that no verification is performed.

Response Parameters

Status code: 200

Table 6-1369 Response body parameters

Parameter	Type	Description
name	String	Custom authorizer name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). The value must start with a letter.
type	String	Custom authorizer type. • FRONTEND • BACKEND
authorizer_type	String	Type of the custom authentication function. • LD: custom backend function • FUNC: FunctionGraph function
authorizer_uri	String	Function URN. Note: To use a custom backend function API, the API request method must be POST and the API status must be Deployed.

Parameter	Type	Description
network_type	String	Function network architecture: • V1: non-VPC • V2: VPC Note: This field does not take effect in APIC scenarios.
authorizer_version	String	Function version. If both the alias and version are specified, the version will be ignored and only the alias will be used.
authorizer_alias_uri	String	Function alias. If both the alias and version are specified, the version will be ignored and only the alias will be used.
identities	Array of Identity objects	Authentication source.
ttl	Integer	Cache time.
user_data	String	User data.
ld_api_id	String	Custom backend service ID. This parameter is mandatory when the type of the user-defined authentication function is LD.
need_body	Boolean	Indicates whether to send request body.
auth_downgrade_enabled	Boolean	Relaxed mode. (Whether the gateway receives requests from clients when the function authentication service cannot be connected or returns an error code starting with "5".)
id	String	Custom authorizer ID.
create_time	String	Creation time.
roma_app_id	String	ID of the application to which the custom authorizer belongs.
roma_app_name	String	Name of the application to which the custom authorizer belongs.

Table 6-1370 Identity

Parameter	Type	Description
name	String	Parameter name. The value must start with a digit or letter, and can include digits, letters, underscores (_), hyphens (-), and periods (.).
location	String	Parameter location.
validation	String	Parameter verification expression. The default value is null, indicating that no verification is performed.

Status code: 401**Table 6-1371** Response body parameters

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

Status code: 403**Table 6-1372** Response body parameters

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

Status code: 404**Table 6-1373** Response body parameters

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

Status code: 500

Table 6-1374 Response body parameters

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

Example Requests

Modify the authentication source parameter of a specified custom authorizer.

```
{
  "name" : "Authorizer_demo",
  "type" : "FRONTEND",
  "authorizer_type" : "LD",
  "ld_api_id" : "6f8e61317e4e4fbf8e8220cc19fced9",
  "authorizer_uri" : "/test",
  "network_type" : "",
  "authorizer_version" : "",
  "authorizer_alias_uri" : "",
  "identities" : [ {
    "name" : "header",
    "location" : "HEADER"
  } ],
  "ttl" : 5
}
```

Example Responses

Status code: 200

OK

```
{
  "name" : "Authorizer_demo",
  "type" : "FRONTEND",
  "authorizer_type" : "LD",
  "authorizer_uri" : "/test",
  "network_type" : "",
  "authorizer_version" : "",
  "authorizer_alias_uri" : "",
  "identities" : [ {
    "name" : "header",
    "location" : "HEADER"
  } ],
  "ttl" : 5,
  "need_body" : true,
  "id" : "0d982c1ac3da493dae47627b6439fc5c",
  "create_time" : "2020-09-23T02:32:10Z",
  "roma_app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "roma_app_name" : "app-demo"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3081",
  "error_msg" : "authorizer with id: 0d982c1ac3da493dae47627b6439fc5c not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.19.3 Deleting a Custom Authorizer

Function

Deleting a Custom Authorizer

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/authorizers/{authorizer_id}

Table 6-1375 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
authorizer_id	Yes	String	Custom authorizer ID.

Request Parameters

Table 6-1376 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1377 Response body parameters

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

Status code: 401

Table 6-1378 Response body parameters

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

Status code: 403

Table 6-1379 Response body parameters

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

Status code: 404**Table 6-1380** Response body parameters

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

Status code: 500**Table 6-1381** Response body parameters

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

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404**Not Found**

```
{
  "error_code" : "APIG.3081",
  "error_msg" : "authorizer with id: 0d982c1ac3da493dae47627b6439fc5c not found"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.19.4 Querying Details of a Custom Authorizer

Function

Querying Details of a Custom Authorizer

URI

GET /v2/{project_id}/apic/instances/{instance_id}/authorizers/{authorizer_id}

Table 6-1382 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
authorizer_id	Yes	String	Custom authorizer ID.

Request Parameters

Table 6-1383 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1384 Response body parameters

Parameter	Type	Description
name	String	Custom authorizer name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). The value must start with a letter.
type	String	Custom authorizer type. • FRONTEND • BACKEND
authorizer_type	String	Type of the custom authentication function. • LD: custom backend function • FUNC: FunctionGraph function

Parameter	Type	Description
authorizer_uri	String	Function URN. Note: To use a custom backend function API, the API request method must be POST and the API status must be Deployed.
network_type	String	Function network architecture: • V1: non-VPC • V2: VPC Note: This field does not take effect in APIC scenarios.
authorizer_version	String	Function version. If both the alias and version are specified, the version will be ignored and only the alias will be used.
authorizer_alias_uri	String	Function alias. If both the alias and version are specified, the version will be ignored and only the alias will be used.
identities	Array of Identity objects	Authentication source.
ttl	Integer	Cache time.
user_data	String	User data.
ld_api_id	String	Custom backend service ID. This parameter is mandatory when the type of the user-defined authentication function is LD.
need_body	Boolean	Indicates whether to send request body.
auth_downgrade_enabled	Boolean	Relaxed mode. (Whether the gateway receives requests from clients when the function authentication service cannot be connected or returns an error code starting with "5".)
id	String	Custom authorizer ID.
create_time	String	Creation time.
roma_app_id	String	ID of the application to which the custom authorizer belongs.
roma_app_name	String	Name of the application to which the custom authorizer belongs.

Table 6-1385 Identity

Parameter	Type	Description
name	String	Parameter name. The value must start with a digit or letter, and can include digits, letters, underscores (_), hyphens (-), and periods (.).
location	String	Parameter location.
validation	String	Parameter verification expression. The default value is null, indicating that no verification is performed.

Status code: 400**Table 6-1386** Response body parameters

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

Status code: 401**Table 6-1387** Response body parameters

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

Status code: 403**Table 6-1388** Response body parameters

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

Status code: 404**Table 6-1389** Response body parameters

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

Status code: 500**Table 6-1390** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "name" : "Authorizer_demo",
  "type" : "FRONTEND",
  "authorizer_type" : "LD",
  "authorizer_uri" : "/test",
  "network_type" : "",
  "authorizer_version" : "",
  "authorizer_alias_uri" : "",
  "identities" : [ {
    "name" : "header",
    "location" : "HEADER"
  } ],
  "ttl" : 5,
  "need_body" : true,
  "id" : "0d982c1ac3da493dae47627b6439fc5c",
  "create_time" : "2020-09-23T02:32:10Z",
  "roma_app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "roma_app_name" : "app-demo"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:type. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3081",
  "error_msg" : "authorizer with id: 0d982c1ac3da493dae47627b6439fc5c not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.19.5 Querying Custom Authorizers

Function

Querying Custom Authorizers

URI

GET /v2/{project_id}/apic/instances/{instance_id}/authorizers

Table 6-1391 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1392 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
id	No	String	ID.
name	No	String	Name.
type	No	String	Type.

Request Parameters

Table 6-1393 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1394 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
authorizer_list	Array of AuthorizerResp objects	Custom authorizers.

Table 6-1395 AuthorizerResp

Parameter	Type	Description
name	String	Custom authorizer name. The value contains 3 to 64 characters, including letters, digits, and underscores (_). The value must start with a letter.
type	String	Custom authorizer type. • FRONTEND • BACKEND
authorizer_type	String	Type of the custom authentication function. • LD: custom backend function • FUNC: FunctionGraph function
authorizer_uri	String	Function URN. Note: To use a custom backend function API, the API request method must be POST and the API status must be Deployed.
network_type	String	Function network architecture: • V1: non-VPC • V2: VPC Note: This field does not take effect in APIC scenarios.

Parameter	Type	Description
authorizer_version	String	Function version. If both the alias and version are specified, the version will be ignored and only the alias will be used.
authorizer_alias_uri	String	Function alias. If both the alias and version are specified, the version will be ignored and only the alias will be used.
identities	Array of Identity objects	Authentication source.
ttl	Integer	Cache time.
user_data	String	User data.
ld_api_id	String	Custom backend service ID. This parameter is mandatory when the type of the user-defined authentication function is LD.
need_body	Boolean	Indicates whether to send request body.
auth_downgrade_enabled	Boolean	Relaxed mode. (Whether the gateway receives requests from clients when the function authentication service cannot be connected or returns an error code starting with "5".)
id	String	Custom authorizer ID.
create_time	String	Creation time.
roma_app_id	String	ID of the application to which the custom authorizer belongs.
roma_app_name	String	Name of the application to which the custom authorizer belongs.

Table 6-1396 Identity

Parameter	Type	Description
name	String	Parameter name. The value must start with a digit or letter, and can include digits, letters, underscores (_), hyphens (-), and periods (.).

Parameter	Type	Description
location	String	Parameter location.
validation	String	Parameter verification expression. The default value is null, indicating that no verification is performed.

Status code: 400**Table 6-1397** Response body parameters

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

Status code: 401**Table 6-1398** Response body parameters

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

Status code: 403**Table 6-1399** Response body parameters

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

Status code: 404**Table 6-1400** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 500

Table 6-1401 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "authorizer_list": [ {
    "name": "Authorizer_demo",
    "type": "FRONTEND",
    "authorizer_type": "LD",
    "authorizer_uri": "/test",
    "network_type": "",
    "authorizer_version": "",
    "authorizer_alias_uri": "",
    "identities": [ {
      "name": "header",
      "location": "HEADER"
    } ],
    "ttl": 5,
    "user_data": "authorizer_test",
    "id": "0d982c1ac3da493dae47627b6439fc5c",
    "create_time": "2020-09-23T02:32:10Z",
    "need_body": true,
    "roma_app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
    "roma_app_name": "app-demo"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2011",
  "error_msg": "Invalid parameter value,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.20 Querying Metrics

6.20.1 Querying API Calls Within a Period

Function

This API is used to query the number of API calling times based on the API ID and specified time period. A sample value is returned every minute. If the query scope is within one hour, a sample value is returned every minute, which is the accumulated value within one minute.

NOTE

For security purposes, run the curl command on the server to query information, and then clear operation records, including but not limited to records in the ~/.bash_history and /var/log/messages directories (if any).

URI

GET /v2/{project_id}/apic/instances/{instance_id}/statistics/api/latest

Table 6-1402 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1403 Query Parameters

Parameter	Mandatory	Type	Description
api_id	Yes	String	API ID.
duration	Yes	String	Time range (unit: h or m). For example, 1h refers to the latest 1 hour and 1m refers to the latest 1 minute.

Request Parameters

Table 6-1404 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1405** Response body parameters

Parameter	Type	Description
code	String	Response code.
start_time	Long	Timestamp (UTC) of the start time.
end_time	Long	Timestamp (UTC) of the end time.
list	Array of StatisticsAPI objects	Statistic data.

Table 6-1406 StatisticsAPI

Parameter	Type	Description
max_latency	Integer	Maximum latency.
avg_latency	Float	Average latency.
req_count	Integer	Total number of requests.
req_count2xx	Integer	Total number of 2xx response codes.
req_count4xx	Integer	Total number of 4xx response codes.
req_count5xx	Integer	Total number of 5xx response codes.
req_count_error	Integer	Number of errors.
max_inner_latency	Integer	Maximum gateway latency.
avg_inner_latency	Float	Average gateway latency.

Parameter	Type	Description
max_backend_latency	Integer	Maximum backend latency.
avg_backend_latency	Float	Average backend latency.
output_throughput	Long	Downstream throughput (bytes).
input_throughput	Long	Upstream throughput (bytes).
current_minute	Long	Timestamp (UTC) of API access
cycle	String	Period for query.
api_id	String	API ID.
group_id	String	API group ID.
provider	String	API provider.
req_time	String	Request time.
register_time	String	Recording time.
status	Integer	Status: • 1: scheduling, data not reported to Cloud Eye yet • 2: data successfully reported to Cloud Eye Reserved field, not supported yet.

Status code: 400**Table 6-1407** Response body parameters

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

Status code: 401**Table 6-1408** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-1409** Response body parameters

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

Status code: 404**Table 6-1410** Response body parameters

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

Status code: 500**Table 6-1411** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "code" : "APIG.0000",
  "start_time" : 1595573280,
  "end_time" : 1595576820,
```



```
"list" : [ {  
  "api_id" : "39bce6d25a3f470e8cf7b2c97174f7d9",  
  "avg_backend_latency" : 2.71,  
  "avg_inner_latency" : 1.57,  
  "avg_latency" : 4.14,  
  "current_minute" : 1595576640,  
  "cycle" : "MINUTE",  
  "group_id" : "d0fc4e40b7d1492cba802f667c7c7226",  
  "input_throughput" : 1071,  
  "max_backend_latency" : 6,  
  "max_inner_latency" : 8,  
  "max_latency" : 14,  
  "output_throughput" : 3790,  
  "provider" : "73d69ae0cfcf460190522d06b60f05ad",  
  "register_time" : "2020-07-24 15:44:56",  
  "req_count" : 7,  
  "req_count2xx" : 0,  
  "req_count4xx" : 6,  
  "req_count5xx" : 1,  
  "req_count_error" : 7,  
  "req_time" : "2020-07-24 15:44:00",  
  "status" : 1  
} ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:api_id. Please refer to the support documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3002",  
  "error_msg" : "API 39bce6d25a3f470e8cf7b2c97174f7d9 does not exist"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.20.2 Querying API Metric Statistics

Function

This API is used to query API statistics of an instance.

Constraints

If the invoking times out or the error message "request statistics error" is returned, switch to another mode or shorten the statistics collection duration.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/statistics/api

Table 6-1412 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1413 Query Parameters

Parameter	Mandatory	Type	Description
mode	No	String	Query mode. The default value is INSTANCE. • ALL: Queries all applications in an instance. The master account permission is required. • APP: Queries a specified integration application. • API: Queries a specified API. • INSTANCE: Queries an instance. Note: If mode is set to APP or ALL, cycle, api_id, group_id, provider, register_time and status are not returned in the response. If mode is set to INSTANCE and both api_id and roma_app_id are not set, the master account permission is required.
roma_app_id	No	String	Query mode: • ALL: all integration applications of the instance. Primary account permissions are required. • APP: specified integration applications • INSTANCE (default): the current instance When mode is set to APP or ALL, the cycle, api_id, group_id, roma_app_id, provider, register_time, and status fields are not returned in the response. When cycle is set to HOUR or DAY, the req_time field is not returned in the response. If consumer_app_id or roma_app_id is not set, the primary account permissions are required for API calling.
api_id	No	String	Import CSE microservices.

Parameter	Mandatory	Type	Description
cycle	No	String	Statistical period. • minute • hour • day For example, if cycle is set to hour and duration is set to 2h , data is sampled every hour for two hours and the sampled data is the accumulated value in the hour. If cycle is set to minute , data of the last 3 hours can be queried. If cycle is set to hour , data of the last 3 days can be queried. If cycle is set to day , data of the last 90 days can be queried.
start_time	No	String	Start time, for example, 2020-06-18 10:00:01.
end_time	No	String	End time, for example, 2020-06-18 23:00:00.

Parameter	Mandatory	Type	Description
duration	No	String	The measurement duration is in the format of "integer+unit (m or h)". m indicates minute, and h indicates hour. The combination of hour and minute is supported. For example, 1h or 2h45m. • If both start_time and end_time are specified, the query time range is [start_time, end_time]. • If start_time does not exist, but end_time and duration exist and are valid, the query time range is [end_time - duration, end_time]. • If start_time and end_time do not exist, duration exists and is valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If end_time does not exist, start_time and duration exist and are valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If start_time, end_time, and duration do not exist, the error message "missing time range parameters" is displayed. • Maximum duration query range: 72 hours and 90 minutes respectively

Request Parameters

Table 6-1414 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1415** Response body parameters

Parameter	Type	Description
code	String	Response code.
start_time	Long	Timestamp (UTC) of the start time.
end_time	Long	Timestamp (UTC) of the end time.
list	Array of StatisticsAPI objects	Statistic data.

Table 6-1416 StatisticsAPI

Parameter	Type	Description
max_latency	Integer	Maximum latency.
avg_latency	Float	Average latency.
req_count	Integer	Total number of requests.
req_count2xx	Integer	Total number of 2xx response codes.
req_count4xx	Integer	Total number of 4xx response codes.
req_count5xx	Integer	Total number of 5xx response codes.
req_count_error	Integer	Number of errors.
max_inner_latency	Integer	Maximum gateway latency.
avg_inner_latency	Float	Average gateway latency.

Parameter	Type	Description
max_backend_latency	Integer	Maximum backend latency.
avg_backend_latency	Float	Average backend latency.
output_throughput	Long	Downstream throughput (bytes).
input_throughput	Long	Upstream throughput (bytes).
current_minute	Long	Timestamp (UTC) of API access
cycle	String	Period for query.
api_id	String	API ID.
group_id	String	API group ID.
provider	String	API provider.
req_time	String	Request time.
register_time	String	Recording time.
status	Integer	Status: • 1: scheduling, data not reported to Cloud Eye yet • 2: data successfully reported to Cloud Eye Reserved field, not supported yet.

Status code: 400**Table 6-1417** Response body parameters

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

Status code: 401**Table 6-1418** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-1419** Response body parameters

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

Status code: 404**Table 6-1420** Response body parameters

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

Status code: 500**Table 6-1421** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "code" : "APIG.0000",  
  "start_time" : 1599400383,  
  "end_time" : 1599616383,
```



```
"list" : [ {  
  "max_latency" : 0,  
  "avg_latency" : 0,  
  "max_inner_latency" : 0,  
  "avg_inner_latency" : 0,  
  "max_backend_latency" : 0,  
  "avg_backend_latency" : 0,  
  "req_count" : 5,  
  "req_count2xx" : 0,  
  "req_count4xx" : 0,  
  "req_count5xx" : 5,  
  "req_count_error" : 5,  
  "output_throughput" : 1695,  
  "input_throughput" : 2990,  
  "current_minute" : 1599552000,  
  "req_time" : "2020-09-08 16:00:00",  
  "cycle" : "HOUR",  
  "api_id" : "85deba41aae24839b14cdc03780e8bb6",  
  "group_id" : "22ea1e9d294e4349940b6452a7fd2207",  
  "provider" : "2cb5460f617c4822835e38f0966d8b93",  
  "register_time" : "2020-09-08 17:22:22"  
} ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:api_id. Please refer to the support documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3002",  
  "error_msg" : "API 39bce6d25a3f470e8cf7b2c97174f7d9 does not exist"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.20.3 Querying Statistics of Application Metrics by Integration Application

Function

This API is used to query metrics of different API products requested by an application within a specified period.

This function is restricted for use. If you have any questions, contact technical support.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/statistics/apps/{consumer_app_id}/roma-apps

Table 6-1422 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
consumer_app_id	Yes	String	Application ID.

Table 6-1423 Query Parameters

Parameter	Mandatory	Type	Description
roma_app_ids	Yes	String	Integration application ID of the string type. A maximum of five integration applications can be queried at a time. Use commas (,) to separate multiple integration application IDs.
cycle	No	String	Statistical period. • minute • hour • day If cycle is set to minute , data of the last 3 hours can be queried. If cycle is set to hour , data of the last 3 days can be queried. If cycle is set to day , data of the last 90 days can be queried.
start_time	No	String	Start time, for example, 2020-06-18 10:00:01.
end_time	No	String	End time, for example, 2020-06-18 23:00:00.

Parameter	Mandatory	Type	Description
duration	No	String	The measurement duration is in the format of "integer+unit (m or h)". m indicates minute, and h indicates hour. The combination of hour and minute is supported. For example, 1h or 2h45m. • If both start_time and end_time are specified, the query time range is [start_time, end_time]. • If start_time does not exist, but end_time and duration exist and are valid, the query time range is [end_time - duration, end_time]. • If start_time and end_time do not exist, duration exists and is valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If end_time does not exist, start_time and duration exist and are valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If start_time, end_time, and duration do not exist, the error message "missing time range parameters" is displayed.

Request Parameters

Table 6-1424 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1425 Response body parameters

Parameter	Type	Description
code	String	Response code.
start_time	Long	Timestamp (UTC) of the statistics start time.
end_time	Long	End time (UTC).
roma_apps	Array of RomaAppDetail objects	Integration application statistics.

Table 6-1426 RomaAppDetail

Parameter	Type	Description
roma_app_id	String	Integration application ID.
roma_app_name	String	Integration application name.
list	Array of Statistics objects	List of KPIs in different periods in an integration application.

Table 6-1427 Statistics

Parameter	Type	Description
max_latency	Integer	Maximum latency.
avg_latency	Float	Average latency.
req_count	Integer	Total number of requests.
req_count2xx	Integer	Total number of 2xx response codes.
req_count4xx	Integer	Total number of 4xx response codes.
req_count5xx	Integer	Total number of 5xx response codes.
req_count_error	Integer	Number of errors.
max_inner_latency	Integer	Maximum gateway latency.
avg_inner_latency	Float	Average gateway latency.

Parameter	Type	Description
max_backend_latency	Integer	Maximum backend latency.
avg_backend_latency	Float	Average backend latency.
output_throughput	Long	Downstream throughput (bytes).
input_throughput	Long	Upstream throughput (bytes).
current_minute	Long	Current timestamp in UTC format.
req_time	String	Request time. Reserved field, not supported yet.
register_time	String	Request time. Reserved field, not supported yet.

Status code: 400**Table 6-1428** Response body parameters

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

Status code: 401**Table 6-1429** Response body parameters

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

Status code: 403**Table 6-1430** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404

Table 6-1431 Response body parameters

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

Status code: 500

Table 6-1432 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "code": "APIG.0000",
  "start_time": 1599508511,
  "end_time": 1599616511,
  "roma_apps": [ {
    "roma_app_id": "1a7b421c-6103-4fcb-a0d7-3e322e863cb0",
    "roma_app_name": "yys-product",
    "list": [ {
      "max_latency": 0,
      "avg_latency": 0,
      "max_inner_latency": 0,
      "avg_inner_latency": 0,
      "max_backend_latency": 0,
      "avg_backend_latency": 0,
      "req_count": 0,
      "req_count2xx": 0,
      "req_count4xx": 0,
      "req_count5xx": 0,
      "req_count_error": 0,
      "output_throughput": 0,
    }
  ]
}
```

```
"input_throughput" : 0,  
"current_minute" : 0  
}]  
}]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:api_id. Please refer to the support documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3002",  
  "error_msg" : "API 39bce6d25a3f470e8cf7b2c97174f7d9 does not exist"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.20.4 Querying Top N Metrics of Difference Application Requests

Function

This API is used to query the top few metric values of API calls for all integration applications, or for one application or API, within a specified period.

This function is restricted for use. If you have any questions, contact technical support.

Constraints

If the invoking times out or the error message "request statistics error" is returned, switch to another mode or shorten the statistics collection duration.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/statistics/app-usages

Table 6-1433 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1434 Query Parameters

Parameter	Mandatory	Type	Description
mode	Yes	String	Query mode. • ALL: Queries all applications in an instance. The master account permission is required. • APP: Queries a specified integration application. • API: Queries a specified API.
roma_app_id	No	String	Integration application ID. This parameter is mandatory when mode is set to APP.
api_id	No	String	API ID. This parameter is mandatory when mode is set to API.
cycle	No	String	Statistical period. • minute • hour • day If cycle is set to minute , data of the last 3 hours can be queried. If cycle is set to hour , data of the last 3 days can be queried. If cycle is set to day , data of the last 90 days can be queried.
start_time	No	String	Start time, for example, 2020-06-18 10:00:01.
end_time	No	String	End time, for example, 2020-06-18 23:00:00.

Parameter	Mandatory	Type	Description
duration	No	String	The measurement duration is in the format of "integer+unit (m or h)". m indicates minute, and h indicates hour. The combination of hour and minute is supported. For example, 1h or 2h45m. • If both start_time and end_time are specified, the query time range is [start_time, end_time]. • If start_time does not exist, but end_time and duration exist and are valid, the query time range is [end_time - duration, end_time]. • If start_time and end_time do not exist, duration exists and is valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If end_time does not exist, start_time and duration exist and are valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If start_time, end_time, and duration do not exist, the error message "missing time range parameters" is displayed.
top_app_num	No	Integer	The top applications that are invoked.

Request Parameters

Table 6-1435 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1436 Response body parameters

Parameter	Type	Description
code	String	Response code.
start_time	Long	Timestamp (UTC) of the statistics start time.
end_time	Long	End time (UTC).
app_req_count	Array of AppRequestStatisticInfo objects	Top N application requests.
app_input_throughput	Array of AppInputStatisticInfo objects	Top N uplink throughput of the APIs that are called by applications.
app_output_throughput	Array of AppOutputStatisticInfo objects	Top N downlink throughput of the APIs that are called by applications.

Table 6-1437 AppRequestStatisticInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
req_count	Integer	Total number of requests.

Table 6-1438 AppInputStatisticInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
input_throughput	Long	Total uplink throughput.

Table 6-1439 AppOutputStatisticInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
output_throughput	Long	Total downlink throughput.

Status code: 400**Table 6-1440** Response body parameters

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

Status code: 401**Table 6-1441** Response body parameters

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

Status code: 403**Table 6-1442** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404

Table 6-1443 Response body parameters

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

Status code: 500

Table 6-1444 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "code": "APIG.0000",
  "start_time": 1599400492,
  "end_time": 1599616492,
  "app_req_count": [ {
    "app_id": "c38f75b5-b28a-41e9-afba-b6329b959d07",
    "app_name": "ycs-app",
    "req_count": 5
  } ],
  "app_input_throughput": [ {
    "app_id": "c38f75b5-b28a-41e9-afba-b6329b959d07",
    "app_name": "ycs-app",
    "input_throughput": 2990
  } ],
  "app_output_throughput": [ {
    "app_id": "c38f75b5-b28a-41e9-afba-b6329b959d07",
    "app_name": "ycs-app",
    "output_throughput": 1695
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:api_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 39bce6d25a3f470e8cf7b2c97174f7d9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.20.5 Querying Statistics on Application Request Metrics

Function

This API is used to query the request metrics for all integration applications or for one application within a specified period.

This function is restricted for use. If you have any questions, contact technical support.

Constraints

If the invoking times out or the error message "request statistics error" is returned, switch to another mode or shorten the statistics collection duration.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/statistics/roma-app

Table 6-1445 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1446 Query Parameters

Parameter	Mandatory	Type	Description
mode	No	String	Query mode. The default value is INSTANCE. • ALL: Queries all applications in an instance. The master account permission is required. • APP: Queries a specified application. • INSTANCE: Queries an instance. Note: If mode is set to APP or ALL, the fields cycle, api_id, group_id, roma_app_id, provider, register_time and status are not returned in the response. If cycle is set to HOURL or DAY, req_time is not returned in the response. If both consumer_app_id and roma_app_id are not set, the master account permission is required.
consumer_app_id	No	String	Application ID. This parameter is mandatory when mode is set to APP.
roma_app_id	No	String	Integration application ID. This parameter is mandatory when mode is set to INSTANCE.
cycle	No	String	Statistical period. • minute • hour • day If cycle is set to minute, data of the last 30 days can be queried. If cycle is set to hour, data of the last 180 days can be queried. If cycle is set to day, data of the last 360 days can be queried.
start_time	No	String	Start time, for example, 2020-06-18 10:00:01.

Parameter	Mandatory	Type	Description
end_time	No	String	End time, for example, 2020-06-18 23:00:00.
duration	No	String	The measurement duration is in the format of "integer+unit (m or h)". m indicates minute, and h indicates hour. The combination of hour and minute is supported. For example, 1h or 2h45m. • If both start_time and end_time are specified, the query time range is [start_time, end_time]. • If start_time does not exist, but end_time and duration exist and are valid, the query time range is [end_time – duration, end_time]. • If start_time and end_time do not exist, duration exists and is valid, and end_time is now, the query time range is [end_time – duration, end_time]. • If end_time does not exist, start_time and duration exist and are valid, and end_time is now, the query time range is [end_time – duration, end_time]. • If start_time, end_time, and duration do not exist, the error message "missing time range parameters" is displayed.

Request Parameters

Table 6-1447 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1448 Response body parameters

Parameter	Type	Description
code	String	Response code.
start_time	Long	Timestamp (UTC) of the statistics start time.
end_time	Long	End time (UTC).
list	Array of StatisticsRomaApp objects	List of KPIs in different periods in the integration application dimension.

Table 6-1449 StatisticsRomaApp

Parameter	Type	Description
max_latency	Integer	Maximum latency.
avg_latency	Float	Average latency.
req_count	Integer	Total number of requests.
req_count2xx	Integer	Total number of 2xx response codes.
req_count4xx	Integer	Total number of 4xx response codes.
req_count5xx	Integer	Total number of 5xx response codes.
req_count_error	Integer	Number of errors.
max_inner_latency	Integer	Maximum gateway latency.
avg_inner_latency	Float	Average gateway latency.

Parameter	Type	Description
max_backend_latency	Integer	Maximum backend latency.
avg_backend_latency	Float	Average backend latency.
output_throughput	Long	Downstream throughput (bytes).
input_throughput	Long	Upstream throughput (bytes).
current_minute	Long	Current timestamp in UTC format.
req_time	String	Request time.
cycle	String	Period for query.
roma_app_id	String	Integration application ID.
provider	String	Project ID.
register_time	String	Registration time.
status	Integer	Status: • 1: scheduling, data not reported to Cloud Eye yet • 2: data successfully reported to Cloud Eye Reserved field, not supported yet.

Status code: 400**Table 6-1450** Response body parameters

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

Status code: 401**Table 6-1451** Response body parameters

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

Status code: 403**Table 6-1452** Response body parameters

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

Status code: 404**Table 6-1453** Response body parameters

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

Status code: 500**Table 6-1454** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "code" : "APIG.0000",
  "start_time" : 1599112186,
  "end_time" : 1599616186,
  "list" : [ {
    "current_minute" : 1599552000,
    "max_latency" : 0,
    "avg_latency" : 0,
    "max_inner_latency" : 0,
    "avg_inner_latency" : 0,
    "max_backend_latency" : 0,
    "avg_backend_latency" : 0,
    "req_count" : 5,
```

```
"req_count2xx" : 0,  
"req_count4xx" : 0,  
"req_count5xx" : 5,  
"req_count_error" : 5,  
"output_throughput" : 1695,  
"input_throughput" : 2990,  
"req_time" : ""  
}]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:api_id. Please refer to the support documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3002",  
  "error_msg" : "API 39bce6d25a3f470e8cf7b2c97174f7d9 does not exist"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.20.6 Querying Top N Metrics of All Integration Applications

Function

This API is used to query the top N metrics values of all integration applications within the statistical period. The master account permission is required.

If you have any questions related to the restriction, contact technical support.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/statistics/roma-app-usages

Table 6-1455 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1456 Query Parameters

Parameter	Mandatory	Type	Description
cycle	No	String	Statistical period. • minute • hour • day If cycle is set to minute , data of the last 30 days can be queried. If cycle is set to hour , data of the last 180 days can be queried. If cycle is set to day , data of the last 360 days can be queried.
start_time	No	String	Start time, for example, 2020-06-18 10:00:01.
end_time	No	String	End time, for example, 2020-06-18 23:00:00.

Parameter	Mandatory	Type	Description
duration	No	String	The measurement duration is in the format of "integer+unit (m or h)". m indicates minute, and h indicates hour. The combination of hour and minute is supported. For example, 1h or 2h45m. • If both start_time and end_time are specified, the query time range is [start_time, end_time]. • If start_time does not exist, but end_time and duration exist and are valid, the query time range is [end_time - duration, end_time]. • If start_time and end_time do not exist, duration exists and is valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If end_time does not exist, start_time and duration exist and are valid, and end_time is now, the query time range is [end_time - duration, end_time]. • If start_time, end_time, and duration do not exist, the error message "missing time range parameters" is displayed.
top_roma_app_num	No	Integer	The top integration applications.

Request Parameters

Table 6-1457 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1458** Response body parameters

Parameter	Type	Description
code	String	Response code.
start_time	Long	Timestamp (UTC) of the statistics start time.
end_time	Long	End time (UTC).
app_req_count	Array of AppRequestStatisticInfo objects	Top N number of API calling requests from applications.
app_req_count_error	Array of AppRequestErrorStatisticInfo objects	Top N statistics about application request errors.
app_input_throughput	Array of AppInputStatisticInfo objects	Top N uplink throughput of API calling requests sent by applications.
app_output_throughput	Array of AppOutputStatisticInfo objects	Top N statistics about the downlink throughput of application requests.
app_avg_latency	Array of AppAvgLatencyInfo objects	Top N average delay of API calling requests sent by applications.
app_avg_backend_latency	Array of AppAvgBackendLatencyInfo objects	TOP_n statistics about the average backend latency of application requests.

Table 6-1459 AppRequestStatisticInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
req_count	Integer	Total number of requests.

Table 6-1460 AppRequestErrorStatisticInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
req_count_error	Integer	Number of request errors.

Table 6-1461 AppInputStatisticInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
input_throughput	Long	Total uplink throughput.

Table 6-1462 AppOutputStatisticInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
output_throughput	Long	Total downlink throughput.

Table 6-1463 AppAvgLatencyInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
avg_latency	Float	Average latency.

Table 6-1464 AppAvgBackendLatencyInfo

Parameter	Type	Description
app_id	String	Application ID.
app_name	String	Application name.
avg_backend_latency	Float	Average backend latency.

Status code: 400**Table 6-1465** Response body parameters

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

Status code: 401**Table 6-1466** Response body parameters

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

Status code: 403**Table 6-1467** Response body parameters

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

Status code: 404

Table 6-1468 Response body parameters

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

Status code: 500**Table 6-1469** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "code" : "APIG.0000",
  "start_time" : 1599508511,
  "end_time" : 1599616511,
  "app_req_count" : [ {
    "app_id" : "1a7b421c-6103-4fcb-a0d7-3e322e863cb0",
    "app_name" : "ycs-product",
    "req_count" : 5
  } ],
  "app_req_count_error" : [ {
    "app_id" : "1a7b421c-6103-4fcb-a0d7-3e322e863cb0",
    "app_name" : "ycs-product",
    "req_count" : 5
  } ],
  "app_input_throughput" : [ {
    "app_id" : "1a7b421c-6103-4fcb-a0d7-3e322e863cb0",
    "app_name" : "ycs-product",
    "input_throughput" : 2990
  } ],
  "app_output_throughput" : [ {
    "app_id" : "1a7b421c-6103-4fcb-a0d7-3e322e863cb0",
    "app_name" : "ycs-product",
    "output_throughput" : 1695
  } ],
  "app_avg_latency" : [ {
    "app_id" : "1a7b421c-6103-4fcb-a0d7-3e322e863cb0",
    "app_name" : "ycs-product",
    "avg_latency" : 0
  } ],
  "app_avg_backend_latency" : [ {
    "app_id" : "1a7b421c-6103-4fcb-a0d7-3e322e863cb0",
```

```
{
  "app_name" : "ycs-product",
  "avg_backend_latency" : 0
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:api_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 39bce6d25a3f470e8cf7b2c97174f7d9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.21 Instance Management

6.21.1 Viewing Restrictions on a Instance

Function

This API is used to view restrictions on a instance.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/restriction

Table 6-1470 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1471 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1472 Response body parameters

Parameter	Type	Description
restrict_cidrs	Array of strings	CIDR list of restricted IP network segments.
resource_subnet_cidr	String	CIDR of the IP network segment of the resource tenant.

Status code: 401

Table 6-1473 Response body parameters

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

Status code: 403

Table 6-1474 Response body parameters

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

Status code: 404

Table 6-1475 Response body parameters

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

Status code: 500

Table 6-1476 Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "restrict_cidrs" : [ "127.0.0.1/32", "192.168.0.1/24" ],
  "resource_subnet_cidr" : "192.168.0.1/24"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIC.7102",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIC.7106",
  "error_msg" : "No permissions to request for the method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIC.7302",
  "error_msg" : "Instance not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIC.9000",
  "error_msg" : "Failed to request internal service"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.21.2 Querying Instance Details

Function

This API is used to query details of an instance.

URI

GET /v2/{project_id}/apic/instances/{instance_id}

Table 6-1477 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1478 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1479 Response body parameters

Parameter	Type	Description
id	String	Instance ID.
project_id	String	Project ID to which the instance belongs.
instance_name	String	Instance name.

Parameter	Type	Description
status	String	Status of the instance: • Creating • CreateSuccess • CreateFail • Initing • Registering • Running • InitingFailed • RegisterFailed • Installing • InstallFailed • Updating • UpdateFailed • Rollbacking • RollbackSuccess • RollbackFailed • Deleting • DeleteFailed • Unregistering • UnRegisterFailed • CreateTimeout • InitTimeout • RegisterTimeout • InstallTimeout • UpdateTimeout • RollbackTimeout • DeleteTimeout • UnregisterTimeout • Starting • Freezing • Frozen • Restarting • RestartFail • Unhealthy • RestartTimeout

Parameter	Type	Description
instance_status	Integer	Instance status value, expressed by a number. • 1: Creating • 2: Created successfully • 3: Creation failed • 4: Initializing • 5: Registering • 6: Running • 7: Initialization failed • 8: Registration failed • 10: Installing • 11: Installation failed • 12: Upgrading • 13: Upgrade failed • 20: Rolling back • 21: Rollback success • 22: Rollback failed • 23: Deleting • 24: Deletion failed • 25: Deregistering • 26: Deregistration failed • 27: Creation timeout • 28: Initialization timeout • 29: Registration timeout • 30: Installation timeout • 31: Upgrade timeout • 32: Rollback timeout • 33: Deletion timeout • 34: Deregistration timeout • 35: Starting • 36: Freezing • 37: Frozen • 38: Restarting • 39: Restart failed • 40: Instance exception • 41: Restart timeout
type	String	Instance type. This parameter is currently not supported.

Parameter	Type	Description
spec	String	Instance edition. • ROMA_BASIC • ROMA_PROFESSIONAL • ROMA_ENTERPRISE • ROMA_PLATINUM
create_time	Long	Time when the instance is created. The time is in the Unix timestamp format.
enterprise_project_id	String	Enterprise project ID, required for an enterprise account.
eip_address	String	EIP bound to the instance.
charging_mode	Integer	Billing mode of the instance. • 0: Pay per use • 1: Yearly/Monthly
cbc_metadata	String	Charging order ID, which is used for yearly/monthly charging.
cbc_operation_locks	Array of CbcOperationLock objects	Cloud operations restriction lock This function is not supported currently.
description	String	Description.
vpc_id	String	VPC ID.
subnet_id	String	Subnet network ID.
security_group_id	String	Security group to which the instance belongs.
maintain_begin	String	Start time of the maintenance time window. It must be in the format "xx:00:00". The value of xx can be 02, 06, 10, 14, 18, or 22. During the maintenance time period, O&M personnel perform maintenance on the instance nodes. During this period, services can still be used, but occasionally there may be temporary interruptions. Scheduled maintenance occurs infrequently (typically once every several months).

Parameter	Type	Description
maintain_end	String	End time of the maintenance time window. It must be in the format "xx:00:00". There is a 4-hour difference between the start time and end time. During the maintenance time period, O&M personnel perform maintenance on the instance nodes. During this period, services can still be used, but occasionally there may be temporary interruptions. Scheduled maintenance occurs infrequently (typically once every several months).
ingress_ip	String	VPC inbound address.
user_id	String	ID of the user to which the instance belongs.
nat_eip_ipv6_cidr	String	CIDR block for public outbound access (IPv6). Currently, IPv6 addresses are supported only in certain regions.
eip_ipv6_address	String	EIP (IPv6). Currently, IPv6 addresses are supported only in certain regions.
nat_eip_address	String	IP address for public outbound access.
bandwidth_size	Integer	Bandwidth.
available_zone_ids	String	AZ.
instance_version	String	Instance version.
virsubnet_id	String	Subnet ID. Not supported yet.
roma_eip_address	String	ROMA EIP Not supported yet.
listeners	Array of Listener objects	Listening information. Not supported yet.
supported_features	Array of strings	Supported features.
ingress_ip_v6	String	Instance entry (IPv6) Currently, only some AZs in some regions support IPv6.
node_ips	NodeIps object	Internal IP address of the node.

Parameter	Type	Description
ingress_ips	String	Inbound IP addresses for multiple instances.
cipher_type	String	Instance algorithm type. Options: • generalCipher: general cryptographic algorithms • SMCompatible: compatible with SM series cryptographic algorithms • SMOOnly: SM series cryptographic algorithms To be supported

Table 6-1480 CbcOperationLock

Parameter	Type	Description
lock_scene	String	Restriction scenarios: • TO_PERIOD_LOCK: Changing the billing mode from pay-per-use to yearly/monthly. In this scenario, deleting resources, changing specifications, and changing from pay-per-use to yearly/monthly are not allowed. • SPEC_CHG_LOCK: Changing specifications of the yearly/monthly billing mode. In this scenario, deleting resources and changing specifications are not allowed.
lock_source_id	String	ID of the object that initiates the restriction

Table 6-1481 Listener

Parameter	Type	Description
name	String	Listener name.
port	Integer	Port for the listener to provide services externally.
backend	Backend object	Backend service definition.
ip_version	Integer	IP protocol type for creating a load balancer.

Table 6-1482 Backend

Parameter	Type	Description
ip	Array of strings	Backend host address list.
port	Integer	Backend service port. If the port does not exist, use the listener port.
health_check	HealthCheck object	Health check settings.

Table 6-1483 HealthCheck

Parameter	Type	Description
protocol	String	Currently, LVS supports only TCP_CHECK.
port	Integer	Health check port.
unhealthy	Integer	The threshold for determining whether the backend is unhealthy. The number of consecutive detection failures is used as the threshold.
timeout	Integer	Timeout interval for detecting the backend, in seconds.
interval	Integer	Interval for detecting the backend, in seconds.

Table 6-1484 Nodelps

Parameter	Type	Description
livedata	Array of strings	IP address list of the LiveData component node of the custom backend service.
shubao	Array of strings	IP address list of the Shubao component node of API gateway.

Status code: 401**Table 6-1485** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-1486** Response body parameters

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

Status code: 404**Table 6-1487** Response body parameters

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

Status code: 500**Table 6-1488** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "available_zone_ids" : "[region01, region02]",
  "bandwidth_size" : 5,
  "description" : "test create instance",
```

```
"enterprise_project_id" : "0",
"instance_name" : "apig-demo",
"maintain_begin" : "22:00:00",
"maintain_end" : "02:00:00",
"security_group_id" : "36d0ec18-bd10-4da7-86f3-ad7a5ddc55d7",
"spec" : "PROFESSIONAL",
"subnet_id" : "a938121c-11c4-4c91-b983-bc9acd347bb5",
"vpc_id" : "0957108c-257c-4ce0-9e93-527d279ce763"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIC.7102",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIC.7106",
  "error_msg" : "No permissions to request for the method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIC.7302",
  "error_msg" : "Instance not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIC.9000",
  "error_msg" : "Failed to request internal service"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.22 Instance Feature Management

6.22.1 Querying Instance Features

Function

This API is used to query the features of an instance. If an instance does not support the features listed in the following table, contact technical support to upgrade the instance.

For details about the supported features and feature configuration, see [Appendix > APIC Features Supported by Instances](#).

URI

GET /v2/{project_id}/apic/instances/{instance_id}/features

Table 6-1489 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference .
instance_id	Yes	String	Instance ID.

Table 6-1490 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Request Parameters

Table 6-1491 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1492** Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
features	Array of FeatureInfoV2 objects	Feature list.

Table 6-1493 FeatureInfoV2

Parameter	Type	Description
id	String	Feature ID.
name	String	Feature name.
enable	Boolean	Indicates whether to enable the feature.
config	String	Parameter configuration.
instance_id	String	Instance ID.
update_time	String	Feature update time.

Status code: 400

Table 6-1494 Response body parameters

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

Status code: 401**Table 6-1495** Response body parameters

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

Status code: 403**Table 6-1496** Response body parameters

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

Status code: 404**Table 6-1497** Response body parameters

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

Status code: 500**Table 6-1498** Response body parameters

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "features" : [ {
    "config" : "on",
    "enable" : true,
    "id" : "db9a9260cd3e4a16a9b5747a65d3ffaa",
    "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",
    "name" : "app_api_key",
    "update_time" : "2020-08-24T01:17:31.041984Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.22.2 Configuring a Feature for an Instance

Function

This API is used to configure a feature for an instance.

For details about the supported features and feature configuration, see [Appendix > APIC Features Supported by Instances](#).

URI

POST /v2/{project_id}/apic/instances/{instance_id}/features

Table 6-1499 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference .
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1500 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1501 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Feature name.
enable	Yes	Boolean	Indicates whether to enable the feature.
config	No	String	Parameter configuration.

Response Parameters

Status code: 201

Table 6-1502 Response body parameters

Parameter	Type	Description
id	String	Feature ID.
name	String	Feature name.
enable	Boolean	Indicates whether to enable the feature.
config	String	Parameter configuration.
instance_id	String	Instance ID.
update_time	String	Feature update time.

Status code: 400

Table 6-1503 Response body parameters

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

Status code: 401**Table 6-1504** Response body parameters

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

Status code: 403**Table 6-1505** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1506** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1507** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Enable the app_api_key switch.

```
{
  "name" : "app_api_key",
  "config" : "on",
  "enable" : true
}
```

Example Responses

Status code: 201

Created

```
{
  "config" : "on",
  "enable" : true,
  "id" : "db9a9260cd3e4a16a9b5747a65d3ffaa",
  "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",
  "name" : "app_api_key",
  "update_time" : "2020-08-24T01:17:31.041984021Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2000",
  "error_msg" : "unrecognized feature app-api-key"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
}
```

```
"error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.23 Tag Management

6.23.1 Querying Tags

Function

Querying Tags

URI

GET /v2/{project_id}/apic/instances/{instance_id}/tags

Table 6-1508 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1509 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Request Parameters

Table 6-1510 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1511 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
tags	Array of strings	Tag list.

Status code: 400

Table 6-1512 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1513** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1514** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1515** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1516** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "tags" : [ "webApi", "functionApi" ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.24 Configuration Management

6.24.1 Querying Resource Configurations of an Instance

Function

This API is used to query the resource configurations and usage of an instance.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/project/configs

Table 6-1517 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1518 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.

Request Parameters

Table 6-1519 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1520 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
configs	Array of Config objects	Quota list.

Table 6-1521 Config

Parameter	Type	Description
config_id	String	Quota ID.
config_name	String	Quota name.
config_value	String	Quota value. It indicates the value of the quota for the current instance.
config_time	String	Time when the quota was created.

Parameter	Type	Description
remark	String	Description about the quota. • API_NUM_LIMIT: Maximum number of APIs you can create. • APP_NUM_LIMIT: Maximum number of apps you can create. • APIGROUP_NUM_LIMIT: Maximum number of API groups you can create. • ENVIRONMENT_NUM_LIMIT: Maximum number of environments you can create. • VARIABLE_NUM_LIMIT: Maximum number of environment variables you can create for an API group. • SIGN_NUM_LIMIT: Maximum number of signature keys you can create. • THROTTLE_NUM_LIMIT: Maximum number of request throttling policies you can create. • APIGROUP_DOMAIN_NUM_LIMIT: Maximum number of custom domain names you can bind to an API group. • API_VERSION_NUM_LIMIT: Maximum number of versions you can retain for an API. • VPC_NUM_LIMIT: Maximum number of VPC channels you can create. • VPC_INSTANCE_NUM_LIMIT: Maximum number of elastic cloud servers you can associate with a VPC channel. • API_PARAM_NUM_LIMIT: Maximum number of parameters you can configure for an API. • API_USER_CALL_LIMIT: Maximum number of times an API can be called within a specific period. • ACL_NUM_LIMIT: Maximum number of access control policies you can create. • APP_THROTTLE_LIMIT: Maximum number of excluded apps allowed for a request throttling policy.

Parameter	Type	Description
		• USER_THROTTLE_LIMIT: Maximum number of excluded tenants allowed for a request throttling policy. • API_NUM_LIMIT_PER_GROUP: Maximum number of APIs you can create for an API group. • API_POLICY_NUM_LIMIT: Maximum number of policy backends you can configure for an API. • API_CONDITION_NUM_LIMIT: Maximum number of conditions you can configure for an API policy backend. • SL_DOMAIN_CALL_LIMIT: Maximum number of requests that can be sent to a subdomain name within a specific period. • ELB_SWITCH: Whether to enable ELB channels. • AUTHORIZER_NUM_LIMIT: Maximum number of custom authorizers you can create. • AUTHORIZER_IDENTITY_NUM_LIMIT: Maximum number of identity sources you can configure for a custom authorizer. • APP_CODE_NUM_LIMIT: Maximum number of AppCodes you can create for an app. • REGION_MANAGER_WHITELIST_SERVICES: Whitelist of services that are not verified by the region manager (not supported). • API_SWAGGER_NUM_LIMIT: Maximum number of Swagger files you can bind to an API group. • API_TAG_NUM_LIMIT: Maximum number of tags you can configure for an API. • LTS_SWITCH: Whether to enable LTS log reporting. • APP_KEY_SECRET_SWITCH: Whether to enable AppKey and AppSecret customization. 1: enable; 2: disable.

Parameter	Type	Description
		• RESPONSE_NUM_LIMIT: Maximum number of responses you can create for an API group. • CONFIG_NUM_LIMIT_PER_APP: Maximum number of configurations you can set for an app. • BACKEND_TOKEN_ALLOW_SWITCH: Whether to allow tenants to transparently transmit tokens to the backend. 1: allow; 2: disallow. • APP_TOKEN_SWITCH: Whether to enable AppTokens. • API_DESIGNER_SWITCH: Whether to enable the API designer. 1: enable; 2: disable. • APP_API_KEY_SWITCH: Whether to enable APP_API_KEY authentication. • APP_BASIC_SWITCH: Whether to enable APP_BASIC authentication. • APP_JWT_SWITCH: Whether to enable APP_JWT authentication. • APP_ROUTE_SWITCH: Whether to enable app routes. • PUBLIC_KEY_SWITCH: Whether to enable PUBLIK_KEY backend authentication. • APP_SECRET_SWITCH: Whether to enable APP_SECRET authentication. • CASCADE_SWITCH: Whether to enable cascaded gateways. • IS_INIT_API_PATH_HASH: Whether API path hashing has been performed. • APP_QUOTA_NUM_LIMIT: Maximum number of credential quotas you can create. • IS_INIT_API_VERSION: Whether the API VERSION CANONICAL PATH has been updated. • PLUGIN_NUM_LIMIT: Maximum number of plug-ins you can create. • APICLIENT_FIRST_USE_X_HW_ID_SWITCH: Whether ApiClient preferentially uses x-hw-id to verify permissions.

Parameter	Type	Description
		• API_TASK_NUM_LIMIT: Maximum number of scheduled API tasks you can create. • THROTTLE_LOCAL_SWITCH: Whether to enable the local request throttling mode. • API_TASK_SWITCH: Whether scheduled API tasks are allowed. • SET_HEADERS_NUM_LIMIT_PLUGIN: Maximum number of HTTP headers you can create with a plug-in. • LUA_SCRIPT_SWITCH: Whether the lua_script plug-in is allowed. • LUA_SCRIPT_NUM_LIMIT: Maximum number of lua_script plug-ins can be created for an instance. • SM_DICT_NUM_LIMIT: Maximum number of data dictionaries can be created for an instance. • BM_VPC_INSTANCE_GROUP_NUM_LIMIT: Maximum number of backend server groups can be created for VPC channels for an instance.
used	Long	Used quota of the instance.

Status code: 400**Table 6-1522** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1523** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403**Table 6-1524** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1525** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1526** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "total" : 43,  
  "size" : 2,  
  "configs" : [ {
```

```
"config_id" : "9",
"config_name" : "API_VERSION_NUM_LIMIT",
"config_value" : "10",
"config_time" : "2019-02-12T19:42:19.914989Z",
"remark" : "xxx",
"used" : 0
}, {
"config_id" : "8",
"config_name" : "APIGROUP_DOMAIN_NUM_LIMIT",
"config_value" : "5",
"config_time" : "2019-02-12T19:42:19.914989Z",
"remark" : "xxx",
"used" : 0
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.25 Application Configuration Management

6.25.1 Creating an Application Configuration

Function

Creating an Application Configuration

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/configs

Table 6-1527 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID

Request Parameters

Table 6-1528 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1529 Request body parameters

Parameter	Mandatory	Type	Description
config_type	Yes	String	Application configuration type. • variable: template variable • password: password • certificate: certificate
config_value	No	String	Application configuration value: • config_type = variable: config_value is the value of a template variable. • config_type = password: config_value indicates the password. • config_type = certificate: In an API for creating or modifying application configurations, config_value is optional. In a custom backend function, config_value must contain a certificate for which public_key and private_key are mandatory, and passphrase is optional. The format is as follows: <pre>{ "public_key": , "private_key \":\\" , "passphrase\":"} </pre>
description	No	String	Description of an application configuration.

Parameter	Mandatory	Type	Description
config_name	Yes	String	Application configuration name. Must start with a letter and can include letters, digits, underscores (_), hyphens (-), periods (.), and at signs (@).

Response Parameters

Status code: 201

Table 6-1530 Response body parameters

Parameter	Type	Description
id	String	Application configuration ID.
app_id	String	Application ID
config_type	String	Application configuration type.
config_name	String	Application configuration name.
config_value	String	Application configuration value.
update_time	String	Time when the application configuration was updated.
description	String	Description of an application configuration.

Status code: 400

Table 6-1531 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1532 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1533** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1534** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1535** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Create an application configuration and set the configuration type to template variable.

```
{
  "config_name": "app-config-demo",
  "config_type": "variable"
}
```

Example Responses

Status code: 201

Created

```
{
  "app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "config_name" : "app-config-demo",
  "config_type" : "variable",
  "config_value" : "",
  "description" : "",
  "id" : "a8bf4963c54544be81d5af4cc4630bde",
  "update_time" : "2020-09-07T07:05:41.96969041Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:config_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3019",
  "error_msg" : "The app does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.25.2 Modifying an Application Configuration

Function

Modifying an Application Configuration

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/configs/{app_config_id}

Table 6-1536 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID
app_config_id	Yes	String	Application configuration ID.

Request Parameters

Table 6-1537 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1538 Request body parameters

Parameter	Mandatory	Type	Description
config_type	Yes	String	Application configuration type. • variable: template variable • password: password • certificate: certificate
config_value	No	String	Application configuration value: • config_type = variable: config_value is the value of a template variable. • config_type = password: config_value indicates the password. • config_type = certificate: In an API for creating or modifying application configurations, config_value is optional. In a custom backend function, config_value must contain a certificate for which public_key and private_key are mandatory, and passphrase is optional. The format is as follows: <pre>{ "public_key": , "private_key \":\\" , "passphrase\":"} </pre>
description	No	String	Description of an application configuration.

Response Parameters

Status code: 200

Table 6-1539 Response body parameters

Parameter	Type	Description
id	String	Application configuration ID.
app_id	String	Application ID
config_type	String	Application configuration type.
config_name	String	Application configuration name.
config_value	String	Application configuration value.
update_time	String	Time when the application configuration was updated.
description	String	Description of an application configuration.

Status code: 401

Table 6-1540 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403

Table 6-1541 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404

Table 6-1542 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1543** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Modify the configuration type as password.

```
{
  "config_type": "password"
}
```

Example Responses

Status code: 200

OK

```
{
  "app_id": "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "config_name": "app-config-demo",
  "config_type": "password",
  "config_value": "*****",
  "description": "",
  "id": "a8bf4963c54544be81d5af4cc4630bde",
  "update_time": "2020-09-07T07:10:07.601494336Z"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```


Status code: 404

Not Found

```
{
  "error_code" : "APIG.3081",
  "error_msg" : "authorizer with id: 0d982c1ac3da493dae47627b6439fc5c not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.25.3 Deleting an Application Configuration****Function**

Deleting an Application Configuration

URI

```
DELETE /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/configs/
{app_config_id}
```

Table 6-1544 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID
app_config_id	Yes	String	Application configuration ID.

Request Parameters

Table 6-1545 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1546 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1547 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1548** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1549** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1550** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3081",
  "error_msg" : "authorizer with id: 0d982c1ac3da493dae47627b6439fc5c not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.25.4 Querying Details of an Application Configuration****Function**

Querying Details of an Application Configuration

URI

```
GET /v2/{project_id}/apic/instances/{instance_id}/apps/{app_id}/configs/
{app_config_id}
```

Table 6-1551 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
app_id	Yes	String	Application ID
app_config_id	Yes	String	Application configuration ID.

Request Parameters

Table 6-1552 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1553 Response body parameters

Parameter	Type	Description
id	String	Application configuration ID.
app_id	String	Application ID
config_type	String	Application configuration type.
config_name	String	Application configuration name.
config_value	String	Application configuration value.
update_time	String	Time when the application configuration was updated.
description	String	Description of an application configuration.

Status code: 400**Table 6-1554** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1555** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1556** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1557** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1558** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
  "config_name" : "app-config-demo",
  "config_type" : 1,
  "config_value" : "",
  "description" : "",
  "id" : "a8bf4963c54544be81d5af4cc4630bde",
  "update_time" : "2020-09-07T07:05:41.96969041Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:config_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3081",
  "error_msg" : "authorizer with id: 0d982c1ac3da493dae47627b6439fc5c not found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.25.5 Querying Application Configurations

Function

Querying Application Configurations

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apps/configs

Table 6-1559 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1560 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
app_id	No	String	Application ID
config_name	No	String	Application configuration name.
roma_app_name	No	String	Application name.

Request Parameters

Table 6-1561 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1562 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
configs	Array of AppConfigInfoV2 objects	Application configurations.

Table 6-1563 AppConfigInfoV2

Parameter	Type	Description
id	String	Application configuration ID.
app_id	String	Application ID
config_type	String	Application configuration type.
config_name	String	Application configuration name.
config_value	String	Application configuration value.
update_time	String	Time when the application configuration was updated.
description	String	Description of an application configuration.

Status code: 400**Table 6-1564** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1565** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1566** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1567** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1568** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "configs" : [ {
    "app_id" : "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d",
    "config_name" : "app-config-demo",
    "config_type" : 1,
    "config_value" : "*****",
    "id" : "a8bf4963c54544be81d5af4cc4630bde",
    "update_time" : "2020-09-07T07:05:41Z",
    "description" : ""
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "Invalid parameter value,parameterName:config_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.26 VPC Channel Management - Project-Level

6.26.1 Querying the VPC Channel List of All Instances in a Project

Function

Query the VPC channel list of all instances in a project.

URI

GET /v2/{project_id}/apic/vpc-channels

Table 6-1569 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Table 6-1570 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
id	No	String	VPC channel ID.
name	No	String	VPC channel name.
precise_search	No	String	Parameter name for exact matching. If multiple parameters need to support exact match, separate them with commas (,). Currently, name and member_group_name are supported.
member_host	No	String	Backend server address. By default, exact query is supported and fuzzy query is not supported.]
member_port	No	Integer	Backend server port.

Parameter	Mandatory	Type	Description
member_group_name	No	String	Name of the backend server group.
member_group_id	No	String	ID of the backend server group.
members_return	No	Boolean	Specify whether to return the backend instance list.

Request Parameters

Table 6-1571 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1572 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
project_vpc_channels	Array of ProjectVpcChannelInfo objects	VPC channels of the instance.

Table 6-1573 ProjectVpcChannelInfo

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	String	Member type of the VPC channel. • ip • ecs
type	String	VPC channel type: • BUILTIN • MICROSERVICE
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.

Parameter	Type	Description
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
instance_id	String	Instance ID.
instance_name	String	Instance name.
members	Array of VpcMemberInfo objects	Backend instance list.
vpc_health_config	VpcHealthConfigInfo object	Health check details.
microservice_info	MicroServiceInfo object	Response object of the microservice.

Table 6-1574 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	String	Description of the VPC channel's backend server group.

Parameter	Type	Description
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.
update_time	String	Time when the backend server group is updated.

Table 6-1575 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-1576 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.

Parameter	Type	Description
status	Integer	Backend server status. 1: available 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.
member_group_id	String	Time when the backend server is added to the VPC channel.
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Table 6-1577 VpcHealthConfigInfo

Parameter	Type	Description
protocol	String	Protocol for performing health checks on backend servers in the VPC channel. - TCP - HTTP - HTTPS
path	String	Destination path for health checks. This parameter is required if protocol is set to http.

Parameter	Type	Description
method	String	Request method for health checks.
port	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.
time_interval	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	Integer	Health check status • 1: available • 2: unavailable
timeout	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.
vpc_channel_id	String	VPC channel ID.

Parameter	Type	Description
id	String	Health check ID.
create_time	String	Creation time.

Table 6-1578 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID
service_type	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos engine. nacos_info is mandatory.
cse_info	MicroServiceInfo CSE object	CSE information.
cce_info	MicroServiceInfo CCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfo CCEService object	CCE microservice service details.
nacos_info	MicroServiceInfo-NacosBase object	Nacos basic information.
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-1579 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.

Parameter	Type	Description
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-1580 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-1581 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-1582 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-1583 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Integer	Port number of the Nacos server. Range: 1-65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1-65535.

Table 6-1584 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.
password	String	Nacos password.

Status code: 400**Table 6-1585** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1586** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403

Table 6-1587 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1588 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "project_vpc_channels" : [ {
    "member_type" : "ip",
    "balance_strategy" : 1,
    "create_time" : "2020-07-23T07:24:33Z",
    "port" : 8080,
    "name" : "channel 1",
    "id" : "105c6902457144a4820dff8b1ad63331",
    "type" : 1,
    "status" : 1,
    "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",
    "instance_name" : "test"
  }, {
    "member_type" : "ip",
    "balance_strategy" : 2,
    "create_time" : "2020-07-23T07:11:57Z",
    "port" : 8088,
    "name" : "channel 2",
    "id" : "56a7d7358e1b42459c9d730d65b14e59",
    "type" : 2,
    "status" : 1,
    "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",
    "instance_name" : "test"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "The request parameters must be specified,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.26.2 Creating a VPC Channel in a Project

Function

Create a VPC channel and associate it with multiple instances. VPC channel names must be unique in the same project. Note: This parameter is available only when `vpc_name_modifiable` is set to off.

URI

POST /v2/{project_id}/apic/vpc-channels

Table 6-1589 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Request Parameters

Table 6-1590 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1591 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Yes	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.

Parameter	Mandatory	Type	Description
balance_strategy	Yes	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	Yes	String	Member type of the VPC channel. • ip • ecs
type	No	Integer	VPC channel type. • 2: Server • 3: Microservice If vpc_channel_type is empty, the load balance channel type is determined by the type field. If the value of type is not 3 or the value of microservice_info is empty, the VPC channel type is server by default. If the value of type is 3 and the value of microservice_info is not empty, the VPC channel type is microservice. When you modify a load balance channel, the VPC channel type will remain unchanged. This field is to be discarded. Use the vpc_channel_type field to specify the load balance channel type.

Parameter	Mandatory	Type	Description
vpc_channel_type	No	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	No	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
member_groups	No	Array of MemberGroupCreate objects	Backend server groups of the VPC channel. If service_type in microservice_info is set to NACOS, the weight of the server group cannot be manually set.
members	No	Array of MemberInfo objects	Backend instances of the VPC channel. This field will not be used to add or update backend instances for a reference load balance channel.
vpc_health_config	No	VpcHealthConfig object	Health check details.

Parameter	Mandatory	Type	Description
microservice_info	No	MicroService Create object	Microservice details.
instance_ids	Yes	Array of strings	IDs of associated instances (specify 1 to 10 IDs). To increase the quota, contact technical support to modify PROJECT_VPC_OPERATOR_NUMBER_LIMIT.

Table 6-1592 MemberGroupCreate

Parameter	Mandatory	Type	Description
member_group_name	Yes	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	No	String	Description of the VPC channel's backend server group.
member_group_weight	No	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	No	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	No	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Mandatory	Type	Description
microservice_port	No	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	No	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	No	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).

Table 6-1593 MicroserviceLabel

Parameter	Mandatory	Type	Description
label_name	Yes	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	Yes	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-1594 MemberInfo

Parameter	Mandatory	Type	Description
host	No	String	Backend server address. This parameter is valid when the member type is IP address.

Parameter	Mandatory	Type	Description
weight	No	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	No	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	No	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	No	Integer	Backend server status. • 1: available • 2: unavailable
port	No	Integer	Backend server port.
ecs_id	No	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).

Parameter	Mandatory	Type	Description
ecs_name	No	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).

Table 6-1595 VpcHealthConfig

Parameter	Mandatory	Type	Description
protocol	Yes	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	No	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	No	String	Request method for health checks.
port	No	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Yes	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Yes	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.

Parameter	Mandatory	Type	Description
time_interval	Yes	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	No	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	No	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	No	Integer	Health check status • 1: available • 2: unavailable
timeout	Yes	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.

Table 6-1596 MicroServiceCreate

Parameter	Mandatory	Type	Description
service_type	No	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos registration center. nacos_info is mandatory.
cse_info	No	MicroServiceInfoCSEBase object	CES basic information
cce_info	No	MicroServiceInfoCCEBase object	Not supported
cce_service_info	No	MicroServiceInfoCCEServiceBase object	Not supported currently.
nacos_info	No	MicroServiceInfoNacosBase object	Nacos basic information.

Table 6-1597 MicroServiceInfoCSEBase

Parameter	Mandatory	Type	Description
engine_id	Yes	String	Microservice engine ID.
service_id	Yes	String	Microservice ID.

Table 6-1598 MicroServiceInfoCCEBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace.
workload_type	Yes	String	Workload type. Options: • deployment • statefulset • daemonset

Parameter	Mandatory	Type	Description
app_name	No	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	No	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_./:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	No	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-1599 MicroServiceInfoCCEServiceBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	Yes	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-1600 MicroServiceInfoNacosBase

Parameter	Mandatory	Type	Description
namespace	No	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	No	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	No	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	Yes	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Yes	Array of NacosServerConfig objects	Nacos server configurations.
user_info	Yes	NacosUserInfo object	Nacos user information.

Table 6-1601 NacosServerConfig

Parameter	Mandatory	Type	Description
ip_address	Yes	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Yes	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	No	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-1602 NacosUserInfo

Parameter	Mandatory	Type	Description
user_name	Yes	String	Nacos username.
password	Yes	String	Nacos password.

Response Parameters

Status code: 201

Table 6-1603 Response body parameters

Parameter	Type	Description
project_vpc_channels	Array of ProjectVpcChannelInfo objects	List of project VPC channels.

Table 6-1604 ProjectVpcChannelInfo

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Integer	Distribution algorithm. 1: WRR 2: WLC 3: SH 4: URI hashing
member_type	String	Member type of the VPC channel. - ip - ecs

Parameter	Type	Description
type	String	VPC channel type: • BUILTIN • MICROSERVICE
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
instance_id	String	Instance ID.
instance_name	String	Instance name.
members	Array of VpcMemberInfo objects	Backend instance list.

Parameter	Type	Description
vpc_health_config	VpcHealthConfigInfo object	Health check details.
microservice_info	MicroServiceInfo object	Response object of the microservice.

Table 6-1605 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroServiceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Type	Description
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.
update_time	String	Time when the backend server group is updated.

Table 6-1606 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-1607 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.

Parameter	Type	Description
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	Integer	Backend server status. 1: available 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.
member_group_id	String	Time when the backend server is added to the VPC channel.

Parameter	Type	Description
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Table 6-1608 VpcHealthConfigInfo

Parameter	Type	Description
protocol	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	String	Request method for health checks.
port	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.
time_interval	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.

Parameter	Type	Description
http_code	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	Integer	Health check status • 1: available • 2: unavailable
timeout	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.
vpc_channel_id	String	VPC channel ID.
id	String	Health check ID.
create_time	String	Creation time.

Table 6-1609 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID

Parameter	Type	Description
service_type	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos engine. nacos_info is mandatory.
cse_info	MicroServiceInfo CSE object	CSE information.
cce_info	MicroServiceInfo CCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfo CCEService object	CCE microservice service details.
nacos_info	MicroServiceInfo - NacosBase object	Nacos basic information.
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-1610 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-1611 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-1612 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.

Parameter	Type	Description
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-1613 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-1614 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.

Parameter	Type	Description
port	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-1615 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.
password	String	Nacos password.

Status code: 400**Table 6-1616** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1617** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1618** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1619** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Create a VPC channel in a project with member type as IP, add backend servers, and associate the VPC channel with multiple instances.

```
{
  "balance_strategy": 1,
  "member_type": "ip",
  "name": "VPC_demo",
  "port": 22,
  "vpc_health_config": {
    "http_code": "200",
    "path": "/vpc/demo",
    "port": 22,
    "protocol": "http",
    "threshold_abnormal": 5,
    "threshold_normal": 2,
    "time_interval": 10,
    "timeout": 5,
    "enable_client_ssl": false
  },
  "member_groups": [ {
    "member_group_name": "test",
    "member_group_weight": 1,
    "member_group_remark": "remark"
  }, {
    "member_group_name": "default",
    "member_group_weight": 2,
    "member_group_remark": "remark"
  } ],
  "members": [ {
    "host": "192.168.0.5",
    "weight": 1,
    "member_group_name": "test"
  }, {
    "host": "192.168.1.124",
    "weight": 2,
    "member_group_name": "default"
  } ],
  "instance_ids": [ "eea73cde015940908ae0117d67bf7330", "ddd73cde017890908ae0117d67bf7330" ]
}
```

Example Responses

Status code: 201

OK

```
{
  "project_vpc_channels": [ {
    "balance_strategy": 1,
    "member_type": "ip",
    "name": "VPC_demo",
```

```
"port" : 22,
"type" : 2,
"vpc_health_config" : {
  "http_code" : "200",
  "path" : "/vpc/demo",
  "port" : 22,
  "protocol" : "http",
  "threshold_abnormal" : 5,
  "threshold_normal" : 2,
  "time_interval" : 10,
  "timeout" : 5,
  "enable_client_ssl" : false
},
"member_groups" : [ {
  "member_group_id" : "ec79066c6f6f462e91ff3f17f0e43f2a",
  "member_group_name" : "test",
  "member_group_remark" : "remark",
  "member_group_weight" : 1,
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "update_time" : "2020-07-23T07:11:57.244829604Z"
}, {
  "member_group_id" : "5b26a82cd18547f3ada54b3cfa641df9",
  "member_group_name" : "default",
  "member_group_remark" : "remark",
  "member_group_weight" : 2,
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "update_time" : "2020-07-23T07:11:57.244829604Z"
} ],
"instance_id" : "eea73cde015940908ae0117d67bf7330",
"instance_name" : "test1"
}, {
  "balance_strategy" : 1,
  "member_type" : "ip",
  "name" : "VPC_demo",
  "port" : 22,
  "type" : 2,
  "vpc_health_config" : {
    "http_code" : "200",
    "path" : "/vpc/demo",
    "port" : 22,
    "protocol" : "http",
    "threshold_abnormal" : 5,
    "threshold_normal" : 2,
    "time_interval" : 10,
    "timeout" : 5,
    "enable_client_ssl" : false
  },
  "member_groups" : [ {
    "create_time" : "2021-08-30T14:02:25Z",
    "member_group_id" : "ec79066c6f6f462e91ff3f17f0e43f2a",
    "member_group_name" : "test",
    "member_group_remark" : "",
    "member_group_weight" : 1,
    "update_time" : "2021-08-30T14:02:25Z"
  }, {
    "create_time" : "2021-08-04T06:03:47Z",
    "member_group_id" : "5b26a82cd18547f3ada54b3cfa641df9",
    "member_group_name" : "default",
    "member_group_remark" : "",
    "member_group_weight" : 1,
    "update_time" : "2021-08-04T06:03:47Z"
  } ],
  "instance_id" : "ddd73cde017890908ae0117d67bf7330",
  "instance_name" : "test2"
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "The request parameters must be specified,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.26.3 Modifying VPC Channels in Batches Under a Project

Function

In a project, VPC channels of multiple instances are modified in batches based on the VPC channel name. If the VPC channel does not exist in the instance, create the channel. Note: This parameter is available only when `vpc_name_modifiable` is set to off.

URI

PUT /v2/{project_id}/apic/vpc-channels

Table 6-1620 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Request Parameters

Table 6-1621 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1622 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Yes	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.

Parameter	Mandatory	Type	Description
balance_strategy	Yes	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	Yes	String	Member type of the VPC channel. • ip • ecs
type	No	Integer	VPC channel type. • 2: Server • 3: Microservice If vpc_channel_type is empty, the load balance channel type is determined by the type field. If the value of type is not 3 or the value of microservice_info is empty, the VPC channel type is server by default. If the value of type is 3 and the value of microservice_info is not empty, the VPC channel type is microservice. When you modify a load balance channel, the VPC channel type will remain unchanged. This field is to be discarded. Use the vpc_channel_type field to specify the load balance channel type.

Parameter	Mandatory	Type	Description
vpc_channel_type	No	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	No	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
member_groups	No	Array of MemberGroupCreate objects	Backend server groups of the VPC channel. If service_type in microservice_info is set to NACOS, the weight of the server group cannot be manually set.
members	No	Array of MemberInfo objects	Backend instances of the VPC channel. This field will not be used to add or update backend instances for a reference load balance channel.
vpc_health_config	No	VpcHealthConfig object	Health check details.

Parameter	Mandatory	Type	Description
microservice_info	No	MicroService Create object	Microservice details.
instance_ids	Yes	Array of strings	IDs of associated instances (specify 1 to 10 IDs). To increase the quota, contact technical support to modify PROJECT_VPC_OPERATOR_NUMBER_LIMIT.

Table 6-1623 MemberGroupCreate

Parameter	Mandatory	Type	Description
member_group_name	Yes	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	No	String	Description of the VPC channel's backend server group.
member_group_weight	No	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	No	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	No	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Mandatory	Type	Description
microservice_port	No	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	No	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	No	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).

Table 6-1624 MicroserviceLabel

Parameter	Mandatory	Type	Description
label_name	Yes	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	Yes	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-1625 MemberInfo

Parameter	Mandatory	Type	Description
host	No	String	Backend server address. This parameter is valid when the member type is IP address.

Parameter	Mandatory	Type	Description
weight	No	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	No	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	No	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	No	Integer	Backend server status. • 1: available • 2: unavailable
port	No	Integer	Backend server port.
ecs_id	No	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).

Parameter	Mandatory	Type	Description
ecs_name	No	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).

Table 6-1626 VpcHealthConfig

Parameter	Mandatory	Type	Description
protocol	Yes	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	No	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	No	String	Request method for health checks.
port	No	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Yes	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Yes	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.

Parameter	Mandatory	Type	Description
time_interval	Yes	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	No	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	No	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	No	Integer	Health check status • 1: available • 2: unavailable
timeout	Yes	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.

Table 6-1627 MicroServiceCreate

Parameter	Mandatory	Type	Description
service_type	No	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos registration center. nacos_info is mandatory.
cse_info	No	MicroServiceInfoCSEBase object	CES basic information
cce_info	No	MicroServiceInfoCCEBase object	Not supported
cce_service_info	No	MicroServiceInfoCCEServiceBase object	Not supported currently.
nacos_info	No	MicroServiceInfoNacosBase object	Nacos basic information.

Table 6-1628 MicroServiceInfoCSEBase

Parameter	Mandatory	Type	Description
engine_id	Yes	String	Microservice engine ID.
service_id	Yes	String	Microservice ID.

Table 6-1629 MicroServiceInfoCCEBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace.
workload_type	Yes	String	Workload type. Options: • deployment • statefulset • daemonset

Parameter	Mandatory	Type	Description
app_name	No	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	No	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_./:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	No	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-1630 MicroServiceInfoCCEServiceBase

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	CCE cluster ID.
namespace	Yes	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	Yes	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Table 6-1631 MicroServiceInfoNacosBase

Parameter	Mandatory	Type	Description
namespace	No	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	No	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	No	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	Yes	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Yes	Array of NacosServerConfig objects	Nacos server configurations.
user_info	Yes	NacosUserInfo object	Nacos user information.

Table 6-1632 NacosServerConfig

Parameter	Mandatory	Type	Description
ip_address	Yes	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Yes	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	No	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-1633 NacosUserInfo

Parameter	Mandatory	Type	Description
user_name	Yes	String	Nacos username.
password	Yes	String	Nacos password.

Response Parameters

Status code: 200

Table 6-1634 Response body parameters

Parameter	Type	Description
project_vpc_channels	Array of ProjectVpcChannelInfo objects	List of project VPC channels.

Table 6-1635 ProjectVpcChannelInfo

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Integer	Distribution algorithm. 1: WRR 2: WLC 3: SH 4: URI hashing
member_type	String	Member type of the VPC channel. - ip - ecs

Parameter	Type	Description
type	String	VPC channel type: • BUILTIN • MICROSERVICE
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
instance_id	String	Instance ID.
instance_name	String	Instance name.
members	Array of VpcMemberInfo objects	Backend instance list.

Parameter	Type	Description
vpc_health_config	VpcHealthConfigInfo object	Health check details.
microservice_info	MicroServiceInfo object	Response object of the microservice.

Table 6-1636 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroServiceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.

Parameter	Type	Description
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.
update_time	String	Time when the backend server group is updated.

Table 6-1637 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-1638 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.

Parameter	Type	Description
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	Integer	Backend server status. • 1: available • 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.
member_group_id	String	Time when the backend server is added to the VPC channel.

Parameter	Type	Description
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Table 6-1639 VpcHealthConfigInfo

Parameter	Type	Description
protocol	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	String	Request method for health checks.
port	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.
time_interval	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.

Parameter	Type	Description
http_code	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.
enable_client_ssl	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	Integer	Health check status • 1: available • 2: unavailable
timeout	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.
vpc_channel_id	String	VPC channel ID.
id	String	Health check ID.
create_time	String	Creation time.

Table 6-1640 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID

Parameter	Type	Description
service_type	String	Microservice type. Options: • CSE: CSE microservice registration center. • CCE: CCE (not supported) • CCE_SERVICE: CCE service (not supported). • NACOS: Nacos engine. nacos_info is mandatory.
cse_info	MicroServiceInfoCSE object	CSE information.
cce_info	MicroServiceInfoCCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfoCCEService object	CCE microservice service details.
nacos_info	MicroServiceInfoNacosBase object	Nacos basic information.
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-1641 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-1642 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-1643 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.

Parameter	Type	Description
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-1644 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-1645 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.

Parameter	Type	Description
port	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-1646 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.
password	String	Nacos password.

Status code: 400**Table 6-1647** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1648** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1649** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1650** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Modify health check configurations and backend server member configurations of a specified VPC channel in a project.

```
{
  "balance_strategy": 1,
  "member_type": "ip",
  "name": "VPC_demo",
  "port": 22,
  "vpc_health_config": {
    "http_code": "200",
    "path": "/vpc/demo",
    "port": 22,
    "protocol": "http",
    "threshold_abnormal": 5,
    "threshold_normal": 2,
    "time_interval": 10,
    "timeout": 5,
    "enable_client_ssl": false
  },
  "member_groups": [ {
    "member_group_name": "test",
    "member_group_weight": 1,
    "member_group_remark": "remark"
  }, {
    "member_group_name": "default",
    "member_group_weight": 2,
    "member_group_remark": "remark"
  } ],
  "members": [ {
    "host": "192.168.0.5",
    "weight": 1,
    "member_group_name": "test"
  }, {
    "host": "192.168.1.124",
    "weight": 2,
    "member_group_name": "default"
  } ],
  "instance_ids": [ "eea73cde015940908ae0117d67bf7330", "ddd73cde017890908ae0117d67bf7330" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "project_vpc_channels": [ {
    "balance_strategy": 1,
    "member_type": "ip",
    "name": "VPC_demo",
```

```
"port" : 22,
"type" : 2,
"vpc_health_config" : {
  "http_code" : "200",
  "path" : "/vpc/demo",
  "port" : 22,
  "protocol" : "http",
  "threshold_abnormal" : 5,
  "threshold_normal" : 2,
  "time_interval" : 10,
  "timeout" : 5,
  "enable_client_ssl" : false
},
"member_groups" : [ {
  "member_group_id" : "c1ce135c705c4066853a0460b318fe16",
  "member_group_name" : "test",
  "member_group_weight" : 1,
  "member_group_remark" : "remark",
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "update_time" : "2020-07-23T07:11:57.244829604Z"
}, {
  "member_group_id" : "c1ce135c705c4066853a0460b318fe17",
  "member_group_name" : "default",
  "member_group_weight" : 2,
  "member_group_remark" : "remark",
  "create_time" : "2020-07-23T07:11:57.244829604Z",
  "update_time" : "2020-07-23T07:11:57.244829604Z"
} ],
"instance_id" : "eea73cde015940908ae0117d67bf7330",
"instance_name" : "test1"
}, {
  "balance_strategy" : 1,
  "member_type" : "ip",
  "name" : "VPC_demo",
  "port" : 22,
  "type" : 2,
  "vpc_health_config" : {
    "http_code" : "200",
    "path" : "/vpc/demo",
    "port" : 22,
    "protocol" : "http",
    "threshold_abnormal" : 5,
    "threshold_normal" : 2,
    "time_interval" : 10,
    "timeout" : 5,
    "enable_client_ssl" : false
  },
  "member_groups" : [ {
    "create_time" : "2021-08-30T14:02:25Z",
    "member_group_id" : "ec79066c6f6f462e91ff3f17f0e43f2a",
    "member_group_name" : "test",
    "member_group_remark" : "",
    "member_group_weight" : 1,
    "update_time" : "2021-08-30T14:02:25Z"
  }, {
    "create_time" : "2021-08-04T06:03:47Z",
    "member_group_id" : "5b26a82cd18547f3ada54b3cfa641df9",
    "member_group_name" : "default",
    "member_group_remark" : "",
    "member_group_weight" : 1,
    "update_time" : "2021-08-04T06:03:47Z"
  } ],
  "instance_id" : "ddd73cde017890908ae0117d67bf7330",
  "instance_name" : "test2"
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "The request parameters must be specified,parameterName:name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.26.4 Synchronizing VPC Channels in a Project

Function

Synchronize VPC channels to multiple instances. Note: This parameter is available only when `vpc_name_modifiable` is set to off.

URI

POST /v2/{project_id}/apic/vpc-channels/syncs

Table 6-1651 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Request Parameters

Table 6-1652 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1653 Request body parameters

Parameter	Mandatory	Type	Description
vpc_channel_id	No	String	VPC channel ID.
instance_ids	No	Array of strings	List of newly associated instances.
force_sync	No	Boolean	Indicates whether to forcibly synchronize data. By default, the data is not forcibly synchronized.

Response Parameters

Status code: 201

Table 6-1654 Response body parameters

Parameter	Type	Description
project_vpc_channels	Array of ProjectVpcChannelInfo objects	List of project VPC channels.

Table 6-1655 ProjectVpcChannelInfo

Parameter	Type	Description
name	String	VPC channel name. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
port	Integer	Port number of the host in the VPC channel. The value ranges from 1 to 65535.
balance_strategy	Integer	Distribution algorithm. • 1: WRR • 2: WLC • 3: SH • 4: URI hashing
member_type	String	Member type of the VPC channel. • ip • ecs
type	String	VPC channel type: • BUILTIN • MICROSERVICE

Parameter	Type	Description
vpc_channel_type	String	VPC channel type. • builtin (server) • microservice • reference: reference load balance channel If vpc_channel_type is empty, the load balance channel type depends on the value of the type field. If vpc_channel_type is non-empty and type is non-empty or non-zero, an error occurs when they are specified. If vpc_channel_type is non-empty and type is empty or 0, the value of vpc_channel_type is used to specify the load balance channel type. When you modify a load balance channel, the VPC channel type will remain unchanged.
dict_code	String	The dictionary code of a VPC channel. The value can contain letters, digits, and special characters (-_). Not supported currently.
create_time	String	Time when the VPC channel is created.
id	String	VPC channel ID.
status	Integer	VPC channel status. • 1: normal • 2: abnormal
member_groups	Array of MemberGroupInfo objects	Backend cloud server groups.
instance_id	String	Instance ID.
instance_name	String	Instance name.
members	Array of VpcMemberInfo objects	Backend instance list.
vpc_health_config	VpcHealthConfigInfo object	Health check details.
microservice_info	MicroServiceInfo object	Response object of the microservice.

Table 6-1656 MemberGroupInfo

Parameter	Type	Description
member_group_name	String	Name of the VPC channel's backend server group. It can contain 3 to 64 characters, starting with a letter. Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
member_group_remark	String	Description of the VPC channel's backend server group.
member_group_weight	Integer	Weight of the backend server group of the VPC channel. If servers exist in the current server group and the weight value exists, the weight value is automatically used to assign weights.
dict_code	String	Dictionary code of the backend server group of the VPC channel. The code can contain letters, digits, and special characters (-_). Not supported currently.
microservice_version	String	Version of the backend server group. This parameter is supported only when the VPC channel type is microservice.
microservice_port	Integer	Port of the backend server group. This parameter is supported only when the VPC channel type is microservice. If the port number is 0, all addresses in the backend server group use the original load balancing port to inherit logic.
microservice_labels	Array of MicroserviceLabel objects	Tags of the backend server group. This parameter is supported only when the VPC channel type is microservice.
reference_vpc_channel_id	String	ID of the reference load balance channel. This parameter is supported only when the VPC channel type is reference (vpc_channel_type=reference).
member_group_id	String	ID of the backend server group of the VPC channel.
create_time	String	Time when the backend server group is created.

Parameter	Type	Description
update_time	String	Time when the backend server group is updated.

Table 6-1657 MicroserviceLabel

Parameter	Type	Description
label_name	String	Tag key Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)
label_value	String	Tag value Start and end with a letter or digit. Use only letters, digits, hyphens (-), underscores (_), and periods (.). (Max. 63 characters.)

Table 6-1658 VpcMemberInfo

Parameter	Type	Description
host	String	Backend server address. This parameter is valid when the member type is IP address.
weight	Integer	Backend server weight. The higher the weight is, the more requests a cloud server will receive. It is valid only when the VPC channel type is set to 2.
is_backup	Boolean	Indicates whether it is a standby node. After this parameter is enabled, the corresponding backend service functions as the standby node and works only when all non-standby nodes are faulty. The instance must be upgraded to the corresponding version to support this function. If the instance does not support this function, contact technical support.

Parameter	Type	Description
member_group_name	String	Name of the backend server group. Select a server group for the backend service address so that the backend addresses of the corresponding server group can be changed in a unified manner.
status	Integer	Backend server status. 1: available 2: unavailable
port	Integer	Backend server port.
ecs_id	String	Backend ECS ID This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), and underscores (_) (max. 64 characters).
ecs_name	String	Backend ECS name This parameter is mandatory when the backend instance type is ECS. It can include letters, digits, hyphens (-), underscores (_), and periods (.) (max. 64 characters).
id	String	VPC channel list.
vpc_channel_id	String	Backend instance ID.
create_time	String	VPC channel ID.
member_group_id	String	Time when the backend server is added to the VPC channel.
health_status	String	Health status of the backend instance of the load balance channel. The value can be unknown, healthy, or unhealthy, indicating that no health check is performed, healthy, or unhealthy, respectively.

Table 6-1659 VpcHealthConfigInfo

Parameter	Type	Description
protocol	String	Protocol for performing health checks on backend servers in the VPC channel. • TCP • HTTP • HTTPS
path	String	Destination path for health checks. This parameter is required if protocol is set to http.
method	String	Request method for health checks.
port	Integer	Destination port for health checks. If this parameter is not specified or set to 0, the host port of the VPC channel is used. If the port has a non-zero value, the port is used for health checks.
threshold_normal	Integer	Healthy threshold, which refers to the number of consecutive successful checks required for a backend server to be considered healthy.
threshold_abnormal	Integer	Unhealthy threshold, which refers to the number of consecutive failed checks required for a backend server to be considered unhealthy.
time_interval	Integer	Interval between consecutive checks. Unit: s. The value must be greater than that of timeout.
http_code	String	Response codes for determining a successful HTTP response. The value can be any integer within 100–599 in one of the following formats: • Multiple values, for example, 200,201,202 • Range, for example, 200-299 • Multiple values and ranges, for example, 201,202,210-299. This parameter is required if protocol is set to http.

Parameter	Type	Description
enable_client_ssl	Boolean	Whether to enable two-way authentication. If this function is enabled, the certificate specified by backend_client_certificate in the instance configuration is used.
status	Integer	Health check status 1: available 2: unavailable
timeout	Integer	Timeout for determining whether a health check fails, in seconds. The value must be less than the value of time_interval.
vpc_channel_id	String	VPC channel ID.
id	String	Health check ID.
create_time	String	Creation time.

Table 6-1660 MicroServiceInfo

Parameter	Type	Description
id	String	Microservice ID.
instance_id	String	Instance ID
service_type	String	Microservice type. Options: - CSE: CSE microservice registration center. - CCE: CCE (not supported) - CCE_SERVICE: CCE service (not supported). - NACOS: Nacos engine. nacos_info is mandatory.
cse_info	MicroServiceInfo CSE object	CSE information.
cce_info	MicroServiceInfo CCE object	CCE basic information (not supported).
cce_service_info	MicroServiceInfo CCEService object	CCE microservice service details.
nacos_info	MicroServiceInfo - NacosBase object	Nacos basic information.

Parameter	Type	Description
update_time	String	Time when the microservice is updated.
create_time	String	Time when the microservice is created.

Table 6-1661 MicroServiceInfoCSE

Parameter	Type	Description
engine_id	String	Microservice engine ID.
service_id	String	Microservice ID.
engine_name	String	Microservice engine name.
service_name	String	Microservice name.
register_address	String	Registry center address.
cse_app_id	String	Application to which the microservice belongs.
version	String	Microservice version. This parameter is deprecated and is supported by the backend server group version.

Table 6-1662 MicroServiceInfoCCE

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace.
workload_type	String	Workload type. Options: • deployment • statefulset • daemonset
app_name	String	App name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
label_key	String	Service label key. Start with a letter or digit, and use only letters, digits, and these special characters: -_/:(). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
label_value	String	Service label value. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name (not supported).

Table 6-1663 MicroServiceInfoCCEService

Parameter	Type	Description
cluster_id	String	CCE cluster ID.
namespace	String	Namespace. 1 to 63 characters. Use lowercase letters, digits, and hyphens (-). Start with a letter and end with a letter or digit.
service_name	String	Service name. Start with a letter, and use only letters, digits, periods (.), hyphens (-), and underscores (_). (1 to 64 characters) NOTE Chinese characters must be in UTF-8 or Unicode format.
cluster_name	String	CCE cluster name.

Table 6-1664 MicroServiceInfoNacosBase

Parameter	Type	Description
namespace	String	Namespace ID. If the default namespace public is used, leave this parameter empty. Only letters, numbers, hyphens (-), underscores (_) are allowed. Max.: 64 characters

Parameter	Type	Description
cluster_name	String	Cluster name. The default value is DEFAULT . Only letters, numbers, hyphens (-), underscores (_), and colons (:) are allowed. Max.: 64 characters
group_name	String	Group name. The default value is DEFAULT_GROUP . Only letters, numbers, hyphens (-), underscores (_), periods (.), and colons (:) are allowed. Max.: 128 characters
service_name	String	Microservice name. The value cannot start with @ or contain @@. Max.: 512 characters
server_config	Array of NacosServerConfig objects	Nacos server configurations.
user_info	NacosUserInfo object	Nacos user information.

Table 6-1665 NacosServerConfig

Parameter	Type	Description
ip_address	String	IP address of the Nacos server. Do not enter Chinese characters.
port	Integer	Port number of the Nacos server. Range: 1–65535.
grpc_port	Integer	gRPC port number of the Nacos server. Default: port number + 1000 Range: 1–65535.

Table 6-1666 NacosUserInfo

Parameter	Type	Description
user_name	String	Nacos username.
password	String	Nacos password.

Status code: 400

Table 6-1667 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1668** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1669** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1670** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Synchronize a specified VPC channel in a project to multiple instances.

```
{
  "vpc_channel_id" : "04be10fd3a3f424fac9f603df3297a06",
  "instance_ids" : [ "ddd73cde017890908ae0117d67bf7330", "eea73cde015940908ae0117d67bf7330" ]
}
```


Example Responses

Status code: 201

OK

```
{
  "project_vpc_channels": [ {
    "balance_strategy": 1,
    "member_type": "ip",
    "name": "VPC_demo",
    "port": 22,
    "type": 2,
    "vpc_health_config": {
      "http_code": "200",
      "path": "/vpc/demo",
      "port": 22,
      "protocol": "http",
      "threshold_abnormal": 5,
      "threshold_normal": 2,
      "time_interval": 10,
      "timeout": 5,
      "enable_client_ssl": false
    },
    "member_groups": [ {
      "create_time": "2021-08-30T14:02:25Z",
      "member_group_id": "ec79066c6f6f462e91ff3f17f0e43f2a",
      "member_group_name": "test",
      "member_group_remark": "",
      "member_group_weight": 1,
      "update_time": "2021-08-30T14:02:25Z"
    }, {
      "create_time": "2021-08-04T06:03:47Z",
      "member_group_id": "5b26a82cd18547f3ada54b3cfa641df9",
      "member_group_name": "default",
      "member_group_remark": "",
      "member_group_weight": 1,
      "update_time": "2021-08-04T06:03:47Z"
    } ],
    "instance_id": "eea73cde015940908ae0117d67bf7330",
    "instance_name": "test1"
  }, {
    "balance_strategy": 1,
    "member_type": "ip",
    "name": "VPC_demo",
    "port": 22,
    "type": 2,
    "vpc_health_config": {
      "http_code": "200",
      "path": "/vpc/demo",
      "port": 22,
      "protocol": "http",
      "threshold_abnormal": 5,
      "threshold_normal": 2,
      "time_interval": 10,
      "timeout": 5,
      "enable_client_ssl": false
    },
    "member_groups": [ {
      "create_time": "2021-08-30T14:02:25Z",
      "member_group_id": "ec79066c6f6f462e91ff3f17f0e43f2a",
      "member_group_name": "test",
      "member_group_remark": "",
      "member_group_weight": 1,
      "update_time": "2021-08-30T14:02:25Z"
    }, {
      "create_time": "2021-08-04T06:03:47Z",
      "member_group_id": "5b26a82cd18547f3ada54b3cfa641df9",
      "member_group_name": "default",

```

```
{
  "member_group_remark" : "",
  "member_group_weight" : 1,
  "update_time" : "2021-08-04T06:03:47Z"
}],
"instance_id" : "ddd73cde017890908ae0117d67bf7330",
"instance_name" : "test2"
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2011",
  "error_msg" : "The request parameters must be specified,parameterName:id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27 SSL Certificate Management

6.27.1 Obtaining SSL Certificates

Function

Obtain SSL certificates.

URI

GET /v2/{project_id}/apic/certificates

Table 6-1671 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Table 6-1672 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
name	No	String	Certificate name.
common_name	No	String	Certificate domain name.
signature_algorithm	No	String	Certificate signature algorithm
type	No	String	Certificate scope.
instance_id	Yes	String	ID of the certificate instance.

Parameter	Mandatory	Type	Description
algorithm_type	No	String	Certificate algorithm type: • RSA • ECC • SM2

Request Parameters

Table 6-1673 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1674 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
certs	Array of CertBase objects	Certificate content.

Table 6-1675 CertBase

Parameter	Type	Description
id	String	Certificate ID.
name	String	Certificate name.
type	String	Certificate type. Options: • global: all certificates • instance: certificates of the current instance

Parameter	Type	Description
instance_id	String	Instance ID. • <i>type</i> set to <i>global</i>: The default value is common. • <i>type</i> set to <i>instance</i>: The default value is the instance ID.
project_id	String	Project ID.
common_name	String	Domain name.
san	Array of strings	SAN.
not_after	String	Validity period end time.
signature_algorithm	String	Signature algorithm.
create_time	String	Creation time.
update_time	String	Update time.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.

Status code: 400**Table 6-1676** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1677** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 403

Table 6-1678 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1679 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "certs": [ {
    "id": "a27be832f2e9441c8127fe48e3b5ac67",
    "name": "cert_demo",
    "type": "instance",
    "project_id": "73d69ae0cfcf460190522d06b60f05ad",
    "instance_id": "f0fa1789-3b76-433b-a787-9892951c620e",
    "common_name": "apigtest.xxx.com",
    "san": [ "apigtest.xxx.com", "*.san.com" ],
    "not_after": "2021-04-26T09:03:30Z",
    "signature_algorithm": "SHA256-RSA",
    "create_time": "2021-08-26T07:27:06.304004Z",
    "update_time": "2021-08-26T07:27:06.304004Z",
    "algorithm_type": "RSA"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:dict_name. Please refer to the support documentation"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403**Forbidden**

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500**Internal Server Error**

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.2 Create an SSL certificate.**Function**

Creating an SSL Certificate

URI

POST /v2/{project_id}/apic/certificates

Table 6-1680 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Request Parameters

Table 6-1681 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1682 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Certificate name. It can contain 4 to 50 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
cert_content	Yes	String	Certificate content.
private_key	Yes	String	Private key.
type	No	String	Certificate scope: • instance • global The certificate scope cannot be changed.
instance_id	No	String	Instance ID. Mandatory when type is set to instance.

Parameter	Mandatory	Type	Description
trusted_root_certificate	No	String	Trusted root certificate (CA).
algorithm_type	No	String	Certificate algorithm type: • RSA • ECC • SM2
cert_content_signature	No	String	Signature certificate content. This parameter is mandatory only when algorithm_type is set to SM2 .
private_key_signature	No	String	Signature private key content. This parameter is mandatory only when algorithm_type is set to SM2 .

Response Parameters

Status code: 200

Table 6-1683 Response body parameters

Parameter	Type	Description
id	String	Certificate ID.
name	String	Certificate name.
type	String	Certificate type. Options: • global: all certificates • instance: certificates of the current instance
instance_id	String	Instance ID. • <i>type</i> set to <i>global</i>: The default value is common. • <i>type</i> set to <i>instance</i>: The default value is the instance ID.
project_id	String	Project ID.
common_name	String	Domain name.
san	Array of strings	SAN.
not_after	String	Validity period end time.

Parameter	Type	Description
signature_algorithm	String	Signature algorithm.
create_time	String	Creation time.
update_time	String	Update time.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
version	Integer	Version.
organization	Array of strings	Company/Organization.
organizational_unit	Array of strings	Department.
locality	Array of strings	City.
state	Array of strings	State/Province.
country	Array of strings	Country.
not_before	String	Validity period start time.
serial_number	String	Serial number.
issuer	Array of strings	Issuer.

Status code: 400**Table 6-1684** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1685 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1686** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1687** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1688** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Create an SSL certificate with type as instance.

```
{
  "name" : "cert_demo",
  "private_key" : ""-----BEGIN PRIVATE KEY-----THIS IS YOUR PRIVATE KEY-----END PRIVATE KEY-----",
  "cert_content" : ""-----BEGIN CERTIFICATE-----THIS IS YOUR CERT CONTENT-----END CERTIFICATE-----",
  "type" : "instance",
  "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "a27be832f2e9441c8127fe48e3b5ac67",
  "name" : "cert_demo",
  "common_name" : "apigtest.xxx.com",
  "san" : [ "apigtest.xxx.com", "*.san.com" ],
  "version" : 3,
  "organization" : [ "company" ],
  "organizational_unit" : [ "IT" ],
  "locality" : [ "city" ],
  "state" : [ "state" ],
  "country" : [ "Country" ],
  "not_before" : "2019-06-01T00:00:00Z",
  "not_after" : "2031-08-16T06:36:13Z",
  "serial_number" : "13010",
  "issuer" : [ "SSL Inc" ],
  "signature_algorithm" : "SHA256-RSA",
  "create_time" : "2021-08-20T02:03:53Z",
  "update_time" : "2021-08-20T02:03:53Z",
  "algorithm_type" : "RSA"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3325",
  "error_msg" : "The API quota name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
}
```

```
"error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.3 Binding a Domain Name to an SSL Certificate

Function

SSL certificate bound with a domain name. A domain name can bind to only one certificate. The `certificate_ids` field in the request body can contain only one certificate ID.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}/certificates/attach

Table 6-1689 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.
domain_id	Yes	String	Domain ID.

Request Parameters

Table 6-1690 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1691 Request body parameters

Parameter	Mandatory	Type	Description
certificate_ids	Yes	Array of strings	Certificate IDs.
verified_client_certificate_enabled	No	Boolean	Whether to enable client certificate verification. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Response Parameters

Status code: 400

Table 6-1692 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1693 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1694** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1695** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1696** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Bind an SSL certificate to a specified domain name.

```
{
  "certificate_ids" : [ "a27be832f2e9441c8127fe48e3b5ac67" ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:domain_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.4 Unbinding a Domain Name from an SSL Certificate

Function

Unbind an SSL certificate from a domain name. A domain name can unbind from only one certificate. The `certificate_ids` field in the request body can contain only one certificate ID.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}/certificates/detach

Table 6-1697 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
group_id	Yes	String	API group ID.
domain_id	Yes	String	Domain ID.

Request Parameters

Table 6-1698 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1699 Request body parameters

Parameter	Mandatory	Type	Description
certificate_ids	Yes	Array of strings	Certificate IDs.
verified_client_certificate_enabled	No	Boolean	Whether to enable client certificate verification. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Response Parameters

Status code: 400

Table 6-1700 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1701** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1702** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1703** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1704** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Unbind an SSL certificate from a specified domain name.

```
{
  "certificate_ids" : [ "a27be832f2e9441c8127fe48e3b5ac67" ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:domain_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad Request

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.5 Viewing Certificate Details

Function

View certificate details.

URI

GET /v2/{project_id}/apic/certificates/{certificate_id}

Table 6-1705 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
certificate_id	Yes	String	Certificate ID.

Request Parameters

Table 6-1706 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1707 Response body parameters

Parameter	Type	Description
id	String	Certificate ID.
name	String	Certificate name.
type	String	Certificate type. Options: • global: all certificates • instance: certificates of the current instance
instance_id	String	Instance ID. • <i>type</i> set to <i>global</i>: The default value is common. • <i>type</i> set to <i>instance</i>: The default value is the instance ID.
project_id	String	Project ID.
common_name	String	Domain name.
san	Array of strings	SAN.
not_after	String	Validity period end time.
signature_algorithm	String	Signature algorithm.
create_time	String	Creation time.
update_time	String	Update time.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
version	Integer	Version.
organization	Array of strings	Company/Organization.
organizational_unit	Array of strings	Department.
locality	Array of strings	City.

Parameter	Type	Description
state	Array of strings	State/Province.
country	Array of strings	Country.
not_before	String	Validity period start time.
serial_number	String	Serial number.
issuer	Array of strings	Issuer.

Status code: 400**Table 6-1708** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1709** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1710** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404

Table 6-1711 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1712** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "id" : "a27be832f2e9441c8127fe48e3b5ac67",
  "name" : "cert_demo",
  "common_name" : "apigtest.xxx.com",
  "san" : [ "apigtest.xxx.com", "*.san.com" ],
  "version" : 3,
  "organization" : [ "company" ],
  "organizational_unit" : [ "IT" ],
  "locality" : [ "city" ],
  "state" : [ "state" ],
  "country" : [ "Country" ],
  "not_before" : "2019-06-01T00:00:00Z",
  "not_after" : "2031-08-16T06:36:13Z",
  "serial_number" : "13010",
  "issuer" : [ "SSL Inc" ],
  "signature_algorithm" : "SHA256-RSA",
  "create_time" : "2021-08-20T02:03:53Z",
  "update_time" : "2021-08-20T02:03:53Z",
  "algorithm_type" : "RSA"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:domain_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.27.6 Deleting an SSL Certificate

Function

Delete an SSL certificate. Only certificates that are not bound with domain names can be deleted.

URI

DELETE /v2/{project_id}/apic/certificates/{certificate_id}

Table 6-1713 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
certificate_id	Yes	String	Certificate ID.

Request Parameters

Table 6-1714 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1715 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1716 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1717** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1718** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1719** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",
```

```
{
  "error_msg": "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3093",
  "error_msg": "App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.7 Modifying an SSL certificate

Function

Modify an SSL certificate.

URI

PUT /v2/{project_id}/apic/certificates/{certificate_id}

Table 6-1720 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
certificate_id	Yes	String	Certificate ID.

Request Parameters

Table 6-1721 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1722 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Certificate name. It can contain 4 to 50 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
cert_content	Yes	String	Certificate content.
private_key	Yes	String	Private key.

Parameter	Mandatory	Type	Description
type	No	String	Certificate scope: • instance • global The certificate scope cannot be changed.
instance_id	No	String	Instance ID. Mandatory when type is set to instance.
trusted_root_certificate	No	String	Trusted root certificate (CA).
algorithm_type	No	String	Certificate algorithm type: • RSA • ECC • SM2
cert_content_signature	No	String	Signature certificate content. This parameter is mandatory only when algorithm_type is set to SM2 .
private_key_signature	No	String	Signature private key content. This parameter is mandatory only when algorithm_type is set to SM2 .

Response Parameters

Status code: 200

Table 6-1723 Response body parameters

Parameter	Type	Description
id	String	Certificate ID.
name	String	Certificate name.
type	String	Certificate type. Options: • global: all certificates • instance: certificates of the current instance

Parameter	Type	Description
instance_id	String	Instance ID. • <i>type</i> set to <i>global</i>: The default value is common. • <i>type</i> set to <i>instance</i>: The default value is the instance ID.
project_id	String	Project ID.
common_name	String	Domain name.
san	Array of strings	SAN.
not_after	String	Validity period end time.
signature_algorithm	String	Signature algorithm.
create_time	String	Creation time.
update_time	String	Update time.
algorithm_type	String	Certificate algorithm type: • RSA • ECC • SM2
is_has_trusted_root_ca	Boolean	Whether a trusted root certificate (CA) exists. The value is true if trusted_root_ca exists in the bound certificate.
version	Integer	Version.
organization	Array of strings	Company/Organization.
organizational_unit	Array of strings	Department.
locality	Array of strings	City.
state	Array of strings	State/Province.
country	Array of strings	Country.
not_before	String	Validity period start time.
serial_number	String	Serial number.
issuer	Array of strings	Issuer.

Status code: 400

Table 6-1724 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1725** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1726** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1727** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1728** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Modify cert_content and private_key of a specified SSL certificate.

```
{
  "name" : "cert_demo",
  "private_key" : "-----BEGIN PRIVATE KEY-----THIS IS YOUR PRIVATE KEY-----END PRIVATE KEY-----",
  "cert_content" : "-----BEGIN CERTIFICATE-----THIS IS YOUR CERT CONTENT-----END CERTIFICATE-----"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "a27be832f2e9441c8127fe48e3b5ac67",
  "name" : "cert_demo",
  "common_name" : "apigtest.xxx.com",
  "san" : [ "apigtest.xxx.com", "*.san.com" ],
  "version" : 3,
  "organization" : [ "company" ],
  "organizational_unit" : [ "IT" ],
  "locality" : [ "city" ],
  "state" : [ "state" ],
  "country" : [ "Country" ],
  "not_before" : "2019-06-01T00:00:00Z",
  "not_after" : "2031-08-16T06:36:13Z",
  "serial_number" : "13010",
  "issuer" : [ "SSL Inc" ],
  "signature_algorithm" : "SHA256-RSA",
  "create_time" : "2021-08-20T02:03:53Z",
  "update_time" : "2021-08-20T02:03:53Z",
  "algorithm_type" : "RSA"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3325",
  "error_msg" : "The dictionary name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found


```
{
  "error_code" : "APIG.3093",
  "error_msg" : "App quota c900c5612dbe451bb43cbcc49cfaf2f3 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.8 Binding an SSL Certificate with a Domain Name

Function

Binding an SSL Certificate with a Domain Name

URI

POST /v2/{project_id}/apic/certificates/{certificate_id}/domains/attach

Table 6-1729 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.

Parameter	Mandatory	Type	Description
certificate_id	Yes	String	Certificate ID.

Request Parameters

Table 6-1730 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1731 Request body parameters

Parameter	Mandatory	Type	Description
domains	Yes	Array of AttachOrDetachDomainInfo objects	List of domain names bound to or unbound from a certificate.

Table 6-1732 AttachOrDetachDomainInfo

Parameter	Mandatory	Type	Description
domain	Yes	String	Domain name.
instance_ids	No	Array of strings	Instance IDs.
verified_client_certificate_enabled	No	Boolean	Whether to enable client certificate verification. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Response Parameters

Status code: 400

Table 6-1733 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1734** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1735** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1736** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1737** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Bind an SSL certificate to an independent domain name with specified instances.

```
{
  "domains": [ {
    "domain": "apigtest.xxx.com",
    "instance_ids": [ "f0fa1789-3b76-433b-a787-9892951c620e", "7d39549681c54d968ec2910da9da95cd" ]
  } ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2012",
  "error_msg": "Invalid parameter value,parameterName:domain_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3020",
  "error_msg": "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
204	OK

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.9 Unbinding an SSL Certificate from a Domain Name

Function

Unbind an SSL certificate from a domain name.

URI

POST /v2/{project_id}/apic/certificates/{certificate_id}/domains/detach

Table 6-1738 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
certificate_id	Yes	String	Certificate ID.

Request Parameters

Table 6-1739 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1740 Request body parameters

Parameter	Mandatory	Type	Description
domains	Yes	Array of AttachOrDetachDomainInfo objects	List of domain names bound to or unbound from a certificate.

Table 6-1741 AttachOrDetachDomainInfo

Parameter	Mandatory	Type	Description
domain	Yes	String	Domain name.
instance_ids	No	Array of strings	Instance IDs.
verified_client_certificate_enabled	No	Boolean	Whether to enable client certificate verification. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.

Response Parameters

Status code: 400

Table 6-1742 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1743 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403

Table 6-1744 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1745** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1746** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Unbind an SSL certificate from an independent domain name with specified instances.

```
{
  "domains": [ {
    "domain": "apigtest.xxx.com",
    "instance_ids": [ "f0fa1789-3b76-433b-a787-9892951c620e", "7d39549681c54d968ec2910da9da95cd" ]
  } ]
}
```

Example Responses

Status code: 204

OK

```
""
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2012",
```

```
{
  "error_msg" : "Invalid parameter value,parameterName:domain_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.27.10 Obtaining Domain Names Bound to an SSL Certificate

Function

Obtain domain names bound to an SSL certificate.

URI

GET /v2/{project_id}/apic/certificates/{certificate_id}/attached-domains

Table 6-1747 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
certificate_id	Yes	String	Certificate ID.

Table 6-1748 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
url_domain	No	String	Independent domain name.

Request Parameters

Table 6-1749 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1750 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
bound_domains	Array of UrlDomainRefInfo objects	Bound domain names.

Table 6-1751 UrlDomainRefInfo

Parameter	Type	Description
url_domain	String	Custom domain name.
id	String	Domain ID.
status	Integer	CNAME resolution status. • 1: not parsed • 2: parsing • 3: parsing succeeded • 4: parsing failed
min_ssl_version	String	Minimum SSL version supported.
is_http_redirect_to_https	Boolean	Whether to enable HTTP redirection to HTTPS. The value false means disable and true means enable. The default value is false.
verified_client_certificate_enabled	Boolean	Whether to enable client certificate verification. This parameter is available only when a certificate is bound. It is enabled by default if trusted_root_ca exists, and disabled if trusted_root_ca does not exist.
ssl_id	String	Certificate ID.
ssl_name	String	Certificate name.
api_group_id	String	API group ID.
api_group_name	String	API group name.
instance_id	String	Instance ID.

Status code: 400**Table 6-1752** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1753** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1754** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1755** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "bound_domains" : [ {
    "id" : "b9be707660c5406394f8973e087bae20",
    "url_domain" : "apigtest.xxx.com",
    "status" : 3,
    "min_ssl_version" : "TLSv1.1",
    "ssl_id" : "a27be832f2e9441c8127fe48e3b5ac67",
    "ssl_name" : "cert_demo",
    "instance_id" : "f0fa1789-3b76-433b-a787-9892951c620e",
    "api_group_id" : "c77f5e81d9cb4424bf704ef2b0ac7600",
    "api_group_name" : "default"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:dict_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28 Plug-in Management

6.28.1 Creating a Plug-in

Function

Create a plug-in.

- The plug-in name must be unique.
- After a plug-in is created, bind it to APIs to let it take effect.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/plugins

Table 6-1756 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1757 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1758 Request body parameters

Parameter	Mandatory	Type	Description
plugin_name	Yes	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
plugin_type	Yes	String	Plug-in type • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	Yes	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application

Parameter	Mandatory	Type	Description
plugin_content	Yes	String	Plug-in content in JSON format. For details, see the model definition. • CorsPluginContent • SetRespHeadersContent • KafkaLogContent • BreakerContent • RateLimitContent • ThirdAuthContent • ProxyCacheContent • ProxyMirrorContent
roma_app_id	No	String	Integration application ID. Valid when plugin_scope is set to app.
remark	No	String	Plug-in description. Max. 255 characters.

Response Parameters

Status code: 201

Table 6-1759 Response body parameters

Parameter	Type	Description
plugin_id	String	Plug-in ID.
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application
plugin_content	String	Plug-in content in JSON format. For details, see the model definition. • CorsPluginContent • SetRespHeadersContent • KafkaLogContent • BreakerContent • RateLimitContent • ThirdAuthContent • ProxyCacheContent • ProxyMirrorContent
remark	String	Plug-in description. Max. 255 characters.
create_time	String	Creation time.
update_time	String	Update time.
roma_app_id	String	Integration application ID. Valid when plugin_scope is set to app.
roma_app_name	String	Name of the integration application to which the API belongs.

Status code: 400

Table 6-1760 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1761** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1762** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1763** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1764** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

- Create a CORS plug-in with plugin_scope as global.

```
{
  "plugin_name" : "CORS plug-in.",
  "plugin_type" : "cors",
  "plugin_scope" : "global",
  "plugin_content" : "{\\\"allow_origin\\\":\\\"*\\\",\\\"allow_methods\\\":\\\"GET,POST,PUT,DELETE,HEAD,PATCH\\\",\\\"allow_headers\\\":\\\"Content-Type,Accept,Accept-Ranges,Cache-Control\\\",\\\"expose_headers\\\":\\\"X-Request-Id,X-Apig-Latency\\\",\\\"max_age\\\":600,\\\"allow_credentials\\\":false}",
  "remark" : "Cross-origin resource sharing."
}
```

- Create an HTTP response header plug-in with plugin_scope as global.

```
{
  "plugin_name" : "HTTP response header management plug-in.",
  "plugin_type" : "set_resp_headers",
  "plugin_scope" : "global",
  "plugin_content" : "{\\\"response_headers\\\":{\\\"name\\\":\\\"x-demo\\\",\\\"value_type\\\":\\\"custom_value\\\",\\\"value\\\":\\\"sss\\\",\\\"action\\\":\\\"append\\\"}}",
  "remark" : "HTTP response header management."
}
```

- Create a request throttling plug-in with plugin_scope as global.

```
{
  "plugin_name" : "Request throttling plug-in.",
  "plugin_type" : "rate_limit",
  "plugin_scope" : "global",
  "plugin_content" : "{\\\"scope\\\":\\\"basic\\\",\\\"default_time_unit\\\":\\\"minute\\\",\\\"default_interval\\\":1,\\\"api_limit\\\":50,\\\"app_limit\\\":0,\\\"user_limit\\\":0,\\\"ip_limit\\\":0,\\\"algorithm\\\":\\\"counter\\\",\\\"specials\\\":[],\\\"parameters\\\":[],\\\"rules\\\":[]}",
  "remark" : "Request throttling."
}
```

- Create a Kafka log push plug-in with plugin_scope as global.

```
{
  "plugin_name" : "Kafka log push plug-in.",
  "plugin_type" : "kafka_log",
  "plugin_scope" : "app",
  "plugin_content" : "{\\\"broker_list\\\":[\\\"0.0.0.0:11\\\"],\\\"topic\\\":\\\"topic\\\",\\\"key\\\":\\\"\\\",\\\"max_retry_count\\\":0,\\\"retry_backoff\\\":1,\\\"sas_config\\\":{\\\"security_protocol\\\":\\\"PLAINTEXT\\\",\\\"sas_mechanisms\\\":[\\\"PLAIN\\\"],\\\"sas_username\\\":\\\"\\\",\\\"sas_password\\\":\\\"\\\",\\\"ssl_ca_content\\\":\\\"\\\",\\\"meta_config\\\":{\\\"system\\\":{\\\"start_time\\\":true,\\\"request_id\\\":true,\\\"client_ip\\\":true,\\\"api_id\\\":false,\\\"user_name\\\":false,\\\"app_id\\\":false,\\\"access_model1\\\":false,\\\"request_time\\\":true,\\\"http_status\\\":true,\\\"server_protocol\\\":false,\\\"scheme\\\":true,\\\"request_method\\\":true,\\\"host\\\":false,\\\"api_uri_mode\\\":false,\\\"uri\\\":false,\\\"request_size\\\":false,\\\"response_size\\\":false,\\\"upstream_uri\\\":false,\\\"upstream_addr\\\":true,\\\"upstream_status\\\":true,\\\"upstream_connect_time\\\":false,\\\"upstream_header_time\\\":false,\\\"upstream_response_time\\\":true,\\\"all_upstream_response_time\\\":false,\\\"region_id\\\":false,\\\"auth_type\\\":false,\\\"http_x_forwarded_for\\\":true,\\\"http_user_agent\\\":true,\\\"error_type\\\":true,\\\"access_model2\\\":false,\\\"inner_time\\\":false,\\\"proxy_protocol_vni\\\":false,\\\"proxy_protocol_vpce_id\\\":false,\\\"proxy_protocol_addr\\\":false,\\\"body_bytes_sent\\\":false,\\\"api_name\\\":false,\\\"app_name\\\":false,\\\"provider_app_id\\\":false,\\\"provider_app_name\\\":false,\\\"custom_data_log01\\\":false,\\\"custom_data_log02\\\":false,\\\"custom_data_log03\\\":false,\\\"custom_data_log04\\\":false,\\\"custom_data_log05\\\":false,\\\"custom_data_log06\\\":false,\\\"custom_data_log07\\\":false,\\\"custom_data_log08\\\":false,\\\"custom_data_log09\\\":false,\\\"custom_data_log10\\\":false,\\\"response_source\\\":false},\\\"call_data\\\":{\\\"log_request_header\\\":false,\\\"request_header_filter\\\":\\\"\\\",\\\"log_request_query_string\\\":false,\\\"request_query_string_filter\\\":\\\"\\\",\\\"log_request_body\\\":false,\\\"log_response_header\\\":false,\\\"response_header_filter\\\":\\\"\\\",\\\"log_response_body\\\":false,\\\"custom_authorizer\\\":{\\\"frontend\\\":[],\\\"backend\\\":[]}}}",
  "remark" : "Kafka log push.",
  "roma_app_id" : "df003efc-1ce7-41ef-a45a-b89dc431cb2d"
}
```

- Create a circuit breaker plug-in with plugin_scope as global.

```
{
  "plugin_name" : "Circuit breaker plug-in.",

```

```
{
  "plugin_type": "breaker",
  "plugin_scope": "app",
  "plugin_content": "{\\\"\\\"breaker_condition\\\"\\\":{\\\"\\\"breaker_type\\\"\\\":{\\\"\\\"timeout\\\"\\\":{\\\"\\\"breaker_mode\\\"\\\":{\\\"\\\"counter\\\"\\\":{\\\"\\\"unhealthy_condition\\\"\\\":{\\\"\\\"\\\"\\\"\\\"\\\"\\\"\\\"\\\"\\\"unhealthy_threshold\\\"\\\":30,\\\"\\\"min_call_threshold\\\"\\\":20,\\\"\\\"unhealthy_percentage\\\"\\\":51,\\\"\\\"time_window\\\"\\\":15,\\\"\\\"open_breaker_time\\\"\\\":15,\\\"\\\"downgrade_default\\\"\\\":null,\\\"\\\"downgrade_parameters\\\"\\\":null,\\\"\\\"downgrade_rules\\\"\\\":null,\\\"\\\"scope\\\"\\\":{\\\"\\\"basic\\\"\\\"}}}}}}}}",
  "remark": "Circuit breaker.",
  "roma_app_id": "df003efc-1ce7-41ef-a45a-b89dc431cb2d"
}
```

- Create a third-party authentication plug-in with `plugin_scope` as global.

```
{
  "plugin_name": "Third-party authentication plug-in",
  "remark": "This is a third-party authentication plug-in which contains a rule expression whitelist.",
  "plugin_type": "third_auth",
  "plugin_scope": "global",
  "plugin_content": "{\\"auth_request\\":{\\"method\\":\\"POST\\",\\"protocol\\":\\"HTTP\\",\\"url_domain\\":\\"xxx.xxx.xxx.xxx:1234\\",\\"timeout\\":10,\\"path\\":\\"/check\\",\\"vpc_channel_enabled\\":false,\\"vpc_channel_info\\":{\\"vpc_proxy_host\\":\\"abc.com\\",\\"vpc_id\\":\\"3c113f40a54a40369ceb1eb1409a32ee\\"},\\"identities\\":{\\"headers\\":{\\"name\\":\\"token\\"},\\"query\\":{\\"name\\":\\"user\\"},\\"carry_body\\":{\\"enabled\\":true,\\"max_body_size\\":10000},\\"carry_path_enabled\\":false,\\"return_resp_body_enabled\\":true,\\"carry_resp_headers\\":{\\"x-message-result\\"},\\"simple_auth_mode_enabled\\":false,\\"match_auth\\":{\\"key\\":\\"x-message-result\\",\\"value\\":\\"success\\"},\\"rule_enabled\\":true,\\"rule_type\\":\\"allow\\",\\"parameters\\":{\\"value\\":\\"reqPath\\",\\"type\\":\\"path\\",\\"name\\":\\"reqPath\\"},\\"value\\":\\"method\\",\\"type\\":\\"method\\",\\"name\\":\\"method\\"},\\"value\\":\\"Host\\",\\"type\\":\\"header\\",\\"name\\":\\"Host\\"},\\"rules\\":{\\"match_regex\\": [\\"OR\\", \\"reqPath\\", \\"~\\", \"/xl-job-admin/*\\", \\"reqPath\\", \\"==\\", \"/app/leave/infor/v1/addLeaveLnfor\\", \\"reqPath\\", \\"==\\", \"/api/v1/charge/home/modifyChargeSync\\", \\"reqPath\\", \\"==\\", \"/app/mweb/campaign/api/v1/getActivityConfig\\", \\"reqPath\\", \\"==\\", \"/mp/vehicle/owner/home\\", \\"reqPath\\", \\"==\\", \"/app/mweb/campaign/api/v1/getTime\\", \\"reqPath\\", \\"==\\", \"/api/c-showroom-service/v1/vehicleDetails/upload\\", \\"reqPath\\", \\"~\\", \"/operation-charging-bff/carOwnerRights/certificate/*\\", \\"reqPath\\", \\"~\\", \"/api/2c/v1/sales-bff/*\\", \\"reqPath\\", \\"==\\", \"/api/2c/v1/vehicleDetails/upload\\", \\"reqPath\\", \\"==\\", \"/operation-admin/*\\", \\"reqPath\\", \\"==\\", \"/app/settings/api/v1/receiveClk\\", \\"reqPath\\", \\"==\\", \"/api/vehicle/relative/yTsendVehicleControl.json\\", \\"reqPath\\", \\"==\\", \"/appoint/getAppointmentByTestDrive\\", \\"reqPath\\", \\"==\\", \"/api/evd/callbackEvdPay\\", \\"reqPath\\", \\"==\\", \"/api/evd/callbackEvdOrder\\", \\"reqPath\\", \\"==\\", \"/api/evd/getUserToken\\", \\"reqPath\\", \\"==\\", \"/api/evd/callbackEvdCoupon\\", \\"reqPath\\", \\"==\\", \"/api/task/busTriggerTaskEvent.json\\", \\"reqPath\\", \\"==\\", \"/datacenter-log-center/api/trackApi/commonAdd.json\\"]},\\"rule_name\\":\\"allow2\\"},\\"custom_forbid_limit\\":100,\\"auth_downgrade_enabled\\":false}"}
```

- Creating a response cache plug-in

```
{
  "plugin_name": "Response cache plug-in",
  "remark": "This is a response cache plug-in.",
  "plugin_type": "proxy_cache",
  "plugin_scope": "global",
  "plugin_content": "{\"\\\"cache_key\\\"\": {\\\"system_params\\\": {\\\"$context.sourceIp\\\"}, \\\"$context.requestId\\\"}}, \\\"parameters\\\": {\\\"demo_parameter\\\"}, \\\"headers\\\": {\\\"demo_header\\\"}}, \\\"cache_http_status_and_ttl\\\": {\\\"http_status\\\": [200], \\\"ttl\\\": 300}, {\\\"http_status\\\": [300], \\\"ttl\\\": 200}}, \\\"client_cache_control\\\": {\\\"mode\\\": \\\"apps\\\"}, \\\"datas\\\": {\\\"demo_app_id_1, demo_app_id_2\\\"}}, \\\"cacheable_headers\\\": {\\\"demo_cacheable_headers_1, demo_cacheable_headers_2\\\"}}\"
}
```

- Creating a request mirroring plug-in

```
{
  "plugin_name": "Request mirroring plug-in",
  "remark": "This is a request mirroring plug-in.",
  "plugin_type": "proxy mirror",
}
```

```
"plugin_scope" : "global",
"plugin_content" : "{\\"protocol\\": \\"http\\",\\"host\\": \\"xxx.xxx.xxx.xxx:1234\\",\\"path\\": \"/test\\",\\"path_concat_mode\\": \\"replace\\",\\"sample_ratio\\": 1,\\"timeout\\": 5000,\\\"mirror_request_body_enabled\\": true}"
}
```

Example Responses

Status code: 201

OK

- ```
{
 "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
 "plugin_name" : "CORS plug-in",
 "plugin_type" : "cors",
 "plugin_scope" : "global",
 "plugin_content" : "{\\"allow_origin\\": \\"*\\",\\"allow_methods\\": \\"GET,POST,PUT,DELETE,HEAD,PATCH\\",\\"allow_headers\\": \\"Content-Type,Accept,Accept-Ranges,Cache-Control\\",\\"expose_headers\\": \\"X-Request-Id,X-Apig-Latency\\",\\"max_age\\": 600,\\"allow_credentials\\": false}",
 "remark" : "Cross-origin resource sharing (CORS)",
 "create_time" : "2022-11-02T12:31:23.353Z",
 "update_time" : "2022-11-02T12:31:23.353Z"
}
```
- ```
{
  "plugin_id" : "8a688dce7d0c45cf84edac3d7b071769",
  "plugin_name" : "HTTP response header plug-in",
  "plugin_type" : "set_resp_headers",
  "plugin_scope" : "global",
  "plugin_content" : "{\\"response_headers\\": [{\\"name\\": \\"x-demo\\",\\"value_type\\": \\"custom_value\\",\\"value\\": \\"sss\\",\\"action\\": \\"append\\"}]}",
  "remark" : "HTTP response header management",
  "create_time" : "2022-11-02T12:31:23.353Z",
  "update_time" : "2022-11-02T12:31:23.353Z"
}
```
- ```
{
 "plugin_id" : "9642ff2b9a86481689ca9d28babcf7f",
 "plugin_name" : "Request throttling plug-in",
 "plugin_type" : "rate_limit",
 "plugin_scope" : "global",
 "plugin_content" : "{\\"scope\\": \\"basic\\",\\"default_time_unit\\": \\"minute\\",\\"default_interval\\": 1,\\"api_limit\\": 50,\\"app_limit\\": 0,\\"user_limit\\": 0,\\"ip_limit\\": 0,\\"algorithm\\": \\"counter\\",\\"specials\\": [],\\"parameters\\": [],\\"rules\\": []}",
 "remark" : "Request throttling",
 "create_time" : "2022-11-02T12:31:23.353Z",
 "update_time" : "2022-11-02T12:31:23.353Z"
}
```
- ```
{
  "plugin_id" : "92284ece6ec7466da2c2ac2416f46d5d",
  "plugin_name" : "Kafka log plug-in",
  "plugin_type" : "kafka_log",
  "plugin_scope" : "app",
  "plugin_content" : "{\\"broker_list\\": [\\"0.0.0.0:11\\"],\\"topic\\": \\"topic\\",\\"key\\": \\"\\",\\"max_retry_count\\": 0,\\"retry_backoff\\": 1,\\"sas_config\\": {\\"security_protocol\\": \\"PLAINTEXT\\",\\"sas_mechanisms\\": \\"PLAIN\\",\\"sas_username\\": \\"\\",\\"sas_password\\": \\"\\",\\"ssl_ca_content\\": \\"\\",\\"meta_config\\": {\\"system\\": {\\"start_time\\": true,\\"request_id\\": true,\\"client_ip\\": true,\\"api_id\\": false,\\"user_name\\": false,\\"app_id\\": false,\\"access_model1\\": false,\\"request_time\\": true,\\"http_status\\": true,\\"server_protocol\\": false,\\"scheme\\": true,\\"request_method\\": true,\\"host\\": false,\\"api_uri_mode\\": false,\\"uri\\": false,\\"request_size\\": false,\\"response_size\\": false,\\"upstream_uri\\": false,\\"upstream_addr\\": true,\\"upstream_status\\": true,\\"upstream_connect_time\\": false,\\"upstream_header_time\\": false,\\"upstream_response_time\\": true,\\"all_upstream_response_time\\": false,\\"region_id\\": false,\\"auth_type\\": false,\\"http_x_forwarded_for\\": true,\\"http_user_agent\\": true,\\"error_type\\": true,\\"access_model2\\": false,\\"inner_time\\": false,\\"proxy_protocol_vni\\": false,\\"proxy_protocol_vpc_id\\": false,\\"proxy_protocol_addr\\": false,\\"body_bytes_sent\\": false,\\"api_name\\": false,\\"app_name\\": false,\\"provider_app_id\\": false,\\
```

```
{
  "provider_app_name": "false",
  "custom_data_log01": "false",
  "custom_data_log02": "false",
  "custom_data_log03": "false",
  "custom_data_log04": "false",
  "custom_data_log05": "false",
  "custom_data_log06": "false",
  "custom_data_log07": "false",
  "custom_data_log08": "false",
  "custom_data_log09": "false",
  "custom_data_log10": "false",
  "response_source": "false",
  "call_data": {
    "log_request_header": "false",
    "request_header_filter": "false",
    "log_request_query_string": "false",
    "request_query_string_filter": "false",
    "log_request_body": "false",
    "log_response_header": "false",
    "response_header_filter": "false",
    "log_response_body": "false",
    "custom_authorizer": {
      "frontend": [],
      "backend": []
    }
  },
  "remark": "Kafka log push",
  "roma_app_id": "df003efc-1ce7-41ef-a45a-b89dc431cb2d",
  "create_time": "2022-11-02T12:31:23.353Z",
  "update_time": "2022-11-02T12:31:23.353Z"
}
```

- ```
{
 "plugin_id": "8b5253ed723c4a878e7b8532c08763b4",
 "plugin_name": "Circuit breaker plug-in",
 "plugin_type": "breaker",
 "plugin_scope": "app",
 "plugin_content": {
 "breaker_condition": {
 "breaker_type": "timeout",
 "breaker_mode": "counter",
 "unhealthy_condition": "unhealthy_threshold",
 "min_call_threshold": 20,
 "unhealthy_percentage": 51,
 "time_window": 15,
 "open_breaker_time": 15,
 "downgrade_default": null,
 "downgrade_parameters": null,
 "downgrade_rules": null,
 "scope": "basic"
 },
 "remark": "Circuit breaker",
 "roma_app_id": "df003efc-1ce7-41ef-a45a-b89dc431cb2d",
 "create_time": "2022-11-02T12:31:23.353Z",
 "update_time": "2022-11-02T12:31:23.353Z"
 }
}
```
- ```
{
  "plugin_id": "235d97683439437585aff06020059720",
  "plugin_name": "Third-party authentication plug-in",
  "plugin_type": "third_auth",
  "plugin_scope": "global",
  "plugin_content": {
    "auth_request": {
      "method": "POST",
      "protocol": "HTTP",
      "url_domain": "xxx.xxx.xxx:1234",
      "path": "/check",
      "timeout": 10,
      "vpc_channel_enabled": 2,
      "vpc_channel_info": null,
      "identities": {
        "headers": {
          "name": "token",
          "essential": false,
          "queries": null,
          "carry_body": {
            "enabled": true,
            "max_body_size": 10000,
            "carry_path_enabled": false,
            "return_resp_body_enabled": true,
            "carry_resp_headers": {
              "x-message-result": "simple_auth_mode_enabled",
              "value": "success",
              "parameters": {
                "type": "path",
                "name": "reqPath",
                "value": "reqPath",
                "type": "method",
                "name": "method",
                "value": "method",
                "type": "header",
                "name": "Host",
                "value": "Host",
                "rules": {
                  "rule_name": "allow2",
                  "match_regex": "[OR]",
                  "reqPath": "/xxl-job-admin/*",
                  "reqPath": "=/",
                  "reqPath": "/app/leave/infor/v1/addLeaveLnfor",
                  "reqPath": "=/",
                  "reqPath": "=/api/v1/charge/home/modifyChargeSync",
                  "reqPath": "=/",
                  "reqPath": "=/api/mweb/campaign/api/v1/getActivityConfig",
                  "reqPath": "=/",
                  "reqPath": "=/mp/vehicle/owner/home",
                  "reqPath": "=/",
                  "reqPath": "=/app/mweb/campaign/api/v1/getTime",
                  "reqPath": "=/",
                  "reqPath": "=/api/c-showroom-service/v1/vehicleDetails/upload",
                  "reqPath": "=/",
                  "reqPath": "=/operation-charging-bff/carOwnerRights/certificate/*",
                  "reqPath": "=/",
                  "reqPath": "=/api/2c/v1/sales-bff/*",
                  "reqPath": "=/",
                  "reqPath": "=/api/2c/v1/vehicleDetails/upload",
                  "reqPath": "=/",
                  "reqPath": "=/operation-admin/*",
                  "reqPath": "=/",
                  "reqPath": "=/api/evd/callBackEvdPay",
                  "reqPath": "=/",
                  "reqPath": "=/api/evd/callBackEvdOrder",
                  "reqPath": "=/",
                  "reqPath": "=/api/evd/getUserToken",
                  "reqPath": "=/",
                  "reqPath": "=/api/evd/callBackEvdCoupon",
                  "reqPath": "=/",
                  "reqPath": "=/api/task/busTriggerTaskEvent.json",
                  "reqPath": "=/",
                  "reqPath": "=/datacenter-log-center/api/trackApi/commonAdd.json",
                  "rule_type": "allow",
                  "rule_enabled": true,
                  "custom_forbid_limit": 100,
                  "auth_downgrade_enabled": false
                }
              }
            }
          }
        },
        "remark": "This is a third-party authentication plug-in that contains a rule expression whitelist.",
        "create_time": "2023-05-06T06:54:59.296181801Z",
        "update_time": "2023-05-06T06:54:59.296182035Z"
      }
    }
  }
}
```

- ```
{
 "plugin_id" : "d5bf25cf31e04e888907b8ad72563f45",
 "plugin_name" : "Response cache plug-in",
 "plugin_type" : "proxy_cache",
 "plugin_scope" : "global",
 "plugin_content" : "{\\"cache_key\\": {\\"system_params\\": {\\"$context.sourceIp\\": \\",
 \\"$context.requestId\\": \\", \\"parameters\\": {\\"demo_parameter\\": \\", \\"headers\\": {\\",
 \\"demo_header\\": \\", \\"cache_http_status_and_ttl\\": {\\"http_status\\": [200], \\"ttl\\": 300}, {\\",
 \\"http_status\\": [300], \\"ttl\\": 200}, \\"client_cache_control\\": {\\"mode\\": \\"apps\\", \\",
 \\"datas\\": {\\"demo_app_id_1,demo_app_id_2\\": \\", \\"cacheable_headers\\": {\\",
 \\"demo_cacheable_headers_1,demo_cacheable_headers_2\\": \\",
 "remark" : "This is a response cache plug-in.",
 "create_time" : "2024-03-18T12:31:23.353Z",
 "update_time" : "2024-03-18T12:31:23.353Z"
}
```
- ```
{
  "plugin_id" : "d5bf25cf31e04e888907b8ad72563f45",
  "plugin_name" : "Request mirroring plug-in",
  "plugin_type" : "proxy_mirror",
  "plugin_scope" : "global",
  "plugin_content" : "{\\"protocol\\": \\"http\\", \\"host\\": \\"xxx.xxx.xxx.xxx:1234\\", \\"path\\": \\",
  \\"/test\\", \\"path_concat_mode\\": \\"replace\\", \\"sample_ratio\\": 1, \\"timeout\\": 5000, \\",
  \\"mirror_request_body_enabled\\": true},
  "remark" : "This is a request mirroring plug-in.",
  "create_time" : "2024-03-18T12:31:23.353Z",
  "update_time" : "2024-03-18T12:31:23.353Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3326",
  "error_msg" : "The plugin name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.2 Modifying a Plug-in

Function

Modify plug-in information.

- The plug-in name must be unique.
- The plug-in type and scope cannot be modified.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/plugins/{plugin_id}

Table 6-1765 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
plugin_id	Yes	String	Plug-in ID.

Request Parameters

Table 6-1766 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1767 Request body parameters

Parameter	Mandatory	Type	Description
plugin_name	Yes	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
plugin_type	Yes	String	Plug-in type • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	Yes	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application

Parameter	Mandatory	Type	Description
plugin_content	Yes	String	Plug-in content in JSON format. For details, see the model definition. • CorsPluginContent • SetRespHeadersContent • KafkaLogContent • BreakerContent • RateLimitContent • ThirdAuthContent • ProxyCacheContent • ProxyMirrorContent
roma_app_id	No	String	Integration application ID. Valid when plugin_scope is set to app.
remark	No	String	Plug-in description. Max. 255 characters.

Response Parameters

Status code: 200

Table 6-1768 Response body parameters

Parameter	Type	Description
plugin_id	String	Plug-in ID.
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application
plugin_content	String	Plug-in content in JSON format. For details, see the model definition. • CorsPluginContent • SetRespHeadersContent • KafkaLogContent • BreakerContent • RateLimitContent • ThirdAuthContent • ProxyCacheContent • ProxyMirrorContent
remark	String	Plug-in description. Max. 255 characters.
create_time	String	Creation time.
update_time	String	Update time.
roma_app_id	String	Integration application ID. Valid when plugin_scope is set to app.
roma_app_name	String	Name of the integration application to which the API belongs.

Status code: 400

Table 6-1769 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1770** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1771** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1772** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1773** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

- Modify plugin_content of a specified CORS plug-in.

```
{
  "plugin_name" : "CORS plug-in.",
  "plugin_type" : "cors",
  "plugin_scope" : "global",
  "plugin_content" : "{\\\"allow_origin\\\":\\\"*\\\",\\\"allow_methods\\\":\\\"GET,POST,PUT,DELETE,HEAD,PATCH\\\",\\\"allow_headers\\\":\\\"Content-Type,Accept,Accept-Ranges,Cache-Control\\\",\\\"expose_headers\\\":\\\"X-Request-Id,X-Apig-Latency\\\",\\\"max_age\\\":600,\\\"allow_credentials\\\":false}",
  "remark" : "Cross-origin resource sharing."
}
```

- Modify plugin_content of a specified HTTP response header plug-in.

```
{
  "plugin_name" : "HTTP response header management plug-in.",
  "plugin_type" : "set_resp_headers",
  "plugin_scope" : "global",
  "plugin_content" : "{\\\"response_headers\\\":{\\\"name\\\":\\\"x-demo\\\",\\\"value_type\\\":\\\"custom_value\\\",\\\"value\\\":\\\"sss\\\",\\\"action\\\":\\\"append\\\"}}",
  "remark" : "HTTP response header management."
}
```

- Modify plugin_content of a specified request throttling plug-in.

```
{
  "plugin_name" : "Request throttling plug-in.",
  "plugin_type" : "rate_limit",
  "plugin_scope" : "global",
  "plugin_content" : "{\\\"scope\\\":\\\"basic\\\",\\\"default_time_unit\\\":\\\"minute\\\",\\\"default_interval\\\":1,\\\"api_limit\\\":50,\\\"app_limit\\\":0,\\\"user_limit\\\":0,\\\"ip_limit\\\":0,\\\"algorithm\\\":\\\"counter\\\",\\\"specials\\\":[],\\\"parameters\\\":[],\\\"rules\\\":[]}",
  "remark" : "Request throttling."
}
```

- Modify plugin_content of a specified Kafka log push plug-in.

```
{
  "plugin_name" : "Kafka log push plug-in.",
  "plugin_type" : "kafka_log",
  "plugin_scope" : "app",
  "plugin_content" : "{\\\"broker_list\\\":[\\\"0.0.0.0:11\\\"],\\\"topic\\\":\\\"topic\\\",\\\"key\\\":\\\"\\\",\\\"max_retry_count\\\":0,\\\"retry_backoff\\\":1,\\\"sas_config\\\":{\\\"security_protocol\\\":\\\"PLAINTEXT\\\",\\\"sas_mechanisms\\\":[\\\"PLAIN\\\"],\\\"sas_username\\\":\\\"\\\",\\\"sas_password\\\":\\\"\\\",\\\"ssl_ca_content\\\":\\\"\\\",\\\"meta_config\\\":{\\\"system\\\":{\\\"start_time\\\":true,\\\"request_id\\\":true,\\\"client_ip\\\":true,\\\"api_id\\\":false,\\\"user_name\\\":false,\\\"app_id\\\":false,\\\"access_model1\\\":false,\\\"request_time\\\":true,\\\"http_status\\\":true,\\\"server_protocol\\\":false,\\\"scheme\\\":true,\\\"request_method\\\":true,\\\"host\\\":false,\\\"api_uri_mode\\\":false,\\\"uri\\\":false,\\\"request_size\\\":false,\\\"response_size\\\":false,\\\"upstream_uri\\\":false,\\\"upstream_addr\\\":true,\\\"upstream_status\\\":true,\\\"upstream_connect_time\\\":false,\\\"upstream_header_time\\\":false,\\\"upstream_response_time\\\":true,\\\"all_upstream_response_time\\\":false,\\\"region_id\\\":false,\\\"auth_type\\\":false,\\\"http_x_forwarded_for\\\":true,\\\"http_user_agent\\\":true,\\\"error_type\\\":true,\\\"access_model2\\\":false,\\\"inner_time\\\":false,\\\"proxy_protocol_vni\\\":false,\\\"proxy_protocol_vpce_id\\\":false,\\\"proxy_protocol_addr\\\":false,\\\"body_bytes_sent\\\":false,\\\"api_name\\\":false,\\\"app_name\\\":false,\\\"provider_app_id\\\":false,\\\"provider_app_name\\\":false,\\\"custom_data_log01\\\":false,\\\"custom_data_log02\\\":false,\\\"custom_data_log03\\\":false,\\\"custom_data_log04\\\":false,\\\"custom_data_log05\\\":false,\\\"custom_data_log06\\\":false,\\\"custom_data_log07\\\":false,\\\"custom_data_log08\\\":false,\\\"custom_data_log09\\\":false,\\\"custom_data_log10\\\":false,\\\"response_source\\\":false},\\\"call_data\\\":{\\\"log_request_header\\\":false,\\\"request_header_filter\\\":\\\"\\\",\\\"log_request_query_string\\\":false,\\\"request_query_string_filter\\\":\\\"\\\",\\\"log_request_body\\\":false,\\\"log_response_header\\\":false,\\\"response_header_filter\\\":\\\"\\\",\\\"log_response_body\\\":false,\\\"custom_authorizer\\\":{\\\"frontend\\\":[],\\\"backend\\\":[]}}}",
  "remark" : "Kafka log push.",
  "roma_app_id" : "df003efc-1ce7-41ef-a45a-b89dc431cb2d"
}
```

- Modify plugin_content of a specified circuit breaker plug-in.

```
{
  "plugin_name" : "Circuit breaker plug-in.",
}
```

```
{
  "plugin_type": "breaker",
  "plugin_scope": "app",
  "plugin_content": "{\n    \"breaker_condition\": \"\n    \"breaker_type\": \"\n    \"timeout\": \"\n    \"breaker_mode\": \"\n    \"counter\": \"\n    \"unhealthy_condition\": \"\n    \"unhealthy_threshold\": 30,\n    \"min_call_threshold\": 20,\n    \"unhealthy_percentage\": 51,\n    \"time_window\": 15,\n    \"open_breaker_time\": 15,\n    \"downgrade_default\": null,\n    \"downgrade_parameters\": null,\n    \"downgrade_rules\": null,\n    \"scope\": \"basic\"\n  }",
  "remark": "Circuit breaker.",
  "roma_app_id": "df003efc-1ce7-41ef-a45a-b89dc431cb2d"
}
```

- Modify `plugin_content` of a specified third-party authentication plug-in.

```
{
  "plugin_name": "Third-party authentication plug-in",
  "remark": "This is a third-party authentication plug-in that contains a rule expression blacklist.",
  "plugin_type": "third_auth",
  "plugin_scope": "global",
  "plugin_content": "{\|\|\"auth_request\|\|\":{\|\|\"method\|\|\":\|\|\"POST\|\|\",\|\|\"protocol\|\|\":\|\|\"HTTP\|\|\",\|\|\"url_domain\|\|\":\|\|\"xxx.xxx.xxx.xxx:1234\|\|\",\|\|\"timeout\|\|\":10,\|\|\"path\|\|\":\|\|\"/check\|\|\",\|\|\"vpc_channel_enabled\|\|\":false,\|\|\"vpc_channel_info\|\|\":{\|\|\"vpc_proxy_host\|\|\":\|\|\"abc.com\|\|\",\|\|\"vpc_id\|\|\":\|\|\"3c113f40a54a40369ceb1eb1409a32ee\|\|\",\|\|\"identities\|\|\":{\|\|\"headers\|\|\":{\|\|\"name\|\|\":\|\|\"token\|\|\",\|\|\"query\|\|\":{\|\|\"name\|\|\":\|\|\"user\|\|\",\|\|\"carry_body\|\|\":{\|\|\"enabled\|\|\":true,\|\|\"max_body_size\|\|\":10000,\|\|\"carry_path_enabled\|\|\":false,\|\|\"return_resp_body_enabled\|\|\":true,\|\|\"carry_resp_headers\|\|\":{\|\|\"x-message-result\|\|\",\|\|\"simple_auth_mode_enabled\|\|\":false,\|\|\"match_auth\|\|\":{\|\|\"key\|\|\":\|\|\"x-message-result\|\|\",\|\|\"value\|\|\":\|\|\"success\|\|\",\|\|\"rule_enabled\|\|\":true,\|\|\"rule_type\|\|\":\|\|\"deny\|\|\",\|\|\"parameters\|\|\":{\|\|\"value\|\|\":\|\|\"reqPath\|\|\",\|\|\"type\|\|\":\|\|\"path\|\|\",\|\|\"name\|\|\":\|\|\"reqPath\|\|\",\|\|\"value\|\|\":\|\|\"method\|\|\",\|\|\"type\|\|\":\|\|\"method\|\|\",\|\|\"name\|\|\":\|\|\"method\|\|\",\|\|\"value\|\|\":\|\|\"Host\|\|\",\|\|\"type\|\|\":\|\|\"header\|\|\",\|\|\"name\|\|\":\|\|\"Host\|\|\",\|\|\"rules\|\|\":{\|\|\"match_regex\|\|\":\|\|\"[|||||\"OR|||||\", [|||||\"reqPath|||||\", [|||||\"~|||||\", [|||||\"/xxl-job-admin/*|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/app/leave/infor/v1/addLeaveLnfor|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/v1/charge/home/modifyChargeSync|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/app/mweb/campaign/api/v1/getActivityConfig|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/mp/vehicle/owner/home|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/app/mweb/campaign/api/v1/getTime|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/c-showroom-service/v1/vehicleDetails/upload|||||\", [|||||\"reqPath|||||\", [|||||\"~|||||\", [|||||\"/operation-charging-bff/carOwnerRights/certificate/*|||||\", [|||||\"reqPath|||||\", [|||||\"~|||||\", [|||||\"/api/2c/v1/sales-bff/*|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/2c/v1/vehicleDetails/upload|||||\", [|||||\"reqPath|||||\", [|||||\"~|||||\", [|||||\"/operation-admin/*|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/app/settings/api/v1/receiveClk|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/vehicle/relative/yTsendVehicleControl.json|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/appoint/getAppointmentByTestDrive|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/evd/callBackEvdPay|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/evd/callBackEvdOrder|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/evd/getUserToken|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/evd/callBackEvdCoupon|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/api/task/busTriggerTaskEvent.json|||||\", [|||||\"reqPath|||||\", [|||||\"=|||||\", [|||||\"/datacenter-log-center/api/trackApi/commonAdd.json|||||\"}]\|\|\", \|\|\"rule_name\|\|\": \|\|\"allow2\|\|\",\|\|\"custom_forbid_limit\|\|\":100,\|\|\"auth_downgrade_enabled\|\|\":false}"
}
```

- Updating the response cache plug-in

```
{
  "plugin_name" : "Response cache plug-in",
  "remark" : "This is a response cache plug-in.",
  "plugin_type" : "proxy_cache",
  "plugin_scope" : "global",
  "plugin_content" : "{\\\"cache_key\\\": {\\\"system_params\\\": [\\\"$context.sourceIp\\\", \\\"$context.requestId\\\"]}, \\\"parameters\\\": [\\\"demo_parameter\\\"], \\\"headers\\\": [\\\"demo_header\\\"]}, \\\"cache_http_status_and_ttl\\\": {\\\"http_status\\\": [200], \\\"ttl\\\": 300}, {\\\"http_status\\\": [300], \\\"ttl\\\": 200}}, \\\"client_cache_control\\\": {\\\"mode\\\": \\\"apps\\\", \\\"datas\\\": [\\\"demo_app_id_1,demo_app_id_2\\\"]}, \\\"cacheable_headers\\\": [\\\"demo_cacheable_headers_1,demo_cacheable_headers_2\\\"]}"
}
```

- Updating a request mirroring plug-in

```
{
  "plugin_name": "Request mirroring plug-in",
  "remark": "This is a request mirroring plug-in.",
  "plugin_type": "proxy mirror",
}
```

```
"plugin_scope" : "global",
"plugin_content" : "{\\"protocol\\": \\"http\\",\\"host\\": \\"xxx.xxx.xxx.xxx:1234\\",\\"path\\": \"/test\\",\\"path_concat_mode\\": \\"replace\\",\\"sample_ratio\\": 1,\\"timeout\\": 5000,\\\"mirror_request_body_enabled\\": true}"
}
```

Example Responses

Status code: 200

OK

- ```
{
 "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
 "plugin_name" : "CORS plug-in",
 "plugin_type" : "cors",
 "plugin_scope" : "global",
 "plugin_content" : "{\\"allow_origin\\": \\"*\\",\\"allow_methods\\": \\"GET,POST,PUT,DELETE,HEAD,PATCH\\",\\"allow_headers\\": \\"Content-Type,Accept,Accept-Ranges,Cache-Control\\",\\"expose_headers\\": \\"X-Request-Id,X-Apig-Latency\\",\\"max_age\\": 600,\\"allow_credentials\\": false}",
 "remark" : "Cross-origin resource sharing (CORS)",
 "create_time" : "2022-11-02T12:31:23.353Z",
 "update_time" : "2022-11-02T12:31:23.353Z"
}
```
- ```
{
  "plugin_id" : "8a688dce7d0c45cf84edac3d7b071769",
  "plugin_name" : "HTTP response header plug-in",
  "plugin_type" : "set_resp_headers",
  "plugin_scope" : "global",
  "plugin_content" : "{\\"response_headers\\": {\\"name\\": \\"x-demo\\",\\"value_type\\": \\"custom_value\\",\\"value\\": \\"sss\\",\\"action\\": \\"append\\"}}",
  "remark" : "HTTP response header management",
  "create_time" : "2022-11-02T12:31:23.353Z",
  "update_time" : "2022-11-02T12:31:23.353Z"
}
```
- ```
{
 "plugin_id" : "9642ff2b9a86481689ca9d28babcfdf7f",
 "plugin_name" : "Request throttling plug-in",
 "plugin_type" : "rate_limit",
 "plugin_scope" : "global",
 "plugin_content" : "{\\"scope\\": \\"basic\\",\\"default_time_unit\\": \\"minute\\",\\"default_interval\\": 1,\\"api_limit\\": 50,\\"app_limit\\": 0,\\"user_limit\\": 0,\\"ip_limit\\": 0,\\"algorithm\\": \\"counter\\",\\"specials\\": [],\\"parameters\\": [],\\"rules\\": []}",
 "remark" : "Request throttling",
 "create_time" : "2022-11-02T12:31:23.353Z",
 "update_time" : "2022-11-02T12:31:23.353Z"
}
```
- ```
{
  "plugin_id" : "92284ece6ec7466da2c2ac2416f46d5d",
  "plugin_name" : "Kafka log plug-in",
  "plugin_type" : "kafka_log",
  "plugin_scope" : "app",
  "plugin_content" : "{\\"broker_list\\": [\\"0.0.0.0:11\\"],\\"topic\\": \\"topic\\",\\"key\\": \\"\\",\\"max_retry_count\\": 0,\\"retry_backoff\\": 1,\\"sas_config\\": {\\"security_protocol\\": \\"PLAINTEXT\\",\\"sas_mechanisms\\": \\"PLAIN\\",\\"sas_username\\": \\"\\",\\"sas_password\\": \\"\\",\\"ssl_ca_content\\": \\"\\",\\"meta_config\\": {\\"system\\": {\\"start_time\\": true,\\"request_id\\": true,\\"client_ip\\": true,\\"api_id\\": false,\\"user_name\\": false,\\"app_id\\": false,\\"access_model1\\": false,\\"request_time\\": true,\\"http_status\\": true,\\"server_protocol\\": false,\\"scheme\\": true,\\"request_method\\": true,\\"host\\": false,\\"api_uri_mode\\": false,\\"uri\\": false,\\"request_size\\": false,\\"response_size\\": false,\\"upstream_uri\\": false,\\"upstream_addr\\": true,\\"upstream_status\\": true,\\"upstream_connect_time\\": false,\\"upstream_header_time\\": false,\\"upstream_response_time\\": true,\\"all_upstream_response_time\\": false,\\"region_id\\": false,\\"auth_type\\": false,\\"http_x_forwarded_for\\": true,\\"http_user_agent\\": true,\\"error_type\\": true,\\"access_model2\\": false,\\"inner_time\\": false,\\"proxy_protocol_vni\\": false,\\"proxy_protocol_vpc_id\\": false,\\"proxy_protocol_addr\\": false,\\"body_bytes_sent\\": false,\\"api_name\\": false,\\"app_name\\": false,\\"provider_app_id\\": false,\\\"
```

```
{
  "provider_app_name": "false",
  "custom_data_log01": "false",
  "custom_data_log02": "false",
  "custom_data_log03": "false",
  "custom_data_log04": "false",
  "custom_data_log05": "false",
  "custom_data_log06": "false",
  "custom_data_log07": "false",
  "custom_data_log08": "false",
  "custom_data_log09": "false",
  "custom_data_log10": "false",
  "response_source": "false",
  "call_data": {
    "log_request_header": "false",
    "request_header_filter": "false",
    "log_request_query_string": "false",
    "request_query_string_filter": "false",
    "log_request_body": "false",
    "log_response_header": "false",
    "response_header_filter": "false",
    "log_response_body": "false",
    "custom_authorizer": {
      "frontend": [],
      "backend": []
    }
  },
  "remark": "Kafka log push",
  "roma_app_id": "df003efc-1ce7-41ef-a45a-b89dc431cb2d",
  "create_time": "2022-11-02T12:31:23.353Z",
  "update_time": "2022-11-02T12:31:23.353Z"
}
```

- ```
{
 "plugin_id": "8b5253ed723c4a878e7b8532c08763b4",
 "plugin_name": "Circuit breaker plug-in",
 "plugin_type": "breaker",
 "plugin_scope": "app",
 "plugin_content": {
 "breaker_condition": {
 "breaker_type": "timeout",
 "breaker_mode": "counter",
 "unhealthy_condition": "unhealthy_threshold",
 "min_call_threshold": 20,
 "unhealthy_percentage": 51,
 "time_window": 15,
 "open_breaker_time": 15,
 "downgrade_default": null,
 "downgrade_parameters": null,
 "downgrade_rules": null,
 "scope": "basic"
 },
 "remark": "Circuit breaker",
 "roma_app_id": "df003efc-1ce7-41ef-a45a-b89dc431cb2d",
 "create_time": "2022-11-02T12:31:23.353Z",
 "update_time": "2022-11-02T12:31:23.353Z"
 }
}
```
- ```
{
  "plugin_id": "235d97683439437585aff06020059720",
  "plugin_name": "Third-party authentication plug-in",
  "plugin_type": "third_auth",
  "plugin_scope": "global",
  "plugin_content": {
    "auth_request": {
      "method": "POST",
      "protocol": "HTTP",
      "url_domain": "xxx.xxx.xxx:1234",
      "path": "/check",
      "timeout": 10,
      "vpc_channel_enabled": false,
      "vpc_channel_info": null,
      "identities": {
        "headers": {
          "name": "token",
          "queries": null,
          "carry_body": {
            "enabled": true,
            "max_body_size": 10000,
            "carry_path_enabled": false,
            "return_resp_body_enabled": true,
            "carry_resp_headers": {
              "x-message-result": "simple_auth_mode_enabled",
              "match_auth": {
                "key": "x-message-result",
                "value": "success",
                "parameters": {
                  "type": "path",
                  "name": "reqPath",
                  "value": "reqPath",
                  "type": "method",
                  "name": "method",
                  "value": "method",
                  "type": "header",
                  "name": "Host",
                  "value": "Host",
                  "rules": {
                    "rule_name": "allow2",
                    "match_regex": "OR",
                    "reqPath": "/xxl-job-admin/*",
                    "reqPath": "=/",
                    "reqPath": "/app/leave/infor/v1/addLeaveLnfor",
                    "reqPath": "=/",
                    "reqPath": "=/api/v1/charge/home/modifyChargeSync",
                    "reqPath": "=/",
                    "reqPath": "=/api/mweb/campaign/api/v1/getActivityConfig",
                    "reqPath": "=/",
                    "reqPath": "=/mp/vehicle/owner/home",
                    "reqPath": "=/",
                    "reqPath": "=/app/mweb/campaign/api/v1/getTime",
                    "reqPath": "=/",
                    "reqPath": "=/api/c-showroom-service/v1/vehicleDetails/upload",
                    "reqPath": "=/",
                    "reqPath": "=/operation-charging-bff/carOwnerRights/certificate/*",
                    "reqPath": "=/",
                    "reqPath": "=/api/2c/v1/sales-bff/*",
                    "reqPath": "=/",
                    "reqPath": "=/api/2c/v1/vehicleDetails/upload",
                    "reqPath": "=/",
                    "reqPath": "=/operation-admin/*",
                    "reqPath": "=/",
                    "reqPath": "=/api/evd/callbackEvdPay",
                    "reqPath": "=/",
                    "reqPath": "=/api/evd/callbackEvdOrder",
                    "reqPath": "=/",
                    "reqPath": "=/api/evd/getUserToken",
                    "reqPath": "=/",
                    "reqPath": "=/api/evd/callbackEvdCoupon",
                    "reqPath": "=/",
                    "reqPath": "=/api/task/busTriggerTaskEvent.json",
                    "reqPath": "=/",
                    "reqPath": "=/datacenter-log-center/api/trackApi/commonAdd.json",
                    "rule_type": "allow",
                    "rule_enabled": true,
                    "custom_forbid_limit": 100,
                    "auth_downgrade_enable": false
                  }
                }
              }
            }
          }
        },
        "remark": "This is a third-party authentication plug-in that contains a rule expression blacklist.",
        "create_time": "2023-05-06T06:54:59.296181801Z",
        "update_time": "2023-05-06T07:07:18.369017889Z"
      }
    }
  }
}
```

- ```
{
 "plugin_id" : "d5bf25cf31e04e888907b8ad72563f45",
 "plugin_name" : "Response cache plug-in",
 "plugin_type" : "proxy_cache",
 "plugin_scope" : "global",
 "plugin_content" : "{\\"cache_key\\": {\\"system_params\\": {\\"$context.sourceIp\\": \\",
 \\"$context.requestId\\": \\", \\"parameters\\": {\\"demo_parameter\\": \\", \\"headers\\": {\\",
 \\"demo_header\\": \\", \\"cache_http_status_and_ttl\\": {\\"http_status\\": [200], \\"ttl\\": 300}, {\\",
 \\"http_status\\": [300], \\"ttl\\": 200}, \\"client_cache_control\\": {\\"mode\\": \\"apps\\", \\",
 \\"datas\\": {\\"demo_app_id_1,demo_app_id_2\\": \\", \\"cacheable_headers\\": {\\",
 \\"demo_cacheable_headers_1,demo_cacheable_headers_2\\": \\",
 "remark" : "This is a response cache plug-in.",
 "create_time" : "2024-03-18T12:31:23.353Z",
 "update_time" : "2024-03-18T12:31:23.353Z"
}
```
- ```
{
  "plugin_id" : "d5bf25cf31e04e888907b8ad72563f45",
  "plugin_name" : "Request mirroring plug-in",
  "plugin_type" : "proxy_mirror",
  "plugin_scope" : "global",
  "plugin_content" : "{\\"protocol\\": \\"http\\", \\"host\\": \\"xxx.xxx.xxx.xxx:1234\\", \\"path\\": \\",
  \\"/test\\", \\"path_concat_mode\\": \\"replace\\", \\"sample_ratio\\": 1, \\"timeout\\": 5000, \\",
  \\"mirror_request_body_enabled\\": true},
  "remark" : "This is a request mirroring plug-in.",
  "create_time" : "2024-03-18T12:31:23.353Z",
  "update_time" : "2024-03-18T12:31:23.353Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.3326",
  "error_msg" : "The plugin name already exists"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error


```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.3 Deleting a Plug-in

Function

Delete a plug-in.

- You must unbind a plug-in from its APIs, or an error will be reported.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/plugins/{plugin_id}

Table 6-1774 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
plugin_id	Yes	String	Plug-in ID.

Request Parameters

Table 6-1775 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400**Table 6-1776** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1777** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1778** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404

Table 6-1779 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 409**Table 6-1780** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1781** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support
documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 409

Conflict

```
{
  "error_code" : "APIG.3462",
  "error_msg" : "The plugin has been attached to the APIs and cannot perform the current operation"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
409	Conflict
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.4 Querying a Plug-in

Function

Query details about an API plug-in.

- Pagination
- Query by plug-in type
- Query by plug-in scope
- Query by plug-in ID
- Fuzzy query by name
- Query by integration application ID
- query by integration application name

URI

GET /v2/{project_id}/apic/instances/{instance_id}/plugins

Table 6-1782 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1783 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
plugin_type	No	String	Plug-in type.
plugin_scope	No	String	Plug-in scope.
plugin_id	No	String	Plug-in ID.
plugin_name	No	String	Plug-in name. Fuzzy match is supported.

Parameter	Mandatory	Type	Description
precise_search	No	String	Parameter name for exact matching. Only plug-in names are supported.
roma_app_id	No	String	Integration application ID.
roma_app_name	No	String	Integration application name.

Request Parameters

Table 6-1784 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1785 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
plugins	Array of PluginInfo objects	Plug-in list.

Table 6-1786 PluginInfo

Parameter	Type	Description
plugin_id	String	Plug-in ID.

Parameter	Type	Description
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application
plugin_content	String	Plug-in content in JSON format. For details, see the model definition. • CorsPluginContent • SetRespHeadersContent • KafkaLogContent • BreakerContent • RateLimitContent • ThirdAuthContent • ProxyCacheContent • ProxyMirrorContent
remark	String	Plug-in description. Max. 255 characters.
create_time	String	Creation time.
update_time	String	Update time.
roma_app_id	String	Integration application ID. Valid when plugin_scope is set to app.

Parameter	Type	Description
roma_app_name	String	Name of the integration application to which the API belongs.

Status code: 400**Table 6-1787** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1788** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1789** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1790** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "plugins" : [ {
    "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
    "plugin_name" : "CORS plug-in.",
    "plugin_type" : "cors",
    "plugin_scope" : "global",
    "plugin_content" : "{ \"allow_origin\" : \"*\", \"allow_methods\" : \"GET,POST,PUT\", \"allow_headers\" : \"Content-Type,Accept,Accept-Ranges,Cache-Control\", \"expose_headers\" : \"X-Request-Id,X-Apig-Latency\", \"max_age\" : 172800, \"allow_credentials\" : true }",
    "remark" : "Cross-origin resource sharing.",
    "create_time" : "2022-11-02T12:31:23.353Z",
    "update_time" : "2022-11-02T12:31:23.353Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:plugin_name. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.5 Querying Plug-in Details

Function

Query plug-in details.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/plugins/{plugin_id}

Table 6-1791 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
plugin_id	Yes	String	Plug-in ID.

Request Parameters

Table 6-1792 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 6-1793** Response body parameters

Parameter	Type	Description
plugin_id	String	Plug-in ID.
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application

Parameter	Type	Description
plugin_content	String	Plug-in content in JSON format. For details, see the model definition. • CorsPluginContent • SetRespHeadersContent • KafkaLogContent • BreakerContent • RateLimitContent • ThirdAuthContent • ProxyCacheContent • ProxyMirrorContent
remark	String	Plug-in description. Max. 255 characters.
create_time	String	Creation time.
update_time	String	Update time.
roma_app_id	String	Integration application ID. Valid when plugin_scope is set to app.
roma_app_name	String	Name of the integration application to which the API belongs.

Status code: 400**Table 6-1794** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1795** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403

Table 6-1796 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1797** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1798** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
  "plugin_name" : "CORS plug-in.",
  "plugin_type" : "cors",
  "plugin_scope" : "global",
  "plugin_content" : "{\"allow_origin\": \"*\", \"allow_methods\": \"GET,POST,PUT\", \"allow_headers\": \"Content-Type,Accept,Accept-Ranges,Cache-Control\", \"expose_headers\": \"X-Request-Id,X-Apig-Latency\", \"max_age\": 172800, \"allow_credentials\": true}",
  "remark" : "Cross-origin resource sharing.",
  "create_time" : "2022-11-02T12:31:23.353Z",
  "update_time" : "2022-11-02T12:31:23.353Z"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.6 Binding a Plug-in to an API

Function

This API is used to bind a plug-in to APIs.

- Only published APIs can be bound with plug-ins.
- Plug-ins take effect immediately after binding.
- Plug-ins take effect immediately after being modified.
- An API can be bound with only one plug-in of the same type.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/plugins/{plugin_id}/attach

Table 6-1799 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
plugin_id	Yes	String	Plug-in ID.

Request Parameters

Table 6-1800 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1801 Request body parameters

Parameter	Mandatory	Type	Description
env_id	Yes	String	ID of the environment for API calling authorization.
api_ids	Yes	Array of strings	Bound API IDs.

Response Parameters

Status code: 201

Table 6-1802 Response body parameters

Parameter	Type	Description
attached_plugins	Array of PluginApiAttachInfo objects	Bound plug-ins.

Table 6-1803 PluginApiAttachInfo

Parameter	Type	Description
plugin_attach_id	String	Plug-in binding ID.
plugin_id	String	Plug-in ID.
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application

Parameter	Type	Description
env_id	String	ID of the environment for API calling authorization.
env_name	String	Name of the environment for API calling authorization.
api_id	String	Bound API ID.
api_name	String	API name.
attached_time	String	Time when the API is bound.

Status code: 400**Table 6-1804** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1805** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1806** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404

Table 6-1807 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1808** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Bind a specified plug-in to a published API.

```
{
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "api_ids" : [ "8aa097b00e9843efabc9c593d11b769d" ]
}
```

Example Responses

Status code: 201

OK

```
{
  "attached_plugins" : [ {
    "plugin_attach_id" : "8aa097b00e9843efabc9c593d11b769e",
    "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
    "plugin_name" : "CORS plug-in.",
    "plugin_type" : "cors",
    "plugin_scope" : "global",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "api_id" : "8aa097b00e9843efabc9c593d11b769d",
    "api_name" : "api_name",
    "attached_time" : "2022-11-02T12:31:23.353Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
201	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.7 Binding a Plug-in to an API

Function

This API is used to bind a plug-in to APIs.

- Only published APIs can be bound with plug-ins.
- Plug-ins take effect immediately after binding.
- Plug-ins take effect immediately after being modified.
- An API can be bound with only one plug-in of the same type.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}/plugins/attach

Table 6-1809 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Request Parameters

Table 6-1810 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1811 Request body parameters

Parameter	Mandatory	Type	Description
env_id	Yes	String	ID of the environment for API calling authorization.
plugin_ids	Yes	Array of strings	Bound plug-in IDs.

Response Parameters

Status code: 201

Table 6-1812 Response body parameters

Parameter	Type	Description
attached_plugins	Array of PluginApiAttachInfo objects	Bound plug-ins.

Table 6-1813 PluginApiAttachInfo

Parameter	Type	Description
plugin_attach_id	String	Plug-in binding ID.
plugin_id	String	Plug-in ID.
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application
env_id	String	ID of the environment for API calling authorization.
env_name	String	Name of the environment for API calling authorization.
api_id	String	Bound API ID.
api_name	String	API name.

Parameter	Type	Description
attached_time	String	Time when the API is bound.

Status code: 400**Table 6-1814** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1815** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1816** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1817** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1818 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Bind a plug-in to a specified API.

```
{
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "plugin_ids" : [ "5b729aa252764739b3s237ef0d66dc63" ]
}
```

Example Responses

Status code: 201

OK

```
{
  "attached_plugins" : [ {
    "plugin_attach_id" : "8aa097b00e9843efacb9c593d11b769e",
    "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
    "plugin_name" : "CORS plug-in.",
    "plugin_type" : "cors",
    "plugin_scope" : "global",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "api_id" : "8aa097b00e9843efabc9c593d11b769d",
    "api_name" : "api_name",
    "attached_time" : "2022-11-02T12:31:23.353Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
}
```

```
{
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3068",
  "error_msg": "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
201	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.8 Unbinding a Plug-in from an API

Function

Unbind a plug-in from an API.

- Unbinding takes effect immediately.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/plugins/{plugin_id}/detach

Table 6-1819 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
plugin_id	Yes	String	Plug-in ID.

Request Parameters

Table 6-1820 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1821 Request body parameters

Parameter	Mandatory	Type	Description
env_id	Yes	String	ID of the environment for API calling authorization.
api_ids	Yes	Array of strings	Bound API IDs.

Response Parameters

Status code: 400

Table 6-1822 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1823 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1824** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1825** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1826** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Unbind a specified plug-in from a published API.

```
{
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "api_ids" : [ "8aa097b00e9843efabc9c593d11b769d" ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.9 Unbinding a Plug-in from an API

Function

Unbind a plug-in from an API.

- Unbinding takes effect immediately.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}/plugins/detach

Table 6-1827 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Request Parameters

Table 6-1828 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1829 Request body parameters

Parameter	Mandatory	Type	Description
env_id	Yes	String	ID of the environment for API calling authorization.
plugin_ids	Yes	Array of strings	Bound plug-in IDs.

Response Parameters

Status code: 400

Table 6-1830 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1831 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403

Table 6-1832 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404

Table 6-1833 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1834 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Unbind a plug-in from a specified API.

```
{
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "plugin_ids" : [ "98df09fb-d459-4cbf-83a7-2b55ca6f3d5d" ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.10 Querying APIs Bound with a Plug-in

Function

Query APIs bound with a plug-in.

- Query the list of APIs bound to a plug-in.
- Support query pagination.
- Support fuzzy query by API name.
- The APIs returned in the binding relationship list may have been taken offline from the corresponding environment.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/plugins/{plugin_id}/attached-apis

Table 6-1835 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
plugin_id	Yes	String	Plug-in ID.

Table 6-1836 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
env_id	No	String	ID of the environment the API has been published in.
api_name	No	String	API name.
api_id	No	String	API ID.
group_id	No	String	API group ID.
req_method	No	String	Request method.
req_uri	No	String	Request path.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-1837 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1838 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of PluginApiInfo objects	Bound APIs with the plug-in.

Table 6-1839 PluginApiInfo

Parameter	Type	Description
api_id	String	API ID.
api_name	String	API name. Enter 3 to 255 characters, starting with a letter or digit. Only letters, digits, and the following special characters are allowed: -_./:()
type	Integer	API types. The options are as follows: • 1: public APIs • 2: private APIs
req_protocol	String	API request protocol. • HTTP • HTTPS • BOTH: Both HTTP and HTTPS are supported.
req_method	String	Request method.

Parameter	Type	Description
req_uri	String	Request URI. The value can contain request parameters identified by braces {}, for example, /getUserInfo/{userId}. Special characters such as * / / %- _ . are supported. The total length cannot exceed 512 characters and must meet the URI specifications. Environment variables are supported. If environment variables are used, each variable name is a string of 3 to 32 characters. The string consists of letters, digits, hyphens (-), and underscores (_) and must start with an English letter. NOTE The value must comply with the URI specifications.
auth_type	String	API authentication mode. The options are as follows: • NONE • APP • IAM • AUTHORIZER (custom)
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.
remark	String	API description.
group_id	String	ID of the API group to which the API belongs.
group_name	String	Name of the API group to which the API belongs.
roma_app_id	String	Integration application ID.
env_id	String	ID of the environment for API calling authorization.
env_name	String	Name of the environment for API calling authorization.
publish_id	String	Publish ID.
plugin_attach_id	String	Plug-in binding ID.
attached_time	String	Time when the API is bound.

Parameter	Type	Description
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.

Status code: 400**Table 6-1840** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1841** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1842** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1843** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1844 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "apis" : [ {
    "api_id" : "8aa097b00e9843efabc9c593d11b769d",
    "api_name" : "API name.",
    "type" : 1,
    "req_protocol" : "HTTP",
    "req_method" : "GET",
    "req_uri" : "/test",
    "auth_type" : "IAM",
    "match_mode" : "NORMAL",
    "remark" : "API description.",
    "group_id" : "b9be707660c5406394f8973e087bae20",
    "group_name" : "DEFAULT",
    "roma_app_id" : "82a9a3c3-781f-440a-ae4b-fb0cc88e22c8",
    "plugin_attach_id" : "8aa097b00e9843efabc9c593d11b769e",
    "publish_id" : "4739b3s5b729aa2237ef0d66dc635276",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "attached_time" : "2022-11-02T12:31:23.353Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**6.28.11 Querying Plug-ins bound to an API****Function**

Query plug-ins bound to an API.

- Query of plug-ins bound with an API
- Pagination
- Fuzzy query by API name

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}/attached-plugins

Table 6-1845 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Table 6-1846 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
env_id	No	String	ID of the environment in which the API has been published.
plugin_name	No	String	Plug-in name.
plugin_id	No	String	Plug-in ID.
env_name	No	String	Environment
plugin_type	No	String	Plug-in type.
roma_app_id	No	String	Integration application ID.
roma_app_name	No	String	Integration application name.

Request Parameters

Table 6-1847 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1848 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
plugins	Array of AttachedPluginInfo objects	Plug-ins bound to the API.

Table 6-1849 AttachedPluginInfo

Parameter	Type	Description
plugin_attach_id	String	Plug-in binding ID.
plugin_id	String	Plug-in ID.
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application
env_id	String	ID of the environment for API calling authorization.
env_name	String	Name of the environment for API calling authorization.
attached_time	String	Time when the API is bound.
plugin_content	String	Plug-in definition, in JSON.
remark	String	Plug-in description. Max. 255 characters.
create_time	String	Creation time.
update_time	String	Update time.

Status code: 400**Table 6-1850** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1851 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1852** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1853** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1854** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{  
  "total" : 1,
```

```
"size" : 1,
"plugins" : [ {
  "plugin_attach_id" : "8aa097b00e9843efacb9c593d11b769e",
  "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
  "plugin_name" : "CORS plug-in.",
  "plugin_type" : "cors",
  "plugin_scope" : "global",
  "plugin_content" : "{ \"allow_origin\" : \"*\", \"allow_methods\" : \"GET,POST,PUT\", \"allow_headers\" : \"Content-Type,Accept,Accept-Ranges,Cache-Control\", \"expose_headers\" : \"X-Request-Id,X-Apig-Latency\", \"max_age\" : 172800, \"allow_credentials\" : true}",
  "remark" : "Cross-origin resource sharing.",
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "env_name" : "RELEASE",
  "attached_time" : "2022-11-02T12:31:23.353Z",
  "create_time" : "2022-11-02T12:31:23.353Z",
  "update_time" : "2022-11-02T12:31:23.353Z"
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.28.12 Querying APIs that Can Be Bound to a Plug-in

Function

Query APIs that can be bound to a plug-in.

- Pagination
- Fuzzy query by API name
- Query of APIs that have been bound to other plug-ins

URI

GET /v2/{project_id}/apic/instances/{instance_id}/plugins/{plugin_id}/attachable-apis

Table 6-1855 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
plugin_id	Yes	String	Plug-in ID.

Table 6-1856 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
env_id	Yes	String	ID of the environment the API has been published in.
api_name	No	String	API name.
api_id	No	String	API ID.
group_id	No	String	API group ID.
req_method	No	String	Request method.
req_uri	No	String	Request path.
tags	No	String	API tag. Multiple API tags can be specified. The relationship between multiple parameter values is OR. If this parameter is not specified, no filtering tag is specified. If this parameter is set to #no_tags#, APIs without tags are filtered.

Request Parameters

Table 6-1857 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1858 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of PluginApiInfo objects	Bound APIs with the plug-in.

Table 6-1859 PluginApiInfo

Parameter	Type	Description
api_id	String	API ID.
api_name	String	API name. Enter 3 to 255 characters, starting with a letter or digit. Only letters, digits, and the following special characters are allowed: -_./:()
type	Integer	API types. The options are as follows: • 1: public APIs • 2: private APIs
req_protocol	String	API request protocol. • HTTP • HTTPS • BOTH: Both HTTP and HTTPS are supported.
req_method	String	Request method.

Parameter	Type	Description
req_uri	String	Request URI. The value can contain request parameters identified by braces ({}), for example, /getUserInfo/{userId}. Special characters such as * / / %- _ . are supported. The total length cannot exceed 512 characters and must meet the URI specifications. Environment variables are supported. If environment variables are used, each variable name is a string of 3 to 32 characters. The string consists of letters, digits, hyphens (-), and underscores (_) and must start with an English letter. NOTE The value must comply with the URI specifications.
auth_type	String	API authentication mode. The options are as follows: • NONE • APP • IAM • AUTHORIZER (custom)
match_mode	String	Match mode of an API. • SWA: prefix match • NORMAL: exact match (default) The default value is NORMAL.
remark	String	API description.
group_id	String	ID of the API group to which the API belongs.
group_name	String	Name of the API group to which the API belongs.
roma_app_id	String	Integration application ID.
env_id	String	ID of the environment for API calling authorization.
env_name	String	Name of the environment for API calling authorization.
publish_id	String	Publish ID.
plugin_attach_id	String	Plug-in binding ID.
attached_time	String	Time when the API is bound.

Parameter	Type	Description
tags	Array of strings	Tags bound to the API. The default quota is 10. You can contact technical support to adjust the quota.

Status code: 400**Table 6-1860** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1861** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1862** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1863** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1864 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "apis" : [ {
    "api_id" : "8aa097b00e9843efabc9c593d11b769d",
    "api_name" : "API name.",
    "type" : 1,
    "req_protocol" : "HTTP",
    "req_method" : "GET",
    "req_uri" : "/test",
    "auth_type" : "IAM",
    "match_mode" : "NORMAL",
    "remark" : "API description.",
    "group_id" : "b9be707660c5406394f8973e087bae20",
    "group_name" : "DEFAULT",
    "roma_app_id" : "82a9a3c3-781f-440a-ae4b-fb0cc88e22c8",
    "plugin_attach_id" : "8aa097b00e9843efabc9c593d11b769e",
    "publish_id" : "4739b3s5b729aa2237ef0d66dc635276",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "attached_time" : "2020-11-02T12:31:23.353Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```


Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3068",
  "error_msg" : "Plugin b294018ee0554156a875b3513e02e5b9 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).

6.28.13 Querying Plug-ins that Can Be Bound to the Current API

Function

Query plug-ins that can be bound to the current API.

- Pagination
- Fuzzy query by plug-in name

URI

GET /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}/attachable-plugins

Table 6-1865 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
api_id	Yes	String	API ID.

Table 6-1866 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
env_id	Yes	String	ID of the environment in which the API has been published.
plugin_name	No	String	Plug-in name.
plugin_type	No	String	Plug-in type.
plugin_id	No	String	Plug-in ID.
roma_app_id	No	String	Integration application ID.
roma_app_name	No	String	Integration application name.

Request Parameters

Table 6-1867 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1868 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
plugins	Array of PluginInfo objects	Plug-in list.

Table 6-1869 PluginInfo

Parameter	Type	Description
plugin_id	String	Plug-in ID.
plugin_name	String	Plug-in name. Enter 3 to 255 characters, starting with a letter. Only letters, digits, and underscores (_) are allowed. NOTE Chinese characters must be in UTF-8 or Unicode format.

Parameter	Type	Description
plugin_type	String	Plug-in type. • cors: Cross-origin resource sharing. • set_resp_headers: HTTP response header management. • kafka_log: Kafka log push. • breaker: Circuit breaker. • rate_limit: Request throttling. • third_auth: Third-party authentication. • proxy_cache: Response cache. • proxy_mirror: Request mirroring.
plugin_scope	String	Plug-in scope. Options: • global: visible to all integration applications • app: visible to the current integration application
plugin_content	String	Plug-in content in JSON format. For details, see the model definition. • CorsPluginContent • SetRespHeadersContent • KafkaLogContent • BreakerContent • RateLimitContent • ThirdAuthContent • ProxyCacheContent • ProxyMirrorContent
remark	String	Plug-in description. Max. 255 characters.
create_time	String	Creation time.
update_time	String	Update time.
roma_app_id	String	Integration application ID. Valid when plugin_scope is set to app.
roma_app_name	String	Name of the integration application to which the API belongs.

Status code: 400

Table 6-1870 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1871** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1872** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1873** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1874** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "plugins" : [ {
    "plugin_id" : "5b729aa252764739b3s237ef0d66dc63",
    "plugin_name" : "CORS Plug-in",
    "plugin_type" : "cors",
    "plugin_scope" : "global",
    "plugin_content" : "{ \"allow_origin\" : \"*\", \"allow_methods\" : \"GET,POST,PUT\", \"allow_headers\" : \"Content-Type,Accept,Accept-Ranges,Cache-Control\", \"expose_headers\" : \"X-Request-Id,X-Apig-Latency\", \"max_age\" : 172800, \"allow_credentials\" : true }",
    "remark" : "Cross-origin resource sharing",
    "create_time" : "2022-11-02T12:31:23.353Z",
    "update_time" : "2022-11-02T12:31:23.353Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3002",
  "error_msg" : "API 5f918d104dc84480a75166ba99efff21 does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.29 Orchestration Rule Management

6.29.1 Creating an Orchestration Rule

Function

This API is used to create an orchestration rule.

URI

POST /v2/{project_id}/apic/instances/{instance_id}/orchestrations

Table 6-1875 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 6-1876 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1877 Request body parameters

Parameter	Mandatory	Type	Description
orchestration_name	Yes	String	Orchestration mapping rule name. The name must be 3 to 64 characters long, start with a letter and use only letters, digits, and underscores (_). It must be unique in the same instance.
orchestration_strategy	Yes	String	Orchestration policy. Options: • list • hash • range • hash_range • none_value • default • head_n • tail_n When the orchestration policy is list, the number of objects in orchestration_map multiplied by that in map_param_list cannot exceed 3000.
orchestration_mapped_param	No	OrchestrationMappedParam object	Parameter configuration after orchestration. This parameter is mandatory when isPreprocessing is set to false.

Parameter	Mandatory	Type	Description
is_preprocessing	No	Boolean	Whether the policy is a preprocessing policy. A preprocessing policy generates only temporary parameters as the input of the subsequent parameter orchestration rule. And it cannot be used as the last orchestration rule except the default orchestration rule.
orchestration_map	No	Array of OrchestrationMap objects	List of orchestration mapping rules. The list contains 1 to 300 characters. Orchestration mapping rules are prioritized in the same sequence as the list. Mapping rules must be unique. When orchestration_strategy is list , map_param_list cannot contain same elements.

Table 6-1878 OrchestrationMappedParam

Parameter	Mandatory	Type	Description
mapped_param_name	Yes	String	Name of the request parameter after orchestration. The value can contain 1 to 128 characters, including letters, digits, and hyphens (-). It must start with a letter and cannot be the same as an existing parameter name. By default, the parameter name is transparently transmitted to the backend.
mapped_param_type	Yes	String	Type of the parameter after orchestration. The value can be string or number.
mapped_param_location	Yes	String	Position of the orchestrated parameter. The value can be query or header.

Table 6-1879 OrchestrationMap

Parameter	Mandatory	Type	Description
map_param_list	No	Array of strings	List of parameters after mapping orchestration. This parameter is mandatory when orchestration_strategy is set to list . The list length ranges from 0 to 3000. The value can contain 1 to 128 characters, including letters, digits, hyphens (-), and underscores (_).
map_param_range	No	OrchestrationMapParamRange object	This parameter is for mapping range configurations of parameters after orchestration and is mandatory if orchestration_strategy is range or hash_range .
mapped_param_value	No	String	The parameter value after orchestration can contain 1 to 128 characters, including only letters and digits. This parameter is optional only when orchestration_strategy is set to hash , head_n , or tail_n , or is_preprocessing is set to false .
intercept_length	No	Integer	Truncation length. The value ranges from 1 to 100. This parameter is mandatory when the policy type is head_n or tail_n . If the truncation length is greater than the parameter length, the parameter truncation result is a complete parameter.

Table 6-1880 OrchestrationMapParamRange

Parameter	Mandatory	Type	Description
range_start	No	String	Range start value. The value is a string that can be converted to an integer. After the conversion, the value of range_start ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .
range_end	No	String	Range end value. The value is a string that can be converted to an integer. After the conversion, the value of range_end ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .

Response Parameters

Status code: 201

Table 6-1881 Response body parameters

Parameter	Type	Description
orchestration_name	String	Orchestration mapping rule name. The name must be 3 to 64 characters long, start with a letter and use only letters, digits, and underscores (_). It must be unique in the same instance.

Parameter	Type	Description
orchestration_strategy	String	Orchestration policy. Options: • list • hash • range • hash_range • none_value • default • head_n • tail_n When the orchestration policy is list, the number of objects in orchestration_map multiplied by that in map_param_list cannot exceed 3000.
orchestration_mapped_param	OrchestrationMappedParam object	Parameter configuration after orchestration. This parameter is mandatory when isPreprocessing is set to false.
is_preprocessing	Boolean	Whether the policy is a preprocessing policy. A preprocessing policy generates only temporary parameters as the input of the subsequent parameter orchestration rule. And it cannot be used as the last orchestration rule except the default orchestration rule.
orchestration_map	Array of OrchestrationMap objects	List of orchestration mapping rules. The list contains 1 to 300 characters. Orchestration mapping rules are prioritized in the same sequence as the list. Mapping rules must be unique. When orchestration_strategy is list , map_param_list cannot contain same elements.
orchestration_id	String	Orchestration rule ID.
orchestration_create_time	String	Time when an orchestration rule was created.
orchestration_update_time	String	Time when an orchestration rule was updated.

Table 6-1882 OrchestrationMappedParam

Parameter	Type	Description
mapped_param_name	String	Name of the request parameter after orchestration. The value can contain 1 to 128 characters, including letters, digits, and hyphens (-). It must start with a letter and cannot be the same as an existing parameter name. By default, the parameter name is transparently transmitted to the backend.
mapped_param_type	String	Type of the parameter after orchestration. The value can be string or number.
mapped_param_location	String	Position of the orchestrated parameter. The value can be query or header.

Table 6-1883 OrchestrationMap

Parameter	Type	Description
map_param_list	Array of strings	List of parameters after mapping orchestration. This parameter is mandatory when orchestration_strategy is set to list . The list length ranges from 0 to 3000. The value can contain 1 to 128 characters, including letters, digits, hyphens (-), and underscores (_).
map_param_range	OrchestrationMapParamRange object	This parameter is for mapping range configurations of parameters after orchestration and is mandatory if orchestration_strategy is range or hash_range .
mapped_param_value	String	The parameter value after orchestration can contain 1 to 128 characters, including only letters and digits. This parameter is optional only when orchestration_strategy is set to hash , head_n , or tail_n , or is_preprocessing is set to false .

Parameter	Type	Description
intercept_length	Integer	Truncation length. The value ranges from 1 to 100. This parameter is mandatory when the policy type is head_n or tail_n . If the truncation length is greater than the parameter length, the parameter truncation result is a complete parameter.

Table 6-1884 OrchestrationMapParamRange

Parameter	Type	Description
range_start	String	Range start value. The value is a string that can be converted to an integer. After the conversion, the value of range_start ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .
range_end	String	Range end value. The value is a string that can be converted to an integer. After the conversion, the value of range_end ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .

Status code: 400**Table 6-1885** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1886 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1887** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1888** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1889** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

- Creating a **list** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_1",
  "orchestration_strategy": "list",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
```

```
"map_param_list": [ "10001", "10002" ],
"mapped_param_value": "1"
}, {
  "map_param_list": [ "10003", "10004" ],
  "mapped_param_value": "2"
} ],
"is_preprocessing": false
}
```

- Creating a **range** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_2",
  "orchestration_strategy": "range",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "map_param_range": {
      "range_start": "1",
      "range_end": "1000"
    },
    "mapped_param_value": "1"
  } ]
}
```

- Creating a **hash** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_3",
  "orchestration_strategy": "hash",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  }
}
```

- Creating a **hash_range** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_4",
  "orchestration_strategy": "hash_range",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "map_param_range": {
      "range_start": "1",
      "range_end": "1000"
    },
    "mapped_param_value": "1"
  } ]
}
```

- Creating a **none_value** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_5",
  "orchestration_strategy": "none_value",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "mapped_param_value": "1"
  } ]
}
```


- Creating a **default** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_6",
  "orchestration_strategy": "default",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "mapped_param_value": "1"
  } ]
}
```

- Creating a **head_n** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_7",
  "orchestration_strategy": "head_n",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "intercept_length": 10,
    "mapped_param_value": "1"
  } ]
}
```

- Creating a **tail_n** orchestration rule

```
{
  "orchestration_name": "orchestration_demo_8",
  "orchestration_strategy": "tail_n",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "intercept_length": 10,
    "mapped_param_value": "1"
  } ]
}
```

- Creating a **tail_n** preprocessing orchestration rule

```
{
  "orchestration_name": "orchestration_demo_8",
  "orchestration_strategy": "tail_n",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "intercept_length": 10
  } ],
  "is_preprocessing": true
}
```

Example Responses

Status code: 201

Created

- Example 1

```
{
  "orchestration_id": "76545e81d9cb4424bf704ef2b0ac7600",
}
```

```
"orchestration_name" : "orchestration_demo_1",
"orchestration_create_time" : "2023-07-02T12:31:23.353Z",
"orchestration_update_time" : "2023-07-02T13:31:23.353Z",
"orchestration_strategy" : "list",
"orchestration_mapped_param" : {
  "mapped_param_name" : "shared-tag",
  "mapped_param_type" : "number",
  "mapped_param_location" : "header"
},
"orchestration_map" : [ {
  "map_param_list" : [ "10001", "10002" ],
  "mapped_param_value" : "1"
}, {
  "map_param_list" : [ "10003", "10004" ],
  "mapped_param_value" : "2"
} ]
}
```

- Example 2

```
{
  "orchestration_id" : "yt655e81d9cb4424bf704ef2b0ac7600",
  "orchestration_name" : "orchestration_demo_2",
  "orchestration_create_time" : "2023-07-02T12:31:23.353Z",
  "orchestration_update_time" : "2023-07-02T13:31:23.353Z",
  "orchestration_strategy" : "range",
  "orchestration_mapped_param" : {
    "mapped_param_name" : "shared-tag",
    "mapped_param_type" : "number",
    "mapped_param_location" : "header"
  },
  "orchestration_map" : [ {
    "map_param_range" : {
      "range_start" : "1",
      "range_end" : "1000"
    },
    "mapped_param_value" : "1"
  } ]
}
```

- Example 3

```
{
  "orchestration_id" : "a7655e81d9cb4424bf704ef2b0ac7600",
  "orchestration_name" : "orchestration_demo_3",
  "orchestration_create_time" : "2023-07-02T12:31:23.353Z",
  "orchestration_update_time" : "2023-07-02T13:31:23.353Z",
  "orchestration_strategy" : "hash",
  "orchestration_mapped_param" : {
    "mapped_param_name" : "shared-tag",
    "mapped_param_type" : "number",
    "mapped_param_location" : "header"
  }
}
```

Status code: 400**Bad Request**

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401**Unauthorized**

```
{
  "error_code" : "APIG.1002",
}
```

```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3030",
  "error_msg": "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.29.2 Viewing Orchestration Rules

Function

This API is used to view orchestration rules.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/orchestrations

Table 6-1890 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 6-1891 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
orchestration_name	No	String	Orchestration rule name.
precise_search	No	String	Parameter name for exact matching. Separate multiple parameter names with commas (,). Only orchestration_name is supported.
orchestration_id	No	String	Orchestration rule ID. Separate multiple orchestration rule IDs with commas (,). The maximum number of IDs is the maximum number of rules that can be bound to an API. For details, see "Quotas" in the service overview.

Request Parameters

Table 6-1892 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1893 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
orchestrations	Array of OrchestrationBaseResp objects	Orchestration rules that are queried.

Table 6-1894 OrchestrationBaseResp

Parameter	Type	Description
orchestration_name	String	Orchestration mapping rule name. The name must be 3 to 64 characters long, start with a letter and use only letters, digits, and underscores (_). It must be unique in the same instance.

Parameter	Type	Description
orchestration_strategy	String	Orchestration policy. Options: • list • hash • range • hash_range • none_value • default • head_n • tail_n When the orchestration policy is list, the number of objects in orchestration_map multiplied by that in map_param_list cannot exceed 3000.
orchestration_mapped_param	OrchestrationMappedParam object	Parameter configuration after orchestration. This parameter is mandatory when isPreprocessing is set to false.
is_preprocessing	Boolean	Whether the policy is a preprocessing policy. A preprocessing policy generates only temporary parameters as the input of the subsequent parameter orchestration rule. And it cannot be used as the last orchestration rule except the default orchestration rule.
orchestration_id	String	Orchestration rule ID.
orchestration_create_time	String	Time when an orchestration rule was created.
orchestration_update_time	String	Time when an orchestration rule was updated.

Table 6-1895 OrchestrationMappedParam

Parameter	Type	Description
mapped_param_name	String	Name of the request parameter after orchestration. The value can contain 1 to 128 characters, including letters, digits, and hyphens (-). It must start with a letter and cannot be the same as an existing parameter name. By default, the parameter name is transparently transmitted to the backend.
mapped_param_type	String	Type of the parameter after orchestration. The value can be string or number.
mapped_param_location	String	Position of the orchestrated parameter. The value can be query or header.

Status code: 400**Table 6-1896** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1897** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1898** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 404

Table 6-1899 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1900 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total" : 2,
  "size" : 2,
  "orchestrations" : [ {
    "orchestration_id" : "76545e81d9cb4424bf704ef2b0ac7600",
    "orchestration_name" : "orchestration_demo_1",
    "orchestration_create_time" : "2023-07-02T12:31:23.353Z",
    "orchestration_update_time" : "2023-07-02T13:31:23.353Z",
    "orchestration_strategy" : "list",
    "orchestration_mapped_param" : {
      "mapped_param_name" : "shared-tag",
      "mapped_param_type" : "number",
      "mapped_param_location" : "header"
    }
  }, {
    "orchestration_id" : "yt655e81d9cb4424bf704ef2b0ac7600",
    "orchestration_name" : "orchestration_demo_2",
    "orchestration_create_time" : "2023-07-02T12:31:23.353Z",
    "orchestration_update_time" : "2023-07-02T13:31:23.353Z",
    "orchestration_strategy" : "range",
```



```
"orchestration_mapped_param" : {  
  "mapped_param_name" : "shared-tag",  
  "mapped_param_type" : "number",  
  "mapped_param_location" : "header"  
}  
}]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "APIG.2012",  
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support  
documentation"  
}
```

Status code: 401

Unauthorized

```
{  
  "error_code" : "APIG.1002",  
  "error_msg" : "Incorrect token or token resolution failed"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : "APIG.1005",  
  "error_msg" : "No permissions to request this method"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "APIG.3030",  
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "APIG.9999",  
  "error_msg" : "System error"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.29.3 Querying Rule Details

Function

This API is used to query rule details.

URI

GET /v2/{project_id}/apic/instances/{instance_id}/orchestrations/{orchestration_id}

Table 6-1901 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
orchestration_id	Yes	String	Orchestration rule ID

Request Parameters

Table 6-1902 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1903 Response body parameters

Parameter	Type	Description
orchestration_name	String	Orchestration mapping rule name. The name must be 3 to 64 characters long, start with a letter and use only letters, digits, and underscores (_). It must be unique in the same instance.
orchestration_strategy	String	Orchestration policy. Options: • list • hash • range • hash_range • none_value • default • head_n • tail_n When the orchestration policy is list, the number of objects in orchestration_map multiplied by that in map_param_list cannot exceed 3000.
orchestration_mapped_param	OrchestrationMappedParam object	Parameter configuration after orchestration. This parameter is mandatory when isPreprocessing is set to false.
is_preprocessing	Boolean	Whether the policy is a preprocessing policy. A preprocessing policy generates only temporary parameters as the input of the subsequent parameter orchestration rule. And it cannot be used as the last orchestration rule except the default orchestration rule.

Parameter	Type	Description
orchestration_map	Array of OrchestrationMap objects	List of orchestration mapping rules. The list contains 1 to 300 characters. Orchestration mapping rules are prioritized in the same sequence as the list. Mapping rules must be unique. When orchestration_strategy is list , map_param_list cannot contain same elements.
orchestration_id	String	Orchestration rule ID.
orchestration_create_time	String	Time when an orchestration rule was created.
orchestration_update_time	String	Time when an orchestration rule was updated.

Table 6-1904 OrchestrationMappedParam

Parameter	Type	Description
mapped_param_name	String	Name of the request parameter after orchestration. The value can contain 1 to 128 characters, including letters, digits, and hyphens (-). It must start with a letter and cannot be the same as an existing parameter name. By default, the parameter name is transparently transmitted to the backend.
mapped_param_type	String	Type of the parameter after orchestration. The value can be string or number.
mapped_param_location	String	Position of the orchestrated parameter. The value can be query or header.

Table 6-1905 OrchestrationMap

Parameter	Type	Description
map_param_list	Array of strings	List of parameters after mapping orchestration. This parameter is mandatory when orchestration_strategy is set to list . The list length ranges from 0 to 3000. The value can contain 1 to 128 characters, including letters, digits, hyphens (-), and underscores (_).
map_param_range	OrchestrationMapParamRange object	This parameter is for mapping range configurations of parameters after orchestration and is mandatory if orchestration_strategy is range or hash_range .
mapped_param_value	String	The parameter value after orchestration can contain 1 to 128 characters, including only letters and digits. This parameter is optional only when orchestration_strategy is set to hash , head_n , or tail_n , or is_preprocessing is set to false .
intercept_length	Integer	Truncation length. The value ranges from 1 to 100. This parameter is mandatory when the policy type is head_n or tail_n . If the truncation length is greater than the parameter length, the parameter truncation result is a complete parameter.

Table 6-1906 OrchestrationMapParamRange

Parameter	Type	Description
range_start	String	Range start value. The value is a string that can be converted to an integer. After the conversion, the value of range_start ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .

Parameter	Type	Description
range_end	String	Range end value. The value is a string that can be converted to an integer. After the conversion, the value of range_end ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .

Status code: 400**Table 6-1907** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1908** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1909** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404

Table 6-1910 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500

Table 6-1911 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "orchestration_id" : "yt655e81d9cb4424bf704ef2b0ac7600",
  "orchestration_name" : "orchestration_demo_1",
  "orchestration_create_time" : "2023-07-02T12:31:23.353Z",
  "orchestration_update_time" : "2023-07-02T13:31:23.353Z",
  "orchestration_strategy" : "range",
  "orchestration_mapped_param" : {
    "mapped_param_name" : "shared-tag",
    "mapped_param_type" : "number",
    "mapped_param_location" : "header"
  },
  "orchestration_map" : [ {
    "map_param_range" : {
      "range_start" : "1",
      "range_end" : "1000"
    },
    "mapped_param_value" : "1"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:domain_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3020",
  "error_msg" : "The URL domain does not exist"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.29.4 Updating an Orchestration Rule

Function

This API is used to update an orchestration rule.

URI

PUT /v2/{project_id}/apic/instances/{instance_id}/orchestrations/{orchestration_id}

Table 6-1912 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
orchestration_id	Yes	String	Orchestration rule ID

Request Parameters

Table 6-1913 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 6-1914 Request body parameters

Parameter	Mandatory	Type	Description
orchestration_name	Yes	String	Orchestration mapping rule name. The name must be 3 to 64 characters long, start with a letter and use only letters, digits, and underscores (_). It must be unique in the same instance.

Parameter	Mandatory	Type	Description
orchestration_strategy	Yes	String	Orchestration policy. Options: • list • hash • range • hash_range • none_value • default • head_n • tail_n When the orchestration policy is list, the number of objects in orchestration_map multiplied by that in map_param_list cannot exceed 3000.
orchestration_mapped_param	No	OrchestrationMappedParam object	Parameter configuration after orchestration. This parameter is mandatory when isPreprocessing is set to false.
is_preprocessing	No	Boolean	Whether the policy is a preprocessing policy. A preprocessing policy generates only temporary parameters as the input of the subsequent parameter orchestration rule. And it cannot be used as the last orchestration rule except the default orchestration rule.
orchestration_map	No	Array of OrchestrationMap objects	List of orchestration mapping rules. The list contains 1 to 300 characters. Orchestration mapping rules are prioritized in the same sequence as the list. Mapping rules must be unique. When orchestration_strategy is list , map_param_list cannot contain same elements.

Table 6-1915 OrchestrationMappedParam

Parameter	Mandatory	Type	Description
mapped_param_name	Yes	String	Name of the request parameter after orchestration. The value can contain 1 to 128 characters, including letters, digits, and hyphens (-). It must start with a letter and cannot be the same as an existing parameter name. By default, the parameter name is transparently transmitted to the backend.
mapped_param_type	Yes	String	Type of the parameter after orchestration. The value can be string or number.
mapped_param_location	Yes	String	Position of the orchestrated parameter. The value can be query or header.

Table 6-1916 OrchestrationMap

Parameter	Mandatory	Type	Description
map_param_list	No	Array of strings	List of parameters after mapping orchestration. This parameter is mandatory when orchestration_strategy is set to list . The list length ranges from 0 to 3000. The value can contain 1 to 128 characters, including letters, digits, hyphens (-), and underscores (_).
map_param_range	No	OrchestrationMapParamRange object	This parameter is for mapping range configurations of parameters after orchestration and is mandatory if orchestration_strategy is range or hash_range .

Parameter	Mandatory	Type	Description
mapped_param_value	No	String	The parameter value after orchestration can contain 1 to 128 characters, including only letters and digits. This parameter is optional only when orchestration_strategy is set to hash , head_n , or tail_n , or is_preprocessing is set to false .
intercept_length	No	Integer	Truncation length. The value ranges from 1 to 100. This parameter is mandatory when the policy type is head_n or tail_n . If the truncation length is greater than the parameter length, the parameter truncation result is a complete parameter.

Table 6-1917 OrchestrationMapParamRange

Parameter	Mandatory	Type	Description
range_start	No	String	Range start value. The value is a string that can be converted to an integer. After the conversion, the value of range_start ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .
range_end	No	String	Range end value. The value is a string that can be converted to an integer. After the conversion, the value of range_end ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .

Response Parameters

Status code: 200

Table 6-1918 Response body parameters

Parameter	Type	Description
orchestration_name	String	Orchestration mapping rule name. The name must be 3 to 64 characters long, start with a letter and use only letters, digits, and underscores (_). It must be unique in the same instance.
orchestration_strategy	String	Orchestration policy. Options: • list • hash • range • hash_range • none_value • default • head_n • tail_n When the orchestration policy is list, the number of objects in orchestration_map multiplied by that in map_param_list cannot exceed 3000.
orchestration_mapped_param	OrchestrationMappedParam object	Parameter configuration after orchestration. This parameter is mandatory when isPreprocessing is set to false.
is_preprocessing	Boolean	Whether the policy is a preprocessing policy. A preprocessing policy generates only temporary parameters as the input of the subsequent parameter orchestration rule. And it cannot be used as the last orchestration rule except the default orchestration rule.
orchestration_map	Array of OrchestrationMap objects	List of orchestration mapping rules. The list contains 1 to 300 characters. Orchestration mapping rules are prioritized in the same sequence as the list. Mapping rules must be unique. When orchestration_strategy is list , map_param_list cannot contain same elements.
orchestration_id	String	Orchestration rule ID.

Parameter	Type	Description
orchestration_create_time	String	Time when an orchestration rule was created.
orchestration_update_time	String	Time when an orchestration rule was updated.

Table 6-1919 OrchestrationMappedParam

Parameter	Type	Description
mapped_param_name	String	Name of the request parameter after orchestration. The value can contain 1 to 128 characters, including letters, digits, and hyphens (-). It must start with a letter and cannot be the same as an existing parameter name. By default, the parameter name is transparently transmitted to the backend.
mapped_param_type	String	Type of the parameter after orchestration. The value can be string or number.
mapped_param_location	String	Position of the orchestrated parameter. The value can be query or header.

Table 6-1920 OrchestrationMap

Parameter	Type	Description
map_param_list	Array of strings	List of parameters after mapping orchestration. This parameter is mandatory when orchestration_strategy is set to list . The list length ranges from 0 to 3000. The value can contain 1 to 128 characters, including letters, digits, hyphens (-), and underscores (_).
map_param_range	OrchestrationMappedParamRange object	This parameter is for mapping range configurations of parameters after orchestration and is mandatory if orchestration_strategy is range or hash_range .

Parameter	Type	Description
mapped_param_value	String	The parameter value after orchestration can contain 1 to 128 characters, including only letters and digits. This parameter is optional only when orchestration_strategy is set to hash , head_n , or tail_n , or is_preprocessing is set to false .
intercept_length	Integer	Truncation length. The value ranges from 1 to 100. This parameter is mandatory when the policy type is head_n or tail_n . If the truncation length is greater than the parameter length, the parameter truncation result is a complete parameter.

Table 6-1921 OrchestrationMapParamRange

Parameter	Type	Description
range_start	String	Range start value. The value is a string that can be converted to an integer. After the conversion, the value of range_start ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .
range_end	String	Range end value. The value is a string that can be converted to an integer. After the conversion, the value of range_end ranges from 0 to 9223372036854775807. Range_start cannot exceed range_end .

Status code: 400**Table 6-1922** Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error description.

Status code: 401**Table 6-1923** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1924** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1925** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1926** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

Updating an orchestration rule

```
{
  "orchestration_name": "orchestration_demo_1",
  "orchestration_strategy": "range",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "map_param_range": {
      "range_start": "1",
      "range_end": "1000"
    },
    "mapped_param_value": "1"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "orchestration_id": "yt655e81d9cb4424bf704ef2b0ac7600",
  "orchestration_name": "orchestration_demo_1",
  "orchestration_create_time": "2023-07-02T12:31:23.353Z",
  "orchestration_update_time": "2023-07-02T13:31:23.353Z",
  "orchestration_strategy": "range",
  "orchestration_mapped_param": {
    "mapped_param_name": "shared-tag",
    "mapped_param_type": "number",
    "mapped_param_location": "header"
  },
  "orchestration_map": [ {
    "map_param_range": {
      "range_start": "1",
      "range_end": "1000"
    },
    "mapped_param_value": "1"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "APIG.2012",
  "error_msg": "Invalid parameter value,parameterName:orchestration_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "APIG.1002",
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.29.5 Deleting an Orchestration Rule

Function

This API is used to delete an orchestration rule.

URI

DELETE /v2/{project_id}/apic/instances/{instance_id}/orchestrations/
{orchestration_id}

Table 6-1927 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
orchestration_id	Yes	String	Orchestration rule ID

Request Parameters

Table 6-1928 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 6-1929 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401

Table 6-1930 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403**Table 6-1931** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1932** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1933** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:orchestration_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
```

```
{
  "error_msg": "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code": "APIG.1005",
  "error_msg": "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code": "APIG.3030",
  "error_msg": "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "APIG.9999",
  "error_msg": "System error"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

6.29.6 Querying APIs to Which an Orchestration Rule Is Bound Function

This API is used to query the APIs to which a plug-in has been bound.

- Query APIs bound with a specified plug-in.
- Pagination query

- Fuzzy query by API name

URI

GET /v2/{project_id}/apic/instances/{instance_id}/orchestrations/{orchestration_id}/attached-apis

Table 6-1934 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
orchestration_id	Yes	String	Orchestration rule ID

Table 6-1935 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Long	Offset from which the query starts. If the offset is less than 0, the value is automatically converted to 0.
limit	No	Integer	Number of items displayed on each page.
api_name	No	String	API name.
api_id	No	String	API ID.

Request Parameters

Table 6-1936 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 6-1937 Response body parameters

Parameter	Type	Description
size	Integer	Length of the returned resource list.
total	Long	Number of resources that match the query conditions.
apis	Array of OrchestrationApi Info objects	List of APIs to which an orchestration rule has been bound.

Table 6-1938 OrchestrationApiInfo

Parameter	Type	Description
api_id	String	API ID.
api_name	String	API name. Start with a letter or digit with 3 to 255 characters. Only letters, digits, and these special characters are allowed: - _./:()
req_method	String	Request method.
req_uri	String	Request address. It can contain request parameters enclosed with braces ({}). For example, /getUserInfo/{userId}. Special characters, such as asterisks (*), slashes (/), percent signs (%), hyphens (-), underscores (_), and periods (.), are allowed. It can contain a maximum of 512 characters and must comply with URI specifications. Environment variables are supported. Each must start with a letter and can consist of 3 to 32 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. NOTE The address must comply with the URI specifications.

Parameter	Type	Description
auth_type	String	API authentication mode. Options: • NONE: no authentication • APP: App authentication • IAM: IAM authentication • AUTHORIZER: Custom authentication
match_mode	String	API matching mode. Options: • SWA: Prefix match • NORMAL (default): Exact match
group_id	String	ID of the API group to which an API belongs.
group_name	String	Name of the API group to which the API belongs.
attached_time	String	Binding time.

Status code: 400**Table 6-1939** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 401**Table 6-1940** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 403

Table 6-1941 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 404**Table 6-1942** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Status code: 500**Table 6-1943** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "apis": [ {
    "api_id": "8aa097b00e9843efabc9c593d11b769d",
    "api_name": "api_demo",
    "req_method": "GET",
    "req_uri": "/test",
    "auth_type": "IAM",
    "match_mode": "NORMAL",
    "group_id": "b9be707660c5406394f8973e087bae20",
    "group_name": "group_demo",
    "attached_time": "2023-07-02T12:31:23.353Z"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "APIG.2012",
  "error_msg" : "Invalid parameter value,parameterName:instance_id. Please refer to the support documentation"
}
```

Status code: 401

Unauthorized

```
{
  "error_code" : "APIG.1002",
  "error_msg" : "Incorrect token or token resolution failed"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : "APIG.1005",
  "error_msg" : "No permissions to request this method"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "APIG.3030",
  "error_msg" : "The instance does not exist;id:f0fa1789-3b76-433b-a787-9892951c620ec"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "APIG.9999",
  "error_msg" : "System error"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

7 Message Integration APIs

- MQS Instance Management
- Topic Management
- Application Permission Management
- Message Management
- Consumer Group Management

7.1 MQS Instance Management

7.1.1 Querying MQS Instances

Function

This API is used to query a list of MQS instances.

URI

GET /v2/{project_id}/mqs/instances

Table 7-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Table 7-2 Query Parameters

Parameter	Mandatory	Type	Description
include_internal	Yes	String	Whether internal instances are included. The value must be true .
engine	No	String	Engine type (Kafka or RocketMQ). To query a RocketMQ instance, set this parameter to reliability.

Request Parameters

Table 7-3 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

OK

None

Example Requests

```
GET https://{endpoint}/v2/{project_id}/mqs/instances?include_internal=true
```

Example Responses

Status code: 200

OK

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

7.1.2 Querying MQS Instance Details

Function

This API is used to query details of an MQS instance.

URI

GET /v2/{project_id}/mqs/instances/{instance_id}

Table 7-4 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 7-5 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 7-6 Response body parameters

Parameter	Type	Description
name	String	Instance name.
engine	String	Message engine.

Parameter	Type	Description
status	String	Instance status. • CREATING: The instance is being created. • RUNNING: The instance is running properly. Only instances in the Running state can provide services.
description	String	Description.
type	String	Instance type. The value can be cluster .
specification	String	
engine_version	String	Version.
instance_id	String	Instance ID.
resource_spec_code	String	
charging_mode	Integer	
vpc_id	String	
vpc_name	String	
created_at	String	Time when an instance was created. The time is a Unix timestamp, in millisecond.
product_id	String	
security_group_id	String	
security_group_name	String	
subnet_id	String	
subnet_name	String	
subnet_cidr	String	
available_zones	Array of strings	
user_id	String	User ID.
user_name	String	Username.
maintain_begin	String	Time at which the maintenance time window starts. The format is HH:mm:ss.
maintain_end	String	Time at which the maintenance time window ends. The format is HH:mm:ss.

Parameter	Type	Description
enable_log_collection	Boolean	
new_auth_cert	Boolean	Whether to use the new certificate.
storage_space	Integer	
total_storage_space	Integer	
used_storage_space	Integer	
enable_publicip	Boolean	
publicip_address	String	
ssl_enable	Boolean	Whether security authentication is enabled. • true: Security authentication is enabled. • false: Security authentication is disabled.
cross_vpc_info	String	
storage_resource_id	String	
storage_spec_code	String	
service_type	String	
storage_type	String	
extend_times	Integer	
ipv6_enable	Boolean	
support_features	String	List of features supported by the Kafka instance.
disk_encrypted	Boolean	
ces_version	String	Cloud Eye version.
node_num	Integer	Node quantity.
new_spec_billing_enable	Boolean	Whether to enable billing based on new specifications.
enable_acl	Boolean	Whether to enable ACL.
broker_num	Integer	Node count.
dr_enable	Boolean	Node count.

Parameter	Type	Description
namesrv_address	String	Metadata address.
broker_address	String	Service data address.
public_namesrv_address	String	Public network metadata address.
public_broker_address	String	Public network service data address.
listeners	Object	
partition_num	String	Maximum number of partitions.
connect_address	String	IP address of an instance.
port	Integer	Port of an instance.
order_id	String	
management_connect_address	String	
enterprise_project_id	String	Enterprise project ID.
is_logical_volume	Boolean	
enable_auto_topic	Boolean	
public_connect_address	String	
retention_policy	String	Message retention policy.
kafka_public_status	String	
public_bandwidth	Integer	
kafka_manager_user	String	
ipv6_connect_addresses	Array of strings	
connector_enable	Boolean	
connector_id	String	
mqc_connector_enable	Boolean	
mqc_connector_address	String	
plugin_enable	Boolean	

Parameter	Type	Description
rest_enable	Boolean	
rest_connect_address	String	
message_query_instance_enable	Boolean	Whether message query is enabled.
vpc_client_plain	Boolean	
trace_enable	Boolean	
pod_connect_address	String	Connection address of the tenant side.
kafka_private_connection_address	String	Private connection address of the Kafka instance.
kafka_security_protocol	String	Kafka security protocol.
sasl_enabled_mechanisms	Array of strings	SASL authentication mechanism.
public_access_enabled	String	
public_bandwidth	Integer	
access_user	String	
agent_enable	Boolean	

Example Requests

```
GET https://{endpoint}/v2/{project_id}/mq/instances/{instance_id}
```

Example Responses

Status code: 200

OK

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

7.2 Topic Management

7.2.1 Querying Topics

Function

This API is used to query a list of topics.

URI

GET /v2/{project_id}/mq5/instances/{instance_id}/topics

Table 7-7 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Table 7-8 Query Parameters

Parameter	Mandatory	Type	Description
app_name	No	String	Application name.
name	No	String	Topic name.
access_policy	No	String	Permission type: • all: publish + subscribe • pub: publish • sub: subscribe
limit	No	String	Maximum number of records to be displayed on a page. By default, all topics are queried.
offset	No	String	Offset of the pagination query. The default value is 0 .

Request Parameters

Table 7-9 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 7-10 Response body parameters

Parameter	Type	Description
total	Integer	Total number of topics.
size	Integer	Number of topics to query.
permissions	Array of strings	Operation permissions.
topics	Array of topics objects	Topic list.
remain_partitions	Integer	Number of remaining partitions.
max_partitions	Integer	Total number of partitions.

Table 7-11 topics

Parameter	Type	Description
policiesOnly	Boolean	Whether only the policies are updated.
name	String	Topic name.
replication	Integer	Number of replicas, which is configured to ensure data reliability.
partition	Integer	Number of topic partitions, which is used to set the number of concurrently consumed messages.
retention_time	Integer	Message retention period.

Parameter	Type	Description
sync_message_flush	Boolean	Whether synchronous flushing is enabled. The default value is false . Synchronous flushing compromises performance.
sync_replication	Boolean	Whether synchronous replication is enabled. After this function is enabled, the acks parameter on the producer client must be set to -1 . Otherwise, this parameter does not take effect.
app_id	String	Integration application key.
app_key	String	Integration application key.
app_name	String	Application name.
permissions	Array of strings	Operation permissions.
external_configs	Object	Other configurations.
description	String	Description.
sensitive_word	String	Sensitive word.
topic_type	Integer	Topic type.

Status code: 400**Table 7-12** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 7-13** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v2/{project_id}/mq5/instances/{instance_id}/topics

Example Responses

Status code: 200

OK

```
{
  "total" : 91,
  "size" : 1,
  "permissions" : [ "modify" ],
  "topics" : [ {
    "policiesOnly" : false,
    "name" : "topic-test",
    "replication" : 3,
    "partition" : 3,
    "retention_time" : 72,
    "sync_replication" : false,
    "sync_message_flush" : false,
    "app_id" : "ba1408c8-xxxx-xxxx-xxxx-21a218f4xxxx",
    "app_name" : "app-test",
    "permissions" : [ "read", "access", "delete", "modify" ],
    "external_configs" : { },
    "description" : "",
    "sensitive_word" : "",
    "topic_type" : 0
  } ],
  "remain_partitions" : 37,
  "max_partitions" : 300
}
```

Status code: 400

Bad Request

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.2.2 Creating a Topic

Function

This API is used to create a topic.

URI

POST /v2/{project_id}/mqs/instances/{instance_id}/topics

Table 7-14 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 7-15 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 7-16 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Topic name, which must start with a letter and contains 3 to 200 characters. Only digits, letters, underscores (_), and hyphens (-) are allowed.
app_id	Yes	String	Integration application key.
app_key	No	String	Integration application key.

Parameter	Mandatory	Type	Description
partition	No	Integer	Number of topic partitions, which is used to set the number of concurrently consumed messages. Value range: 1 to 100. Default value: 3.
replication	No	Integer	Number of replicas, which is configured to ensure data reliability. Value range: 1 to 3. Default: 3. NOTE • Lightweight edition: Only one replica is allowed. • Basic edition: 1 to 3. • Professional/High-performance device access (1 million) editions: 1 to 5. • High-performance device access edition (10 million): 1 to 8.
access_policy	Yes	String	Permission type. • all: publish+subscribe • pub: publish • sub: subscribe
sync_message_flush	No	Boolean	Whether synchronous flushing is enabled. The default value is false . Synchronous flushing compromises performance.
sync_replication	No	Boolean	Whether synchronous replication is enabled. After this function is enabled, the acks parameter on the producer client must be set to -1 . Otherwise, this parameter does not take effect.
retention_time	No	Integer	Message retention period. The default value is 72 . Value range: 1 to 168, in hours

Parameter	Mandatory	Type	Description
tag	No	String	Tag corresponding to the permission type. When the permission type is all , publish and subscribe tags are separated by ampersands (&). Multiple tags are separated by double vertical bars ().
description	No	String	Description. Length: 0 to 1,000 characters. The value cannot begin with an equals sign (=), plus sign (+), hyphen (-), or at sign (@).
sensitive_word	No	String	Sensitive word. Multiple sensitive words are separated by double vertical bars ().

Response Parameters

Status code: 200

Table 7-17 Response body parameters

Parameter	Type	Description
name	String	Topic name.

Status code: 400

Table 7-18 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 7-19 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a topic with 3 partitions and 3 replicas and set the message retention period to 72 hours.

```
POST https://{endpoint}/v2/{project_id}/mq5/instances/{instance_id}/topics
{
  "name" : "topic-test-2",
  "app_id" : "c5abd910-02b1-4bc4-b587-c3fe4c49dab9",
  "partition" : 3,
  "access_policy" : "all",
  "replication" : 3,
  "retention_time" : 72,
  "sync_replication" : false,
  "sync_message_flush" : false,
  "tag" : "11 || 22 || aa || bb&11 || 22 || aa || bb",
  "description" : "test",
  "sensitive_word" : "sss || ddd"
}
```

Example Responses

Status code: 200

OK

```
{
  "name" : "topic-mqs-test"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.2.3 Modifying a Topic

Function

This API is used to modify a topic.

URI

PUT /v2/{project_id}/mqs/instances/{instance_id}/topics

Table 7-20 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 7-21 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 7-22 Request body parameters

Parameter	Mandatory	Type	Description
topics	Yes	Array of UpdateTopicObject objects	Topic list.

Table 7-23 UpdateTopicObject

Parameter	Mandatory	Type	Description
name	Yes	String	Topic name.
retention_time	No	Integer	Message retention period. The default value is 72 . Value range: 1 to 168, in hours
sync_replication	No	Boolean	Whether synchronous replication is enabled.
sync_message_flush	No	Boolean	Whether synchronous flushing is enabled.
description	No	String	Description.
sensitive_word	No	String	Sensitive fields.
new_partition_numbers	No	Integer	Number of partitions after the modification.

Response Parameters

Status code: 204

No Content

Status code: 400

Table 7-24 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 7-25 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Modify configurations of a specified topic by changing the message retention time to 72 hours and enabling synchronous replication and flushing.

```
PUT https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/topics
{
  "topics": [ {
    "name": "topic-test",
    "retention_time": 72,
    "sync_replication": true,
    "sync_message_flush": true,
    "description": "",
    "sensitive_word": ""
  } ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code": 400,
  "error_msg": "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code": 403,
  "error_msg": "Forbidden"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.2.4 Deleting Topics

Function

This API is used to delete topics.

URI

DELETE /v2/{project_id}/mqs/instances/{instance_id}/topics

Table 7-26 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Table 7-27 Query Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Topics to delete. Multiple topics are separated by commas (,).

Request Parameters

Table 7-28 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 7-29 Response body parameters

Parameter	Type	Description
topics	Array of topics objects	Topic list.

Table 7-30 topics

Parameter	Type	Description
id	String	Topic name.
success	Boolean	Whether the topics are deleted.

Status code: 400**Table 7-31** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 7-32** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

```
DELETE https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/topics?name=topic-mqs-test1,topic-mqs-test2
```

Example Responses

Status code: 200

OK

```
{
  "topics": [ {
    "id": "topic-mqs-test1",
    "success": true
  }
]
```

```
}, {  
  "id" : "topic-mqs-test2",  
  "success" : true  
}]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : 400,  
  "error_msg" : "Bad Request"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : 403,  
  "error_msg" : "Forbidden"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	Forbidden

Error CodesSee [Error Codes](#).

7.2.5 Deleting Topics in Batches

Function

This API is used to delete topics in batches.

URI

POST /v2/{project_id}/mqs/instances/{instance_id}/topics/delete

Table 7-33 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 7-34 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 7-35 Request body parameters

Parameter	Mandatory	Type	Description
topics	Yes	Array of strings	List of topics to delete.

Response Parameters

Status code: 200

Table 7-36 Response body parameters

Parameter	Type	Description
topics	Array of topics objects	List of topics to delete.

Table 7-37 topics

Parameter	Type	Description
id	String	Topic name.
success	Boolean	Whether the topics are deleted.

Status code: 400

Table 7-38 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 7-39 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete two specified topics.

```
POST https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/topics/delete
{
  "topics": [ "topic-test-1", "topic-test-2" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "topics": [ {
    "id": "topic-test-2",
    "success": true
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": 400,
  "error_msg": "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.2.6 Importing Topics

Function

This API is used to import topics.

URI

POST /v2/{project_id}/mq5/instances/{instance_id}/topics/import

Table 7-40 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Table 7-41 Query Parameters

Parameter	Mandatory	Type	Description
mode	No	String	Mode for importing topics. • AddNew: full import. • Merge: incremental import. The default value is AddNew.

Parameter	Mandatory	Type	Description
prefix	No	String	Prefix of an application name. If a prefix is carried, the prefix is added to the existing application name to form a new application name. Then, the topic is imported based on the new application name.

Request Parameters

Table 7-42 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 7-43 FormData parameters

Parameter	Mandatory	Type	Description
upload_file_name	Yes	File	List of topics to be imported.

Response Parameters

Status code: 204

No Content

Status code: 400

Table 7-44 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 7-45 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Import a topic file to MQS.

```
POST https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/topics/import
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.2.7 Exporting Topics

Function

This API is used to export topics.

URI

GET /v2/{project_id}/mqs/instances/{instance_id}/topics/export

Table 7-46 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Table 7-47 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Topics to export. Multiple topics are separated by commas (.). By default, all topics are exported.

Request Parameters

Table 7-48 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 7-49 Response body parameters

Parameter	Type	Description
-	File	OK

Status code: 400

Table 7-50 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 7-51** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/topics/export?name=topic-mqs-test

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	Topics are exported.
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.2.8 Download a Certificate

Function

This API is used to download a certificate.

URI

GET /v2/{project_id}/mqs/instances/{instance_id}/certificate

Table 7-52 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID

Request Parameters

Table 7-53 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 7-54 Response body parameters

Parameter	Type	Description
-	File	OK

Status code: 400**Table 7-55** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 7-56** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	Certificate file
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.2.9 Querying the Disk Usage Status of Topics

Function

This API is used to query the broker disk usage of topics.

URI

GET /v2/{project_id}/mqs/instances/{instance_id}/topics/diskusage

Table 7-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
instance_id	Yes	String	Instance ID

Table 7-58 Query Parameters

Parameter	Mandatory	Type	Description
minSize	No	String	Occupied disk size, in KB, MB, or GB. Range: 1–10000. (The minSize , top , and percentage parameters cannot be empty at the same time.)
top	No	String	Querying partitions by top disk usage. Value range: 1–1000. (The minSize , top , and percentage parameters cannot be empty at the same time.)
percentage	No	String	Querying partitions by the percentage of the used disk space. Value range: 1–100. (The minSize , top , and percentage parameters cannot be empty at the same time.)

Request Parameters

Table 7-59 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200**Table 7-60** Response body parameters

Parameter	Type	Description
broker_name	String	Broker name.
data_disk_size	String	Disk space.
data_disk_use	String	Used disk space.
data_disk_free	String	Free disk space.
data_disk_use_percentage	Integer	Disk usage.
status	String	Querying status.
topic_list	Array of TopicListEntity objects	Topic list.

Table 7-61 TopicListEntity

Parameter	Type	Description
size	String	Disk space.
topic_name	String	Topic name.
topic_partition	Integer	Partition.
percentage	String	Used percentage.

Status code: 400

Table 7-62 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 7-63** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query succeeded.

```
"GET https://{endpoint}/v2/{project_id}/instances/{instance_id}/topics/diskusage?minSize=1G"
```

```
{
  "broker_list" : [ {
    "broker_name" : "broker-0",
    "data_disk_size" : "66G",
    "data_disk_use" : "53M",
    "data_disk_free" : "63G",
    "data_disk_use_percentage" : "1",
    "status" : "Success get info",
    "topic_list" : [ {
      "size" : "12K",
      "topic_name" : "topic-test",
      "topic_partition" : "2",
      "percentage" : 1.7339533025568183E-5
    }, {
      "size" : "12K",
      "topic_name" : "__consumer_offsets",
      "topic_partition" : "4",
      "percentage" : 1.7339533025568183E-5
    }, {
      "size" : "12K",
      "topic_name" : "__consumer_offsets",
      "topic_partition" : "3",
      "percentage" : 1.7339533025568183E-5
    }, {
      "size" : "8.0K",
      "topic_name" : "__trace",
      "topic_partition" : "6",
      "percentage" : 1.1559688683712121E-5
    }, {
      "size" : "8.0K",
      "topic_name" : "__trace",
      "topic_partition" : "4",
      "percentage" : 1.1559688683712121E-5
    }, {
      "size" : "8.0K",
      "topic_name" : "__trace",
```

```
    "topic_partition" : "2",
    "percentage" : 1.1559688683712121E-5
  }, {
    "size" : "8.0K",
    "topic_name" : "__trace",
    "topic_partition" : "0",
    "percentage" : 1.1559688683712121E-5
  }, {
    "size" : "8.0K",
    "topic_name" : "topic-test",
    "topic_partition" : "0",
    "percentage" : 1.1559688683712121E-5
  }, {
    "size" : "8.0K",
    "topic_name" : "topic-1568537362",
    "topic_partition" : "2",
    "percentage" : 1.1559688683712121E-5
  }, {
    "size" : "8.0K",
    "topic_name" : "__consumer_offsets",
    "topic_partition" : "7",
    "percentage" : 1.1559688683712121E-5
  }
}
}
```

Example Responses

Status code: 200

OK

```
{
  "broker_list" : [ {
    "broker_name" : "broker-0",
    "data_disk_size" : "66G",
    "data_disk_use" : "53M",
    "data_disk_free" : "63G",
    "data_disk_use_percentage" : "1",
    "status" : "Success get info",
    "topic_list" : [ {
      "size" : "12K",
      "topic_name" : "topic-test",
      "topic_partition" : "2",
      "percentage" : 1.7339533025568183E-5
    }, {
      "size" : "12K",
      "topic_name" : "__consumer_offsets",
      "topic_partition" : "4",
      "percentage" : 1.7339533025568183E-5
    }, {
      "size" : "12K",
      "topic_name" : "__consumer_offsets",
      "topic_partition" : "3",
      "percentage" : 1.7339533025568183E-5
    }, {
      "size" : "8.0K",
      "topic_name" : "__trace",
      "topic_partition" : "6",
      "percentage" : 1.1559688683712121E-5
    }, {
      "size" : "8.0K",
      "topic_name" : "__trace",
      "topic_partition" : "4",
      "percentage" : 1.1559688683712121E-5
    }, {
      "size" : "8.0K",
      "topic_name" : "__trace",
      "topic_partition" : "2",

```

```
"percentage" : 1.1559688683712121E-5
}, {
  "size" : "8.0K",
  "topic_name" : "__trace",
  "topic_partition" : "0",
  "percentage" : 1.1559688683712121E-5
}, {
  "size" : "8.0K",
  "topic_name" : "topic-test",
  "topic_partition" : "0",
  "percentage" : 1.1559688683712121E-5
}, {
  "size" : "8.0K",
  "topic_name" : "topic-1568537362",
  "topic_partition" : "2",
  "percentage" : 1.1559688683712121E-5
}, {
  "size" : "8.0K",
  "topic_name" : "__consumer_offsets",
  "topic_partition" : "7",
  "percentage" : 1.1559688683712121E-5
}
}]
}
```

Status code: 400

Query failed.

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Query failed.

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	OK
400	Query failed.
403	Query failed.

Error Codes

See [Error Codes](#).

7.3 Application Permission Management

7.3.1 Updating a Topic Permission

Function

This API is used to update the permission of a topic.

URI

POST /v2/{project_id}/mqs/instances/{instance_id}/topics/accesspolicy

Table 7-64 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 7-65 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 7-66 Request body parameters

Parameter	Mandatory	Type	Description
topics	Yes	Array of UpdateTopicAccessPolicyTopicsObject objects	Policy list.

Table 7-67 UpdateTopicAccessPolicyTopicsObject

Parameter	Mandatory	Type	Description
name	Yes	String	Topic name.

Parameter	Mandatory	Type	Description
policies	Yes	Array of UpdateTopicAccessPolicyPoliciesObject objects	Access policies.
description	No	String	Description.
sensitive_word	No	String	Sensitive field.

Table 7-68 UpdateTopicAccessPolicyPoliciesObject

Parameter	Mandatory	Type	Description
app_id	Yes	String	Integration application key.
app_key	No	String	Integration application key.
app_name	Yes	String	Application name.
access_policy	Yes	String	Permission type. • all: publish+subscribe • pub: publish • sub: subscribe
owner	No	Boolean	Whether the application is the one selected during topic creation. The default value is false.
tag	No	String	Tag corresponding to the permission type. When the permission type is all , publish and subscribe tags are separated by ampersands (&). Multiple tags are separated by double vertical bars ().

Response Parameters

Status code: 204

Table 7-69 Response body parameters

Parameter	Type	Description
-	String	No Content

Status code: 400**Table 7-70** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 7-71** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Change access_policy of a topic's integration application to pub.

POST https://{endpoint}/v2/{project_id}/mq5/instances/{instance_id}/topics/accesspolicy

```
{
  "topics": [ {
    "name": "topic-test-mqs",
    "policies": [ {
      "owner": true,
      "access_policy": "pub",
      "app_name": "app-dhytest",
      "tag": "",
      "app_id": "cd28a9d9-2184-42ce-9fbe-f3785b6caada"
    } ],
    "sensitive_word": "",
    "description": ""
  } ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code": 400,
```

```
{
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
204	The topic permission is updated.
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.3.2 Querying a Topic Permission

Function

This API is used to query the permission of a topic.

URI

GET /v2/{project_id}/mq5/instances/{instance_id}/topics/{topic_name}/accesspolicy

Table 7-72 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.
topic_name	Yes	String	Topic name.

Table 7-73 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	String	Offset of the pagination query.
limit	No	String	Maximum number of records to be displayed on a page.

Request Parameters

Table 7-74 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 7-75 Response body parameters

Parameter	Type	Description
name	String	Topic name.
policies	Array of policies objects	Policy list.
total	Integer	Total number of policies.
size	Integer	Number of policies queried.
operation	String	Topic name.

Table 7-76 policies

Parameter	Type	Description
owner	Boolean	Whether the application is the one selected during topic creation.
user_name	String	Application key.

Parameter	Type	Description
access_policy	String	Permission type. • all: publish+subscribe • pub: publish • sub: subscribe
app_name	String	Application name.
tag	String	Tag corresponding to the permission type.

Status code: 400

Table 7-77 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 7-78 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

```
GET https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/topics/{topic_name}/accesspolicy
```

Example Responses

Status code: 200

OK

```
{
  "name" : "topic-test",
  "policies" : [ {
    "owner" : true,
    "user_name" : "c5abd910-02b1-4bc4-b587-c3fe4c49dab9",
    "access_policy" : "pub",
    "app_name" : "topic test",
    "tag" : "11 || 22 || aa || bb"
  } ],
}
```

```
"total" : 1,  
"size" : 1,  
"operation" : "topic-test"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : 400,  
  "error_msg" : "Bad Request"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : 403,  
  "error_msg" : "Forbidden"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.3.3 Adding Topic Permissions

Function

This API is used to add permissions of a topic.

URI

```
POST /v2/{project_id}/mqs/instances/{instance_id}/topics/{topic_name}/access-  
policies/batch-add
```

Table 7-79 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID
topic_name	Yes	String	Topic name.

Request Parameters

Table 7-80 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	No	String	User token. It can be obtained by calling the IAM API used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Table 7-81 Request body parameters

Parameter	Mandatory	Type	Description
policies	Yes	Array of PolicyEntity objects	Topic Permissions

Table 7-82 PolicyEntity

Parameter	Mandatory	Type	Description
user_name	Yes	String	Application key (access key)
app_name	Yes	String	Application name.
access_policy	Yes	String	Permission type: - all: publish and subscribe - pub: publish - sub: subscribe

Parameter	Mandatory	Type	Description
tag	No	String	Tags corresponding to the permission type. When the access policy type is all, separate publish and subscribe tags by ampersands (&). Separate multiple tags by double vertical bars (). Use only digits, letters, hyphens (-), and underscores (_) with a maximum of 48 characters.

Response Parameters

Status code: 204

No Content

Status code: 400

Table 7-83 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 7-84 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

```
https://{endpoint}/v2/{project_id}/mq5/instances/{instance_id}/topics/{topic_name}/access-policies/batch-add

{
  "policies" : [ {
    "user_name" : "62034763-c4aa-416f-975d-1452ba90fec2",
    "app_name" : "app-uve7",
```

```
"access_policy" : "sub",  
"tag" : "123&abc"  
}]  
}
```

Example Responses

Status code: 400

Bad Request

```
{  
  "error_code" : 400,  
  "error_msg" : "Bad Request"  
}
```

Status code: 403

Forbidden

```
{  
  "error_code" : 403,  
  "error_msg" : "Forbidden"  
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.4 Message Management

7.4.1 Querying Messages

Function

This API is used to query the offsets and contents of messages.

This API queries the message offset based on the timestamp and then queries the message content based on the offset.

URI

GET /v2/{project_id}/mq5/instances/{instance_id}/messages

Table 7-85 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Table 7-86 Query Parameters

Parameter	Mandatory	Type	Description
topic	Yes	String	Topic name.
asc	No	Boolean	Whether to sort messages by time.
start_time	No	String	Start time (Unix timestamp, in millisecond). This parameter is mandatory when querying the message offset.
end_time	No	String	End time (Unix timestamp, in millisecond). This parameter is mandatory when querying the message offset.
limit	No	String	Number of messages to query.
offset	No	String	Offset of the pagination query.
download	No	Boolean	Whether download is required.
message_offset	No	String	Message offset. This parameter is mandatory when querying the message content. If start_time and end_time are not empty, this parameter is invalid.

Parameter	Mandatory	Type	Description
partition	No	String	Partition. This parameter is mandatory when querying the message content. If start_time and end_time are not empty, this parameter is invalid.
key	No	String	Message key.
message_id	No	String	Message ID.
tag	No	String	Message tag.

Request Parameters

Table 7-87 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 7-88 Response body parameters

Parameter	Type	Description
messages	Array of messages objects	Message list.
total	Number	Total number of messages.
size	Number	Total number of returned messages.

Table 7-89 messages

Parameter	Type	Description
topic	String	Topic name.

Parameter	Type	Description
partition	Integer	Partition where the message is located.
key	String	Message key.
value	String	Message content.
size	Integer	Message size.
timestamp	Integer	Topic name.
huge_message	Boolean	Big data flag.
message_offset	Integer	Message offset.
message_id	String	Message ID.
app_id	String	Integration application key.
tag	String	Message tag.

Status code: 400**Table 7-90** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 7-91** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Query the message offset.

```
GET https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/messages?  
asc=false&end_time=1608609032042&limit=10&offset=0&start_time=1608608432042&topic=topic-  
test-mqs
```

- Query the message content.

```
GET https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/  
messagesdownload=false&message_offset=0&partition=0&topic=topic-test-mqs
```

Example Responses

Status code: 200

OK

```
{
  "messages" : [ {
    "topic" : "topic-test",
    "partition" : 0,
    "value" : "hello world",
    "size" : 21,
    "timestamp" : 1607598463502,
    "huge_message" : false,
    "message_offset" : 4,
    "message_id" : "",
    "app_id" : "",
    "tag" : ""
  } ],
  "total" : 1,
  "size" : 1
}
```

Status code: 400

Bad Request

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.4.2 Retransmitting a Message

Function

This API is used to retransmit a message.

URI

POST /v2/{project_id}/mqs/instances/{instance_id}/messages/action

Table 7-92 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID.

Table 7-93 Query Parameters

Parameter	Mandatory	Type	Description
action_id	Yes	String	Retransmission type. Currently, only resend is supported.

Request Parameters

Table 7-94 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 7-95 Request body parameters

Parameter	Mandatory	Type	Description
topic	Yes	String	Topic name.
partition	Yes	Integer	Partition.
message_offset	Yes	Number	Message offset.
consumer_key	No	String	Application key. Add consumer_key to the message header.

Response Parameters

Status code: 200

Table 7-96 Response body parameters

Parameter	Type	Description
topic	String	Topic name.
partition	Integer	Partition.
message_offset	Integer	Message offset.
consumer_key	String	Application key. Add consumer_key to the message header.

Status code: 400

Table 7-97 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 7-98 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Retransmit the message whose offset is 4 and add a specified header to it.

```
POST https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/messages/action?action_id=resend
{
  "topic": "topic-test",
  "partition": 0,
  "message_offset": 4,
  "consumer_key": "keyA"
}
```

Example Responses

Status code: 200

OK

```
{
  "topic" : "topic-test",
  "partition" : 0,
  "message_offset" : 4,
  "consumer_key" : "keyA"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : 400,
  "error_msg" : "Bad Request"
}
```

Status code: 403

Forbidden

```
{
  "error_code" : 403,
  "error_msg" : "Forbidden"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	Forbidden

Error Codes

See [Error Codes](#).

7.5 Consumer Group Management

7.5.1 Querying a Consumer Group

Function

This API is used to query a specified consumer group.

URI

GET /v2/{project_id}/mq5/instances/{instance_id}/management/groups/{group}

Table 7-99 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
instance_id	Yes	String	Instance ID
group	Yes	String	Consumer group ID

Request Parameters

None

Response Parameters

Status code: 200

Table 7-100 Response body parameters

Parameter	Type	Description
[items]	Array of ShowGroupResp objects	OK.

Table 7-101 ShowGroupResp

Parameter	Type	Description
group	Array of ShowGroupEntity objects	Consumer group information

Table 7-102 ShowGroupEntity

Parameter	Type	Description
group_id	String	Consumer group name

Parameter	Type	Description
state	String	Consumer group status. The value can be: Dead: The consumer group has no members and no metadata. Empty: The consumer group has metadata but has no members. PreparingRebalance: The consumer group is to be rebalanced. CompletingRebalance: All members have joined the group. Stable: Members in the consumer group can consume messages normally.
coordinator_id	Integer	Coordinator ID
members	Array of MemberEntity objects	Consumer list
group_message_offsets	Array of GroupMessageOffsetsEntity objects	Consumer offset
assignment_strategy	String	Partition assignment policy

Table 7-103 MemberEntity

Parameter	Type	Description
host	String	Consumer address.
assignment	Array of AssignmentEntity objects	Details about the partition assigned to the consumer.
member_id	String	Consumer ID
client_id	String	Client ID

Table 7-104 AssignmentEntity

Parameter	Type	Description
topic	String	Topic name.

Parameter	Type	Description
partitions	Array of integers	Partition list

Table 7-105 GroupMessageOffsetsEntity

Parameter	Type	Description
partition	Integer	Partition ID
lag	Integer	Number of remaining messages that can be consumed, that is, the number of accumulated messages.
topic	String	Topic name.
message_current_offset	Integer	Consumer offset
message_log_end_offset	Integer	Log end offset (LEO)

Example Requests

None

Example Responses

Status code: 200

The consumer group details are queried successfully.

```
{
  "group" : {
    "members" : [ {
      "host" : "/172.31.1.102",
      "assignment" : [ {
        "topic" : "test",
        "partitions" : [ 0, 1, 2 ]
      } ],
      "member_id" : "consumer-1-6b8ee551-d499-47d4-9beb-ba1527496785",
      "client_id" : "consumer-1"
    } ],
    "state" : "STABLE",
    "group_id" : "test-consumer-group",
    "coordinator_id" : 2,
    "group_message_offsets" : [ {
      "partition" : 0,
      "lag" : 31396,
      "topic" : "test",
      "message_current_offset" : 935,
      "message_log_end_offset" : 32331
    }, {
      "partition" : 0,
      "lag" : 0,
      "topic" : "aaaa",
      "message_current_offset" : 0,
      "message_log_end_offset" : 0
    } ]
  }
}
```

```
}, {
  "partition": 1,
  "lag": 31279,
  "topic": "test",
  "message_current_offset": 1058,
  "message_log_end_offset": 32337
}, {
  "partition": 1,
  "lag": 0,
  "topic": "aaaa",
  "message_current_offset": 0,
  "message_log_end_offset": 0
}, {
  "partition": 2,
  "lag": 31603,
  "topic": "test",
  "message_current_offset": 739,
  "message_log_end_offset": 32342
} ],
"assignment_strategy": "range"
}
```

Status Codes

Status Code	Description
200	The consumer group details are queried successfully.

Error Codes

See [Error Codes](#).

7.5.2 Querying All Consumer Groups

Function

This API is used to query all consumer groups.

URI

GET /v2/{project_id}/mq5/instances/{instance_id}/groups

Table 7-106 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID
project_id	Yes	String	Project ID

Table 7-107 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0.
limit	No	Integer	Maximum number of consumer group IDs returned in the current query. The default value is 10. The value ranges from 1 to 50.
group	No	String	Filtering consumer group names that contain specific keywords.
topic	No	String	If a topic is specified, only the consumer groups of the topic are queried.

Request Parameters

None

Response Parameters

Status code: 200

Table 7-108 Response body parameters

Parameter	Type	Description
[items]	Array of ListInstanceGroupResp objects	Consumer group information

Table 7-109 ListInstanceGroupResp

Parameter	Type	Description
groups	Array of ListGroupEntity objects	All consumer groups
total	Integer	Total number of consumer groups.

Table 7-110 ListGroupEntity

Parameter	Type	Description
createdAt	Integer	Creation time
group_id	String	Consumer group ID
state	String	Consumer group status. The value can be: Dead: The consumer group has no members and no metadata. Empty: The consumer group has metadata but has no members. PreparingRebalance: The consumer group is to be rebalanced. CompletingRebalance: All members have joined the group. Stable: Members in the consumer group can consume messages normally.
coordinator_id	Integer	Coordinator ID
group_desc	String	Consumer group description
lag	Integer	Accumulated messages

Example Requests

None

Example Responses

Status code: 200

All consumer groups are queried successfully.

```
{
  "groups": [ {
    "createdAt": 1691401194847,
    "group_id": "consumer-1",
    "state": "EMPTY",
    "coordinator_id": 1,
    "lag": 0,
    "group_desc": null
  }, {
    "createdAt": 1691401194960,
    "group_id": "consumer-2",
    "state": "STABLE",
    "coordinator_id": 2,
    "lag": 0,
    "group_desc": null
  }, {
    "createdAt": 1691401207309,
    "group_id": "consumer-3",
    "state": "STABLE",
```

```
"coordinator_id" : 3,  
  "lag" : 0,  
  "group_desc" : null  
}],  
  "total" : 3  
}
```

Status Codes

Status Code	Description
200	All consumer groups are queried successfully.

Error Codes

See [Error Codes](#).

7.5.3 Resetting Consumer Group Offset to the Specified Position

Function

Kafka instances do not support resetting the consumer offset online. Before resetting, stop the client for which the offset is to be reset.

After a client is stopped, the server considers the client offline only after the time period specified in ConsumerConfig.SESSION_TIMEOUT_MS_CONFIG (10,000 ms by default).

URI

PUT /v2/{engine}/{project_id}/mqs/instances/{instance_id}/groups/{group_id}/reset-message-offset

Table 7-111 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
instance_id	Yes	String	Instance ID.
engine	Yes	String	Engine type.
group_id	Yes	String	Consumer group ID

Request Parameters

Table 7-112 Request body parameters

Parameter	Mandatory	Type	Description
topic	Yes	String	Topic name.
partition	No	Integer	Partition number. The default value is -1, indicating that all partitions are reset.
message_offset	No	Integer	Resetting consumer group offset to the specified position. • If this position is earlier than the current earliest offset, the offset will be reset to the earliest offset. If this offset is later than the current largest offset, the offset will be reset to the latest offset. Either message_offset or timestamp must be specified.
timestamp	No	Integer	Specified time that the offset is to be reset to. The value is a Unix timestamp, in millisecond. If this time is earlier than the current earliest timestamp, the offset will be reset to the earliest timestamp. If this time is later than the current largest timestamp, the offset will be reset to the latest timestamp. Either message_offset or timestamp must be specified.

Response Parameters

Status code: 204**Table 7-113** Response body parameters

Parameter	Type	Description
-	String	Reset successfully.

Example Requests

- POST https://{endpoint}/v2/{engine}/{project_id}/instances/{instance_id}/groups/{group_id}/reset-message-offset

```
{
  "topic" : "test",
  "partition" : 0,
  "message_offset" : 10
}
```
- POST https://{endpoint}/v2/{engine}/{project_id}/instances/{instance_id}/groups/{group_id}/reset-message-offset

```
{
  "topic" : "test",
  "partition" : 0,
  "timestamp" : 1571812144000
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Operation successful.

Error Codes

See [Error Codes](#).

7.5.4 Deleting Multiple Consumer Groups

Function

This API is used to delete groups in batches.

URI

POST /v2/{project_id}/mq5/instances/{instance_id}/groups/batch-delete

Table 7-114 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID
project_id	Yes	String	Project ID

Request Parameters

Table 7-115 Request body parameters

Parameter	Mandatory	Type	Description
[items]	No	Array of strings	IDs of all consumer groups to be deleted.

Response Parameters

Status code: 200

Table 7-116 Response body parameters

Parameter	Type	Description
failed_groups	Array of FailedGroupsEntity objects	List of consumer groups that failed to be deleted
total	Integer	Number of consumer groups that failed to be deleted

Table 7-117 FailedGroupsEntity

Parameter	Type	Description
group_id	String	ID of consumer groups that failed to be deleted
error_message	String	Cause of the deletion failure

Example Requests

This API is used to delete consumer groups in batches.

```
"POST https://{endpoint}/v2/{project_id}/mqs/instances/{instance_id}/groups/batch-delete"
{
  "group_ids" : [ "get-sync-group0", "get-sync-group1" ]
}
```

Example Responses

Status code: 200

The consumer group is deleted successfully.

```
{
  "failed_groups" : [ ],
}
```

```
"total" : 0  
}
```

Status Codes

Status Code	Description
200	The consumer group is deleted successfully.

Error Codes

See [Error Codes](#).

8 Device Integration APIs

[Device Group Management](#)

[Device Management](#)

[Service Management](#)

[Rule Engine](#)

[Subscription Management](#)

[Product Template Management](#)

[Product Management](#)

8.1 Device Group Management

8.1.1 Creating a Device Group

Function

Creating a Device Group

URI

POST /v2/{project_id}/link/instances/{instance_id}/device-groups

Table 8-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-3 Request body parameters

Parameter	Mandatory	Type	Description
parent_id	Yes	Integer	Parent group ID. The value is automatically rounded down.
name	Yes	String	Group name, which is a string of 2 to 64 characters containing letters, digits, underscores (_), and hyphens (-).
description	No	String	Group description.
app_id	Yes	String	ID of the application to which the group belongs.

Response Parameters

Status code: 200

Table 8-4 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
parent_id	Integer	Parent group ID.
id	Integer	Group ID
name	String	Group name, which is a string of 2 to 64 characters containing letters, digits, underscores (_), and hyphens (-).
description	String	Group description, which contains a maximum of 200 characters.
app_id	String	ID of the application to which the group belongs.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	String	Time when the group was created.
last_updated_date time	String	Last modification time.

Table 8-5 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-6 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400

Table 8-7 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-8** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-9** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create a device group in a specified parent group.

```
{
  "parent_id" : 10001,
  "name" : "device_group",
  "description" : "device group",
  "app_id" : "ef3845be-091a-4ab5-869a-9de0025e2165"
}
```

Example Responses

Status code: 200

Created

```
{
  "permissions": [ "read", "access", "delete", "modify" ],
  "parent_id": 0,
  "id": 1,
  "name": "group1",
  "description": "group",
  "app_id": "fe382523-cf76-4152-9fc6-f772d4427302",
  "created_user": {
    "user_id": "6546435432432",
    "user_name": "user1"
  },
  "last_updated_user": {
    "user_id": "6546435432432",
    "user_name": "user1"
  },
  "created_datetime": "2020-12-11",
  "last_updated_datetime": "2020-12-11"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "SCB.00000000",
  "error_msg": "Parameter is not valid for operation [romalink.link-device-groups.save]. Parameter is [request]. Processor is [body].",
  "request_id": "4946aac3-6f8f-46b8-8b06-513f4084196c-1619602488278-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code": "ROMA.00110006",
  "error_msg": "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id": "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "ROMA.00110002",
  "error_msg": "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id": "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	Created
400	Bad Request

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.1.2 Querying All Device Groups

Function

Querying All Device Groups

URI

GET /v2/{project_id}/link/instances/{instance_id}/device-groups

Table 8-10 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-11 Query Parameters

Parameter	Mandatory	Type	Description
app_id	No	String	Application ID.

Request Parameters

Table 8-12 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-13 Response body parameters

Parameter	Type	Description
size	Integer	Number of records displayed on each page.
items	Array of GroupTreeResponse objects	Device group information.

Table 8-14 GroupTreeResponse

Parameter	Type	Description
id	Integer	Group ID
name	String	Group name.
parent_id	Integer	Parent group ID.
children	Array of GroupTreeResponse objects	Child group.

Status code: 400

Table 8-15 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.

Parameter	Type	Description
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-16** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-17** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/device-groups
```

Example Responses

Status code: 200

OK

```
{
  "size" : 1,
  "items" : [ {
    "id" : 14,
    "name" : "group_name",
    "parent_id" : 0,
    "children" : [ ]
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device-groups.selectGroupNodeTree].
Parameter is [app_id]. Processor is [query].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.1.3 Deleting a Device Group****Function**

Deleting a Device Group

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/device-groups/{group_id}

Table 8-18 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
group_id	Yes	Integer	Device group ID.

Request Parameters

Table 8-19 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-20 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-21 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-22** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/device-groups/{group_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device-groups.delete]. Parameter is [group_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.1.4 Querying Device Group Details

Function

This API is used to query the information about a device group.

URI

GET /v2/{project_id}/link/instances/{instance_id}/device-groups/{group_id}

Table 8-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
group_id	Yes	Integer	Device group ID.

Request Parameters

Table 8-24 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200**Table 8-25** Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
parent_id	Integer	Parent group ID.
id	Integer	Group ID
name	String	Group name, which is a string of 2 to 64 characters containing letters, digits, underscores (_), and hyphens (-).
description	String	Group description, which contains a maximum of 200 characters.
app_id	String	ID of the application to which the group belongs.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	String	Time when the group was created.
last_updated_date time	String	Last modification time.
app_name	String	Name of the device application.

Table 8-26 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-27 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-28** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-29** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-30 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/device-groups/{group_id}
```

Example Responses

Status code: 200

OK

```
{
  "permissions": [ "read", "access", "delete", "modify" ],
  "parent_id": 0,
  "id": 1,
  "name": "group1",
  "description": "group",
  "app_id": "fe382523-cf76-4152-9fc6-f772d4427302",
  "created_user": {
    "user_id": "6546435432432",
    "user_name": "user1"
  },
  "last_updated_user": {
    "user_id": "6546435432432",
    "user_name": "user1"
  },
  "created_datetime": "2020-12-11",
  "last_updated_datetime": "2020-12-11",
  "app_name": "app-link"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "SCB.00000000",
  "error_msg": "Parameter is not valid for operation [romalink.link-device-groups.searchOne]. Parameter is [group_id]. Processor is [path].",
  "request_id": "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code": "ROMA.00110006",
  "error_msg": "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id": "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.1.5 Modifying a Device Group

Function

Modifying a Device Group

URI

PUT /v2/{project_id}/link/instances/{instance_id}/device-groups/{group_id}

Table 8-31 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Parameter	Mandatory	Type	Description
group_id	Yes	Integer	Device group ID.

Request Parameters

Table 8-32 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-33 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Group name, which is a string of 2 to 64 characters containing letters, digits, underscores (_), and hyphens (-).
description	No	String	Group description, which contains a maximum of 200 characters.

Response Parameters

Status code: 200

Table 8-34 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
parent_id	Integer	Parent group ID.
id	Integer	Group ID
name	String	Group name, which is a string of 2 to 64 characters containing letters, digits, underscores (_), and hyphens (-).

Parameter	Type	Description
description	String	Group description, which contains a maximum of 200 characters.
app_id	String	ID of the application to which the group belongs.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	String	Time when the group was created.
last_updated_date time	String	Last modification time.

Table 8-35 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-36 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-37** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-38** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-39** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the name and description of a specified device group.

```
{
  "name" : "device_group",
  "description" : "device group"
}
```

Example Responses

Status code: 200

OK

```
{
  "permissions" : [ "read", "access", "delete", "modify" ],
  "parent_id" : 0,
  "id" : 1,
  "name" : "group1",
  "description" : "group",
  "app_id" : "fe382523-cf76-4152-9fc6-f772d4427302",
  "created_user" : {
    "user_id" : "6546435432432",
    "user_name" : "user1"
  },
  "last_updated_user" : {
    "user_id" : "6546435432432",
```

```
{
  "user_name" : "user1"
},
"created_datetime" : "2020-12-11",
"last_updated_datetime" : "2020-12-11"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device-groups.update]. Parameter is [group_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.1.6 Adding Devices to a Device Group in Batches

Function

Adding Devices to a Device Group in Batches

URI

POST /v2/{project_id}/link/instances/{instance_id}/device-groups/{group_id}/
devices/batch-add

Table 8-40 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
group_id	Yes	Integer	Device group ID.

Request Parameters

Table 8-41 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-42 Request body parameters

Parameter	Mandatory	Type	Description
resources	Yes	Array of integers	Device ID list. The value is automatically rounded down.

Response Parameters

Status code: 400

Table 8-43 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-44** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-45** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add devices to a specified device group in batches.

```
{  
  "resources": [ 1001, 1002 ]  
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device-groups.addDeviceIntoGroup].
Parameter is [batchRequest]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.1.7 Deleting Devices from a Device Group

Function

Deleting Devices from a Device Group

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/device-groups/{group_id}/
devices/{device_id}

Table 8-46 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.
group_id	Yes	Integer	Device group ID.

Request Parameters

Table 8-47 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-48 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-49 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-50** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/device-groups/{group_id}/devices/{device_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device-groups.deleteDeviceRelFromGroup]. Parameter is [group_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.1.8 Batch Deleting Devices from a Device Group

Function

This API is used to remove a device from a group.

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/device-groups/{group_id}/devices

Table 8-51 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
group_id	Yes	Integer	Device group ID.

Request Parameters

Table 8-52 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Table 8-53 Request body parameters

Parameter	Mandatory	Type	Description
device_ids	Yes	Array of integers	Device IDs to be deleted from a device group.

Response Parameters

Status code: 400**Table 8-54** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-55** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-56** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
{
  "device_ids" : [ 10001, 10002 ]
}
```

Example Responses**Status code: 400**

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.batchDelete]. Parameter is [request]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2 Device Management

8.2.1 Creating a Device

Function

Creating a Device

URI

POST /v2/{project_id}/link/instances/{instance_id}/devices

Table 8-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-58 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API. The value of X-Subject-Token in the response header is the user token.

Table 8-59 Request body parameters

Parameter	Mandatory	Type	Description
parent_device_id	No	Integer	Parent device ID. If there is no parent device, this parameter is left empty and the value is automatically rounded down.
product	Yes	ProductReferer object	Product.
password	No	String	Device password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= []{};:<>/?).
user_name	No	String	Device user name, which is a string of 10 to 50 characters containing letters, hyphens (-), and digits.
device_name	Yes	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#.?"-@%&!,
node_id	Yes	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
app_id	Yes	String	Application ID.

Parameter	Mandatory	Type	Description
status	No	Integer	Device status. The options are as follows: 0 (enabled) and 1 (disabled). If this parameter is left empty, the default value 0 is used.
description	No	String	Description.
tags	No	Array of strings	Tag.
groups	No	Array of integers	ID of the device group to which a device belongs.
fingerprint	No	String	Certificate thumbprint

Table 8-60 ProductReferer

Parameter	Mandatory	Type	Description
product_id	No	Integer	Product ID. The product ID is mandatory if the manufacturer ID and model are not set.
product_name	No	String	Product name.
manufacturer_id	No	String	Manufacturer ID. If the product ID is not specified, the manufacturer ID and model are mandatory.
model	No	String	Model. If the product ID is not specified, the manufacturer ID and model are mandatory.
protocol_type	No	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
product_type	No	Integer	Product type. The options are as follows: 0: common; 1: gateway.
extend_protocol_name	No	String	Extended protocol name.

Response Parameters

Status code: 201

Table 8-61 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Device ID.
device_id	Integer	Device ID (compatible with 20.0).
product	ProductReferer object	Product.
device_name	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#.?"-@%&!,
instance_id	String	Instance ID.
client_id	String	Client ID, which is the unique device ID generated by the ROMA platform.
node_id	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
app_name	String	Application name.
status	Integer	Device status. The options are as follows: 0: enabled; 1: disabled.
online_status	Integer	Connection status. The options are as follows: 0: disconnected; 1: online; 2: offline.
description	String	Description.
authentication	Authentication object	Authentication.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
tags	Array of strings	Tag.

Parameter	Type	Description
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date_time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.
connect_address	String	Device access address.
ssl_connect_address	String	Device access SSL address.
ipv6_connect_address	String	IPv6 address for device access. This parameter is valid only when IPv6 is enabled.
ipv6_ssl_connect_address	String	IPv6 SSL address for device access. This parameter is valid only when IPv6 is enabled.
node_type	Integer	Node type. The options are as follows: 0: direct connection; 1: gateway; 2: subdevice.
device_type	Integer	Device type: • 0: common device (no child device or parent device) • 1: gateway device (available for child devices) • 2: child device (subject to a gateway device)
app_id	String	Application ID.
groups	Array of integers	ID of the device group to which a device belongs.
group_names	Array of strings	Name of the device group to which the device belongs.
fingerprint	String	Certificate thumbprint

Table 8-62 ProductReferer

Parameter	Type	Description
product_id	Integer	Product ID. The product ID is mandatory if the manufacturer ID and model are not set.
product_name	String	Product name.

Parameter	Type	Description
manufacturer_id	String	Manufacturer ID. If the product ID is not specified, the manufacturer ID and model are mandatory.
model	String	Model. If the product ID is not specified, the manufacturer ID and model are mandatory.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
product_type	Integer	Product type. The options are as follows: 0: common; 1: gateway.
extend_protocol_name	String	Extended protocol name.

Table 8-63 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Table 8-64 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-65 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-66** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-67** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-68** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create a device with protocol type as MQTT, product type as common, and device status as enabled.

```
{
  "parent_device_id" : 10001,
  "product" : {
    "product_id" : 10001,
    "product_name" : "testproduct",
    "manufacturer_id" : "test",
    "model" : "mate30pro",
    "protocol_type" : 0,
    "product_type" : 0
  },
  "password" : "*****",
  "device_name" : "device",
  "node_id" : "D32145A100FF",
  "app_id" : "ef3845be-091a-4ab5-869a-9de0025e2165",
  "status" : 0,
  "description" : "device",
  "tags" : [ "tag1", "tag2" ]
}
```

Example Responses

Status code: 201

Created

```
{
  "permissions" : [ "read", "access", "delete", "modify" ],
  "id" : 711537,
  "device_id" : 711537,
  "parent_device_id" : 711536,
  "parent_device_name" : "parent-device",
  "product" : {
    "product_id" : 116303,
    "product_name" : "p1",
    "manufacturer_id" : "p1",
    "model" : "p1",
    "product_type" : 0,
    "protocol_type" : 0
  },
  "device_name" : "device",
  "instance_id" : "8993a690-cf61-46af-880d-587d823d14e5",
  "client_id" : "D116303711537sGDtK",
  "node_id" : "string",
  "app_name" : "app",
  "status" : 0,
  "online_status" : 2,
  "description" : "device",
  "authentication" : {
    "user_name" : "F01A8D25FE6E4CF5A286B711B31888AE",
    "password" : "*****"
  },
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "tags" : [ ],
  "created_datetime" : 1607408244841,
  "last_updated_datetime" : 1607422571094,
  "connect_address" : "xx.xx.xx.xx",
}
```

```
"ssl_connect_address" : "xx.xx.xx.xx",
"ipv6_connect_address" : "xx.xx.xx.xx",
"ipv6_ssl_connect_address" : "xx.xx.xx.xx",
"node_type" : 0,
"device_type" : 0,
"app_id" : "cb4b3ec0-8f7f-432f-b05e-fc149d05da5d"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.save]. Parameter is
[parent_device_id]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID
ff38023c-0854-4779-847d-72528e1f5da1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.2 Querying Devices

Function

This API is used to query devices.

URI

GET /v2/{project_id}/link/instances/{instance_id}/devices

Table 8-69 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-70 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.
app_id	No	String	Application ID.
product_id	No	Integer	ID of the product to which the device belongs.
product_name	No	String	Name of the product to which the device belongs.

Parameter	Mandatory	Type	Description
device_name	No	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#."?'"-%&!,
client_id	No	String	Client ID, which is the unique device ID generated by the ROMA platform.
node_id	No	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
node_type	No	Integer	Node type. The options are as follows: 0: direct connection; 1: gateway; 2: subdevice. If this parameter is not transferred, all devices are queried by default.
online_status	No	String	Whether a device is online. The options are as follows: 0: not connected; 1: online; 2: offline. Use commas (,) to separate multiple values.
created_date_start	No	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
created_date_end	No	Long	Creation end time. The format is timestamp(ms) and the UTC time zone is used.
tag	No	String	Tag.

Request Parameters

Table 8-71 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-72 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
connect_address	String	Device access address.
ssl_connect_address	String	Device access SSL address.
ipv6_connect_address	String	IPv6 address for device access. This parameter is valid only when IPv6 is enabled.
ipv6_ssl_connect_address	String	IPv6 SSL address for device access. This parameter is valid only when IPv6 is enabled.
items	Array of Device objects	Device ID list.

Table 8-73 Device

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Device ID.
device_id	Integer	Device ID (compatible with 20.0).
parent_device_id	Integer	Parent device ID.

Parameter	Type	Description
parent_device_name	String	Parent device name.
product	ProductReferer object	Product.
device_name	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#."?'"@%&!,
instance_id	String	Instance ID.
client_id	String	Client ID, which is the unique device ID generated by the ROMA platform.
node_id	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
app_name	String	Application name.
status	Integer	Device status. The options are as follows: 0: enabled; 1: disabled.
online_status	Integer	Connection status. The options are as follows: 0: disconnected; 1: online; 2: offline.
description	String	Description.
authentication	Authentication object	Authentication.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
tags	Array of strings	Tag.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date_time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.
connect_address	String	Device access address.

Parameter	Type	Description
ssl_connect_address	String	Device access SSL address.
ipv6_connect_address	String	IPv6 address for device access. This parameter is valid only when IPv6 is enabled.
ipv6_ssl_connect_address	String	IPv6 SSL address for device access. This parameter is valid only when IPv6 is enabled.
last_login_datetime	Long	Last login time.
node_type	Integer	Node type. The options are as follows: 0: direct connection; 1: gateway; 2: subdevice.
device_type	Integer	Device type: • 0: common device (no child device or parent device) • 1: gateway device (available for child devices) • 2: child device (subject to a gateway device)
client_ip	String	Client IP address.
keep_alive	String	Heartbeat time.
last_active_time	Long	Last login time.
version	String	Device version.
app_id	String	Application ID.

Table 8-74 ProductReferer

Parameter	Type	Description
product_id	Integer	Product ID. The product ID is mandatory if the manufacturer ID and model are not set.
product_name	String	Product name.
manufacturer_id	String	Manufacturer ID. If the product ID is not specified, the manufacturer ID and model are mandatory.

Parameter	Type	Description
model	String	Model. If the product ID is not specified, the manufacturer ID and model are mandatory.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
product_type	Integer	Product type. The options are as follows: 0: common; 1: gateway.
extend_protocol_name	String	Extended protocol name.

Table 8-75 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{}];:<>/?).

Table 8-76 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-77 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).

Parameter	Type	Description
user_name	String	Username.

Status code: 400**Table 8-78** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-79** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-80** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/devices
```

Example Responses

Status code: 200

OK (All addresses return --: Exclusive protocol plug-ins are deployed on all nodes with MQTT and CoAP unavailable. CoAP link address returns --: An external ELB needs to be configured first.)

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "permissions" : [ "read", "access", "delete", "modify" ],
    "id" : 711537,
    "parent_device_id" : 711536,
    "parent_device_name" : "parent-device",
    "product" : {
      "product_id" : 116303,
      "product_name" : "p1",
      "manufacturer_id" : "p1",
      "model" : "p1",
      "product_type" : 0,
      "protocol_type" : 0
    },
    "device_name" : "device",
    "instance_id" : "8993a690-cf61-46af-880d-587d823d14e5",
    "client_id" : "D116303711537sGDtK",
    "node_id" : "string",
    "app_name" : "app",
    "status" : 0,
    "online_status" : 2,
    "description" : "device",
    "authentication" : {
      "user_name" : "F01A8D25FE6E4CF5A286B711B31888AE",
      "password" : "*****"
    },
    "created_user" : {
      "user_id" : "",
      "user_name" : "user"
    },
    "last_updated_user" : {
      "user_id" : "",
      "user_name" : "user"
    },
    "tags" : [ ],
    "created_datetime" : 1607408244841,
    "last_updated_datetime" : 1607422571094,
    "connect_address" : "xx.xx.xx.xx",
    "ssl_connect_address" : "xx.xx.xx.xx",
    "ipv6_connect_address" : "xx.xx.xx.xx",
    "ipv6_ssl_connect_address" : "xx.xx.xx.xx",
    "coap_connect_address" : "xx.xx.xx.xx",
    "coap_ssl_connect_address" : "xx.xx.xx.xx",
    "coap_ipv6_connect_address" : "xx.xx.xx.xx",
    "coap_ipv6_ssl_connect_address" : "xx.xx.xx.xx",
    "node_type" : 0,
    "device_type" : 0,
    "app_id" : "cb4b3ec0-8f7f-432f-b05e-fc149d05da5d"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.batchQuery]. Parameter is [node_type]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK (All addresses return --: Exclusive protocol plug-ins are deployed on all nodes with MQTT and CoAP unavailable. CoAP link address returns --: An external ELB needs to be configured first.)
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.3 Bringing Multiple Devices Offline

Function

Bringing Devices Offline in Batches

URI

POST /v2/{project_id}/link/instances/{instance_id}/devices/force-offline

Table 8-81 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-82 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API. The value of X-Subject-Token in the response header is the user token.

Table 8-83 Request body parameters

Parameter	Mandatory	Type	Description
device_ids	Yes	Array of integers	Device ID list. The value is automatically rounded down.

Response Parameters

Status code: 200

Table 8-84 Response body parameters

Parameter	Type	Description
success	Array of DeviceInfoSimple objects	List of devices that are successfully brought offline.

Parameter	Type	Description
failed	Array of DeviceInfoSimple objects	List of devices that fail to be brought offline.

Table 8-85 DeviceInfoSimple

Parameter	Type	Description
id	Integer	Device ID.
device_name	String	Device name.
device_id	Integer	Device ID (compatible with 20.0).

Status code: 400**Table 8-86** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-87** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-88 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Bring multiple devices offline in batches.

```
{
  "device_ids" : [ 10001, 10002 ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success" : [ {
    "id" : 711554,
    "device_name" : "success",
    "device_id" : 711554
  } ],
  "failed" : [ {
    "id" : 711554,
    "device_name" : "failed",
    "device_id" : 711554
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.forceDisconnect]. Parameter is [deviceDisconnectRequest]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.4 Deleting a Device

Function

This API is used to delete a device by device ID.

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}

Table 8-89 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-90 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-91 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-92 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-93 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/devices/{device_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.delete]. Parameter is [deviceOid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.5 Querying Device Details

Function

Querying Device Details

URI

GET /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}

Table 8-94 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-95 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-96 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Device ID.
device_id	Integer	Device ID (compatible with 20.0).
parent_device_id	Integer	Parent device ID.
parent_device_name	String	Parent device name.
product	ProductReferer object	Product.
device_name	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#.?"-@%&!,.
instance_id	String	Instance ID.
client_id	String	Client ID, which is the unique device ID generated by the ROMA platform.
node_id	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
app_name	String	Application name.
status	Integer	Device status. The options are as follows: 0: enabled; 1: disabled.
online_status	Integer	Connection status. The options are as follows: 0: disconnected; 1: online; 2: offline.
description	String	Description.
authentication	Authentication object	Authentication.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.

Parameter	Type	Description
tags	Array of strings	Tag.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.
connect_address	String	Device access address.
ssl_connect_address	String	Device access SSL address.
ipv6_connect_address	String	IPv6 address for device access. This parameter is valid only when IPv6 is enabled.
ipv6_ssl_connect_address	String	IPv6 SSL address for device access. This parameter is valid only when IPv6 is enabled.
last_login_datetime	Long	Last login time.
node_type	Integer	Node type. The options are as follows: 0: direct connection; 1: gateway; 2: subdevice.
device_type	Integer	Device type: • 0: common device (no child device or parent device) • 1: gateway device (available for child devices) • 2: child device (subject to a gateway device)
client_ip	String	Client IP address.
keep_alive	String	Heartbeat time.
last_active_time	Long	Last login time.
version	String	Device version.
app_id	String	Application ID.
plugin_id	Integer	Plug-in ID, which is unique to modbus and opcua devices. The options are as follows: 1: modbus plug-in; 2: opcua plug-in.

Parameter	Type	Description
groups	Array of integers	ID of the device group to which a device belongs.
group_names	Array of strings	Name of the device group to which the device belongs.
fingerprint	String	Certificate thumbprint

Table 8-97 ProductReferer

Parameter	Type	Description
product_id	Integer	Product ID. The product ID is mandatory if the manufacturer ID and model are not set.
product_name	String	Product name.
manufacturer_id	String	Manufacturer ID. If the product ID is not specified, the manufacturer ID and model are mandatory.
model	String	Model. If the product ID is not specified, the manufacturer ID and model are mandatory.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
product_type	Integer	Product type. The options are as follows: 0: common; 1: gateway.
extend_protocol_name	String	Extended protocol name.

Table 8-98 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.

Parameter	Type	Description
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Table 8-99 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-100 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-101** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-102 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-103** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/devices/{device_id}
```

Example Responses**Status code: 200**

OK (If CoAP is used and the IP address returned is --, configure an ELB first.)

```
{
  "permissions": [ "read", "access", "delete", "modify" ],
  "id": 711537,
  "device_id": 711537,
  "parent_device_id": 711536,
  "parent_device_name": "parent-device",
  "product": {
    "product_id": 116303,
    "product_name": "p1",
    "manufacturer_id": "p1",
    "model": "p1",
    "product_type": 0,
    "protocol_type": 0
  },
  "device_name": "device",
  "instance_id": "8993a690-cf61-46af-880d-587d823d14e5",
  "client_id": "D116303711537sGDtK",
  "node_id": "string",
  "app_name": "app",
  "status": 0,
  "online_status": 2,
  "description": "device",
}
```

```
"authentication" : {
  "user_name" : "F01A8D25FE6E4CF5A286B711B31888AE",
  "password" : "*****"
},
"created_user" : {
  "user_id" : "",
  "user_name" : "user"
},
"last_updated_user" : {
  "user_id" : "",
  "user_name" : "user"
},
"tags" : [ ],
"created_datetime" : 1607408244841,
"last_updated_datetime" : 1607422571094,
"connect_address" : "xx.xx.xx.xx",
"ssl_connect_address" : "xx.xx.xx.xx",
"ipv6_connect_address" : "xx.xx.xx.xx",
"ipv6_ssl_connect_address" : "xx.xx.xx.xx",
"coap_connect_address" : "xx.xx.xx.xx",
"coap_ssl_connect_address" : "xx.xx.xx.xx",
"coap_ipv6_connect_address" : "xx.xx.xx.xx",
"coap_ipv6_ssl_connect_address" : "xx.xx.xx.xx",
"node_type" : 0,
"device_type" : 0,
"plugin_id" : 2,
"app_id" : "cb4b3ec0-8f7f-432f-b05e-fc149d05da5d"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.query]. Parameter is [deviceId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK (If CoAP is used and the IP address returned is --, configure an ELB first.)
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.6 Modifying a Device

Function

This API is used to modify information of a device.

URI

PUT /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}

Table 8-104 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-105 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-106 Request body parameters

Parameter	Mandatory	Type	Description
device_name	Yes	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#."'-@%&!,
status	Yes	Integer	Device status. The options are as follows: 0: enabled; 1: disabled.
description	No	String	Description.
tags	No	Array of strings	Tag.

Response Parameters

Status code: 200

Table 8-107 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Device ID.
device_id	Integer	Device ID (compatible with 20.0).
parent_device_id	Integer	Parent device ID.
parent_device_name	String	Parent device name.
product	ProductReferer object	Product.

Parameter	Type	Description
device_name	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#.?'"-%&!,
instance_id	String	Instance ID.
client_id	String	Client ID, which is the unique device ID generated by the ROMA platform.
node_id	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
app_name	String	Application name.
status	Integer	Device status. The options are as follows: 0: enabled; 1: disabled.
online_status	Integer	Connection status. The options are as follows: 0: disconnected; 1: online; 2: offline.
description	String	Description.
authentication	Authentication object	Authentication.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
tags	Array of strings	Tag.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.
connect_address	String	Device access address.
ssl_connect_addre ss	String	Device access SSL address.
ipv6_connect_addr ess	String	IPv6 address for device access. This parameter is valid only when IPv6 is enabled.

Parameter	Type	Description
ipv6_ssl_connect_address	String	IPv6 SSL address for device access. This parameter is valid only when IPv6 is enabled.
last_login_datetime	Long	Last login time.
node_type	Integer	Node type. The options are as follows: 0: direct connection; 1: gateway; 2: subdevice.
device_type	Integer	Device type: • 0: common device (no child device or parent device) • 1: gateway device (available for child devices) • 2: child device (subject to a gateway device)
client_ip	String	Client IP address.
keep_alive	String	Heartbeat time.
last_active_time	Long	Last login time.
version	String	Device version.
app_id	String	Application ID.

Table 8-108 ProductReferer

Parameter	Type	Description
product_id	Integer	Product ID. The product ID is mandatory if the manufacturer ID and model are not set.
product_name	String	Product name.
manufacturer_id	String	Manufacturer ID. If the product ID is not specified, the manufacturer ID and model are mandatory.
model	String	Model. If the product ID is not specified, the manufacturer ID and model are mandatory.

Parameter	Type	Description
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
product_type	Integer	Product type. The options are as follows: 0: common; 1: gateway.
extend_protocol_name	String	Extended protocol name.

Table 8-109 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+=+ [{ }];;<>/?).

Table 8-110 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-111 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400

Table 8-112 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-113** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-114** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the information about a specified device by changing the device status to enabled and adding tags.

```
{
  "device_name" : "device",
  "status" : 0,
  "description" : "device",
  "tags" : [ "tag1", "tag2" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "permissions": [ "read", "access", "delete", "modify" ],
  "id": 711537,
  "device_id": 711537,
  "parent_device_id": 711536,
  "parent_device_name": "parent-device",
  "product": {
    "product_id": 116303,
    "product_name": "p1",
    "manufacturer_id": "p1",
    "model": "p1",
    "product_type": 0,
    "protocol_type": 0
  },
  "device_name": "device",
  "instance_id": "8993a690-cf61-46af-880d-587d823d14e5",
  "client_id": "D116303711537sGDtK",
  "node_id": "string",
  "app_name": "app",
  "status": 0,
  "online_status": 2,
  "description": "device",
  "authentication": {
    "user_name": "F01A8D25FE6E4CF5A286B711B31888AE",
    "password": "*****"
  },
  "created_user": {
    "user_id": "",
    "user_name": "user"
  },
  "last_updated_user": {
    "user_id": "",
    "user_name": "user"
  },
  "tags": [ ],
  "created_datetime": 1607408244841,
  "last_updated_datetime": 1607422571094,
  "connect_address": "xx.xx.xx.xx",
  "ssl_connect_address": "xx.xx.xx.xx",
  "ipv6_connect_address": "xx.xx.xx.xx",
  "ipv6_ssl_connect_address": "xx.xx.xx.xx",
  "node_type": 0,
  "device_type": 0,
  "app_id": "cb4b3ec0-8f7f-432f-b05e-fc149d05da5d"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "SCB.00000000",
  "error_msg": "Parameter is not valid for operation [romalink.link-device.update]. Parameter is [deviceId]. Processor is [path].",
  "request_id": "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code": "ROMA.00110006",
}
```

```
"error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
"request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.7 Querying Device Topics

Function

Querying Device Topics

URI

GET /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}/topics

Table 8-115 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Table 8-116 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.
name	No	String	Topic name.
topic_permission	No	Integer	Topic permission. 0: publish 1: subscribe
topic_type	No	Integer	Topic type. 0: device topic 1: product topic
is_private	No	Integer	Whether a topic is customized. 0: basic topic 1: customized topic

Request Parameters

Table 8-117 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-118 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Topic objects	Topic list.

Table 8-119 Topic

Parameter	Type	Description
id	Integer	Topic ID.
name	String	Topic name.
description	String	Topic description.
permission	Integer	Topic permission. The options are as follows: 0: publish; 1: subscribe.
is_private	Integer	Topic type. The options are as follows: 0: basic topic; 1: custom topic.

Status code: 400**Table 8-120** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-121 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-122** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/devices/{device_id}/topics
```

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "id" : 1528605,
    "name" : "/v1/devices/device/datas",
    "description" : "Device data report",
    "permission" : 0,
    "is_private" : 0
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device-topics.queryTopics]. Parameter is [deviceId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```


Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.2.8 Adding a Subdevice to the Gateway****Function**

Adding a Subdevice to the Gateway

URI

POST /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}/subsets

Table 8-123 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-124 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-125 Request body parameters

Parameter	Mandatory	Type	Description
resources	Yes	Array of integers	List of subdevices to add. The value must be a common device ID, which is automatically rounded down.

Response Parameters

Status code: 201

Table 8-126 Response body parameters

Parameter	Type	Description
[items]	Array of AddSubsetsToGatewayResponseBody objects	Responses for adding child devices to a gateway.

Table 8-127 AddSubsetsToGatewayResponseBody

Parameter	Type	Description
id	Integer	Device ID.
device_id	Integer	Device ID (compatible with 20.0).
parent_device_id	Integer	Parent device ID.
product	ProductReferer object	Product.
device_name	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#."'-@%&!,
instance_id	String	Instance ID.
client_id	String	Client ID, which is the unique device ID generated by the ROMA platform.
node_id	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
status	Integer	Device status. The options are as follows: 0: enabled; 1: disabled.
online_status	Integer	Connection status. The options are as follows: 0: disconnected; 1: online; 2: offline.
description	String	Description.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.

Parameter	Type	Description
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.
app_id	String	Application ID.

Table 8-128 ProductReferer

Parameter	Type	Description
product_id	Integer	Product ID. The product ID is mandatory if the manufacturer ID and model are not set.
product_name	String	Product name.
manufacturer_id	String	Manufacturer ID. If the product ID is not specified, the manufacturer ID and model are mandatory.
model	String	Model. If the product ID is not specified, the manufacturer ID and model are mandatory.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
product_type	Integer	Product type. The options are as follows: 0: common; 1: gateway.
extend_protocol_name	String	Extended protocol name.

Table 8-129 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-130 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-131** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-132** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-133** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add devices to a specified gateway device.

```
{
  "resources" : [ 10001, 10002 ]
}
```

Example Responses

Status code: 201

Created

```
[ {
  "id" : 711537,
  "device_id" : 711537,
  "parent_device_id" : 711536,
  "product" : {
    "product_id" : 116303,
    "product_name" : "p1",
    "manufacturer_id" : "p1",
    "model" : "p1",
    "product_type" : 0,
    "protocol_type" : 0
  },
  "device_name" : "device",
  "instance_id" : "8993a690-cf61-46af-880d-587d823d14e5",
  "client_id" : "D116303711537sGDtK",
  "node_id" : "string",
  "status" : 0,
  "online_status" : 2,
  "description" : "device",
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "created_datetime" : 1607408244841,
  "last_updated_datetime" : 1607422571094,
  "app_id" : "cb4b3ec0-8f7f-432f-b05e-fc149d05da5d"
} ]
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.addSubDevice]. Parameter is [deviceId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.9 Querying Subdevices

Function

Querying Subdevices

URI

GET /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}/subsets

Table 8-134 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Parameter	Mandatory	Type	Description
device_id	Yes	Integer	Device ID.

Table 8-135 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
product_name	No	String	Product name.
parent_device_name	No	String	Parent device name.
device_name	No	String	Subdevice name.
status	No	Integer	Subdevice status. The options are as follows: 0: enabled; 1: disabled.
online_status	No	Integer	Connection status. The options are as follows: 0: disconnected; 1: online; 2: offline.
sort	No	String	Product name.
order	No	String	Sorting mode. The options include ASC (ascending) and DESC (descending).
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-136 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-137 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of SubDevice objects	Device ID list.

Table 8-138 SubDevice

Parameter	Type	Description
id	Integer	Device ID.
device_id	Integer	Device ID (compatible with 20.0).
parent_device_id	Integer	Parent device ID.
parent_device_name	String	Parent device name.
product	ProductReferer object	Product.
device_name	String	Device name. The value is a string of 2 to 64 characters, which can contain letters, digits, and the following special characters: ()_#."'-@%&!,
instance_id	String	Instance ID.
client_id	String	Client ID, which is the unique device ID generated by the ROMA platform.
node_id	String	Physical number of a device. The value is a string of 2 to 64 characters, which can contain only letters, digits, underscores (_), and hyphens (-). Generally, the MAC address or IMEI is used.
status	Integer	Device status. The options are as follows: 0: enabled; 1: disabled.

Parameter	Type	Description
online_status	Integer	Connection status. The options are as follows: 0: disconnected; 1: online; 2: offline.
description	String	Description.
authentication	Authentication object	Authentication.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
tags	Array of strings	Tag.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.
connect_address	String	Device access address.
ssl_connect_address	String	Device access SSL address.
ipv6_connect_address	String	IPv6 address for device access. This parameter is valid only when IPv6 is enabled.
ipv6_ssl_connect_address	String	IPv6 SSL address for device access. This parameter is valid only when IPv6 is enabled.
app_id	String	Application ID.

Table 8-139 ProductReferer

Parameter	Type	Description
product_id	Integer	Product ID. The product ID is mandatory if the manufacturer ID and model are not set.
product_name	String	Product name.
manufacturer_id	String	Manufacturer ID. If the product ID is not specified, the manufacturer ID and model are mandatory.

Parameter	Type	Description
model	String	Model. If the product ID is not specified, the manufacturer ID and model are mandatory.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
product_type	Integer	Product type. The options are as follows: 0: common; 1: gateway.
extend_protocol_name	String	Extended protocol name.

Table 8-140 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Table 8-141 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-142 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).

Parameter	Type	Description
user_name	String	Username.

Status code: 400**Table 8-143** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-144** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-145** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/devices/{device_id}/subsets
```

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "items": [ {
    "id": 711537,
    "parent_device_id": 711536,
    "parent_device_name": "parent-device",
    "product": {
      "product_id": 116303,
      "product_name": "p1",
      "manufacturer_id": "p1",
      "model": "p1",
      "product_type": 0,
      "protocol_type": 0
    },
    "device_name": "device",
    "instance_id": "8993a690-cf61-46af-880d-587d823d14e5",
    "client_id": "D116303711537sGDtK",
    "node_id": "string",
    "status": 0,
    "online_status": 2,
    "description": "device",
    "authentication": {
      "user_name": "F01A8D25FE6E4CF5A286B711B31888AE",
      "password": "*****"
    },
    "created_user": {
      "user_id": "",
      "user_name": "user"
    },
    "last_updated_user": {
      "user_id": "",
      "user_name": "user"
    },
    "tags": [ ],
    "created_datetime": 1607408244841,
    "last_updated_datetime": 1607422571094,
    "connect_address": "xx.xx.xx.xx",
    "ssl_connect_address": "xx.xx.xx.xx",
    "ipv6_connect_address": "xx.xx.xx.xx",
    "ipv6_ssl_connect_address": "xx.xx.xx.xx",
    "app_id": "cb4b3ec0-8f7f-432f-b05e-fc149d05da5d"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "SCB.00000000",
  "error_msg": "Parameter is not valid for operation [romalink.link-device.batchQuerySubDevices].  
Parameter is [deviceOid]. Processor is [path].",
  "request_id": "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.2.10 Querying a Device Shadow****Function**

Querying a Device Shadow

URI

GET /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}/shadow

Table 8-146 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-147 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-148 Response body parameters

Parameter	Type	Description
[items]	Array of ShadowService objects	Device shadow response list.

Table 8-149 ShadowService

Parameter	Type	Description
service_id	Integer	Service ID.
service_name	String	Service name.

Parameter	Type	Description
properties	Array of ShadowValue objects	Shadow value.
type	String	Type of the content returned by the device shadow. The value can be JSON or text. This parameter is used in the Site on-premises edition.
content	String	Response of the device shadow in text. This parameter is used in the Site on-premises edition.

Table 8-150 ShadowValue

Parameter	Type	Description
property_name	String	Attribute name.
property_value	String	Last reported value of an attribute.
property_updated_date	Long	Time when an attribute is reported for the last time. The format is timestamp(ms) and the UTC time zone is used.

Status code: 400**Table 8-151** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-152 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-153** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/devices/{device_id}/shadow
```

Example Responses

Status code: 200

OK

```
[ ]
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.getDeviceShadow]. Parameter is [deviceOid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
```

```
service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00110002",  
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:  
f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.11 Resetting Device Authentication Information

Function

Resetting Device Authentication Information

URI

PUT /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}/
authentication

Table 8-154 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-155 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API. The value of X-Subject-Token in the response header is the user token.

Table 8-156 Request body parameters

Parameter	Mandatory	Type	Description
user_name	No	String	Device user name, which is a string containing letters, hyphens (-), and digits.
password	No	String	Device password. The password must contain 16 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?). If this parameter is left empty, the password will not be reset. If both the username and password are empty, the system will automatically generate a password.

Response Parameters

Status code: 200

Table 8-157 Response body parameters

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Status code: 400**Table 8-158** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-159** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-160 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Reset the username and password of a device to specified values.

```
{"user_name": "device01", "password": "*****"}
```

Example Responses

Status code: 200

OK

```
{  
  "user_name" : "device01",  
  "password" : "*****"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "SCB.00000000",  
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.resetAuthentication]. Parameter is [deviceOid]. Processor is [path].",  
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "ROMA.00110006",  
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",  
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00110002",  
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.12 Querying Device Authentication Information

Function

Querying Device Authentication Information

URI

GET /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}/authentication

Table 8-161 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-162 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-163 Response body parameters

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+=+[{ }];;<>/?).

Status code: 400

Table 8-164 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-165 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-166** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/devices/{device_id}/authentication
```

Example Responses

Status code: 200

OK

```
{
  "user_name" : "4MjxbCl4q461",
  "password" : "*****"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.queryAuthentication]. Parameter is [deviceId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
}
```



```
"error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
"request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.13 Sending Commands

Function

Sending Commands

URI

POST /v2/{project_id}/link/instances/{instance_id}/devices/{device_id}/send-command

Table 8-167 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
device_id	Yes	Integer	Device ID.

Request Parameters

Table 8-168 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-169 Request body parameters

Parameter	Mandatory	Type	Description
service_id	Yes	Integer	Service ID. The value is automatically rounded down.
command_id	Yes	Integer	Command ID. The value is automatically rounded down.
is_sync	Yes	Boolean	Whether a command is synchronous.1: synchronous0: asynchronousIf the system sends a synchronous command to the device as an MQTT message, it waits for the MQTT response from the device (the timeout interval is 5 seconds by default) and then returns a response. If no response is received from the device within the timeout period, an error message is reported by the interface. If the system sends an asynchronous command to the device, it immediately returns a response without waiting for a response from the device.

Parameter	Mandatory	Type	Description
is_cache_to_shadow	No	Boolean	Whether to save the command to the device shadow. 1 (default): yes; 0 : no. If the command is saved in the device shadow, the device will receive it when it subscribes to the command topic or when a child device comes online. Once the command response is returned, the corresponding command is removed from the device shadow. If command storage in the device shadow is disabled, devices subscribed to the topic will not receive the command, even if delivery fails.
requests	No	Array of RequestParameter objects	Request parameter list.

Table 8-170 RequestParameter

Parameter	Mandatory	Type	Description
parameter_name	No	String	Request parameter name.
parameter_value	No	String	Request parameter value.

Response Parameters

Status code: 400

Table 8-171 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-172** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-173** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Send a synchronous command to a specified device.

```
{
  "service_id" : 10001,
  "command_id" : 20001,
  "is_sync" : 1
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.sendCommand]. Parameter is [device_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
}
```

```
"error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",  
"request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-  
service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00110002",  
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:  
f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.14 Custom Command Delivery Devices

Function

This API is used to customize a command delivery device.

URI

POST /v2/{project_id}/link/instances/{instance_id}/devices/customize-commands

Table 8-174 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-175 Query Parameters

Parameter	Mandatory	Type	Description
topic	Yes	String	Custom command delivery topic
app_id	Yes	String	Application ID
device_id	Yes	String	Device client ID, which is the unique device ID generated by the platform. The device name, client ID, and device ID can be used for joint query. Too many devices may lead to query timeouts. You are advised to specify one condition with more key words.
qos	No	String	Service quality. The default value is 0. Only 0 and 1 are allowed.

Request Parameters

Table 8-176 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Table 8-177 Request body parameters

Parameter	Mandatory	Type	Description
SendCustomizeCommandRequestBody	No	String	This API is used to customize a command delivery body.

Response Parameters

Status code: 201

Table 8-178 Response body parameters

Parameter	Type	Description
code	String	Status code of command delivery response
msg	String	Content of command delivery

Status code: 400

Table 8-179 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-180 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-181** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create a device with protocol type as MQTT, product type as common, and device status as enabled.

```
{
  "aa" : 123
}
```

Example Responses**Status code: 201**

Created

```
{
  "msg" : "SENDMESSAGE_SUCCESS.",
  "code" : "iot.api.device.command.post.service.sendMessage.success"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-device.save]. Parameter is [parent_device_id]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID ff38023c-0854-4779-847d-72528e1f5da1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
}
```



```
"error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",  
"request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.2.15 Exporting Devices

Function

This API is used to export devices.

URI

GET /v2/{project_id}/link/instances/{instance_id}/devices/export

Table 8-182 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-183 Query Parameters

Parameter	Mandatory	Type	Description
device_ids	No	Array of integers	ID list of devices to be exported.
password_type	No	Integer	0: no password; 1: plaintext password
file_export_type	No	String	Exported file type (XLS or CSV).

Request Parameters

Table 8-184 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling an IAM API. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-185 Response body parameters

Parameter	Type	Description
-	File	Exported device list in .csv or .xls format.

Status code: 400

Table 8-186 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-187** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-188** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/devices/export
```

Example Responses**Status code: 400**

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.exportProduct]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-"
}
```

```
service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00110002",  
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:  
f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3 Service Management

8.3.1 Creating a Service

Function

Creating a Service

URI

POST /v2/{project_id}/link/instances/{instance_id}/services

Table 8-189 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-190 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-191 Request body parameters

Parameter	Mandatory	Type	Description
product_template_id	No	Integer	ID of the product template to which the service belongs. Either product_template_id or product_id must be specified. The value is automatically rounded down.
product_id	No	Integer	ID of the product to which the service belongs. Either product_template_id or product_id must be specified. The value is automatically rounded down.
service_name	Yes	String	Service name, which is a string of 2 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).

Parameter	Mandatory	Type	Description
description	No	String	Service description, which contains a maximum of 200 characters.
status	Yes	Integer	Service status. 0 : enabled; 1 : disabled; 2 : deleted (Only the product model with the same name as the product template is deleted when the product template is synchronized.)

Response Parameters

Status code: 201

Table 8-192 Response body parameters

Parameter	Type	Description
product_template_id	Integer	ID of the product template to which a service belongs.
product_id	Integer	ID of the product to which a service belongs.
service_id	Integer	Service ID.
service_name	String	Service name, which is a string of 2 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
description	String	Service description, which contains a maximum of 200 characters.
status	Integer	Service status. The options are as follows: 0: enabled; 1: disabled.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation time. The format is timestamp (ms) and the UTC time zone is used.
last_updated_date_time	Long	Last modification time. The format is timestamp (ms) and the UTC time zone is used.

Table 8-193 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-194 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-195** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-196** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-197 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add a service for a specified product template with the status as enabled.

```
{
  "product_template_id" : 10001,
  "service_name" : "service",
  "description" : "service",
  "status" : 0
}
```

Example Responses

Status code: 201

Created

```
{
  "product_template_id" : null,
  "product_id" : 122893,
  "service_id" : 10190,
  "service_name" : "s1",
  "description" : null,
  "status" : 0,
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "created_datetime" : 1607502702474,
  "last_updated_datetime" : 1607572282845
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.saveService]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found


```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.3.2 Querying Services****Function**

Querying Services

URI

GET /v2/{project_id}/link/instances/{instance_id}/services

Table 8-198 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-199 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
service_id	No	Integer	Service ID.
service_name	No	String	Service name.
product_template_id	No	Integer	ID of the product template to which the service belongs. Either product_template_id or product_id must be set.
product_id	No	Integer	ID of the product to which the service belongs. Either product_template_id or product_id must be set.
created_user_name	No	String	Name of the user who created the product template.
created_date_start	No	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
created_date_end	No	Long	Creation end time. The format is timestamp(ms) and the UTC time zone is used.

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-200 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-201 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Service objects	Service list.

Table 8-202 Service

Parameter	Type	Description
product_template_id	Integer	ID of the product template to which a service belongs.
product_id	Integer	ID of the product to which a service belongs.
service_id	Integer	Service ID.

Parameter	Type	Description
service_name	String	Service name, which is a string of 2 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
description	String	Service description, which contains a maximum of 200 characters.
status	Integer	Service status. The options are as follows: 0: enabled; 1: disabled.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation time. The format is timestamp (ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time. The format is timestamp (ms) and the UTC time zone is used.

Table 8-203 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-204 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400

Table 8-205 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-206** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-207** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/services
```

Example Responses

Status code: 200

OK

```
{  
  "total" : 1,
```

```
"size" : 1,
"items" : [ {
  "product_template_id" : null,
  "product_id" : 122893,
  "service_id" : 10190,
  "service_name" : "s1",
  "description" : null,
  "status" : 0,
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "created_datetime" : 1607502702474,
  "last_updated_datetime" : 1607572282845
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.queryService]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.3 Deleting a Service

Function

Deleting a Service

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/services/{service_id}

Table 8-208 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Request Parameters

Table 8-209 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-210 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-211** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-212** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/services/{service_id}
```

Example Responses

Status code: 400

Bad Request

```
{  
  "error_code" : "SCB.00000000",
```



```
"error_msg" : "Parameter is not valid for operation [romalink.link-services.deleteService]. Parameter is [service_id]. Processor is [path].",  
"request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "ROMA.00110006",  
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",  
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00110002",  
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.4 Querying Service Details

Function

Querying Service Details

URI

GET /v2/{project_id}/link/instances/{instance_id}/services/{service_id}

Table 8-213 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Request Parameters

Table 8-214 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-215 Response body parameters

Parameter	Type	Description
product_template_id	Integer	ID of the product template to which a service belongs.
product_id	Integer	ID of the product to which a service belongs.
service_id	Integer	Service ID.
service_name	String	Service name, which is a string of 2 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).

Parameter	Type	Description
description	String	Service description, which contains a maximum of 200 characters.
status	Integer	Service status. The options are as follows: 0: enabled; 1: disabled.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation time. The format is timestamp (ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time. The format is timestamp (ms) and the UTC time zone is used.

Table 8-216 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-217 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-218** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.

Parameter	Type	Description
request_id	String	Message ID.

Status code: 404**Table 8-219** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-220** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/services/{service_id}
```

Example Responses

Status code: 200

OK

```
{
  "product_id" : 122893,
  "service_id" : 10190,
  "service_name" : "s1",
  "description" : null,
  "status" : 0,
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
```

```
{
  "user_id" : "",
  "user_name" : "user"
},
"created_datetime" : 1607502702474,
"last_updated_datetime" : 1607572282845
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.queryServiceDetail]. Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.5 Modifying a Service

Function

Modifying a Service

URI

PUT /v2/{project_id}/link/instances/{instance_id}/services/{service_id}

Table 8-221 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Request Parameters

Table 8-222 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-223 Request body parameters

Parameter	Mandatory	Type	Description
service_name	Yes	String	Service name, which is a string of 2 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).

Parameter	Mandatory	Type	Description
description	No	String	Service description, which contains a maximum of 200 characters.
status	Yes	Integer	Service status. 0 : enabled; 1 : disabled; 2 : deleted (Only the product model with the same name as the product template is deleted when the product template is synchronized.)

Response Parameters

Status code: 200

Table 8-224 Response body parameters

Parameter	Type	Description
product_template_id	Integer	ID of the product template to which a service belongs.
product_id	Integer	ID of the product to which a service belongs.
service_id	Integer	Service ID.
service_name	String	Service name, which is a string of 2 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
description	String	Service description, which contains a maximum of 200 characters.
status	Integer	Service status. The options are as follows: 0: enabled; 1: disabled.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation time. The format is timestamp (ms) and the UTC time zone is used.
last_updated_date_time	Long	Last modification time. The format is timestamp (ms) and the UTC time zone is used.

Table 8-225 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-226 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-227** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-228** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-229 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the name, description, and status of a specified service.

```
{
  "service_name" : "service",
  "description" : "service",
  "status" : 0
}
```

Example Responses

Status code: 200

OK

```
{
  "product_id" : 122893,
  "service_id" : 10190,
  "service_name" : "s1",
  "description" : null,
  "status" : 0,
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "created_datetime" : 1607502702474,
  "last_updated_datetime" : 1607572282845
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.updateService]. Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
}
```

```
"error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
"request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.6 Creating an Attribute

Function

Creating an Attribute

URI

POST /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/properties

Table 8-230 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Request Parameters

Table 8-231 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-232 Request body parameters

Parameter	Mandatory	Type	Description
property_name	Yes	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	No	String	Description, which contains a maximum of 200 characters.
data_type	Yes	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Yes	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	No	String	Minimum value. This parameter is mandatory if data_type is set to integer or number.

Parameter	Mandatory	Type	Description
max	No	String	Maximum value. This parameter is mandatory when data_type is set to integer or number.
step	No	String	Step. This parameter is mandatory if data_type is set to integer or number.
max_length	No	Integer	Maximum length of a character string. This parameter is mandatory if data_type is set to string, datetime, or json. The value is automatically rounded down.
unit	No	String	Attribute unit.
enum_list	No	String	Array of enumerated values of the string type. The values are separated by commas (,). The length of a single value is determined by the max_length parameter.
enum_dict	No	Object	For the boolean data type, use the JSON format. Example: "enum_dict": { "0": "xxx", "1": "xxx" }
method	No	String	Access mode (compatible with 20.0. The options are as follows: R: the attribute is readable; W: the attribute is writable; E: the attribute is executable.).

Response Parameters

Status code: 201

Table 8-233 Response body parameters

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.

Parameter	Type	Description
description	String	Description, which contains a maximum of 200 characters.
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (,). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}
method	String	Access mode (compatible with 20.0. The options are as follows: R: the attribute is readable; W: the attribute is writable; E: the attribute is executable.).

Status code: 400

Table 8-234 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-235** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-236** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add an optional attribute for a specified service with the data type as integer, and set the minimum and maximum values.

```
{
  "property_name": "power_usage",
  "description": "power_usage",
  "data_type": "integer",
  "required": 0,
  "min": "0",
  "max": "100",
```

```
"step" : "1",  
"unit" : "W"  
}
```

Example Responses

Status code: 201

Created

```
{  
  "property_id" : 3320,  
  "property_name" : "p2",  
  "description" : null,  
  "data_type" : "datetime",  
  "required" : 0,  
  "min" : 0,  
  "max" : 65536,  
  "step" : 1,  
  "max_length" : "10",  
  "unit" : "yuan",  
  "enum_list" : null,  
  "method" : "RWE"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "SCB.00000000",  
  "error_msg" : "Parameter is not valid for operation [romalink.link-command.saveProperty]. Parameter is  
[service_id]. Processor is [path].",  
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "ROMA.00110006",  
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",  
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-  
service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00110002",  
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:  
f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
201	Created

Status Code	Description
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.7 Querying Attributes

Function

Querying Attributes

URI

GET /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/properties

Table 8-237 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Table 8-238 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.

Parameter	Mandatory	Type	Description
property_id	No	Integer	Attribute ID.
property_name	No	String	Attribute name.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-239 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-240 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of PropertyResponseBody objects	Attribute list.

Table 8-241 PropertyResponseBody

Parameter	Type	Description
property_id	Integer	Attribute ID.

Parameter	Type	Description
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (,). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}
method	String	Access mode (compatible with 20.0. The options are as follows: R: the attribute is readable; W: the attribute is writable; E: the attribute is executable.).

Status code: 400**Table 8-242** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-243** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-244** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/services/{service_id}/properties
```

Example Responses**Status code: 200**

OK

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "property_id" : 3320,
    "property_name" : "p2",
    "description" : null,
    "data_type" : "datetime",
    "required" : 0,
    "min" : 0,
    "max" : 65536,
    "step" : 1,
    "max_length" : "10",
    "unit" : "yuan",
    "enum_list" : null
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-command.saveProperty]. Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.8 Creating a Command

Function

Creating a Command

URI

POST /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands

Table 8-245 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Request Parameters

Table 8-246 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-247 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Service command name. The value is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_).
description	No	String	Service command description, which contains a maximum of 200 characters.

Response Parameters

Status code: 200

Table 8-248 Response body parameters

Parameter	Type	Description
service_id	Integer	ID of the service to which the command belongs.
command_id	Integer	Command ID.
command_name	String	Command name.
description	String	Command description.

Status code: 400

Table 8-249 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-250 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-251** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create a command for a specified service.

```
{
  "name" : "service",
  "description" : "service"
}
```

Example Responses

Status code: 200

Created

```
{
  "service_id" : 10190,
  "command_id" : 6398,
  "command_name" : "command",
  "description" : "command"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.saveCommand]. Parameter is [service_id]. Processor is [path].",
}
```

```
{  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"}
```

Status code: 404

Not Found

```
{  "error_code" : "ROMA.00110006",  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"}
```

Status code: 500

Internal Server Error

```
{  "error_code" : "ROMA.00110002",  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"}
```

Status Codes

Status Code	Description
200	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.9 Querying Commands

Function

Querying Commands

URI

GET /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands

Table 8-252 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Table 8-253 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
command_id	No	Integer	Command ID.
command_name	No	String	Command name.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-254 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-255 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Command objects	Command list.

Table 8-256 Command

Parameter	Type	Description
service_id	Integer	ID of the service to which the command belongs.
command_id	Integer	Command ID.
command_name	String	Command name.
description	String	Command description.

Status code: 400

Table 8-257 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-258 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-259 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

GET /{project_id}/link/instances/{instance_id}/services/{service_id}/commands

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "service_id" : 10190,
    "command_id" : 6398,
    "command_name" : "command",
    "description" : "command"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.queryCommandsInService]. Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.3.10 Deleting a Command****Function**

Deleting a Command

URI

```
DELETE /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/
commands/{command_id}
```

Table 8-260 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Request Parameters

Table 8-261 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-262 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-263 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-264** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.deleteCommand]. Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.11 Querying Command Details

Function

Querying Command Details

URI

GET /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}

Table 8-265 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Request Parameters

Table 8-266 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-267 Response body parameters

Parameter	Type	Description
service_id	Integer	ID of the service to which the command belongs.
command_id	Integer	Command ID.
command_name	String	Command name.
description	String	Command description.

Status code: 400

Table 8-268 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-269 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-270** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}
```

Example Responses

Status code: 200

OK

```
{
  "service_id" : 10190,
  "command_id" : 6398,
  "command_name" : "command",
  "description" : "command"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.queryCommand]. Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.3.12 Modifying a Command****Function**

Modifying a Command

URI

```
PUT /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}
```

Table 8-271 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Request Parameters

Table 8-272 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-273 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Service command name. The value is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_).
description	No	String	Service command description, which contains a maximum of 200 characters.

Response Parameters

Status code: 200

Table 8-274 Response body parameters

Parameter	Type	Description
service_id	Integer	ID of the service to which the command belongs.
command_id	Integer	Command ID.
command_name	String	Command name.
description	String	Command description.

Status code: 400**Table 8-275** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-276** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-277** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.

Parameter	Type	Description
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the name and description of a specified command.

```
{
  "name" : "service",
  "description" : "service"
}
```

Example Responses

Status code: 200

OK

```
{
  "service_id" : 10190,
  "command_id" : 6398,
  "command_name" : "command",
  "description" : "command"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services.updateCommand]. Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.13 Creating a Request Attribute

Function

Creating a Request Attribute

URI

POST /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/requests

Table 8-278 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Request Parameters

Table 8-279 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-280 Request body parameters

Parameter	Mandatory	Type	Description
property_name	Yes	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	No	String	Description, which contains a maximum of 200 characters.
data_type	Yes	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Yes	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	No	String	Minimum value. This parameter is mandatory if data_type is set to integer or number.
max	No	String	Maximum value. This parameter is mandatory when data_type is set to integer or number.
step	No	String	Step. This parameter is mandatory if data_type is set to integer or number.

Parameter	Mandatory	Type	Description
max_length	No	Integer	Maximum length of a character string. This parameter is mandatory if data_type is set to string, datetime, or json. The value is automatically rounded down.
unit	No	String	Attribute unit.
enum_list	No	String	Array of enumerated values of the string type. The values are separated by commas (,). The length of a single value is determined by the max_length parameter.
enum_dict	No	Object	For the boolean data type, use the JSON format. Example: "enum_dict": { "0": "xxx", "1": "xxx" }
method	No	String	Access mode (compatible with 20.0. The options are as follows: R: the attribute is readable; W: the attribute is writable; E: the attribute is executable.).

Response Parameters

Status code: 200

Table 8-281 Response body parameters

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.

Parameter	Type	Description
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHHmss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}

Status code: 400**Table 8-282** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-283** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-284** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create an optional request attribute for a specified command with the data type as integer, and set the minimum and maximum values.

```
{
  "property_name": "power_usage",
  "description": "power_usage",
  "data_type": "integer",
  "required": 0,
  "min": "0",
  "max": "100",
  "step": "1",
  "unit": "W"
}
```

Example Responses**Status code: 200**

Created

```
{
  "property_id": 3320,
  "property_name": "p2",
}
```

```
"description" : null,
"data_type" : "datetime",
"required" : 0,
"min" : 0,
"max" : 65536,
"step" : 1,
"max_length" : "10",
"unit" : "yuan",
"enum_list" : null,
"method" : "RWE"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-requests.saveCommandSend].
Parameter is [service_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.14 Querying Request Attributes

Function

Querying Request Attributes

URI

GET /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/requests

Table 8-285 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Table 8-286 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
request_id	No	Integer	Request attribute ID.
request_name	No	String	Request attribute name.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-287 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-288 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Property objects	Attribute list.

Table 8-289 Property

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.

Parameter	Type	Description
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}

Status code: 400**Table 8-290** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-291 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-292 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

GET /{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/requests

Example Responses

Status code: 200

OK

```
{
  "total": 1,
  "size": 1,
  "items": [{
    "property_id": 3320,
    "property_name": "p2",
    "description": null,
    "data_type": "datetime",
    "required": 0,
    "min": 0,
    "max": 65536,
    "step": 1,
    "max_length": "10",
    "unit": "yuan",
    "enum_list": null
  }]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-
command.queryCommandSend]. Parameter is [command_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.3.15 Deleting a Request Attribute****Function**

Deleting a Request Attribute

URI

```
DELETE /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/
commands/{command_id}/requests/{property_id}
```


Table 8-293 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.
property_id	Yes	Integer	Attribute/Request attribute/Response attribute ID.

Request Parameters

Table 8-294 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-295 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-296** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-297** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/services/commands/{command_id}/requests/{property_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-requests.deleteCommandSend].
Parameter is [command_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.16 Modifying a Request Attribute

Function

Modifying a Request Attribute

URI

PUT /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/requests/{property_id}

Table 8-298 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Parameter	Mandatory	Type	Description
command_id	Yes	Integer	Command ID.
property_id	Yes	Integer	Attribute/Request attribute/ Response attribute ID.

Request Parameters

Table 8-299 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-300 Request body parameters

Parameter	Mandatory	Type	Description
property_name	Yes	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	No	String	Description, which contains a maximum of 200 characters.
data_type	Yes	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Yes	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	No	String	Minimum value. This parameter is mandatory if data_type is set to integer or number.

Parameter	Mandatory	Type	Description
max	No	String	Maximum value. This parameter is mandatory when data_type is set to integer or number.
step	No	String	Step. This parameter is mandatory if data_type is set to integer or number.
max_length	No	Integer	Maximum length of a character string. This parameter is mandatory if data_type is set to string, datetime, or json. The value is automatically rounded down.
unit	No	String	Attribute unit.
enum_list	No	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	No	Object	For the boolean data type, use the JSON format. Example: "enum_dict": { "0": "xxx", "1": "xxx" }

Response Parameters

Status code: 200

Table 8-301 Response body parameters

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.

Parameter	Type	Description
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}

Status code: 400**Table 8-302** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-303 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-304 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the request data type, minimum value, and maximum value of a specified command.

```
{
  "property_name": "power_usage",
  "description": "power_usage",
  "data_type": "integer",
  "required": 0,
  "min": "0",
  "max": "1000",
  "step": "1"
}
```

Example Responses

Status code: 200

OK

```
{
  "property_id": 3320,
  "property_name": "p2",
  "description": null,
}
```

```
"data_type" : "datetime",
"required" : 0,
"min" : 0,
"max" : 65536,
"step" : 1,
"max_length" : "10",
"unit" : "yuan",
"enum_list" : null
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-requests.updateCommandSend].
Parameter is [command_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.17 Creating a Response Attribute

Function

Creating a Response Attribute

URI

POST /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/responses

Table 8-305 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Request Parameters

Table 8-306 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-307 Request body parameters

Parameter	Mandatory	Type	Description
property_name	Yes	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	No	String	Description, which contains a maximum of 200 characters.
data_type	Yes	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHHmmss format); json; array
required	Yes	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	No	String	Minimum value. This parameter is mandatory if data_type is set to integer or number.
max	No	String	Maximum value. This parameter is mandatory when data_type is set to integer or number.
step	No	String	Step. This parameter is mandatory if data_type is set to integer or number.
max_length	No	Integer	Maximum length of a character string. This parameter is mandatory if data_type is set to string, datetime, or json. The value is automatically rounded down.
unit	No	String	Attribute unit.
enum_list	No	String	Array of enumerated values of the string type. The values are separated by commas (,). The length of a single value is determined by the max_length parameter.

Parameter	Mandatory	Type	Description
enum_dict	No	Object	For the boolean data type, use the JSON format. Example: "enum_dict": { "0": "xxx", "1": "xxx" }
method	No	String	Access mode (compatible with 20.0. The options are as follows: R: the attribute is readable; W: the attribute is writable; E: the attribute is executable.).

Response Parameters

Status code: 201

Table 8-308 Response body parameters

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.

Parameter	Type	Description
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}

Status code: 400**Table 8-309** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-310** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-311 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add an optional response attribute for a specified command with the data type as integer, and set the minimum and maximum values.

```
{
  "property_name": "power_usage",
  "description": "power_usage",
  "data_type": "integer",
  "required": 0,
  "min": "0",
  "max": "100",
  "step": "1",
  "unit": "W"
}
```

Example Responses

Status code: 201

Created

```
{
  "property_id": 3320,
  "property_name": "p2",
  "description": null,
  "data_type": "datetime",
  "required": 0,
  "min": 0,
  "max": 65536,
  "step": 1,
  "max_length": "10",
  "unit": "yuan",
  "enum_list": null
}
```

Status code: 400

Bad Request

```
{
  "error_code": "SCB.00000000",
  "error_msg": "Parameter is not valid for operation [romalink.link-services-responses.saveCommandResponse]. Parameter is [command_id]. Processor is [path].",
  "request_id": "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.3.18 Querying Response Attributes****Function**

Querying Response Attributes

URI

```
GET /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/responses
```

Table 8-312 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Table 8-313 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
response_id	No	Integer	Response attribute ID.
response_name	No	String	Response attribute name.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-314 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-315 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Property objects	Attribute list.

Table 8-316 Property

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.

Parameter	Type	Description
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}

Status code: 400**Table 8-317** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-318** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-319 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/services/commands/{command_id}/responses
```

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "property_id" : 3320,
    "property_name" : "p2",
    "description" : null,
    "data_type" : "datetime",
    "required" : 0,
    "min" : 0,
    "max" : 65536,
    "step" : 1,
    "max_length" : "10",
    "unit" : "yuan",
    "enum_list" : null
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-responses.pageQueryCommandResponse]. Parameter is [command_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.19 Deleting a Response Attribute

Function

Deleting a Response Attribute

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/
commands/{command_id}/responses/{property_id}

Table 8-320 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.

Parameter	Mandatory	Type	Description
command_id	Yes	Integer	Command ID.
property_id	Yes	Integer	Attribute/Request attribute/ Response attribute ID.

Request Parameters

Table 8-321 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-322 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-323 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-324 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

DELETE /{project_id}/link/instances/{instance_id}/services/commands/{command_id}/responses/{property_id}

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-responses.deleteCommandResponse]. Parameter is [command_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content

Status Code	Description
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.20 Querying Response Attributes

Function

Querying Response Attributes

URI

GET /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/responses/{property_id}

Table 8-325 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.
property_id	Yes	Integer	Attribute/Request attribute/Response attribute ID.

Request Parameters

Table 8-326 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-327 Response body parameters

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.

Parameter	Type	Description
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}

Status code: 400**Table 8-328** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-329** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-330 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/services/commands/{command_id}/responses/{property_id}
```

Example Responses

Status code: 200

OK

```
{
  "property_id" : 3320,
  "property_name" : "p2",
  "description" : null,
  "data_type" : "datetime",
  "required" : 0,
  "min" : 0,
  "max" : 65536,
  "step" : 1,
  "max_length" : "10",
  "unit" : "yuan",
  "enum_list" : null
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-responses.queryCommandResponseDetail]. Parameter is [command_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",

```

```
"error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",  
"request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.3.21 Modifying a Response Attribute

Function

Modifying a Response Attribute

URI

PUT /v2/{project_id}/link/instances/{instance_id}/services/{service_id}/commands/{command_id}/responses/{property_id}

Table 8-331 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
service_id	Yes	String	Service ID.
command_id	Yes	Integer	Command ID.

Parameter	Mandatory	Type	Description
property_id	Yes	Integer	Attribute/Request attribute/Response attribute ID.

Request Parameters

Table 8-332 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-333 Request body parameters

Parameter	Mandatory	Type	Description
property_name	Yes	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	No	String	Description, which contains a maximum of 200 characters.
data_type	Yes	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Yes	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	No	String	Minimum value. This parameter is mandatory if data_type is set to integer or number.

Parameter	Mandatory	Type	Description
max	No	String	Maximum value. This parameter is mandatory when data_type is set to integer or number.
step	No	String	Step. This parameter is mandatory if data_type is set to integer or number.
max_length	No	Integer	Maximum length of a character string. This parameter is mandatory if data_type is set to string, datetime, or json. The value is automatically rounded down.
unit	No	String	Attribute unit.
enum_list	No	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	No	Object	For the boolean data type, use the JSON format. Example: "enum_dict": { "0": "xxx", "1": "xxx" }

Response Parameters

Status code: 200

Table 8-334 Response body parameters

Parameter	Type	Description
property_id	Integer	Attribute ID.
property_name	String	Attribute name, which is a string of 2 to 50 characters containing letters, digits, hyphens (-), and underscores (_). The value must start with a letter.
description	String	Description, which contains a maximum of 200 characters.

Parameter	Type	Description
data_type	String	Property data type. Options: enumerated values of boolean (case sensitive); number (ranging from $\pm 1.0 \times 10^{-28}$ to $\pm 7.9228 \times 10^{28}$); string; integer; datetime (in yyyyMMddTHH:mm:ss format); json; array
required	Integer	Whether a field is mandatory. The options are as follows: 0: no; 1: yes.
min	String	Minimum value. This parameter is available if data_type is set to integer or number.
max	String	Maximum value. This parameter is valid when data_type is set to integer or number.
step	String	Step. This parameter is available if data_type is set to integer or number.
max_length	Integer	Maximum length of a character string. This parameter is available if data_type is set to string, datetime, or json.
unit	String	Attribute unit.
enum_list	String	Array of enumerated values of the string type. The values are separated by commas (.). The length of a single value is determined by the max_length parameter.
enum_dict	Object	For the boolean data type, use the JSON format. Example: "enum_dict": {"0": "xxx", "1": "xxx"}

Status code: 400**Table 8-335** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-336** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-337** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the response data type, minimum value, and maximum value of a specified command.

```
{
  "property_name": "power_usage",
  "description": "power_usage",
  "data_type": "integer",
  "required": 0,
  "min": "0",
  "max": "1000",
  "step": "1"
}
```

Example Responses

Status code: 200

OK

```
{
  "property_id": 3320,
  "property_name": "p2",
  "description": null,
}
```

```
"data_type" : "datetime",
"required" : 0,
"min" : 0,
"max" : 65536,
"step" : 1,
"max_length" : "10",
"unit" : "yuan",
"enum_list" : null
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-services-responses.updateCommandResponse]. Parameter is [command_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4 Rule Engine

8.4.1 Creating a Rule

Function

Creating a Rule

URI

POST /v2/{project_id}/link/instances/{instance_id}/rules

Table 8-338 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-339 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-340 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Rule name, which is a string of 1 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
app_id	Yes	String	Application ID.
description	No	String	Description, which contains a maximum of 200 characters.
status	No	Integer	Rule status. The options are as follows: 0: enabled; 1: disabled. If this parameter is left empty, the default value 0 is used.
data_parsing_status	No	Integer	Data parsing status. The options are as follows: 0: enabled; 1: disabled. If this parameter is left empty, the default value is 1.

Response Parameters

Status code: 200

Table 8-341 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
rule_id	Integer	Rule ID.
name	String	Rule name, which is a string of 1 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
app_id	String	Application ID.
description	String	Description.
status	Integer	Rule status. The options are as follows: 0: enabled; 1: disabled.

Parameter	Type	Description
data_parsing_status	Integer	Data parsing status. If status is set to 0, this parameter is mandatory and must be set to 0 (indicating that data parsing is enabled) or 1 (indicating that data parsing is disabled).
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_datetime	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.

Table 8-342 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-343 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-344** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.

Parameter	Type	Description
request_id	String	Message ID.

Status code: 404

Table 8-345 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-346 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create a rule with rule status and data parsing status as enabled.

```
{
  "name" : "rule",
  "app_id" : "ef3845be-091a-4ab5-869a-9de0025e2165",
  "description" : "rule",
  "status" : 0,
  "data_parsing_status" : 0
}
```

Example Responses

Status code: 200

Created

```
{
  "permissions" : [ "read", "access", "delete", "modify" ],
```

```
"rule_id" : 702244,
"name" : "rule",
"app_id" : "a1503e51-46f7-4d23-8617-7cb2d28dde98",
"description" : "123",
"status" : 0,
"data_parsing_status" : 1,
"created_user" : {
  "user_id" : "",
  "user_name" : "user"
},
"last_updated_user" : {
  "user_id" : "",
  "user_name" : "user"
},
"created_datetime" : 1607598152997,
"last_updated_datetime" : 1607598152997
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rule.save]. Parameter is [request]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.2 Querying Rules

Function

Querying Rules

URI

GET /v2/{project_id}/link/instances/{instance_id}/rules

Table 8-347 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-348 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
app_id	No	String	Application ID.
name	No	String	Rule name.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.
created_by	No	String	Creator.
created_date_start	No	Long	Creation start time. Format: timestamp (ms), in UTC.

Parameter	Mandatory	Type	Description
created_date_end	No	Long	Creation end time. Format: timestamp (ms), in UTC.
dest_type	No	Integer	Operation type. Options: 0: The destination is an MQS data source in the same ROMA Connect instance; 2: The destination is an MRS Kafka data source in the same ROMA Connect instance; 3: The destination is a Kafka data source in the same ROMA Connect instance; 6: The destination is a DIS data source; 7: The destination is a device; 8: The destination is a rule plug-in.
dest_topic	No	String	Destination topic.
src_type	No	String	Source type. Options: product: Queries product-level source topics. device: Queries device-level source topics and superordinate product-level source topics. device_only: Queries device-level source topics. If both this parameter and application ID are not specified, all sources are queried. If only application ID is specified, sources of the application are queried.
product_id	No	Integer	This parameter is valid if src_type is set to product, device, or device_only.
product_name	No	String	This parameter is valid if src_type is set to product.
device_name	No	String	This parameter is valid if src_type is set to device or device_only.

Request Parameters

Table 8-349 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-350 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Rule objects	Rule list.

Table 8-351 Rule

Parameter	Type	Description
permissions	Array of strings	Permission.
rule_id	Integer	Rule ID.
name	String	Rule name, which is a string of 1 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
app_id	String	Application ID.
app_name	String	Application name.
description	String	Description.
status	Integer	Rule status. The options are as follows: 0: enabled; 1: disabled.

Parameter	Type	Description
data_parsing_status	Integer	Data parsing status. If status is set to 0, this parameter is mandatory and must be set to 0 (indicating that data parsing is enabled) or 1 (indicating that data parsing is disabled).
sql_field	String	SQL query field.
sql_where	String	SQL query condition.
rule_express	String	Complete rule expression.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date_time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.

Table 8-352 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-353 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400

Table 8-354 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-355** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-356** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/rules
```

Example Responses

Status code: 200

OK

```
{  
  "total" : 1,
```

```
"size" : 1,
"items" : [ {
  "permissions" : [ "read", "access", "delete", "modify" ],
  "rule_id" : 702244,
  "name" : "rule",
  "app_id" : "a1503e51-46f7-4d23-8617-7cb2d28dde98",
  "app_name" : "app-link",
  "description" : null,
  "status" : 0,
  "data_parsing_status" : 1,
  "sql_field" : null,
  "sql_where" : null,
  "rule_express" : null,
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "created_datetime" : 1607598152997,
  "last_updated_datetime" : 1607598152997
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rule.query]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.3 Deleting Rules in Batches

Function

Deleting Rules in Batches

URI

POST /v2/{project_id}/link/instances/{instance_id}/rules/batch-delete

Table 8-357 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-358 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-359 Request body parameters

Parameter	Mandatory	Type	Description
resources	Yes	Array of integers	Rule ID list. The value is automatically rounded down.

Response Parameters

Status code: 200

Table 8-360 Response body parameters

Parameter	Type	Description
resources	Array of SingleResponse objects	Number of returned arrays.

Table 8-361 SingleResponse

Parameter	Type	Description
id	String	Operation ID.
ret_status	String	Operation result. The options are as follows: successful; error.

Status code: 400

Table 8-362 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-363 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-364** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Delete rules in batches.

```
{  
  "resources": [ 1001, 1002 ]  
}
```

Example Responses

Status code: 200

OK

```
[ {  
  "id": 702246,  
  "ret_status": "successful"  
}]
```

Status code: 400

Bad Request

```
{  
  "error_code": "SCB.00000000",  
  "error_msg": "Parameter is not valid for operation [romalink.link-rule.batchDelete]. Parameter is [X-Auth-Token]. Processor is [header].",  
  "request_id": "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"  
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.4 Debugging a Rule

Function

Debugging Rules

URI

POST /v2/{project_id}/link/instances/{instance_id}/rule-test

Table 8-365 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-366 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-367 Request body parameters

Parameter	Mandatory	Type	Description
test_data	No	String	Test data executed by the rule.
test_rule_express	No	String	Rules used for test.

Response Parameters

Status code: 200

Table 8-368 Response body parameters

Parameter	Type	Description
test_result	String	Rule test result.

Status code: 400

Table 8-369 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-370** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-371** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Debug a rule based on a rule expression.

```
{
  "test_data" : "{\"0\":\"1\"\",\"1\":\"2\"}",
  "test_rule_express" : "select key1 from '/v1/324qwd24e2/datas'"
}
```

Example Responses

Status code: 200

OK

```
{
  "test_result" : "\\{\\\"0\\\":\\\"1\\\"}\\\""}
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rule-test.testSqlParsing]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.5 Deleting a Rule

Function

Deleting a Rule

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}

Table 8-372 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.

Request Parameters

Table 8-373 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-374 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-375** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-376** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
POST /{project_id}/link/instances/{instance_id}/rules/{rule_id}
```

Example Responses**Status code: 400**

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rule.delete]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.6 Querying Rule Details

Function

Querying Rule Details

URI

GET /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}

Table 8-377 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.

Request Parameters

Table 8-378 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-379 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
rule_id	Integer	Rule ID.
name	String	Rule name, which is a string of 1 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
app_id	String	Application ID.
app_name	String	Application name.
description	String	Description.
status	Integer	Rule status. The options are as follows: 0: enabled; 1: disabled.
data_parsing_status	Integer	Data parsing status. If status is set to 0, this parameter is mandatory and must be set to 0 (indicating that data parsing is enabled) or 1 (indicating that data parsing is disabled).
sql_field	String	SQL query field.
sql_where	String	SQL query condition.
rule_express	String	Complete rule expression.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.

Parameter	Type	Description
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.

Table 8-380 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-381 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-382** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-383 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-384 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/rules/{rule_id}
```

Example Responses

Status code: 200

OK

```
{
  "permissions": [ "read", "access", "delete", "modify" ],
  "rule_id": 702244,
  "name": "rule",
  "app_id": "a1503e51-46f7-4d23-8617-7cb2d28dde98",
  "app_name": "app-link",
  "description": null,
  "status": 0,
  "data_parsing_status": 1,
  "sql_field": null,
  "sql_where": null,
  "rule_express": null,
  "created_user": {
    "user_id": "",
    "user_name": "user"
  },
  "last_updated_user": {
    "user_id": "",
    "user_name": "user"
  },
  "created_datetime": 1607598152997,
```

```
{
  "last_updated_datetime" : 1607598152997
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rule.queryDetail]. Parameter is [rule_oid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.7 Modifying a Rule

Function

Modifying a Rule

URI

PUT /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}

Table 8-385 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.

Request Parameters

Table 8-386 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-387 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Rule name, which is a string of 1 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
description	No	String	Description, which contains a maximum of 200 characters.

Parameter	Mandatory	Type	Description
status	No	Integer	Rule status. The options are as follows: 0: enabled; 1: disabled. If this parameter is left empty, the default value 0 is used.
data_parsing_status	No	Integer	Data parsing status. The options are as follows: 0: enabled; 1: disabled. If this parameter is left empty, the default value is 1.
sql_field	No	String	SQL query field.
sql_where	No	String	SQL query condition.

Response Parameters

Status code: 200

Table 8-388 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
rule_id	Integer	Rule ID.
name	String	Rule name, which is a string of 1 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
app_id	String	Application ID.
app_name	String	Application name.
description	String	Description.
status	Integer	Rule status. The options are as follows: 0: enabled; 1: disabled.
data_parsing_status	Integer	Data parsing status. If status is set to 0, this parameter is mandatory and must be set to 0 (indicating that data parsing is enabled) or 1 (indicating that data parsing is disabled).
sql_field	String	SQL query field.
sql_where	String	SQL query condition.
rule_express	String	Complete rule expression.

Parameter	Type	Description
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.

Table 8-389 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-390 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-391** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-392 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-393** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the information about a specified rule by enabling the rule status and data parsing status and changing the query field and condition.

```
{
  "name" : "rule",
  "description" : "rule",
  "status" : 0,
  "data_parsing_status" : 0,
  "sql_field" : "field1",
  "sql_where" : "field2 like '%HAHA%'"
}
```

Example Responses

Status code: 200

OK

```
{
  "permissions" : [ "read", "access", "delete", "modify" ],
  "rule_id" : 702244,
  "name" : "rule",
  "app_id" : "a1503e51-46f7-4d23-8617-7cb2d28dde98",
  "app_name" : "app-link",
  "description" : null,
  "status" : 0,
  "data_parsing_status" : 1,
  "sql_field" : null,
  "sql_where" : null,
}
```

```
"rule_express" : null,
"created_user" : {
  "user_id" : "",
  "user_name" : "user"
},
"last_updated_user" : {
  "user_id" : "",
  "user_name" : "user"
},
"created_datetime" : 1607598152997,
"last_updated_datetime" : 1607598152997
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rule.update]. Parameter is [rule_oid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.8 Creating a Destination

Function

Creating a Destination

URI

POST /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}/destinations

Table 8-394 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.

Request Parameters

Table 8-395 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-396 Request body parameters

Parameter	Mandatory	Type	Description
destination_type	Yes	Integer	

Parameter	Mandatory	Type	Description
app_id	No	String	Application ID. If destination_type is 0, the value is the integrated application ID to which the MQS topic belongs. If destination_type is 1, 2, or 3, the value is the integrated application ID to which the KAFKA data source belongs. If destination_type is 7, the value is the integrated application ID to which the device belongs.
destination_name	No	String	Data source name at the destination. If destination_type is 1, 2, or 3, the value is the name of the KAFKA data source.
topic	Yes	String	Topic of the destination data source. If destination_type is 0, the MQS existing topic will be obtained. If destination_type is 1, 2, or 3, the existing Kafka topic will be obtained.
server	No	String	Destination data source. The server field is mandatory when destination_type is set to: 0 (MQS); 1/2/3 (Kafka); 7 (product name of the device)
token	No	String	Token of the data source at the destination. If destination_type is 7, the value is the client ID of the device.
tag	No	String	Tag of the data source at the destination. If destination_type is 7, the value is the device name.
mqs_sasl_ssl	No	Boolean	Whether the SASL field in the MQS data source at the destination needs to support SSL encryption.
user_name	No	String	Username for accessing the data source at the destination.

Parameter	Mandatory	Type	Description
password	No	String	Password for accessing the data source at the destination.

Response Parameters

Status code: 201

Table 8-397 Response body parameters

Parameter	Type	Description
destination_id	Integer	Data source ID at the destination.
destination_type	Integer	Destination type. The options are as follows: 0: The destination is MQS in the ROMA instance. 7: The destination is a device.
app_id	String	Application ID. If destination_type is 0, the application ID of the peer end must be specified.
destination_name	String	Data source name at the destination.
topic	String	Topic of the data source at the destination.
server	String	Data source at the destination.
token	String	Token of the data source at the destination.
tag	String	Tag of the data source at the destination.
mqs_sasl_ssl	Boolean	Whether the SASL field in the MQS data source at the destination needs to support SSL encryption.
user_name	String	Username for accessing the data source at the destination.
password	String	Password for accessing the data source at the destination.

Status code: 400

Table 8-398 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-399** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-400** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add an MQS data source as the destination which does not support SSL encryption for a specified rule.

```
{
  "destination_type": 0,
  "app_id": "ef3845be-091a-4ab5-869a-9de0025e2165",
  "destination_name": "destination",
  "topic": "/target_topic1",
  "server": "xx.xx.xx.xx",
  "token": "sd123r12312w12wdrfvgrt4t34t",
```

```
"tag" : "tag1",  
"mqs_sasl_ssl" : false,  
"user_name" : "user1",  
"password" : "*****"  
}
```

Example Responses

Status code: 201

Created

```
{  
  "destination_id" : 27678,  
  "destination_type" : 7,  
  "app_id" : null,  
  "destination_name" : null,  
  "topic" : "8si8ST122893/in/214",  
  "server" : "server",  
  "token" : "token",  
  "tag" : "device",  
  "mqs_sasl_ssl" : "false",  
  "user_name" : null,  
  "password" : null  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "SCB.00000000",  
  "error_msg" : "Parameter is not valid for operation [romalink.link-ruledest.save]. Parameter is [rule_oid].  
Processor is [path].",  
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "ROMA.00110006",  
  "error_msg" : "The resource does not exist. Check whether the resource ID  
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",  
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code" : "ROMA.00110002",  
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:  
f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
201	Created

Status Code	Description
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.9 Querying Destinations

Function

Querying Destinations

URI

GET /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}/destinations

Table 8-401 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.

Table 8-402 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-403 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-404 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Destination objects	List of data sources at the destination.

Table 8-405 Destination

Parameter	Type	Description
destination_id	Integer	Data source ID at the destination.
destination_type	Integer	Destination type. The options are as follows: 0: The destination is MQS in the ROMA instance. 7: The destination is a device.

Parameter	Type	Description
app_id	String	Application ID. If destination_type is 0, the application ID of the peer end must be specified.
destination_name	String	Data source name at the destination.
topic	String	Topic of the data source at the destination.
server	String	Data source at the destination.
token	String	Token of the data source at the destination.
tag	String	Tag of the data source at the destination.
mqs_sasl_ssl	Boolean	Whether the SASL field in the MQS data source at the destination needs to support SSL encryption.
user_name	String	Username for accessing the data source at the destination.
password	String	Password for accessing the data source at the destination.

Status code: 400**Table 8-406** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-407** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.

Parameter	Type	Description
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-408 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/rules/{rule_id}/destinations
```

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "destination_id" : 27678,
    "destination_type" : 7,
    "app_id" : null,
    "destination_name" : null,
    "topic" : "8si8ST122893/in/214",
    "server" : "server",
    "token" : "token",
    "tag" : "device",
    "mq_sasl_ssl" : "false",
    "user_name" : null,
    "password" : null
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-ruledest.query]. Parameter is [rule_oid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.4.10 Deleting a Destination****Function**

Deleting a Destination

URI

```
DELETE /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}/destinations/{destination_id}
```

Table 8-409 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.
destination_id	Yes	Integer	Data source ID at the destination.

Request Parameters

Table 8-410 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-411 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-412 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-413** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/rules/{rule_id}/destinations/{destination_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-ruledest.delete]. Parameter is [rule_oid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.11 Creating a Source

Function

Creating a Source

URI

POST /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}/sources

Table 8-414 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.

Request Parameters

Table 8-415 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-416 Request body parameters

Parameter	Mandatory	Type	Description
product_id	Yes	Integer	Product ID, which is automatically rounded down. When the rule source is set to a product, no group can be configured.
device_id	No	Integer	Device ID. The value is automatically rounded down. If this parameter is left blank, all devices are queried.
group_id	No	Integer	Device ID, which is automatically rounded down. When the rule source is set to a group, no product can be configured.
topic	Yes	String	Topic. If the device ID is empty, the topic is a product-level (device group) topic. If the device ID is not empty, the topic is a device-level topic.
is_base64	No	Integer	Whether the payload uses Base64 encoding. 0: yes 1: no
contain_device_info	No	Integer	Whether device information is included. 0: yes 1: no

Response Parameters

Status code: 201

Table 8-417 Response body parameters

Parameter	Type	Description
source_id	Integer	Data source ID at the source.
product_id	Integer	Product ID.
group_id	Integer	Device group ID.
device_id	Integer	Device ID. If this parameter is left blank, all devices are queried.
topic	String	Topic. If the device ID is left empty, the topic is a product-level topic. If the device ID is not left empty, the topic is a device-level topic.
device_name	String	Device name.
product_name	String	Product name.
group_name	String	Device group name.
is_base64	Integer	Whether the payload uses Base64 encoding. 0: yes 1: no
contain_device_info	Integer	Whether device information is included. 0: yes 1: no

Status code: 400

Table 8-418 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-419** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-420** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add a topic of a specified device as the source which is not Base64-encoded for a specified rule.

```
{
  "product_id" : 100001,
  "device_id" : 200001,
  "topic" : "/v1/3ds234242/datas",
  "is_base64" : 0,
  "contain_device_info" : 0
}
```

Example Responses

Status code: 201

Created

```
{
  "source_id" : 35296,
  "product_id" : 122893,
  "device_id" : 711568,
  "topic" : "/v1/devices/214/datas",
  "device_name" : "device",
  "product_name" : "product",
  "is_base64" : 0,
}
```

```
"contain_device_info" : 0
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rulesrc.save]. Parameter is [rule_oid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.12 Querying Sources

Function

Querying Sources

URI

GET /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}/sources

Table 8-421 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.

Table 8-422 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-423 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-424 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Source objects	Data source list.

Table 8-425 Source

Parameter	Type	Description
source_id	Integer	Data source ID at the source.
product_id	Integer	Product ID.
group_id	Integer	Device group ID.
device_id	Integer	Device ID. If this parameter is left blank, all devices are queried.
topic	String	Topic. If the device ID is left empty, the topic is a product-level topic. If the device ID is not left empty, the topic is a device-level topic.
device_name	String	Device name.
product_name	String	Product name.
group_name	String	Device group name.
is_base64	Integer	Whether the payload uses Base64 encoding. 0: yes 1: no
contain_device_info	Integer	Whether device information is included. 0: yes 1: no

Status code: 400

Table 8-426 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-427** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-428** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/rules/{rule_id}/sources
```

Example Responses

Status code: 200

OK

```
{  
  "total" : 1,
```

```
"size" : 1,
"items" : [ {
  "source_id" : 35296,
  "product_id" : 122893,
  "device_id" : 711568,
  "topic" : "/v1/devices/214/datas",
  "device_name" : "device",
  "product_name" : "product",
  "is_base64" : 0,
  "contain_device_info" : 0
} ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-rulesrc.query]. Parameter is [rule_oid]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.4.13 Deleting a Source

Function

Deleting a Source

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/rules/{rule_id}/sources/{source_id}

Table 8-429 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
rule_id	Yes	String	Rule ID.
source_id	Yes	Integer	Data source ID at the source.

Request Parameters

Table 8-430 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-431 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-432** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-433** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/rules/{rule_id}/sources/{source_id}
```

Example Responses

Status code: 400

Bad Request

```
{  
  "error_code" : "SCB.00000000",  
}
```

```
"error_msg": "Parameter is not valid for operation [romalink.link-rulesrc.delete]. Parameter is [rule_oid]. Processor is [path].",  
"request_id": "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"  
}
```

Status code: 404

Not Found

```
{  
  "error_code": "ROMA.00110006",  
  "error_msg": "The resource does not exist. Check whether the resource ID 1 is correct.",  
  "request_id": "13984193-ca65-4954-9b7f-4b7d680399d6-1619678681445-cnnorth7a-P-romalink-service01"  
}
```

Status code: 500

Internal Server Error

```
{  
  "error_code": "ROMA.00110002",  
  "error_msg": "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",  
  "request_id": "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"  
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.5 Subscription Management

8.5.1 Creating a Subscription

Function

This API is used to create device operations under an application in a specified instance and subscribe to the specified topic.

URI

POST /v2/{project_id}/link/instances/{instance_id}/notifications

Table 8-434 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 8-435 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-436 Request body parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	ID of the application to which a notification belongs. This parameter is transferred only when an application-level subscription is created. If neither app_id nor product_serial is specified, an instance-level subscription is created.
type	Yes	Integer	Notification type. The options include 0 (device online), 1 (device offline), 2 (device addition), 3 (device deletion), and 4 (device change).
topic	Yes	String	Name of the topic to which a notification is sent. The topic must exist in MQS.
status	Yes	Integer	Start/Stop status. The options include 0 (enabled) and 1 (disabled).

Response Parameters

Status code: 200

Table 8-437 Response body parameters

Parameter	Type	Description
notification_id	Integer	Subscription ID.
type	Integer	Subscription type. The options include 0 (device online), 1 (device offline), 2 (device addition), 3 (device deletion), and 4 (device change).
status	Integer	Subscription management status. The options include 0 (enabled) and 1 (disabled).
topic	String	Name of the subscribed topic.
instance_id	String	Instance ID.
app_id	String	Application ID.

Status code: 400

Table 8-438 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-439 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-440** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Subscribe to notifications when devices of a specified integration application are online and send messages to a specified MQS topic.

```
{
  "app_id" : "ef3845be-091a-4ab5-869a-9de0025e2165",
  "type" : 0,
  "topic" : "online",
  "status" : 0
}
```

Example Responses

Status code: 200

Created

```
{
  "notification_id" : 100,
  "type" : 0,
  "status" : 0,
  "topic" : "string",
  "instance_id" : "string",
  "app_id" : "string"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	Created

Status Code	Description
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.5.2 Querying Information About a Subscription Management Task

Function

This API is used to query subscription management information of the specified application.

URI

GET /v2/{project_id}/link/instances/{instance_id}/notifications

Table 8-441 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.

Table 8-442 Query Parameters

Parameter	Mandatory	Type	Description
app_id	No	String	Application ID.

Request Parameters

Table 8-443 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-444 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of NotificationResponseBody objects	List of subscription management tasks.

Table 8-445 NotificationResponseBody

Parameter	Type	Description
notification_id	Integer	Subscription ID.
type	Integer	Subscription type. The options include 0 (device online), 1 (device offline), 2 (device addition), 3 (device deletion), and 4 (device change).
status	Integer	Subscription management status. The options include 0 (enabled) and 1 (disabled).
topic	String	Name of the subscribed topic.
instance_id	String	Instance ID.
app_id	String	Application ID.

Status code: 400**Table 8-446** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-447** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-448** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

None

Example Responses**Status code: 200**

OK

```
{
  "total" : 9999999999,
  "size" : 999,
  "items" : [ {
    "notification_id" : 100,
    "type" : 0,
    "status" : 0,
    "topic" : "string",
    "instance_id" : "string",
    "app_id" : "string"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "string",
  "error_msg" : "string",
  "request_id" : "string"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-  
service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "string",
  "error_msg" : "string",
  "request_id" : "string"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.5.3 Modifying a Subscription

Function

This API is used to modify the specified subscription management.

URI

PUT /v2/{project_id}/link/instances/{instance_id}/notifications/{notification_id}

Table 8-449 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
notification_id	Yes	Integer	ID of the subscription management task.

Request Parameters

Table 8-450 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-451 Request body parameters

Parameter	Mandatory	Type	Description
topic	Yes	String	Name of the topic to which a notification is sent. The topic must exist in MQS.
status	Yes	Integer	Start/Stop status. The options include 0 (enabled) and 1 (disabled).

Response Parameters

Status code: 200

Table 8-452 Response body parameters

Parameter	Type	Description
notification_id	Integer	Subscription ID.
type	Integer	Subscription type. The options include 0 (device online), 1 (device offline), 2 (device addition), 3 (device deletion), and 4 (device change).
status	Integer	Subscription management status. The options include 0 (enabled) and 1 (disabled).
topic	String	Name of the subscribed topic.
instance_id	String	Instance ID.
app_id	String	Application ID.

Status code: 400

Table 8-453 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-454 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-455 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Change the topic for receiving notifications to a specified topic.

```
{
  "topic" : "Topic1",
  "status" : 0
}
```

Example Responses

Status code: 200

OK

```
{
  "notification_id" : 100,
  "type" : 0,
  "status" : 0,
  "topic" : "string",
  "instance_id" : "string",
  "app_id" : "string"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "string",
  "error_msg" : "string",
  "request_id" : "string"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "string",
  "error_msg" : "string",
  "request_id" : "string"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.5.4 Deleting a Subscription

Function

This API is used to delete the specified subscription management.

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/notifications/{notification_id}

Table 8-456 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain the project ID, see Appendix > Obtaining a Project ID in the ROMA Connect API Reference.
instance_id	Yes	String	Instance ID.
notification_id	Yes	Integer	ID of the subscription management task.

Request Parameters

Table 8-457 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-458 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-459 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-460 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "string",
  "error_msg" : "string",
  "request_id" : "string"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "string",
  "error_msg" : "string",
  "request_id" : "string"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found

Status Code	Description
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.6 Product Template Management

8.6.1 Creating a Product Template

Function

Creating a Product Template

URI

POST /v2/{project_id}/link/instances/{instance_id}/product-templates

Table 8-461 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-462 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-463 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Product template name. The value is a string of 1 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
description	No	String	Product template description, which contains a maximum of 200 characters.
status	Yes	Integer	Status of a product template. The options are as follows: 0: enabled; 1: disabled.

Response Parameters

Status code: 201

Table 8-464 Response body parameters

Parameter	Type	Description
id	Integer	Product template ID.
name	String	Product template name.
description	String	Product template description.
status	Integer	Status of a product template. The options are as follows: 0: enabled; 1: disabled.
created_user	CreatedUser object	Name of the user who created the attribute.

Parameter	Type	Description
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.

Table 8-465 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-466 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-467** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-468 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-469** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create a product template with the status as enabled.

```
{
  "name" : "product_template",
  "description" : "product template",
  "status" : 0
}
```

Example Responses

Status code: 201

Created

```
{
  "id" : 2235,
  "name" : "template",
  "description" : "description",
  "status" : 0,
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "created_datetime" : 1607303564596,
```

```
{
  "last_updated_datetime" : 1607571061057
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-producttemplate.save]. Parameter is [request]. Processor is [body].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.6.2 Querying Product Templates

Function

Querying Product Templates

URI

GET /v2/{project_id}/link/instances/{instance_id}/product-templates

Table 8-470 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-471 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
id	No	Integer	Product template ID.
name	No	String	Product template name.
status	No	Integer	Status of a product template. The options are as follows: 0: enabled; 1: disabled.
created_user_name	No	String	Name of the user who created the product template.
created_date_start	No	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
created_date_end	No	Long	Creation end time. The format is timestamp(ms) and the UTC time zone is used.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-472 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-473 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of ProductTemplate objects	Product template information.

Table 8-474 ProductTemplate

Parameter	Type	Description
id	Integer	Product template ID.
name	String	Product template name.
description	String	Product template description.
status	Integer	Status of a product template. The options are as follows: 0: enabled; 1: disabled.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.

Parameter	Type	Description
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.

Table 8-475 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-476 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-477** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-478** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.

Parameter	Type	Description
request_id	String	Message ID.

Status code: 500

Table 8-479 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/product-templates
```

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "id" : 2235,
    "name" : "template",
    "description" : "description",
    "status" : 0,
    "created_user" : {
      "user_id" : "",
      "user_name" : "user"
    },
    "last_updated_user" : {
      "user_id" : "",
      "user_name" : "user"
    },
    "created_datetime" : 1607303564596,
    "last_updated_datetime" : 1607571061057
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-producttemplate.pageQuery]. Parameter is [status]. Processor is [query].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error CodesSee [Error Codes](#).**8.6.3 Deleting a Product Template****Function**

Deleting a Product Template

URI

```
DELETE /v2/{project_id}/link/instances/{instance_id}/product-templates/
{product_template_id}
```

Table 8-480 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_template_id	Yes	Integer	Product template ID

Request Parameters

Table 8-481 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-482 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-483 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-484** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/product-templates/{product_template_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-producttemplate.delete]. Parameter is [id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.6.4 Modifying a Product Template

Function

Modifying a Product Template

URI

PUT /v2/{project_id}/link/instances/{instance_id}/product-templates/{product_template_id}

Table 8-485 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_template_id	Yes	Integer	Product template ID

Request Parameters

Table 8-486 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-487 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Product template name. The value is a string of 2 to 64 characters containing case-sensitive letters, digits, underscores (_), and hyphens (-).
description	No	String	Product template description, which contains a maximum of 200 characters.
status	Yes	Integer	Status of a product template. The options are as follows: 0: enabled; 1: disabled.

Response Parameters

Status code: 200

Table 8-488 Response body parameters

Parameter	Type	Description
id	Integer	Product template ID.
name	String	Product template name.
description	String	Product template description.
status	Integer	Status of a product template. The options are as follows: 0: enabled; 1: disabled.
created_user	CreatedUser object	Name of the user who created the attribute.

Parameter	Type	Description
last_updated_user	LastUpdatedUser object	User who performed the last update.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
last_updated_date time	Long	Last modification time (timestamp, in milliseconds). The UTC time zone is used.

Table 8-489 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-490 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-491** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-492 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-493** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Disable a specified product template.

```
{
  "name" : "product_template",
  "description" : "product template",
  "status" : 1
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : 2235,
  "name" : "template",
  "description" : "description",
  "status" : 0,
  "created_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "last_updated_user" : {
    "user_id" : "",
    "user_name" : "user"
  },
  "created_datetime" : 1607303564596,
```

```
"last_updated_datetime" : 1607571061057
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-producttemplate.update]. Parameter is [id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID 1 is correct.",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7 Product Management

8.7.1 Creating a Product

Function

Creating a Product

URI

POST /v2/{project_id}/link/instances/{instance_id}/products

Table 8-494 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-495 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-496 Request body parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	Application ID.
name	Yes	String	Product name, which is unique in a tenant. The value can contain a maximum of 64 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.

Parameter	Mandatory	Type	Description
manufacturer_id	Yes	String	Product manufacturer ID.
manufacturer_name	Yes	String	Manufacturer name.
model	Yes	String	Product model.
product_type	Yes	Integer	Product type. 0: common product (subdevices are not supported) 1: gateway product
description	No	String	Product description, which contains a maximum of 200 characters.
protocol_type	Yes	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
device_type	No	String	Device type of a product. The default value is Default.
template_id	No	Integer	ID of the associated product template. This parameter must be specified if a product template is used to create a product. Otherwise, leave this parameter empty. The value is automatically rounded down.
version	No	String	Model version.
data_format	No	Integer	Product data format. 0: JSON 1: USER_DEFINED

Response Parameters

Status code: 201

Table 8-497 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Product ID.
product_serial	String	Unique sequence number of a product (unique value in the system, which is used to mark a product in the topic of MQS).
app_id	String	Application ID.
name	String	Product name, which is unique in a tenant. The value can contain a maximum of 64 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
manufacturer_id	String	Product manufacturer ID.
manufacturer_name	String	Manufacturer name.
model	String	Product model.
product_type	Integer	Product type. 0: common product (subdevices are not supported) 1: gateway product
description	String	Product description, which contains a maximum of 200 characters.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
device_type	String	Device type of a product. The default value is Default.
version	String	Product version.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.

Parameter	Type	Description
authentication	Authentication object	Authentication.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
app_name	String	Application name.
data_format	Integer	data_format 0-JSON 1-USER_DEFINED

Table 8-498 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-499 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-500 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Status code: 400

Table 8-501 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-502** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-503** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Create a product with product type as common product, protocol type as MQTT, and product status as enabled.

```
{
  "app_id": "ef3845be-091a-4ab5-869a-9de0025e2165",
  "name": "device",
  "manufacturer_id": 10001,
  "manufacturer_name": "test",
  "model": "model1",
  "product_type": 0,
```



```
"protocol_type" : 0,  
"status" : 0,  
"device_type" : "Default"  
}
```

Example Responses

Status code: 201

Created

```
{  
  "permissions" : [ "read", "access", "delete", "modify" ],  
  "id" : 120671,  
  "product_serial" : "Dd1bRt122894",  
  "app_id" : "a1503e51-46f7-4d23-8617-7cb2d28dde98",  
  "name" : "pro-opcua",  
  "manufacturer_id" : "pro-opcua",  
  "manufacturer_name" : "pro-opcua",  
  "model" : "pro-opcua",  
  "product_type" : 0,  
  "description" : "opcua product",  
  "protocol_type" : 4,  
  "device_type" : "default",  
  "version" : "version",  
  "status" : 0,  
  "created_datetime" : 1607481372416,  
  "last_updated_datetime" : 1607481372416,  
  "app_name" : "app-link",  
  "data_format" : 0,  
  "created_user" : {  
    "user_id" : "6546435432432",  
    "user_name" : "user1"  
  },  
  "last_updated_user" : {  
    "user_id" : "6546435432432",  
    "user_name" : "user1"  
  },  
  "authentication" : {  
    "user_name" : "4MjxbCl4q461",  
    "password" : "*****"  
  }  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "ROMA.00110001",  
  "error_msg" : "The parameter does not meet verification rules: [name:Can not be empty,  
manufacturer_name:Can not be empty, manufacturer_id:Can not be empty, product_type:must not be null,  
app_id:must not be empty, model:Can not be empty]",  
  "request_id" : "b728949c-dfb5-4277-b54e-7c05e1b0b598-1619663322828-cnorth7a-P-romalink-service01"  
}
```

Status code: 404

Not Found

```
{  
  "error_code" : "ROMA.00110006",  
  "error_msg" : "The resource does not exist. Check whether the resource ID  
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",  
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnorth7a-P-romalink-service01"  
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.2 Querying Products

Function

Querying Products

URI

GET /v2/{project_id}/link/instances/{instance_id}/products

Table 8-504 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-505 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.
app_id	No	String	Application ID.
id	No	String	Product ID.
name	No	String	Product name.
manufacturer_id	No	String	Manufacturer ID.
manufacturer_name	No	String	Manufacturer name.
model	No	String	Model.
device_type	No	String	Device type of a product. The default value is Default.
product_type	No	Integer	Product type. 0: common product (subdevices are not supported) 1: gateway product
protocol_type	No	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
created_user_name	No	String	This API is used to create a user.
created_date_start	No	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
created_date_end	No	Long	Creation end time. The format is timestamp(ms) and the UTC time zone is used.
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Parameter	Mandatory	Type	Description
app_name	No	String	Application name.
product_serial	No	String	Unique sequence number of a product (unique value in the system, which is used to mark a product in the topic of MQS).

Request Parameters

Table 8-506 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-507 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of Product objects	Product list.

Table 8-508 Product

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Product ID.

Parameter	Type	Description
product_serial	String	Unique sequence number of a product (unique value in the system, which is used to mark a product in the topic of MQS).
app_id	String	Application ID.
name	String	Product name, which is unique in a tenant. The value can contain a maximum of 64 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
manufacturer_id	String	Product manufacturer ID.
manufacturer_name	String	Manufacturer name.
model	String	Product model.
product_type	Integer	Product type. 0: common product (subdevices are not supported) 1: gateway product
description	String	Product description, which contains a maximum of 200 characters.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
device_type	String	Device type of a product. The default value is Default.
version	String	Product version.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.
authentication	Authentication object	Authentication.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.

Parameter	Type	Description
app_name	String	Application name.
data_format	Integer	data_format 0-JSON 1-USER_DEFINED

Table 8-509 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-510 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-511 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Status code: 400**Table 8-512** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.

Parameter	Type	Description
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-513** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-514** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/products
```

Example Responses**Status code: 200**

OK

```
{
  "total": 1,
  "size": 1,
  "items": [ {
    "permissions": [ "read", "access", "delete", "modify" ],
    "id": 120671,
    "product_serial": "Dd1bRt122894",
    "app_id": "a1503e51-46f7-4d23-8617-7cb2d28dde98",
```

```
{
  "name": "pro-opcua",
  "manufacturer_id": "pro-opcua",
  "manufacturer_name": "pro-opcua",
  "model": "pro-opcua",
  "product_type": 0,
  "description": "opcua product",
  "protocol_type": 4,
  "device_type": "default",
  "version": "version",
  "created_datetime": 1607481372416,
  "last_updated_datetime": 1607481372416,
  "app_name": "app-link",
  "data_format": 0,
  "created_user": {
    "user_id": "6546435432432",
    "user_name": "user1"
  },
  "last_updated_user": {
    "user_id": "6546435432432",
    "user_name": "user1"
  },
  "authentication": {
    "user_name": "4MjxbCl4q461",
    "password": "*****"
  }
}
```

Status code: 400

Bad Request

```
{
  "error_code": "SCB.00000000",
  "error_msg": "Parameter is not valid for operation [romalink.link-product.search]. Parameter is [product_type]. Processor is [query].",
  "request_id": "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code": "SCB.00000000",
  "error_msg": "Not Found",
  "request_id": "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code": "ROMA.00110002",
  "error_msg": "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id": "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.3 Querying the Number of Devices in a Product

Function

Querying the Number of Devices in a Product

URI

GET /v2/{project_id}/link/instances/{instance_id}/products/{product_id}/devices-summary

Table 8-515 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Request Parameters

Table 8-516 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-517 Response body parameters

Parameter	Type	Description
summary	Integer	Number of devices in a product.

Status code: 400

Table 8-518 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-519 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-520** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/products/{product_id}/devices-summary
```

Example Responses**Status code: 200**

OK

```
{
  "summary" : 0
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.deviceSummary]. Parameter is [productId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.4 Deleting a Product

Function

Deleting a Product

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/products/{product_id}

Table 8-521 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Request Parameters

Table 8-522 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-523 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-524 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-525 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/products/{product_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.delete]. Parameter is
[product_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.5 Querying Product Details

Function

Querying Product Details

URI

GET /v2/{project_id}/link/instances/{instance_id}/products/{product_id}

Table 8-526 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Request Parameters

Table 8-527 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-528 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Product ID.
product_serial	String	Unique sequence number of a product (unique value in the system, which is used to mark a product in the topic of MQS).
app_id	String	Application ID.
name	String	Product name, which is unique in a tenant. The value can contain a maximum of 64 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
manufacturer_id	String	Product manufacturer ID.
manufacturer_name	String	Manufacturer name.
model	String	Product model.
product_type	Integer	Product type. 0: common product (subdevices are not supported) 1: gateway product
description	String	Product description, which contains a maximum of 200 characters.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
device_type	String	Device type of a product. The default value is Default.
version	String	Product version.
created_user	CreatedUser object	Name of the user who created the attribute.

Parameter	Type	Description
last_updated_user	LastUpdatedUser object	User who performed the last update.
authentication	Authentication object	Authentication.
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
app_name	String	Application name.
data_format	Integer	data_format 0-JSON 1-USER_DEFINED

Table 8-529 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-530 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-531 Authentication

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Status code: 400

Table 8-532 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-533** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-534** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/products/{product_id}
```

Example Responses

Status code: 200

OK

```
{  
  "permissions": [ "read", "access", "delete", "modify" ],  
}
```

```
"id" : 120671,
"product_serial" : "Dd1bRt122894",
"app_id" : "a1503e51-46f7-4d23-8617-7cb2d28dde98",
"name" : "pro-opcua",
"manufacturer_id" : "pro-opcua",
"manufacturer_name" : "pro-opcua",
"model" : "pro-opcua",
"product_type" : 0,
"description" : "opcua product",
"protocol_type" : 4,
"device_type" : "default",
"version" : "version",
"created_datetime" : 1607481372416,
"last_updated_datetime" : 1607481372416,
"app_name" : "app-link",
"data_format" : 0,
"created_user" : {
  "user_id" : "6546435432432",
  "user_name" : "user1"
},
"last_updated_user" : {
  "user_id" : "6546435432432",
  "user_name" : "user1"
},
"authentication" : {
  "user_name" : "4MjxbCl4q461",
  "password" : "*****"
}
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.searchProductDetails].
Parameter is [product_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.6 Modifying Product Information

Function

Modifying Product Information

URI

PUT /v2/{project_id}/link/instances/{instance_id}/products/{product_id}

Table 8-535 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Request Parameters

Table 8-536 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-537 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Product name, which is unique in a tenant. The value can contain a maximum of 64 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
description	No	String	Product description, which contains a maximum of 200 characters.
manufacturer_id	Yes	String	Product manufacturer ID. The value is a string of 2 to 50 characters containing letters, digits, underscores (_), and hyphens (-).
manufacturer_name	Yes	String	Manufacturer name, which contains 2 to 64 characters.
model	Yes	String	Product model, which is a string of 2 to 50 characters containing letters, digits, underscores (_), hyphens (-), and spaces. The spaces at the beginning or end of the value will be ignored.
device_type	Yes	String	Device type of a product. The default value is Default.
version	No	String	Model version.

Response Parameters

Status code: 200

Table 8-538 Response body parameters

Parameter	Type	Description
permissions	Array of strings	Permission.
id	Integer	Product ID.
product_serial	String	Unique sequence number of a product (unique value in the system, which is used to mark a product in the topic of MQS).
app_id	String	Application ID.
name	String	Product name, which is unique in a tenant. The value can contain a maximum of 64 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
manufacturer_id	String	Product manufacturer ID.
manufacturer_name	String	Manufacturer name.
model	String	Product model.
product_type	Integer	Product type. 0: common product (subdevices are not supported) 1: gateway product
description	String	Product description, which contains a maximum of 200 characters.
protocol_type	Integer	Protocol type of the product. 0: mqtt 1: CoAP 2: modbus 4: opcua 5: extended protocol
device_type	String	Device type of a product. The default value is Default.
version	String	Product version.
created_user	CreatedUser object	Name of the user who created the attribute.
last_updated_user	LastUpdatedUser object	User who performed the last update.

Parameter	Type	Description
created_datetime	Long	Creation start time. The format is timestamp(ms) and the UTC time zone is used.
app_name	String	Application name.
data_format	Integer	data_format 0-JSON 1-USER_DEFINED

Table 8-539 CreatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Table 8-540 LastUpdatedUser

Parameter	Type	Description
user_id	String	User ID (reserved).
user_name	String	Username.

Status code: 400**Table 8-541** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-542 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-543** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Modify the manufacturer ID, manufacturer name, and product model of a specified product.

```
{
  "name" : "product",
  "manufacturer_id" : "p3",
  "manufacturer_name" : "p3",
  "model" : "p3",
  "device_type" : "Default"
}
```

Example Responses

Status code: 200

OK

```
{
  "permissions" : [ "read", "access", "delete", "modify" ],
  "id" : 120671,
  "product_serial" : "Dd1bRt122894",
  "app_id" : "a1503e51-46f7-4d23-8617-7cb2d28dde98",
  "name" : "pro-opcua",
  "manufacturer_id" : "pro-opcua",
  "manufacturer_name" : "pro-opcua",
  "model" : "pro-opcua",
  "product_type" : 0,
  "description" : "opcua product",
  "protocol_type" : 4,
}
```



```
"device_type" : "default",
"version" : "version",
"created_datetime" : 1607481372416,
"last_updated_datetime" : 1607481372416,
"app_name" : "app-link",
"data_format" : 0,
"created_user" : {
  "user_id" : "6546435432432",
  "user_name" : "user1"
},
"last_updated_user" : {
  "user_id" : "6546435432432",
  "user_name" : "user1"
}
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.update]. Parameter is
[product_id]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.7 Adding a Product Topic

Function

Adding a Product Topic

URI

POST /v2/{project_id}/link/instances/{instance_id}/products/{product_id}/topics

Table 8-544 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Request Parameters

Table 8-545 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-546 Request body parameters

Parameter	Mandatory	Type	Description
permission	Yes	Integer	Topic permission. The options are as follows: 0: publish; 1: subscribe.
name	Yes	String	Product-level topic name. Separate different parts of a topic class with slashes (/). The first class is the user-defined version number. The second class is defined as \${deviceId} (wildcard device ID). The third class is the user-defined topic class name. The topic consists of \${version}/\${deviceId}/\${customizePart}. In brief, the topic class a/b/c/\${deviceId}/customizePart is a set of topics such as a/b/c/deviceid1/customizePart1 and a/b/c/deviceid2/customizePart2.
version	Yes	String	Version number, which is a string of 1 to 64 characters. The value must start and end with a letter or digit. Only letters, digits, underscores (_), hyphens (-), periods (.), slashes (/), and backslashes (\) are allowed.
description	No	String	Description.

Response Parameters

Status code: 200

Table 8-547 Response body parameters

Parameter	Type	Description
product_id	Integer	Homing product ID.
topic_id	String	Product topic ID.
permission	Integer	Topic permission. The options are as follows: 0: publish; 1: subscribe.
topic_name	String	Topic name.

Parameter	Type	Description
version	String	Version number.
description	String	Description.

Status code: 400**Table 8-548** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-549** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-550** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Add a topic for a specified product with the permission as publishing.

```
{
  "permission" : 0,
  "name" : "datas",
  "version" : "v1",
  "description" : "/v1/${deviceId}/datas"
}
```

Example Responses

Status code: 200

Created

```
{
  "product_id" : 122888,
  "topic_id" : "17",
  "permission" : 1,
  "topic_name" : "/3.0/${deviceId}/t1",
  "version" : "3.0",
  "description" : "description"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product-topic.createProductTopic].  
Parameter is [productId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID  
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:  
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	Created

Status Code	Description
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.8 Querying Product Topics

Function

Querying Product Topics

URI

GET /v2/{project_id}/link/instances/{instance_id}/products/{product_id}/topics

Table 8-551 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Table 8-552 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed on each page. The maximum value is 999. If the value exceeds 999, only 999 items are returned.

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 8-553 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-554 Response body parameters

Parameter	Type	Description
total	Integer	Total.
size	Integer	Number of records displayed on each page.
items	Array of ProductTopic objects	Product topic list.

Table 8-555 ProductTopic

Parameter	Type	Description
product_id	Integer	Homing product ID.
topic_id	String	Product topic ID.
permission	Integer	Topic permission. The options are as follows: 0: publish; 1: subscribe.
topic_name	String	Topic name.
version	String	Version number.

Parameter	Type	Description
description	String	Description.

Status code: 400**Table 8-556** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-557** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-558** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/products/{product_id}/topics
```

Example Responses

Status code: 200

OK

```
{
  "total" : 1,
  "size" : 1,
  "items" : [ {
    "product_id" : 122888,
    "topic_id" : "17",
    "permission" : 1,
    "topic_name" : "/3.0/${deviceId}/t1",
    "version" : "3.0",
    "description" : "description"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product-topic.queryProductTopic].
Parameter is [productId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.9 Deleting a Product Topic

Function

Deleting a Product Topic

URI

DELETE /v2/{project_id}/link/instances/{instance_id}/products/{product_id}/topics/{topic_id}

Table 8-559 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.
topic_id	Yes	Integer	Product topic ID.

Request Parameters

Table 8-560 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 400

Table 8-561 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-562 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-563 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
DELETE /{project_id}/link/instances/{instance_id}/products/{product_id}/topics/{topic_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product-topic.deleteProductTopic].
Parameter is [productId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id:
f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
204	No Content
400	Bad Request

Status Code	Description
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.10 Modifying a Product Topic

Function

Modifying a Product Topic

URI

PUT /v2/{project_id}/link/instances/{instance_id}/products/{product_id}/topics/{topic_id}

Table 8-564 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.
topic_id	Yes	Integer	Product topic ID.

Request Parameters

Table 8-565 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-566 Request body parameters

Parameter	Mandatory	Type	Description
permission	Yes	Integer	Topic permission. The options are as follows: 0: publish; 1: subscribe.
name	Yes	String	Product-level topic name. Separate different parts of a topic class with slashes (/). The first class is the user-defined version number. The second class is defined as \${deviceId} (wildcard device ID). The third class is the user-defined topic class name. The topic consists of \${version}/\${deviceId}/\${customizePart}. In brief, the topic class a/b/c/\${deviceId}/customizePart is a set of topics such as a/b/c/deviceid1/customizePart1 and a/b/c/deviceid2/customizePart2.
version	Yes	String	Version number, which is a string of 1 to 64 characters. The value must start and end with a letter or digit. Only letters, digits, underscores (_), hyphens (-), periods (.), slashes (/), and backslashes (\) are allowed.
description	No	String	Description.

Response Parameters

Status code: 200

Table 8-567 Response body parameters

Parameter	Type	Description
product_id	Integer	Homing product ID.
topic_id	Integer	Product topic ID.
permission	Integer	Topic permission. The options are as follows: 0: publish; 1: subscribe.
topic_name	String	Topic name.
version	String	Version number.
description	String	Description.

Status code: 400**Table 8-568** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-569** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-570 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Change the permission of a specified topic to subscription, and modify the version.

```
{
  "permission" : 1,
  "name" : "datas",
  "version" : "v2",
  "description" : "/v2/${deviceId}/datas"
}
```

Example Responses

Status code: 200

OK

```
{
  "product_id" : 122888,
  "topic_id" : 17,
  "permission" : 1,
  "topic_name" : "/3.0/${deviceId}/t1",
  "version" : "3.0",
  "description" : "description"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product-topic.updateProductTopic].  
Parameter is [productId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID  
ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error


```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.11 Resetting Product Authentication Information

Function

Resetting Product Authentication Information

URI

PUT /v2/{project_id}/link/instances/{instance_id}/products/{product_id}/
authentication

Table 8-571 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0.Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Request Parameters

Table 8-572 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-573 Request body parameters

Parameter	Mandatory	Type	Description
user_name	No	String	Product user name, which is a string containing letters, hyphens (-), and digits.
password	No	String	Product password, which contains 16 to 32 characters, including digits, uppercase letters, lowercase letters, and special characters (~!@#\$%^&*()-_+= [{]};<>/?). If this parameter is left empty, the password will not be reset. If both the username and password are empty, the password will be reset to a system-generated one.

Response Parameters

Status code: 200

Table 8-574 Response body parameters

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{]};<>/?).

Status code: 400**Table 8-575** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-576** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-577** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Reset the username and password of a device to specified values.

```
{"user_name": "4F49B62DD19D46F296AD497C7E81B52E", "password": "*****"}
```

Example Responses

Status code: 200

OK

```
{
  "user_name" : "4MjxbCl4q461",
  "password" : "*****"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.resetAuthentication]. Parameter is [productId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.12 Querying Product Authentication Information

Function

Querying Product Authentication Information

URI

GET /v2/{project_id}/link/instances/{instance_id}/products/{product_id}/
authentication

Table 8-578 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.
product_id	Yes	Integer	Product ID.

Request Parameters

Table 8-579 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-580 Response body parameters

Parameter	Type	Description
user_name	String	One-model-one-secret or one-device-one-secret username.
password	String	One-model-one-secret or one-device-one-secret password. The password must contain 8 to 32 characters, including at least one digit, one uppercase letter, one lowercase letter, and one special character (~!@#\$%^&*()-_+= [{ }];:<>/?).

Status code: 400**Table 8-581** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-582** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-583 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

```
GET /{project_id}/link/instances/{instance_id}/products/{product_id}/authentication
```

Example Responses

Status code: 200

OK

```
{
  "user_name" : "4MjxbCl4q461",
  "password" : "*****"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.queryAuthentication]. Parameter is [productId]. Processor is [path].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "ROMA.00110006",
  "error_msg" : "The resource does not exist. Check whether the resource ID ff38023c-0854-4779-847d-72528e1f5da5 is correct.",
  "request_id" : "72b07918-f6a2-4721-81bf-f3fd5486025e-1619663576836-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.13 Importing Products

Function

Importing Products

URI

POST /v2/{project_id}/link/instances/{instance_id}/products/import

Table 8-584 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Request Parameters

Table 8-585 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Table 8-586 FormData parameters

Parameter	Mandatory	Type	Description
file	No	File	Upload the product file in CSV format. For details about the CSV format, see "User Guide" > "Device Integration Guide" > "Product Management" > "Importing and Exporting Products" in the usage guide.

Response Parameters

Status code: 200

Table 8-587 Response body parameters

Parameter	Type	Description
succ_num	Integer	Number of successfully imported products.
fail_num	Integer	Number of products that fail to be imported.
fail_objects_ids	Array of strings	List of products that fail to be imported.

Status code: 400

Table 8-588 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404**Table 8-589** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500**Table 8-590** Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

Import a product file to an instance.

```
{"file": "ROMALinkProducts.csv"}
```

Example Responses

Status code: 200

OK

```
{
  "succ_num" : 1,
  "fail_num" : 4,
  "fail_objects_ids" : [ ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.importProduct]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

8.7.14 Exporting Products

Function

Exporting Products

URI

GET /v2/{project_id}/link/instances/{instance_id}/products/export

Table 8-591 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. The default value is default for compatibility with 20.0. Project ID. For details about how to get the project ID, see "Appendix" > "Obtaining a Project ID" in this document.
instance_id	Yes	String	Instance ID. The default value is default for compatibility with 20.0.

Table 8-592 Query Parameters

Parameter	Mandatory	Type	Description
product_ids	No	Array of integers	ID list of products to be exported.

Request Parameters

Table 8-593 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API (value of X-Subject-Token in the response header).

Response Parameters

Status code: 200

Table 8-594 Response body parameters

Parameter	Type	Description
-	File	Exported device list (XLS or CSV).

Status code: 400

Table 8-595 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 404

Table 8-596 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Status code: 500

Table 8-597 Response body parameters

Parameter	Type	Description
error_code	String	System error code, which is the detailed error code of HTTP error codes 4xx and 5xx.
error_msg	String	Error description.
request_id	String	Message ID.

Example Requests

GET /{project_id}/link/instances/{instance_id}/products/export

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Parameter is not valid for operation [romalink.link-product.exportProduct]. Parameter is [X-Auth-Token]. Processor is [header].",
  "request_id" : "cb39e78a-afd3-4e04-901d-70468b1c23dc-1619602712496-cnnorth7a-P-romalink-service01"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "SCB.00000000",
  "error_msg" : "Not Found",
  "request_id" : "624c8be1-39b6-47b7-941d-c159aced368a-1619602544650-cnnorth7a-P-romalink-service01"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "ROMA.00110002",
  "error_msg" : "The instance does not exist. project_id: 397cd10b30544c588b2f4a56d83856c4, instance_id: f3bb386a-23ec-47aa-9943-4c60ac658611",
  "request_id" : "c8c06d0a-be92-4fdf-9d10-bc20131ab158-1619593104919-cnnorth7a-P-romalink-service01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Codes

See [Error Codes](#).

9 Example Applications

Open Service System Data

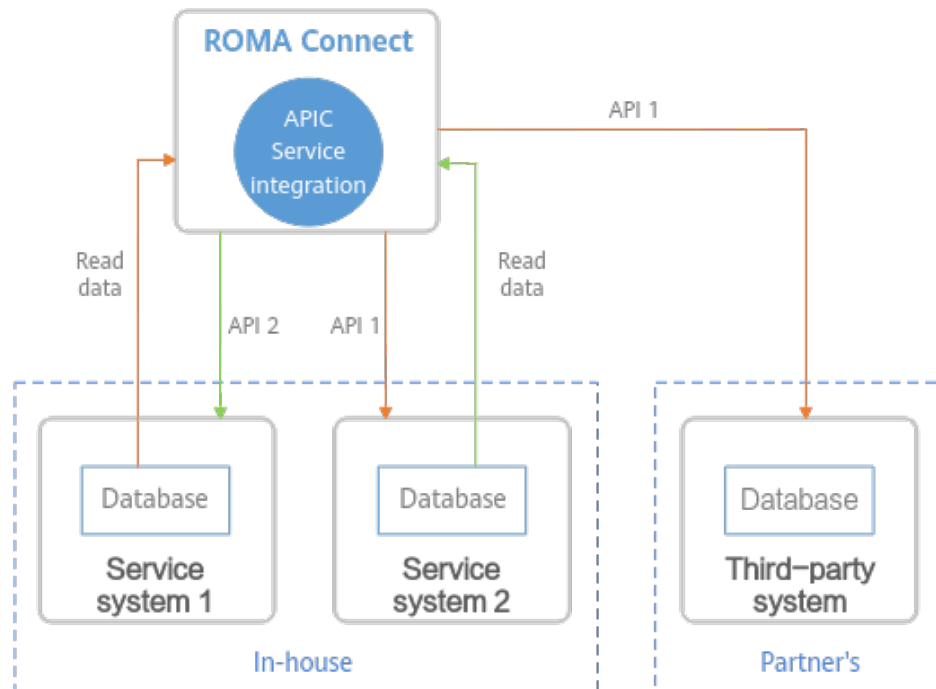
9.1 Open Service System Data

9.1.1 Overview

Introduction

API Connect (APIC) is a component of ROMA Connect for API integration. APIC can encapsulate existing backend services, data sources, and user-defined functions into standard RESTful APIs and expose them to external systems. This simplifies data sharing or service provisioning and reduces the cost of interconnection between enterprises.

ROMA Connect APIC allows you to quickly expose the service system data of an organization in RESTful APIs for other in-house systems or third-party systems to use.



Implementation

ROMA Connect supports service configuration using the console or APIs. This section describes how to configure open data by calling ROMA Connect service APIs, providing guidance for developers to integrate ROMA Connect functions during service system development.

The following steps show how to call service APIs to expose service system data.

1. **Obtain the integration application ID.**
 - If there are available integration applications, call the API for querying the applications to obtain the ID.
 - If no integration application is available, call the API for creating an application and obtain the ID.
2. **Connect to a data source.**

Call the API for creating a data source to connect to the database whose data is to be opened and obtain the returned data source ID.
3. **Create a data backend.**
 - a. Call the API for creating a backend API to create a custom backend and obtain the returned backend API ID.
 - b. Call the API for creating a backend API script to configure the data backend.
4. **Obtain the API group ID.**
 - If an API group is available, call the API for querying the API groups to obtain the group ID.
 - If no API group is available, call the API for creating an API group and obtain the group ID.
5. **Deploy and publish a data API.**

- a. Call the API for deploying a backend API and publish a data API. Then obtain the returned frontend data API ID.
 - b. (Optional) Call the API for modifying an API if you want to add request parameters for the data API.
6. **Bind an independent domain name to the data API.**
 - a. Call the API for binding a domain name for the data API and obtain the returned domain name ID.
 - b. (Optional) If HTTPS is used for the data API, call the API for adding a certificate to the domain name to add an SSL certificate to the independent domain name.
7. **Obtain data API calling information.**

Call the API for querying API details to view and record the API calling information, including the API request protocol, method, path, domain name, parameters, and authentication mode.

Provide the API calling information for other users to retrieve open service data by calling the data API.

9.1.2 Configuration Example

Prerequisites

- You have obtained the endpoint address of the region where IAM and ROMA Connect are deployed.
- You have obtained the ROMA Connect instance ID as well as the project ID of the region where the instance is located.
- You have added authentication information to the request when you call a ROMA Connect API. Either token-based authentication or AK/SK-based authentication can be selected. For details, see . AK/SK-based authentication is recommended because it is more secure than token-based authentication.

Obtaining the Integration Application ID

All resources (such as data sources and APIs) created in ROMA Connect instances must be integrated to an application. Before creating resources, obtain their integration application ID.

- If there are available integration applications, call the API for querying the applications to obtain the ID.

Example request:

```
GET /v2/{project_id}/instances/{instance_id}/apps
```

Replace the information in bold with the actual values based on the API parameter description.

Example response:

```
{
  "total": 1,
  "size": 1,
  "apps": [ {
    "id": "b2e6b145*****f4b8029f95a3",
    "name": "AppName",
    "remark": "example"
  } ],
}
```

```
} ...
```

In the response message, **apps** indicates the integration applications queried and **id** indicates the ID of an integration application. Record the value for later use.

- If no integration application is available, call the API for creating an application and obtain the ID.

Example request:

```
POST /v2/{project_id}/instances/{instance_id}/apps
```

```
{
  "name": "AppName",
  "key": "xxxxxx",
  "secret": "*****"
}
```

Replace the information in bold with the actual values based on the API parameter description.

Example response:

```
{
  "id": "b2e6b145*****f4b8029f95a3",
  "name": "AppName",
  "remark": "example",
  ...
}
```

id in the response indicates the integration application ID. Record the value for later use.

Connecting to a Data Source

Call the API for creating a data source to connect to the database whose data is to be opened and obtain the returned data source ID. The MySQL database is used as an example. For details about other types of databases, see the API parameter description.

Example request:

```
POST /v2/{project_id}/fdi/instances/{instance_id}/datasources
```

```
{
  "datasource_name": "fdi_ds_mysql",
  "datasource_type": "MYSQL",
  "content": {
    "host": "10.10.10.10",
    "port": "3306",
    "database_name": "romatest",
    "user_name": "romatest",
    "password": "*****",
    "mode": "default"
  },
  "app_id": "xxxxxx",
  "description": "test"
}
```

Replace the information in bold with the actual values based on the API parameter description. **xxxxxx** indicates the integration application ID obtained in [Obtaining the Integration Application ID](#).

Example response:

```
{
  "datasource_id": "0fd3669d*****ed3160ed051",
  ...
}
```

```
"datasource_name" : "fdi_ds_api_v2",  
"datasource_type" : "API",  
...  
}
```

datasource_id in the response indicates the data source ID. Record the value for later use.

Creating a Data Backend

By creating a data backend, the database to be opened can be converted into an API backend service.

1. Call the API for creating a backend API to create a custom backend and obtain the returned backend API ID.

Example request:

POST /v2/{**project_id**}/apic/instances/{**instance_id**}/livedata-apis

```
{  
  "name" : "data_api_demo",  
  "path" : "/data/test",  
  "method" : "GET",  
  "roma_app_id" : "xxxxxx",  
  "version" : "1.0",  
  "content_type" : "json",  
  "return_format" : false,  
  "parameters" : [  
    {  
      "name" : "param1",  
      "in" : "Parameters",  
      "required" : true  
    }  
  ]  
}
```

Replace the information in bold with the actual values based on the API parameter description. **xxxxxx** indicates the integration application ID obtained in [Obtaining the Integration Application ID](#). Backend request parameters can be configured in **parameters**, which is optional.

Example response:

```
{  
  "id" : "bd42841c*****c6d8a06e37",  
  "name" : "data_backend",  
  "roma_app_id" : "98df09fb*****2b55ca6f3d5d",  
  "content_type" : "json",  
  ...  
}
```

id in the response indicates the backend API ID. Record the value for later use.

2. Call the API for creating a backend API script to configure the data backend.

Example request:

POST /v2/{**project_id**}/apic/instances/{**instance_id**}/livedata-apis/{**ld_api_id**}/scripts

```
{  
  "api_type" : "data",  
  "scripts" : [  
    {  
      "ds_id" : "xxxxxx",  
      "type" : "SQL",  
      "object_name" : "data",  
      "content" : "ZnVuY3Rpb24g*****cmxkISIKfQ=="  
    }  
  ]  
}
```

Replace the information in bold with the actual values based on the API parameter description. **{id_api_id}** indicates the backend API ID obtained when you [create a backend API](#). **xxxxxx** indicates the data source ID obtained in [Connecting to a Data Source](#).

Obtaining the API Group ID

An API group is a collection of service APIs of the same type. Each API must belong to an API group. Before publishing a data API, obtain its API group ID.

An API can be called by external users only after it is published to the environment. Before publishing a data API, obtain its environment ID.

- If an API group is available, call the API for querying the API groups to obtain the group ID.

Example request:

```
GET /v2/{project_id}/apic/instances/{instance_id}/api-groups
```

Replace the information in bold with the actual values based on the API parameter description.

Example response:

```
{
  "total" : 2,
  "size" : 2,
  "groups" : [ {
    "name" : "api_group_001",
    "id" : "c77f5e81d*****ef2b0ac7600",
    "remark" : "group1",
    ...
  },
  ...
]
}
```

groups in the response indicates the API groups queried and **id** indicates the API group ID. Record the ID for later use.

- If no API group is available, call the API for creating an API group and obtain the group ID.

Example request:

```
POST /v2/{project_id}/apic/instances/{instance_id}/api-groups
```

```
{
  "name" : "api_group_001",
  "version" : "V2",
  "roma_app_id" : "xxxxxx"
}
```

Replace the information in bold with the actual values based on the API parameter description. **xxxxxx** indicates the integration application ID obtained in [Obtaining the Integration Application ID](#).

Example response:

```
{
  "name" : "api_group_001",
  "id" : "c77f5e81d*****ef2b0ac7600",
  "remark" : "group1",
  ...
}
```

id in the response indicates the API group ID. Record the value for later use.

Deploying and Publishing a Data API

1. Call the API for deploying a backend API and publish a data API. Then obtain the returned frontend data API ID.

Example request:

```
POST /v2/{project_id}/apic/instances/{instance_id}/livedata-apis/{ld_api_id}/deploy
```

```
{
  "deploy_front_api" : true,
  "roma_app_id" : "xxxxxx",
  "auth_type" : "APP",
  "group_id" : "yyyyyy",
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "method" : "GET",
  "path" : "/data/test",
  "protocol" : "HTTPS",
  "backend_timeout" : 5000,
  "cors": false
}
```

Replace the information in bold with the actual values based on the API parameter description. **{ld_api_id}** indicates the backend API ID obtained in [Creating a Data Backend](#), **xxxxxx** indicates the integration application ID obtained in [Obtaining the Integration Application ID](#), and **yyyyyy** indicates the API group ID obtained in [Obtaining the API Group ID](#).

Example response:

```
{
  "id" : "5e19590f54444d8a9b8fe698ce26e9fe",
  "deploy_time" : "2020-09-19T06:58:13Z",
  "api_id" : "1d0432f1a*****ae7bd96ca6",
  "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
  ...
}
```

api_id in the response indicates the frontend data API ID. Record the value for later use.

2. (Optional) When you [publish a data API](#), request parameters cannot be added for the API. Call the API for modifying an API if you want to add the request parameters.

Example request:

```
PUT /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}
```

```
{
  "name": "Data_API",
  "type": 1,
  "req_protocol": "HTTPS",
  "req_method": "GET",
  "req_uri": "/data/test",
  "auth_type": "APP",
  "backend_type": "HTTP",
  "group_id": "c77f5e81d*****ef2b0ac7600",
  "req_params": [
    {
      "name": "param01",
      "type": "STRING",
      "location": "QUERY"
    }
  ],
}
```

Replace the information in bold with the actual values based on the API parameter description. **{api_id}** indicates the frontend data API ID obtained when you [publish a data API](#). The values of **req_protocol**, **req_method**,

req_uri, **auth_type**, and **group_id** must be consistent with those set when the data API is published. Backend request parameters can be configured in **parameters**, which is optional.

Binding an Independent Domain Name to the Data API

Bind an independent domain name to the API to be exposed so that users can use the domain name to access the API.

1. Call the API for binding a domain name for the data API and obtain the returned domain name ID.

Example request:

```
POST /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains
```

```
{
  "url_domain" : "www.example.com"
}
```

Replace the information in bold with the actual values based on the API parameter description. **{group_id}** indicates the API group ID obtained in [Obtaining the API Group ID](#).

Example response:

```
{
  "url_domain" : "www.example.com",
  "id" : "c5e0d5ba*****ae22c1a17",
  "status" : 3,
  "min_ssl_version" : "TLSv1.1"
}
```

id in the response indicates the domain name ID. Record the value for later use.

2. (Optional) If HTTPS is used in [Deploying and Publishing a Data API](#), call the API for adding a certificate to the domain name to add an SSL certificate for the independent domain name.

Example request:

```
POST /v2/{project_id}/apic/instances/{instance_id}/api-groups/{group_id}/domains/{domain_id}/certificate
```

```
{
  "name" : "cert_demo",
  "private_key" : "-----Start certificate-----*****-----End certificate-----",
  "cert_content" : "-----Start RSA private key----- *****-----End RSA private key-----"
}
```

Replace the information in bold with the actual values based on the API parameter description. **{group_id}** indicates the API group ID obtained in [Obtaining the API Group ID](#), and **{domain_id}** indicates the domain name ID obtained when you [bind an independent domain name](#).

Obtaining Data API Calling Information

Call the API for querying API details to view and record the API calling information, including the API request protocol, method, path, domain name, parameters, and authentication mode.

Example request:

```
GET /v2/{project_id}/apic/instances/{instance_id}/apis/{api_id}
```

Replace the information in bold with the actual values based on the API parameter description. **{api_id}** indicates the frontend data API ID obtained in [Deploying and Publishing a Data API](#).

Example response:

```
{
  "name": "API_test",
  "type": 1,
  "version": "V1.0",
  "req_protocol": "HTTP",
  "req_method": "GET",
  "req_uri": "/api/demo",
  "auth_type": "APP",
  ...
  "domain_name": "www.example.com",
  ...
  "req_params": [],
  ...
}
```

In the response, **req_protocol** indicates the request protocol, **req_method** indicates the request method, **req_uri** the request path, **domain_name** the access domain name, **req_params** the request parameters, and **auth_type** the authentication mode.

Provide the API calling information for other users to retrieve open service data by calling the data API. The procedure for calling data APIs varies depending on the API authentication mode. For details, see [Calling an Open API](#).

10 Appendix

[Obtaining a Project ID](#)

[Obtaining the Account ID](#)

[Status Codes](#)

[Error Codes](#)

[APIC Features Supported by ROMA Connect Instances](#)

[Data Integration Parameter Description](#)

[Obtaining a Data Source Configuration File](#)

10.1 Obtaining a Project ID

Obtaining a Project ID by Calling an API

A project ID can also be obtained by calling a specific API. For details, see [Querying Project Information](#) of IAM.

The API used to obtain a project ID is **GET https://{Endpoint}/v3/projects/**. *{Endpoint}* indicates the IAM endpoint, which can be obtained from Regions and Endpoints. For details about API authentication, see [Authentication](#).

In the following example, **id** indicates the project ID.

```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "xxxxxxx",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "id": "a4a5d4098fb4474fa22cd05f897d6b99",
      "enabled": true
    }
  ]
}
```



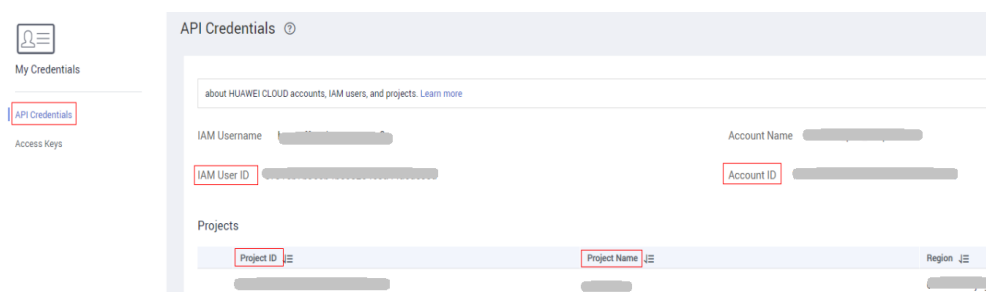
```
},
"links": {
  "next": null,
  "previous": null,
  "self": "https://www.example.com/v3/projects"
}
```

Obtaining a Project ID from the Console

A project ID is required for some URLs when an API is called. To obtain a project ID, perform the following operations:

1. Click the username and choose **Basic Information** from the drop-down list.
2. On the **Basic Information** page, click **Manage** next to **Security Credentials**.
On the **API Credentials** page, view project IDs in the project list.

Figure 10-1 Viewing project IDs

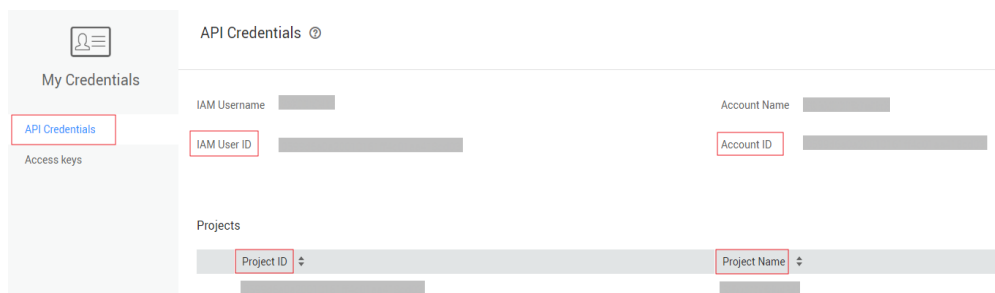


10.2 Obtaining the Account ID

An account ID (**domain-id**) is required for some URLs when an API is called. To obtain the account ID, perform the following steps:

1. Log in to the management console.
2. Click the username and choose **My Credentials** from the drop-down list.
On the **API Credentials** page, obtain the **Account ID**.

Figure 10-2 Obtaining your account ID



10.3 Status Codes

Table 10-1 Status codes

Status Code	Description
200 OK	The request is normal.
201 Created	The request has been fulfilled and resulted in a new resource being created.
202 Accepted	The request has been accepted, but the processing has not been completed.
204 No Content	The server successfully processed the request and is not returning any content.
400 Bad Request	The request could not be understood by the server due to malformed syntax. The client should modify the request instead of re-initiating it.
401 Unauthorized	The authentication information is incorrect or invalid.
403 Forbidden	The server understood the request, but is refusing to fulfill it. The client should not repeat the request without modifications.
404 Not Found	The requested resource cannot be found. The client should modify the request instead of re-initiating it.
405 Method Not Allowed	The method specified in the request is not allowed for the requested resource. The client should modify the request instead of re-initiating it.
406 Not Acceptable	The server cannot fulfill the request based on 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 Timeout	The client does not produce a request within the time that the server was prepared to wait. The client may repeat the request without modifications at any later time.

Status Code	Description
409 Conflict	The request could not be completed due to a conflict with the current state of the resource. This status code indicates the resource that the client attempts to create already exists, or the request fails to be processed because of the update of the conflict request.
410 Gone	The requested resource is no longer available. The status code indicates that the requested resource has been deleted permanently.
429 Too Many Request	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, the client should repeat requests after the time specified in the Retry-After header of the response expires.
500 Internal Server Error	The server encountered an unexpected condition which prevented it from fulfilling the request.
501 Not Implemented	The server does not support the functionality required to fulfill the request.
502 Bad Gateway	The server, while acting as a gateway or proxy, received an invalid response from the upstream server it accessed in attempting to fulfill the request.
503 Service Unavailable	The requested service is unavailable. The client should modify the request instead of re-initiating it.
504 Gateway Timeout	The request cannot be fulfilled within a given amount of time. This status code is returned to the client only when the timeout parameter is specified in the request.

10.4 Error Codes

10.4.1 Error Codes of Public Resource APIs

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.1000	No token is available in the request.	No token is available in the request.	Add the token field to the header of the request.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.10010	Failed to create the task.	Failed to create the task.	Rectify the fault against the failure cause, and try again.
400	ROMA.10011	Failed to decompress the file.	Failed to decompress the file.	Rectify the fault against the failure cause, and try again.
400	ROMA.10012	An asset management task is running.	An asset management task is running.	Try again after the task is complete.
400	ROMA.10013	Only .zip files are supported. The file name must start with a letter or digit. Among all the special characters, only the plus sign (+), minus sign (-), and underscore (_) are allowed.	Only .zip files are supported. The file name must start with a letter or digit. Among all the special characters, only the plus sign (+), minus sign (-), and underscore (_) are allowed.	Check whether the conditions are met and try again.
400	ROMA.1002	Incorrect token in the request.	Incorrect token in the request.	Add the correct token to the header of the request.
400	ROMA.1006	You do not have the permissions required to perform this operation.	You do not have the permissions required to perform this operation.	Grant the required permissions to the user account on the IAM console.
400	ROMA.1007	Invalid request URL.	Invalid request URL.	Modify the request URL.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.11011	Failed to write the dictionary information to etcd.	Failed to write the dictionary information to etcd.	Provide your instance ID to technical support for assistance.
400	ROMA.12001	You do not have the permissions required to operate the application.	You do not have the permissions required to operate the application.	Use an account that has the required permissions.
400	ROMA.12002	The user does not support this feature.	The user does not support this feature.	Add operation permissions for this feature.
400	ROMA.13000	Invalid parameters.	Invalid parameters.	Use valid parameters.
400	ROMA.13001	No request body is available.	No request body is available.	Add a request body.
400	ROMA.13002	The route description length exceeds the limit.	The route description length exceeds the limit.	Shorten the route description.
400	ROMA.13003	The route is invalid or conflicts with another route.	The subservice update routes failed.	Configure a correct route.
400	ROMA.13011	The dictionary does not exist.	The dictionary does not exist.	Check whether the accessed dictionary information is correct.
400	ROMA.13012	The dictionary already exists.	The dictionary already exists.	Modify or create a dictionary.
400	ROMA.13013	The parent dictionary is invalid.	The parent dictionary is invalid.	Create a valid parent dictionary.
400	ROMA.13014	The system dictionary cannot be deleted.	The system dictionary cannot be deleted.	Do not delete the system dictionary.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.14001	The application does not exist.	The application does not exist.	Check whether the application information is correct.
400	ROMA.14002	The instance does not exist.	The instance does not exist.	Check whether the instance information is correct.
400	ROMA.14003	The instance is not running.	The instance is not running.	Perform the operation when the instance is running.
400	ROMA.14011	The application already exists.	The application already exists.	Enter the correct application name.
400	ROMA.14012	The application key already exists.	The application key already exists.	Use another key or modify the existing key.
400	ROMA.14014	The application cannot be deleted because it contains resources.	The application cannot be deleted because it contains resources.	View the application details, delete resources under the application, and then delete the application.
400	ROMA.15002	Insufficient instance quota.	Insufficient instance quota.	Delete useless instances or apply for a higher instance quota.
400	ROMA.15011	Failed to query the database.	Failed to query the database.	Provide your instance ID to technical support for assistance.
400	ROMA.15012	Failed to update the database.	Failed to update the database.	Provide your instance ID to technical support for assistance.
400	ROMA.15013	The resource tenant does not exist.	The resource tenant does not exist.	Provide your instance ID to technical support for assistance.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.15014	The LVS VM does not exist.	The LVS VM does not exist.	Provide your instance ID to technical support for assistance.
400	ROMA.15015	The subnet IP address of the LVS does not exist.	The subnet IP address of the LVS does not exist.	Provide your instance ID to technical support for assistance.
400	ROMA.15016	Failed to create the NIC for the subnet.	Failed to create the NIC for the subnet.	Provide your instance ID to technical support for assistance.
400	ROMA.15017	Failed to create the sub-service.	Failed to create the sub-service.	Click the instance name to view the error details of the sub-service, and rectify the fault as instructed. If the error persists, provide the instance ID to technical support for assistance.
400	ROMA.15018	Invalid OBS address.	Invalid OBS address.	Provide your instance ID to technical support for assistance.
400	ROMA.15019	Invalid VPC CIDR.	Invalid VPC CIDR.	Use a VPC with a valid CIDR.
400	ROMA.15023	REST request failed.	REST request failed.	The network is abnormal or the peer service is abnormal.
400	ROMA.4001000	Invalid parameters.	Invalid parameters.	Correct the parameter values.
400	ROMA.4001001	The ROMA Connect instance name already exists.	The ROMA Connect instance name already exists.	Use another ROMA Connect instance name.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.4001010	The ROMA Connect instance name is invalid.	The ROMA Connect instance name is invalid.	Use a valid ROMA Connect instance name.
400	ROMA.4001012	The maintenance time window parameter of the ROMA Connect instance is invalid.	The maintenance time window parameter of the ROMA Connect instance is invalid.	Modify the maintenance time window parameter.
400	ROMA.4001016	Failed to create the LVS.	Failed to create the LVS.	1. Increase the quota, and contact technical support to expand the resources. 2. Check whether the CIDR block of the VPC used to create the instance is --, which means that the CIDR block is not configured. If yes, set the CIDR block of the VPC as the same CIDR block of the subnet.
400	ROMA.4001017	The token has expired.	The token has expired.	Obtain another token.
400	ROMA.4001019	This operation cannot be performed on instances in the current status.	This operation cannot be performed on instances in the current status.	Provide your instance ID to technical support for assistance.
400	ROMA.4001024	The password is too simple.	The password is too simple.	Use another password.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.40010 25	The ROMA Connect instance does not exist.	The ROMA Connect instance does not exist.	On the ROMA Connect console, check whether the instance corresponding to the instance ID exists. If no, check the instance ID.
400	ROMA.40010 26	The ROMA Connect instance is not running.	The ROMA Connect instance is not running.	Check the instance status on the ROMA Connect console. If the instance is abnormal, contact technical support.
400	ROMA.40010 27	The application does not exist.	The application does not exist.	Check whether the application exists.
400	ROMA.40010 28	The application already exists.	The application already exists.	Check whether the application already exists.
400	ROMA.40010 29	Invalid application name.	Invalid application name.	Use another application name that contains 1 to 256 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
400	ROMA.40010 30	The application description is too long.	The application description is too long.	Shorten the application description.
400	ROMA.40010 31	Failed to write data into etcd.	Failed to write data into etcd.	Provide your instance ID to technical support for assistance.
400	ROMA.40010 33	The application cannot be deleted because it contains resources.	The application cannot be deleted because it contains resources.	View the application details, delete resources under the application, and then delete the application.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.4001034	The application quota is insufficient.	The application quota is insufficient.	The number of applications has reached the maximum allowed limit. Apply for a higher quota.
400	ROMA.4001040	Invalid application key.	Invalid application key.	Check that the application key contains 3 to 200 characters, including digits, letters, and hyphens (-).
400	ROMA.4001041	Invalid application secret.	Invalid application secret.	Check that the application secret contains 8 to 128 characters, including digits and letters.
400	ROMA.4001053	Another order for deleting the instance is in progress.	Another order for deleting the instance is in progress.	Process the ongoing order first.
400	ROMA.4011000	The user token in the request does not match the project ID.	The user token in the request does not match the project ID.	Check whether the token or project ID in the request has been tampered with.
400	ROMA.4030001	You do not have the permissions required for this resource.	You do not have the permissions required for this resource.	Check whether the resource corresponding to the ID belongs to the current user.
400	ROMA.4031001	Insufficient quota.	Insufficient quota.	Provide your account name to technical support for assistance.
400	ROMA.4031005	The trial instance quota is insufficient.	The trial instance quota is insufficient.	Provide your account name to technical support for assistance.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.4031006	A resource with the same name already exists.	A resource with the same name already exists.	Use another resource name.
400	ROMA.4031007	The EIP has already been bound.	The EIP has already been bound.	Use another available EIP.
400	ROMA.4031008	An LVS with the same name already exists.	An LVS with the same name already exists.	Use another LVS name.
400	ROMA.4031009	You do not have the permissions required to create a trial instance.	You do not have the permissions required to create a trial instance.	Contact the service personnel to apply for a trial instance.
400	ROMA.4041000	The resource does not exist.	The resource does not exist.	Check whether the resource exists.
400	ROMA.4041002	The account cannot access enterprise projects.	The account cannot access enterprise projects.	Check whether the account is an enterprise account.
400	ROMA.4041003	You do not have the permissions required to view the IAM user list.	You do not have the permissions required to view the IAM user list.	Grant the Security Administrator role to the user on the IAM console.
400	ROMA.5001000	This is an internal service.	This is an internal service.	Contact technical support for assistance.
400	ROMA.5001003	The product ID does not exist.	The product ID does not exist.	Check whether the service has been removed. If yes, release it again.
400	ROMA.5002000	The AZ does not exist.	The AZ does not exist.	Check the AZ specified in the instance creation request.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.5008000	The database connection is abnormal.	The database connection is abnormal.	Check the database connection address or the database service.
400	ROMA.5008020	Failed to unbind the EIP.	Failed to unbind the EIP.	Try again after 1 minute.
400	ROMA.5008021	Failed to bind the EIP.	Failed to bind the EIP.	Try again after 1 minute.

10.4.2 Error Codes of Service Integration APIs

Status Code	Error Codes	Error Message	Description	Solution
400	APIC.7244	Unsupported to update eip bandwidth	Unsupported to update eip bandwidth	Do not perform this operation.
400	APIC.7250	Invalid query param	Invalid query param	Use a valid query parameter.
400	APIC.7251	Invalid query param limit	Invalid query param limit	Use a valid limit.
400	APIC.7252	Invalid query param next_token	Invalid query param next_token	Use a valid next_token.
400	APIC.7254	IPv6 access not supported.	IPv6 access not supported.	Contact technical support.
400	APIC.7257	The custom inbound port is bound to a custom domain name.	The custom inbound port is bound to a custom domain name.	Delete or modify the domain name bound to the custom inbound port.

Status Code	Error Codes	Error Message	Description	Solution
400	APIC.9206	create instance failed	Failed to create the instance.	If resources are insufficient, expand resources. If the network is abnormal, check the network of the corresponding service and restore the network connectivity.
400	APIC.9218	Create instance failed due to insufficient quota.	Create instance failed due to insufficient quota.	Increase the quota and try again.
400	APIC.9219	Create instance failed due to insufficient resources.	Create instance failed due to insufficient resources.	Expand the resource capacity and try again.
400	APIC.9220	Failed to update inbound access address of the instance	Failed to update inbound access address of the instance	Contact technical support.
400	APIC.9221	Inbound access address of the instance cannot be updated.	Inbound access address of the instance cannot be updated.	This operation is not supported.
400	APIC.9223	Delete custom inbound port failed.	Delete custom inbound port failed.	Try again later or contact technical support.
400	APIC.9224	Add custom inbound port failed.	Add custom inbound port failed.	Try again later or contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.1000	The token is missing.	Failed to identify the user authentication information. Re-log in or try again later.	Access with a token.
400	APIG.1119	No permissions to perform operations on this method.	No permissions to perform operations on this method.	Obtain the corresponding fine-grained permission first.
400	APIG.1120	No permissions to create ELB channels.	No permissions to create ELB channels.	The ELB channel to be operated must be under your own account. If the ELB channel is under another account, you must obtain the authorization first.
400	APIG.1201	The resources belong to different tenants.	The resources belong to different tenants.	Ensure that the objects to be operated belong to the same tenant.
400	APIG.2000	Parameter error.	Incorrect request parameter {x}.	Modify the request parameter based on the returned cause.
400	APIG.2001	The request parameters must be specified.	Request parameter {x} must be specified.	Modify the request parameter based on the returned cause.
400	APIG.2002	The parameter value is too small.	The value of parameter {x} is too small.	Modify the request parameter based on the returned cause.
400	APIG.2003	The parameter value is too large.	The value of parameter {x} is too large.	Modify the request parameter based on the returned cause.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.2004	The parameter value is outside the allowable range.	The value of parameter {x} is outside the allowable range.	Modify the request parameter based on the returned cause.
400	APIG.2005	The parameter is too short.	The parameter is too short.	Modify the request parameter based on the returned cause.
400	APIG.2006	The parameter is too long.	The parameter is too long.	Modify the request parameter based on the returned cause.
400	APIG.2007	Invalid length.	Invalid length.	Modify the request parameter based on the returned cause.
400	APIG.2008	Only letters are allowed.	Only letters are allowed.	Modify the request parameter based on the returned cause.
400	APIG.2009	Only digits are allowed.	Only digits are allowed.	Modify the request parameter based on the returned cause.
400	APIG.2010	Only letters and digits are allowed.	Only letters and digits are allowed.	Modify the request parameter based on the returned cause.
400	APIG.2011	Invalid parameter value.	The setting of arameter {x} does not match the rule.	Modify the request parameter based on the returned cause.
400	APIG.2012	Invalid parameter value.	The parameter matches an unexpected rule.	Modify the request parameter based on the returned cause.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.2013	Only letters, digits, hyphens (-), and underscores (_) are allowed.	Only letters, digits, hyphens (-), and underscores (_) are allowed.	Modify the request parameter based on the returned cause.
400	APIG.2014	Invalid email address.	Invalid email address.	Modify the request parameter based on the returned cause.
400	APIG.2015	Invalid IP address.	Invalid IP address.	Modify the request parameter based on possible causes.
400	APIG.2016	The characters are not encoded using Base 64.	The characters are not encoded using Base 64.	Change the request parameter to a correct Base64-encoded character string.
400	APIG.2017	Invalid mobile number.	Invalid mobile number.	Modify the request parameter based on possible causes.
400	APIG.2018	Invalid telephone number.	Invalid telephone number.	Modify the request parameter based on possible causes.
400	APIG.2019	Invalid telephone or mobile number.	Invalid telephone or mobile number.	Modify the request parameter based on possible causes.
400	APIG.2020	Invalid postal code.	Invalid postal code.	Modify the request parameter based on possible causes.
400	APIG.2021	The URL domain is not included in the IP address whitelist.	The URL domain is not included in the IP address whitelist: {x}.	Modify the request parameter.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.2022	The URL domain is included in the IP address blacklist.	The URL domain is included in the IP address blacklist: {x}.	Modify the request parameter.
400	APIG.2023	URL domain CNAME resolution failed.	URL domain CNAME resolution failed.	Register the CNAME resolution record of the domain name first.
400	APIG.2024	Invalid URL domain.	Invalid URL domain.	Use a correct domain name.
400	APIG.2025	Invalid backend port number.	Invalid backend port number.	Use a correct port number.
400	APIG.2026	The request path parameters do not match the request URI.	The request path parameters do not match the request URI.	Add the parameters contained in the request path to the request parameters.
400	APIG.2027	The backend path parameters do not match the backend URI.	The backend path parameters do not match the backend URI.	Add the parameters contained in the backend request path to backend parameters.
400	APIG.2028	The backend parameters are not mapped to the request parameters.	The backend parameters are not mapped to the request parameters.	Change the source in the backend parameter to a correct request parameter.
400	APIG.2030	Bad request for debugging the API.	Bad request for debugging the API.	Use correct API debugging parameters.
400	APIG.2034	The domain name has not been filed. File it first.	The domain name has not been filed. File it first.	File the domain name first.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.2035	The ICP Filing System is busy. Please try again later.	The ICP Filing System is busy. Please try again later.	Contact technical support engineers for assistance.
400	APIG.2037	Plugin content invalid	Plugin content invalid	Modify the plugin content.
400	APIG.2038	Invalid cron expression	Invalid cron expression	The cron expression is invalid.
400	APIG.2039	Only boolean are allowed	Only boolean are allowed	Use a parameter of the Boolean type.
400	APIG.2041	Invalid microservice.	Invalid microservice.	Change service_id to a valid microservice ID.
400	APIG.2042	Invalid engine.	Invalid engine.	Change engine_id to a valid microservice engine ID.
400	APIG.2043	Too many custom backends to take offline.	Too many custom backends to take offline.	Reduce the number of custom backends.
400	APIG.2044	Invalid title of info	Invalid Info.title	The Info.title must meet the documents
400	APIG.2045	Parse Servers error. The Servers must meet the documents	Servers field parsing error. Servers field is invalid	The Servers must meet the documents
400	APIG.2046	Incorrect custom authentication timeout.	Incorrect custom authentication timeout.	Modify the custom authentication timeout. It should be less than or equal to the function execution timeout and the V2 API timeout (600s).

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.2047	Incorrect number of retries for custom authentication.	Incorrect number of retries for custom authentication.	Set the number of custom authentication retries to a value between 0 and 10.
400	APIG.2048	Incorrect Nacos configurations.	Incorrect Nacos configurations.	Correct the Nacos configurations.
400	APIG.2049	The port is not in the defined custom inbound ports.	The port is not in the defined custom inbound ports.	Use the default HTTP/HTTPS port, or define a new port in the inbound rule.
400	APIG.2050	The combination of this domain name and port already exists.	The combination of this domain name and port already exists.	Specify another domain name or port number.
400	APIG.2051	A domain name cannot be bound with different certificates.	A domain name cannot be bound with different certificates.	Bind the same certificate.
400	APIG.2052	SM2 certificates are supported only by gateways with SM cryptographic algorithms.	SM2 certificates are supported only by gateways with SM cryptographic algorithms.	Contact technical support to check whether gateways with SM cryptographic algorithms can be created.
400	APIG.2053	Invalid agency.	Invalid agency.	Check whether the agency is correctly configured.
400	APIG.2055	No agency is configured for the gateway.	No agency is configured for the gateway.	The gateway has no agency to refresh.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.2101	The certificate and private key do not match.	The certificate and private key do not match.	Use the matching certificate and private key.
400	APIG.2102	The certificate has expired.	The certificate has expired.	Use a certificate that has not expired.
400	APIG.2103	The certificate common name does not match the domain name.	The certificate common name does not match the domain name.	Ensure that the domain name in the certificate is the same as the user-defined domain name.
400	APIG.2104	The certificate chain is not matched.	The certificate chain is not matched.	Place the server certificate at the beginning and the other certificates in sequence if a certificate chain contains multiple certificates.
400	APIG.2105	Encrypted private keys are not supported.	Encrypted private keys are not supported.	Use an unencrypted private key.
400	APIG.2106	Invalid certificate or private key.	Invalid certificate or private key.	Use a correct certificate and private key.
400	APIG.2108	Microservice unavailable.	Microservice unavailable.	Change service_id to the ID of an available microservice.
400	APIG.2109	Invalid certificate. SAN missing.	Invalid certificate. SAN missing.	Generate a new certificate that contains a SAN.
400	APIG.3073	The IP address or IP address/CIDR mask does not exist.	The IP address or IP address/CIDR mask does not exist.	Check the IP address or IP address/CIDR mask.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3141	The number of API tasks exceeds the maximum allowed limit	The number of API tasks exceeds the maximum allowed limit	Contact technical support engineers to increase the quota.
400	APIG.3145	The number of member groups exceeds the maximum allowed limit	The number of member groups exceeds the maximum allowed limit	Contact technical support engineers to increase the quota.
400	APIG.3147	The number of kafka log plugins exceeds the maximum allowed limit	The number of kafka log plugins exceeds the maximum allowed limit	Contact technical support engineers to increase the quota.
400	APIG.3148	Invalid certificate. Add one that expires before January 19, 2038 03:14:07 UTC.	Invalid certificate. Add one that expires before January 19, 2038 03:14:07 UTC.	Add one that expires before January 19, 2038 03:14:07 UTC.
400	APIG.3149	Too many MRS HBase data sources.	Too many MRS HBase data sources.	Do not perform this operation.
400	APIG.3152	Too many MRS data sources	Too many MRS data sources	Delete excessive MRS data sources and create a new one.
400	APIG.3153	The number of custom GeolPs exceeds the limit.	The number of custom GeolPs exceeds the limit.	Delete unnecessary custom GeolPs.
400	APIG.3154	Too many connections.	Too many connections.	Increase the APIC connection quota.
400	APIG.3201	The API group name already exists.	The API group name already exists.	Use another name.
400	APIG.3202	The API name already exists.	The API name already exists.	Use another name.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3203	The app name already exists.	The app name already exists.	Use another name.
400	APIG.3204	The request throttling policy name already exists.	The request throttling policy name already exists.	Use another name.
400	APIG.3205	The environment name already exists.	The environment name already exists.	Use another name.
400	APIG.3206	The access control policy name already exists.	The access control policy name already exists.	Use another name.
400	APIG.3207	The signature key name already exists.	The signature key name already exists.	Use another name.
400	APIG.3208	The VPC channel name already exists.	The VPC channel name already exists.	Use another name.
400	APIG.3209	The parameter name already exists.	The parameter name already exists.	Use another name.
400	APIG.3210	The backend policy name already exists.	The backend policy name already exists.	Use another name.
400	APIG.3211	The authorizer name already exists.	The authorizer name already exists.	Use another name.
400	APIG.3212	The identity source name already exists.	The identity source name already exists.	Use another name.
400	APIG.3213	The API tag name already exists.	The API tag name already exists.	Use another name.
400	APIG.3215	The backend API name already exists.	The backend API name already exists.	Use another name.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3216	The response name already exists.	The response name already exists.	Use another name.
400	APIG.3301	The API already exists.	The API already exists.	Modify the API method and URL to avoid conflicts with other APIs.
400	APIG.3303	The environment variable already exists.	The environment variable already exists.	Use another name.
400	APIG.3305	The URL domain name already exists.	The URL domain name already exists.	Check whether the domain name has already been used, or use another domain name.
400	APIG.3306	The IP address already exists.	The IP address already exists.	Check the IP addresses in the blacklist or whitelist, and delete duplicate ones.
400	APIG.3309	The operation has already been performed.	The operation has already been performed.	Reduce concurrent operations or try again later.
400	APIG.3310	The AppKey already exist.	The AppKey already exist.	Use another AppKey.
400	APIG.3311	The AppCode already exists.	The AppCode already exists.	Use another AppCode.
400	APIG.3314	The backend API already exists.	The backend API already exists.	Modify the method and URL of the custom backend API to avoid conflicts with other APIs.
400	APIG.3315	The returned object name already exists.	The returned object name already exists.	Use another name.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3316	The API authorization relationship already exists.	The API authorization relationship already exists.	Use other APIs or apps for authorization.
400	APIG.3317	The sign binding relationship already exists	The sign binding relationship already exists	Check whether the signature key used by the custom backend is the same as that bound to the frontend API.
400	APIG.3318	The plugin name already exists	The plugin name already exists	Use another name.
400	APIG.3319	The API task name already exists	The API task name already exists	Use another name.
400	APIG.3325	The APP quota name already exists.	The APP quota name already exists.	Use another name.
400	APIG.3326	The vpc channel member already exists	The vpc channel member already exists	Use another backend server.
400	APIG.3328	The vpc channel member group already exists	The vpc channel member group already exists	Use another name.
400	APIG.3330	VPC already bound to a microservice.	VPC already bound to a microservice.	Change vpc_channel_id to another ID not bound to any microservice.
400	APIG.3331	The orchestration rule name already exists.	The orchestration rule name already exists.	Use a unique rule name.
400	APIG.3332	The IP address or IP address/CIDR mask already exists.	The IP address or IP address/CIDR mask already exists.	Check whether the IP address or IP address/CIDR mask is unique.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3459	The api group version not match.	The api group version not match.	Modify the version to match the group type.
400	APIG.3469	All the members must bound to member group or not	All the members must bound to member group or not	Bind all servers of the load balance channel to the server group or unbind all the servers from the server group.
400	APIG.3471	No permissions to perform operations on this type of VPC channel.	No permissions to perform operations on this type of VPC channel.	Do not perform this operation.
400	APIG.3472	The instance has been used by another VPC.	The instance has been used by another VPC.	Release the relationship with another VPC
400	APIG.3473	The load balancer has already been bound to another endpoint service.	The load balancer has already been bound to another endpoint service.	Do not perform this operation.
400	APIG.3474	The API group ID in the URL does not match the API group to which the URL domain has been bound.	The API group ID in the URL does not match the API group to which the URL domain has been bound.	Change the group in the URL to the group bound to the domain name.
400	APIG.3475	The API group ID in the URL does not match the API group to which the certificate has been bound.	The API group ID in the URL does not match the API group to which the certificate has been bound.	Change the group in the URL to the group bound to the certificate.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3476	The domain ID in the URL does not match the domain to which the certificate has been bound.	The domain ID in the URL does not match the domain to which the certificate has been bound.	Change the domain name in the URL to the domain name bound to the certificate.
400	APIG.3477	The authorizer type and API do not match.	The authorizer type and API do not match.	Use the correct custom authorizer type.
400	APIG.3479	No permissions to perform operations on this ROMA integration application.	No permissions to perform operations on this ROMA integration application.	Modify the resources to belong to the same application.
400	APIG.3489	The data source type is not supported.	The data source type is not supported.	Use the correct data source type.
400	APIG.3494	The backend of API is livedata and cannot change.	The backend of API is livedata and cannot change.	Cancel the custom backend deployment, and try again after modification.
400	APIG.3499	The API task logs cannot be queried when the API task status is init	The API task logs cannot be queried when the API task status is init	Please start the API task first then query the API task logs.
400	APIG.3600	Json or Yaml format error.	Json or Yaml format error.	Check whether the file to be imported is a YAML or JSON file and whether the file format is correct. Note: This error is also reported when an Excel file is imported.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3601	The Swagger file version must be 2.0.	The Swagger file version must be 2.0.	Use a Swagger file of the 2.0 version.
400	APIG.3602	Syntax error in the Swagger file.	Syntax error in the Swagger file.	Check the error in the Swagger file.
400	APIG.3603	The Swagger file content is too long.	The Swagger file content is too long.	Reduce the Swagger file size.
400	APIG.3604	Syntax error in the imported assets file.	Syntax error in the imported assets file.	Check the asset file format.
400	APIG.3605	The number of assets exceeds the maximum allowed limit.	The number of assets exceeds the maximum allowed limit.	Reduce the number of assets.
400	APIG.3606	Asset version transfer failed.	Asset version transfer failed.	Change the mapping between asset versions and asset formats.
400	APIG.3607	Valid external dependencies for assets fail.	Valid external dependencies for assets fail.	Try again or contact technical support engineers to check whether the data plane synchronization is abnormal.
400	APIG.3610	When the backend uses the load balance channel, the number of retry count cannot exceed the number of available backend servers in the load balance channel	When the backend uses the load balance channel, the number of retry count must be less than the number of available backend servers in the load balance channel	Change the number of retry times to a value less than the number of available backend servers of the load balance channel.

Status Code	Error Codes	Error Message	Description	Solution
400	APIG.3710	The VPC channel is being used by another third_auth plugin	The VPC channel is being used by another third_auth plugin	Unbind the third-party plug-in from the load balance channel, and then delete the load balance channel.
400	APIG.3715	A domain name can only be bound with CA certificates of the same algorithm type.	A domain name can only be bound with CA certificates of the same algorithm type.	Unbind the existing CA certificates and try again.
400	APIG.3717	Two-way TLS authentication not supported for HTTP or GRPC backend requests.	Two-way TLS authentication not supported for HTTP or GRPC backend requests.	Disable two-way TLS authentication first.
401	APIC.7100	Token missing.	Token missing.	Access with a token.
401	APIC.7101	Token expired.	Token expired.	Obtain a token again for access.
401	APIC.7102	Incorrect token or token resolution failure.	Incorrect token or token resolution failure.	Contact technical support engineers to check whether the token encryption/decryption setting is abnormal.
401	APIC.7103	Token contains no project information.	Token contains no project information.	Use the project information to obtain the token.
401	APIC.7104	Token contains no domain information.	Token contains no project information.	Use the tenant project information to obtain the token.

Status Code	Error Codes	Error Message	Description	Solution
401	APIC.7105	Token contains no user information.	Token contains no user information.	Use the user information to obtain the token.
401	APIC.7107	Token contains no role information.	Token contains no role information.	Use the role information to obtain the token.
401	APIG.1001	The token has expired.	The token has expired.	Obtain a token again for access.
401	APIG.1002	Incorrect token or token resolution failed.	Incorrect token or token resolution failed.	Use a correct token to access the system.
401	APIG.1003	The token does not contain project information.	The token does not contain project information.	Access using a token containing project information.
401	APIG.1005	No permissions to request this method.	No permissions to request this method.	Access using a token that contains the required permissions.
401	APIG.1009	The token does not contain user information.	The token does not contain user information.	Access using a token containing user information.
401	APIG.1010	PDP server connection failed.	PDP server connection failed.	Contact technical support engineers to view the management plane logs and check whether connection of the IAM fine-grained authentication server is abnormal.

Status Code	Error Codes	Error Message	Description	Solution
401	APIG.1144	No permissions to perform operations on this API task	No permissions to perform operations on this API task	The scheduled task to be operated must be under your own account. If the task is under another account, you must obtain the authorization first.
401	APIG.1300	No permissions to perform operations on this project	No permissions to perform operations on this project	Use a token for the correct project.
401	APIG.3497	The ROMA APP to which the API task belongs cannot be changed	The ROMA APP to which the API task belongs cannot be changed	Do not perform this operation.
401	APIG.3498	The API task cannot be operated when the API task status is started	The API task cannot be operated when the API task status is started	Stop the scheduled task and try again.
401	APIG.3700	The API task status is started and does not need to be started again	The API task status is started and does not need to be started again	Stop the scheduled task and try again.
401	APIG.3701	The API task status is init or stopped and does not need to be stopped again	The API task status is init or stopped and does not need to be stopped again	Start the scheduled task and try again.
403	APIC.7106	No permissions to request for the method.	No permissions to request for the method.	Access using a token that contains the required permissions.

Status Code	Error Codes	Error Message	Description	Solution
403	APIC.7109	Account restricted. No permissions to request the POST method.	Account restricted. No permissions to request the POST method.	Cancel restrictions on the account first.
403	APIC.7110	Readonly account. No permissions to request any method except GET.	Readonly account. No permissions to request any method except GET.	Contact the account administrator to configure other permissions.
403	APIC.7111	Token not belong to the project in URI.	Token not belong to the project in URI.	Use a correct token to access the system.
403	APIC.7130	No permissions for operating the instance	No permissions for operating the instance	Use the correct project ID.
403	APIC.7403	The number of custom inbound ports has reached the maximum.	The number of custom inbound ports has reached the maximum.	Increase the quota for custom inbound ports.
403	APIG.1020	Insufficient permissions.	Insufficient permissions.	Grant the read and write permissions to the user.
403	APIG.1101	No permissions to perform operations on this API group.	No permissions to perform operations on this API group.	The API group to be operated must be under your own account. If the API group is under another account, you must obtain the authorization first.
403	APIG.1102	No permissions to perform operations on this API.	No permissions to perform operations on this API.	The API to be operated must be under your own account. If the API is under another account, you must obtain the authorization first.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.1103	No permissions to perform operations on this environment.	No permissions to perform operations on this environment.	The environment to be operated must be under your own account. If the environment is under another account, you must obtain the authorization first.
403	APIG.1104	No permissions to perform operations on this app.	No permissions to perform operations on this app.	The application to be operated must be under your own account. If the application is under another account, you must obtain the authorization first.
403	APIG.1105	No permissions to perform operations on this request throttling policy.	No permissions to perform operations on this request throttling policy.	The request throttling policy to be operated must be under your own account. If the request throttling policy is under another account, you must obtain the authorization first.
403	APIG.1106	No permissions to perform operations on this access control policy.	No permissions to perform operations on this access control policy.	The access control policy to be operated must be under your own account. If the access control policy is under another account, you must obtain the authorization first.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.1109	No permissions to perform operations on this app authorization record.	No permissions to perform operations on this app authorization record.	The app authorization to be operated must be under your own account. If the app authorization is under another account, you must obtain the authorization first.
403	APIG.1110	No permissions to perform operations on this environment variable.	No permissions to perform operations on this environment variable.	The environment variable to be operated must be under your own account. If the environment variable is under another account, you must obtain the authorization first.
403	APIG.1112	No permissions to perform operations on this signature key.	No permissions to perform operations on this signature key.	The signature key to be operated must be under your own account. If the signature key is under another account, you must obtain the authorization first.
403	APIG.1113	No permissions to perform operations on this VPC channel.	No permissions to perform operations on this VPC channel.	The VPC channel to be operated must be under your own account. If the VPC channel is under another account, you must obtain the authorization first.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.1115	No permissions to perform operations on this certificate.	No permissions to perform operations on this certificate.	The certificate to be operated must be under your own account. If the certificate is under another account, you must obtain the authorization first.
403	APIG.1136	No permissions to perform operations on this instance.	No permissions to perform operations on this instance.	Check whether you are using the ID of the project to which the instance belongs.
403	APIG.1137	No permissions to perform operations on this authorizer	No permissions to perform operations on this authorizer	The custom authorizer to be operated must be under your own account. If the custom authorizer is under another account, you must obtain the authorization first.
403	APIG.1138	No permissions to perform operations on this data source.	No permissions to perform operations on this data source.	The data source to be operated must be under your own account. If the data source is under another account, you must obtain the authorization first.
403	APIG.1139	No permissions to perform operations on this livedata API	No permissions to perform operations on this livedata API.	The backend API to be operated must be under your own account. If the backend API is under another account, you must obtain the authorization first.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.1140	No permissions to perform operations on this feature	No permissions to perform operations on this feature.	The feature to be operated must be under your own account. If the feature is under another account, you must obtain the authorization first.
403	APIG.1141	No permissions to perform operations on this ROMA integration application.	No permissions to perform operations on this ROMA integration application.	Use the primary account or the sub-user who creates the ROMA integration application to grant corresponding permissions to the sub-user who needs to access the integration application.
403	APIG.1142	No permissions to perform operations on this client quota	No permissions to perform operations on this client quota	Use the administrator account to perform operations on the client quota.
403	APIG.1143	No permissions to perform operations on this plugin	No permissions to perform operations on this plugin	The plugin to be operated must be under your own account. If the plugin is under another account, you must obtain the authorization first.
403	APIG.1149	No permission for this instance task.	No permission for this instance task.	Use a token of the correct project.
403	APIG.1301	No permissions to perform operations on this domain	No permissions to perform operations on this domain	The domain to be operated must be under your own account.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.2054	The gateway fails to create an API to call the function.	The gateway fails to create an API to call the function.	Configure the agency on the gateway information page.
403	APIG.3066	The roma auth tunnel does not exist.	The roma auth tunnel does not exist.	Check whether the green channel authorization type is correct.
403	APIG.3100	The number of resources exceeds the maximum allowed limit.	The number of resources exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3101	The number of API groups exceeds the maximum allowed limit.	The number of API groups exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3102	The number of APIs exceeds the maximum allowed limit.	The number of APIs exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3103	The number of apps exceeds the maximum allowed limit.	The number of apps exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3104	The number of environments exceeds the maximum allowed limit.	The number of environments exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3105	The number of signature keys exceeds the maximum allowed limit.	The number of signature keys exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3106	The number of variables exceeds the maximum allowed limit.	The number of variables exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.3107	The number of request throttling policies exceeds the maximum allowed limit.	The number of request throttling policies exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3108	The number of domain names exceeds the maximum allowed limit.	The number of domain names exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3109	The number of VPC channels exceeds the maximum allowed limit.	The number of VPC channels exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3110	The number of instances exceeds the maximum allowed limit.	The number of instances exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3111	The number of parameters in req_params exceeds the maximum allowed limit.	The number of parameters in req_params exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3112	The number of access control policies exceeds the maximum allowed limit.	The number of access control policies exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3113	The maximum number of API backend policies has been reached.	The maximum number of API backend policies has been reached.	Contact technical support engineers to increase the quota.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.3114	The maximum number of policy conditions has been reached.	The maximum number of policy conditions has been reached.	Contact technical support engineers to increase the quota.
403	APIG.3116	The number of custom authorizers exceeds the maximum allowed limit.	The number of custom authorizers exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3117	The number of identity sources exceeds the maximum allowed limit.	The number of identity sources exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3125	The maximum number of APIs for one API group has been reached.	The maximum number of APIs for one API group has been reached.	Contact technical support engineers to increase the quota.
403	APIG.3127	The number of APIs has reached the upper limit. A maximum of xxx APIs can be imported at a time.	The number of APIs has reached the upper limit. A maximum of xxx APIs can be imported at a time.	Reduce the number of APIs to be imported.
403	APIG.3131	The number of AppCodes exceeds the maximum allowed limit.	The number of AppCodes exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3133	The number of API tags exceeds the maximum allowed limit.	The number of API tags exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.3134	The number of livedata APIs exceeds the maximum allowed limit.	The number of livedata APIs exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3135	The number of API scripts exceeds the maximum allowed limit.	The number of API scripts exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3136	The number of responses exceeds the maximum allowed limit.	The number of responses exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3138	The number of Configuration s for one APP exceeds the maximum allowed limit.	The number of Configuration s for one APP exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3139	The number of APP quotas exceeds the maximum allowed limit.	The number of APP quotas exceeds the maximum allowed limit.	Contact technical support engineers to increase the quota.
403	APIG.3140	The number of plugins exceeds the maximum allowed limit	The number of plugins exceeds the maximum allowed limit	Contact technical support engineers to increase the quota.
403	APIG.3150	The number of orchestration rules exceeds the maximum.	The number of orchestration rules exceeds the maximum.	Contact technical support to increase the quota of orchestration rules.
403	APIG.3151	The number of orchestration rules bound to the API exceeds the maximum.	The number of orchestration rules bound to the API exceeds the maximum.	Contact technical support to increase the quota of orchestration rules that can be bound to the API.

Status Code	Error Codes	Error Message	Description	Solution
403	APIG.3483	The API is deployed and cannot be deleted.	The API is deployed and cannot be deleted.	Cancel the deployment and try again.
403	APIG.3484	The API status does not support deployment.	The API status does not support deployment.	Develop the API and then deploy it.
403	APIG.3486	The API status does not support undeployment.	The API status does not support undeployment.	Complete API deployment and try again.
404	APIC.7302	Instance not found	Instance not found	Check whether the instance exists, and use the correct instance ID.
404	APIG.3001	The API group does not exist.	The API group does not exist.	Check whether the group exists.
404	APIG.3002	The API does not exist.	The API does not exist.	Check whether the API exists.
404	APIG.3003	The environment does not exist.	The environment does not exist.	Check whether the environment exists.
404	APIG.3004	The app does not exist.	The app does not exist.	Check whether the application exists.
404	APIG.3005	The request throttling policy does not exist.	The request throttling policy does not exist.	Check whether the request throttling policy exists.
404	APIG.3006	The access control policy does not exist.	The access control policy does not exist.	Check whether the access control policy exists.
404	APIG.3007	The configuration does not exist.	The configuration does not exist.	Check whether the configuration exists.

Status Code	Error Codes	Error Message	Description	Solution
404	APIG.3008	The excluded configuration does not exist.	The excluded configuration does not exist.	Check whether excluded configuration exists.
404	APIG.3009	The app authorization record does not exist.	The app authorization record does not exist.	Check whether the app authorization exists.
404	APIG.3010	The access control policy binding record does not exist.	The access control policy binding record does not exist.	Check whether the access control policy binding record exists.
404	APIG.3011	The environment variable does not exist.	The environment variable does not exist.	Check whether the environment variable exists.
404	APIG.3012	The request throttling policy binding record does not exist.	The request throttling policy binding record does not exist.	Check whether the request throttling policy binding record exists.
404	APIG.3013	The excluded request throttling configuration does not exist.	The excluded request throttling configuration does not exist.	Check whether the special configuration of the request throttling policy exists.
404	APIG.3015	The API publication record does not exist.	The API publication record does not exist.	Check whether the API release record exists.
404	APIG.3017	The signature key does not exist.	The signature key does not exist.	Check whether the signature key exists.
404	APIG.3018	The signature key binding record does not exist.	The signature key binding record does not exist.	Check whether the signature key binding record exists.
404	APIG.3019	The function URN does not exist.	The function URN does not exist.	Check whether the function URN exists.

Status Code	Error Codes	Error Message	Description	Solution
404	APIG.3020	The URL domain does not exist.	The URL domain does not exist.	Check whether the group domain name exists.
404	APIG.3021	The SSL certificate does not exist.	The SSL certificate does not exist.	Check whether the SSL certificate exists.
404	APIG.3022	The API version does not exist.	The API version does not exist.	Check whether the API version exists.
404	APIG.3023	The VPC channel does not exist.	The VPC channel does not exist.	Check whether the load balance channel exists.
404	APIG.3024	The instance does not exist.	The instance does not exist.	Check whether the instance exists in the load balance channel.
404	APIG.3025	The certificate does not exist.	The certificate does not exist.	Check whether the certificate exists.
404	APIG.3030	The instance does not exist	The instance does not exist	Check whether the instance exists.
404	APIG.3064	Roma app and api relation not found.	Roma app and api relation not found.	Contact technical support engineers for assistance.
404	APIG.3065	Roma app authorize relation not found.	Roma app authorize relation not found.	Contact technical support engineers for assistance.
404	APIG.3067	The app quota does not exist.	The app quota does not exist.	Check whether the client quota exists.
404	APIG.3068	The plugin does not exist.	The plugin does not exist	Check whether the plugin exists.
404	APIG.3069	The plugin binding record does not exist	The plugin binding record does not exist	Check whether the plugin binding record exists.

Status Code	Error Codes	Error Message	Description	Solution
404	APIG.3071	The member group does not exist	The member group does not exist	Check whether the server group of the load balance channel exists.
404	APIG.3072	The specified task does not exist	The specified task does not exist	The specified task does not exist
404	APIG.3081	Authorizer not found	Authorizer not found	Check whether the custom authorizer exists.
404	APIG.3082	The AppCode does not exist.	The AppCode does not exist.	Check whether the AppCode exists.
404	APIG.3083	The data source does not exist.	The data source does not exist.	Check whether the data source exists.
404	APIG.3084	The livedata API does not exist	The livedata API does not exist	Check whether the custom backend API exists.
404	APIG.3087	The feature configuration does not exist	The feature configuration does not exist	Check whether the feature exists.
404	APIG.3088	Deployment information of the backend API does not exist.	Deployment information of the backend API does not exist.	Check whether the API deployment record exists.
404	APIG.3089	The response does not exist	The response does not exist	Check whether the gateway response exists.
404	APIG.3091	The APP configuration does not exist	The APP configuration does not exist	Check whether the application configuration exists.
404	APIG.3092	The ECS does not exist	The ECS does not exist	Check whether the ECS is deleted or the entered ID is incorrect.

Status Code	Error Codes	Error Message	Description	Solution
404	APIG.3093	The API task does not exist	The API task does not exist	Check whether the scheduled task exists.
404	APIG.3094	Instance task does not exist.	Instance task does not exist.	Instance task is deleted or task ID is invalid.
404	APIG.3095	The orchestrations does not exist	The orchestrations does not exist	Check whether the orchestration rule corresponding to orchestration_id in the request parameter exists.
404	APIG.3096	The orchestrations map does not exist	The orchestrations map does not exist	Contact technical support.
404	APIG.3097	The binding record of this SSL certificate and domain name does not exist.	The binding record of this SSL certificate and domain name does not exist.	Check whether the binding record exists.
404	APIG.9996	The request URL does not exist	The request URL does not exist	Contact technical support engineers to view the management plane logs.
409	APIC.7709	The egress eip has been opened	The egress eip has been opened	Close the egress eip, and try again
409	APIC.7711	Public inbound access is enabled for the instance	Public inbound access is enabled for the instance.	Disable public inbound access and try again.
409	APIG.3411	The APIs belong to different tenants.	The APIs belong to different tenants.	Authorizing access to APIs of another tenant is not allowed. Select other APIs.

Status Code	Error Codes	Error Message	Description	Solution
409	APIG.3414	The VPC channel is already being used by another API.	The VPC channel is already being used by another API.	Before deleting the load balance channel, delete the API bound to the load balance channel.
409	APIG.3415	The API group cannot be deleted because it contains APIs.	The API group cannot be deleted because it contains APIs.	Delete APIs from the group and then delete the group.
409	APIG.3416	The API cannot be deleted because it has been published.	The API cannot be deleted because it has been published.	Take the API offline and then delete the API.
409	APIG.3418	The environment contains published APIs.	The environment contains published APIs.	Take APIs offline in this environment, and then try again.
409	APIG.3457	Cannot operate configuration of current app.	The configuration name already exists.	Change the configuration name.
409	APIG.3460	The Id api cannot be offlined for binding to an authorizer	The Id api cannot be offlined for binding to an authorizer	Delete the custom authorizer bound to the custom backend and then cancel deployment of the backend.
409	APIG.3463	An API with the same path of the current API has already attached with another cors plugin	An API with the same path of the current API has already attached with another cors plugin	Unbind the plugin bound to the API

Status Code	Error Codes	Error Message	Description	Solution
409	APIG.3464	The allow methods of the cors plugin do not contain api method	The allow methods of the cors plugin do not contain api method	Add the API method to the allow methods of the CORS plugin
409	APIG.3465	The allow methods of the cors plugin do not contain the method of attached API	The allow methods of the cors plugin do not contain the method of attached API	Do not perform this operation.
409	APIG.3466	An OPTIONS API with the same path of the current API already exists	An OPTIONS API with the same path of the current API already exists	Delete the OPTIONS API with the same path of the current API.
409	APIG.3467	An API with the same path of the current API has already attached with a cors plugin	An API with the same path of the current API has already attached with a cors plugin	No need to publish this OPTIONS API.
409	APIG.3470	The API cannot be operated because it has been used by another API task	The API cannot be operated because it has been used by another API task	Delete the scheduled task bound to the API, and then try again.
409	APIG.3478	The authorizer has been used by certain APIs.	The authorizer has been used by certain APIs.	Unbind all APIs from the custom authorizer and then delete it.
409	APIG.3482	The default API group cannot be deleted.	The default API group cannot be deleted.	Do not perform this operation.

Status Code	Error Codes	Error Message	Description	Solution
409	APIG.3490	The API deployment group ID cannot be changed.	The API deployment group ID cannot be changed.	Cancel the deployment before modifying the group ID.
409	APIG.3491	The default response cannot be deleted.	The default response cannot be deleted.	Do not perform this operation.
409	APIG.3492	The default response name cannot be modified.	The default response name cannot be modified.	Do not perform this operation.
409	APIG.3703	Roma app id of the plugin must be the same with roma app id of the api	Roma app id of the plugin must be the same with roma app id of the api	Modify the plugin to use the same application as the API.
409	APIG.3707	Only published APIs can be bound with plug-ins.	Only published APIs can be bound with plug-ins.	Publish the API and try again.
409	APIG.3708	The key usage of the certificate does not match	The key usage of the certificate does not match	Use matched key usage
409	APIG.3709	The signature algorithm of the certificate does not match	The signature algorithm of the certificate does not match	Change signature algorithm type
409	APIG.3711	A configuration parameter can be modified only once per minute.	A configuration parameter can be modified only once per minute.	Try again after 1 minute.
409	APIG.3712	User domain does not match.	User domain does not match.	Check the domain info.

Status Code	Error Codes	Error Message	Description	Solution
409	APIG.3716	The orchestration rule is currently in use by another API.	The orchestration rule is currently in use by another API.	Unbind the orchestration rule from the API.
409	APIG.3718	An instance task is currently being processed.	An instance task is currently being processed.	Start a new task after the current one is complete.
409	APIG.3720	The default group cannot be updated.	The default group cannot be updated.	This operation is not allowed.
412	APIG.3447	The access control policy has been bound to APIs	The access control policy has been bound to APIs	Before deleting the access control policy, delete the binding relationship of access control policy and API.
412	APIG.3451	The request throttling policy has been bound to APIs.	The request throttling policy has been bound to APIs.	Before deleting the request throttling policy, delete the binding relationship of request throttling policy and API.
412	APIG.3456	Cannot operate configuration of current app.	Cannot operate configuration of current app.	Use an integration application.
412	APIG.3458	The feature is not supported by current instance.	The feature is not supported by current instance.	Contact technical support engineers to upgrade the instance.
412	APIG.3468	The member group cannot be deleted because it contains members	The member group cannot be deleted because it contains members	Delete the servers in the server group of the load balance channel, and then try again.

Status Code	Error Codes	Error Message	Description	Solution
412	APIG.3480	The signature key has been bound to APIs.	The signature key has been bound to APIs.	Unbind all APIs from the signature key and then delete it.
412	APIG.3481	The app has been bound to APIs.	The app has been bound to APIs.	Unbind the app from all APIs, and then try again.
412	APIG.3488	The signature has already binded to backend APIs.	The signature has already binded to backend APIs.	Unbind the signature key from all custom backends, and then try again.
412	APIG.3713	orchestration_mapped_param cannot be modified.	orchestration_mapped_param cannot be modified.	Do not modify orchestration_mapped_param.
412	APIG.3714	The backend request protocol does not support SM cryptographic algorithms.	The backend request protocol does not support SM cryptographic algorithms.	Change the protocol to HTTPS.
428	APIG.3462	The plugin has already been attached to APIs	The plugin has already been attached to APIs	Do not perform this operation.
429	APIG.9008	Too many requests.	Too many requests.	Try again later.
500	APIC.7253	Internal configuration error.	Internal configuration error.	Check the internal configuration.
500	APIC.9999	Internal server error.	Internal server error.	Contact technical support engineers to view the management plane logs and locate the error.
500	APIG.1029	PDP5 cannot be connected.	PDP5 cannot be connected.	Check the PDP5 connection.

Status Code	Error Codes	Error Message	Description	Solution
500	APIG.3500	Failed to synchronize data to etcd.	Failed to synchronize data to etcd.	Contact technical support engineers to view the management plane logs and check whether the network between the management plane and the data plane etcd is normal.
500	APIG.3501	Failed to synchronize data to the instance.	Failed to synchronize data to the instance.	Contact technical support engineers to view the management plane logs and check whether the network between the management plane and the data plane LDA is normal.
500	APIG.3503	API testing failed.	API testing failed.	Contact technical support engineers to view the management plane logs and check whether the network between the management plane and the data plane LDA is normal.
500	APIG.9002	Invalid function URN.	Invalid function URN.	Use a correct function URN.
500	APIG.9003	Statistics Center request failed.	Statistics Center request failed.	Contact technical support engineers to view the management plane logs and check whether the Statistics Center network is abnormal.

Status Code	Error Codes	Error Message	Description	Solution
500	APIG.9004	IAM request failed.	IAM request failed.	Contact technical support engineers to view the management plane logs and check whether the IAM network is abnormal.
500	APIG.9005	VPC request failed.	VPC request failed.	Contact technical support engineers to view the management plane logs and check whether the VPC network is abnormal.
500	APIG.9006	DNS request failed.	DNS request failed.	Contact technical support engineers to view the management plane logs and check whether the DNS network is abnormal.
500	APIG.9009	ROMA Quartz request failed.	ROMA Quartz request failed.	Contact technical support engineers to view the management plane logs and check whether connection of the ROMA Quartz server is abnormal.
500	APIG.9013	Synchronize CCMS data failed	Synchronize CCMS data failed	Contact technical support.
500	APIG.9999	System error.	System error.	Contact technical support engineers to view the management plane logs and check whether the database connection is abnormal.

10.4.3 Error Codes of Message Integration APIs

Status Code	Error Codes	Error Message	Description	Solution
400	MQS.00400002	Invalid project ID format.	Invalid project ID format.	Check the project ID format.
400	MQS.00400004	Empty request body.	Empty request body.	Check the request body.
400	MQS.00400005	The message body contains invalid characters or is not in JSON format.	The message body is not in JSON format or contains invalid characters.	Check the message body format.
400	MQS.00400008	The selected engine version is not supported.	Unsupported version.	Check the version.
400	MQS.00400009	Invalid product ID in the request.	Invalid product ID in the request.	Check the product ID.
400	MQS.00400010	Invalid instance name. The name must be 4 to 64 characters long. Only letters, digits, underscores (_), and hyphens (-) are allowed.	Invalid instance name. The name must be 4 to 64 characters long. Only letters, digits, underscores (_), and hyphens (-) are allowed.	Check the instance name.
400	MQS.00400011	The instance description can contain a maximum of 1024 characters.	Enter a maximum of 1024 characters.	Check the instance description.
400	MQS.00400012	Invalid password format.	The password does not meet the complexity requirements.	Check whether the password meets the requirements.

Status Code	Error Codes	Error Message	Description	Solution
400	MQS.00400014	Invalid security_group_id in the request.	Invalid security group ID.	Check the security group ID.
400	MQS.00400026	This operation is not allowed when the MQS instance is in the current state.	This operation is not allowed due to the instance status.	Check the instance status.
400	MQS.00400037	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 the instanceParams parameter in the request.
400	MQS.00400038	The periodNum parameter in the request must be an integer.	The periodNum parameter in the request must be an integer.	Check the periodNum parameter in the request.
400	MQS.00400042	The AZ does not exist.	This AZ does not exist.	Check the AZ.
400	MQS.00400060	This instance name already exists.	The instance name already exists.	Check the instance name.
400	MQS.00400061	Invalid instance ID format.	Invalid instance ID format.	Check the instance ID.
400	MQS.00400062	Invalid request parameter.	Invalid request parameter.	Check the instanceParams parameter in the request.
400	MQS.00400064	The action parameter in the request must be delete or restart.	The action parameter in the request must be delete or restart.	Check the action parameter in the request.

Status Code	Error Codes	Error Message	Description	Solution
400	MQS.00400065	The instances parameter in the request is invalid.	The instances parameter in the request is invalid.	Check the instances parameter in the request.
400	MQS.00400085	The message body contains invalid characters or is not in JSON format, The error key is <key>.	The message body is not in JSON format or contains invalid characters.	Check the error field.
400	MQS.00400099	MQS instances in the Creating, Starting or Restarting state cannot be deleted.	Instances in the Creating, Starting, Stopping, or Restarting state cannot be deleted.	Check the instance status.
400	MQS.00400100	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 the number of instances.
400	MQS.00400101	Invalid topic name.	Invalid topic name.	Check the topic name.
400	MQS.00400102	Invalid partition.	Invalid partition.	Check the number of partitions of the topic.
400	MQS.00400103	Invalid replication.	Invalid replication.	Check the number of replicas of the topic.
400	MQS.00400105	Invalid retention time.	Incorrect aging time.	Check the aging time of the topic.
400	MQS.00400106	Invalid maintenance time.	Invalid maintenance time window parameter.	Check the maintenance time window parameter.

Status Code	Error Codes	Error Message	Description	Solution
400	MQS.00400800	Invalid <key> in the request.	The key parameter in the request is incorrect.	Check the instance.
400	MQS.00400861	The number of replicas in the topic to be created is greater than the number of available brokers.	The number of replicas in the topic to be created is greater than the number of available brokers.	Check the number of replicas in the topic.
400	MQS.00500963	Failed to delete assets.	Failed to delete assets.	Contact technical support to upgrade the MQS instance version.
400	MQS.4006	Name is invalid.	Incorrect username.	Check the username.
401	MQS.00401001	Invalid token.	Invalid token.	Obtain another token.
403	MQS.00403002	This tenant has read permission only and cannot perform this operation.	This tenant has read-only permissions and cannot perform the specified operation on MQS.	Check the tenant permission.
403	MQS.00403003	This role does not have the permission to perform this operation.	This role does not have the permissions to perform this operation.	Check the role permission.
403	MQS.4007	Password is invalid.	Incorrect password.	Check the password.
404	MQS.00404001	The requested URL does not exist.	The requested URL does not exist.	Check the URL.
404	MQS.00404022	This instance does not exist.	The instance does not exist.	Check whether the instance exists.

Status Code	Error Codes	Error Message	Description	Solution
405	MQS.00405001	This request method is not allowed.	You are not allowed to use the method specified in the request.	Check the request method.
500	MQS.00500000	Internal service error.	Internal server error.	Contact technical support.
500	MQS.00500006	Internal service error.	Internal server error.	Contact technical support.
500	MQS.00500007	Internal service error.	Internal server error.	Contact technical support.
500	MQS.005000020	Internal service error.	Internal server error.	Contact technical support.
500	MQS.005000024	Internal service error.	Internal server error.	Contact technical support.
500	MQS.005000025	Internal service error.	Internal server error.	Contact technical support.
500	MQS.005000031	Internal service error.	Internal server error.	Contact technical support.
500	MQS.005000041	Internal service error.	Internal server error.	Contact technical support.
500	MQS.005000044	Internal service error.	Internal server error.	Contact technical support.
500	MQS.005000053	Internal service error.	The specified instance node is not found.	Contact technical support.
500	MQS.005000054	Internal service error.	Failed to generate the password.	Contact technical support.
500	MQS.005000070	Internal service error.	Failed to configure the instance.	Contact technical support.
500	MQS.005000802	Internal service error.	Internal server error.	Contact technical support.

10.4.4 Error Codes of Device Integration APIs

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0001	The input parameter is null.	The input parameter is null.	Check whether the input parameter is null.
400	RML.0002	The input parameter is invalid.	The input parameter is invalid.	Check whether the input parameter is valid.
400	RML.0003	The input parameter is not in JSON format or the format is invalid.	The input parameter is not in JSON format or the format is invalid.	Check whether the input parameter is in JSON format or the format is valid.
400	RML.0004	The project ID is null or invalid.	The project ID is null or invalid.	Check whether the product ID is null or valid.
400	RML.0005	The request body is null.	The request body is null.	Check whether the request body is null.
400	RML.0006	The request parameter is not in JSON format.	The request parameter is not in JSON format.	Check whether the request parameter is in JSON format.
400	RML.0007	The query parameter is invalid.	The query parameter is invalid.	Check whether the query parameter is valid.
400	RML.0008	No operation permission.	No operation permission.	You need to replace the user or role that has the permission to perform this operation.
400	RML.0009	No CSV found.	No CSV found.	Choose CSV file to import.
400	RML.0010	Failed to write data into the CSV file.	Failed to write data into the CSV file.	Check whether CSV file exists.
400	RML.0011	Failed to export data.	Failed to export data.	Check whether data exists.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0012	Failed to download ssl certificate.	Failed to download ssl certificate.	Check whether the internet connection is normal.
400	RML.0013	The input parameter oid is null.	The input parameter oid is null.	Input the parameter oid which is not null.
400	RML.0014	The Topic field in the CSV file is incorrect. Check product serial number and device name in Topic.	The Topic field in the CSV file is incorrect. Check product serial number and device name in Topic.	Change the topic field and try again.
400	RML.0015	Incorrect file extension.	Incorrect file extension.	Change the file extension and try again.
400	RML.0100	Invalid instance ID.	Invalid instance ID.	Change the instance ID.
400	RML.0101	The instance is not running.	The instance is not running.	Keep the instance running and try again.
400	RML.0102	The instance does not exist.	The instance does not exist.	Create the instance and try again.
400	RML.0103	The instance ID is null.	The instance ID is null.	Add the instance ID.
400	RML.0104	Invalid instance parameter.	Invalid instance parameter.	Check whether the instance parameter is valid.
400	RML.0105	Failed to reset the instance password.	Failed to reset the instance password.	Check whether the instance exists.
400	RML.0106	Invalid instance number.	Invalid instance number.	Check whether the instance number is correct.
400	RML.0200	The device ID is null or invalid.	The device ID is null or invalid.	Check whether the device ID is null or invalid.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0201	The device name is null or invalid.	The device name is null or invalid.	Check whether the device name is null or invalid.
400	RML.0202	The device name already exists.	The device name already exists.	Change the device name and try again.
400	RML.0203	The device does not exist.	The device does not exist.	Create the device and try again.
400	RML.0204	The device status is null or invalid.	The device status is null or invalid.	Check whether the device status is null or invalid.
400	RML.0205	The device description is longer than 200 characters.	The device description is longer than 200 characters.	Change the length of the device description.
400	RML.0206	The client ID of the device is null or invalid.	The client ID of the device is null or invalid.	Check whether the client ID is null or invalid.
400	RML.0207	Duplicated device names exist during device adding in batches.	Duplicated device names exist during device adding in batches.	Change the duplicated device names.
400	RML.0208	The device quota is not enough.	The device quota is not enough.	Contact the administrator to increase the device quota.
400	RML.0209	The number of devices to be imported to the CSV file is over 1000.	The number of devices to be imported to the CSV file is over 1000.	Change the number of devices to be imported to the CSV file.
400	RML.0210	The number of batch added devices exceeds 100.	The number of batch added devices exceeds 100.	Change the number of batch added devices.
400	RML.0212	The topic name is null or invalid.	The topic name is null or invalid.	Check whether the topic name is null or invalid.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0213	The topic already exists.	The topic already exists.	Change the topic and try again.
400	RML.0214	The topic does not exist.	The topic does not exist.	Create the topic and try again.
400	RML.0215	The permission name of the device topic is incorrect.	The permission name of the device topic is incorrect.	Change the permission name of the device topic.
400	RML.0216	The device topic description cannot exceed 200 characters.	The device topic description cannot exceed 200 characters.	Change the length of the device topic description.
400	RML.0217	The topic name already exists.	The topic name already exists.	Change the topic name.
400	RML.0218	The topic quota is not enough.	The topic quota is not enough.	Contact the administrator to increase the topic quota.
400	RML.0219	Incorrect title format for the device CSV file.	Incorrect title format for the device CSV file.	Change the title format for the device CSV file.
400	RML.0220	The number of devices to be exported exceeds 1000.	The number of devices to be exported exceeds 1000.	Change the number of devices to be exported.
400	RML.0221	Choose at least one device when exporting data.	Choose at least one device when exporting data.	Choose one or more device data to export.
400	RML.0222	The device parameter is null.	The device parameter is null.	Check whether the device parameter is null.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0223	Duplicate client IDs exist during device adding in batches.	Duplicate client IDs exist during device adding in batches.	Change the duplicated client IDs.
400	RML.0224	The device client ID already exists in the local database.	The device client ID already exists in the local database.	Change the device client ID.
400	RML.0225	Failed to reset the device password.	Failed to reset the device password.	Check whether the device exists.
400	RML.0226	Invalid user name of the device.	Invalid user name of the device.	Check whether the user name of the device is valid.
400	RML.0227	Invalid password of the device.	Invalid password of the device.	Check whether password of the device is valid.
400	RML.0228	The number of devices to be exported exceeds 500.	The number of devices to be exported exceeds 500.	Change the number of devices to be exported.
400	RML.0229	The device name is invalid or duplicated.	The device name is invalid or duplicated.	Check whether the device name is valid or duplicated.
400	RML.0230	The device status is invalid.	The device status is invalid.	Check whether the device status is valid.
400	RML.0231	All the uploaded devices already exist.	All the uploaded devices already exist.	Change the uploaded devices which are exist.
400	RML.0232	The client ID is invalid or duplicated.	The client ID is invalid or duplicated.	Check whether the device ID is valid or duplicated.
400	RML.0233	The topic name does not exist.	The topic name does not exist.	Check whether the topic name is exist.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0234	Invalid topic ID.	Invalid topic ID.	Check whether topic ID is valid.
400	RML.0235	Deleting online devices is not allowed.	Deleting online devices is not allowed.	Keep the devices offline and try again.
400	RML.0236	The device is offline.	The device is offline.	Keep the device online and try again.
400	RML.0237	The device is not a gateway.	The device is not a gateway.	Change the gateway device and try again.
400	RML.0238	The mqtt node does not exist.	The mqtt node does not exist.	Create the mqtt node and try again.
400	RML.0300	The product ID is null or invalid.	The product ID is null or invalid.	Check whether the product ID is null or invalid.
400	RML.0301	The product name is invalid.	The product name is invalid.	Check whether the product name is valid.
400	RML.0302	The product does not exist.	The product does not exist.	Create the product and try again.
400	RML.0303	The product description is longer than 200 characters.	The product description is longer than 200 characters.	Change the length of product description.
400	RML.0304	The product already exists.	The product already exists.	Change the product and try again.
400	RML.0305	The product quota is not enough.	The product quota is not enough.	Contact the administrator to increase the product quota.
400	RML.0306	The product name does not exist.	The product name does not exist.	Add the product name.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0308	The product attribute does not exist.	The product attribute does not exist.	Add the product attribute.
400	RML.0309	The product attribute already exists.	The product attribute already exists.	Change the product attribute and try again.
400	RML.0310	The product attribute identifier is invalid.	The product attribute identifier is invalid.	Check whether the product attribute identifier is valid.
400	RML.0311	The product attribute identifier already exists.	The product attribute identifier already exists.	Change the product attribute identifier and try again.
400	RML.0312	Import a product before importing a device.	Import a product before importing a device.	Import the device and try again.
400	RML.0313	The product list is null.	The product list is null.	Choose one or more products to export.
400	RML.0314	Invalid product serial number.	Invalid product serial number.	Check whether the product serial number is valid.
400	RML.0315	All the uploaded products already exist.	All the uploaded products already exist.	Change the existing products and try again.
400	RML.0316	Incorrect field in the title of the product CVS file.	Incorrect field in the title of the product CVS file.	Check whether fields in the title of the product CSV file are correct.
400	RML.0317	The product name already exists.	The product name already exists.	Change the product name and try again.
400	RML.0318	The product attribute name already exists.	The product attribute name already exists.	Change the product attribute name and try again.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0319	Invalid product name.	Invalid product name.	Check whether the product name is valid.
400	RML.0320	Failed to reset the product password.	Failed to reset the product password.	Check whether the product exists.
400	RML.0321	A product with devices attached cannot be deleted.	A product with devices attached cannot be deleted.	Delete all devices of the product and try again.
400	RML.0322	The number of products to be exported exceeds 500.	The number of products to be exported exceeds 500.	Change the number of products to be exported.
400	RML.0323	The product user name in the CSV file is invalid.	The product user name in the CSV file is invalid.	Check whether the product user name is valid.
400	RML.0324	The product password in the CSV file is invalid.	The product password in the CSV file is invalid.	Check whether the product password in the CSV file is valid.
400	RML.0400	The model name already exists.	The model name already exists.	Change the model name and try again.
400	RML.0401	Unable to edit the attribute when the model is in disabled state.	Unable to edit the attribute when the model is in disabled state.	Enable the model and try again.
400	RML.0402	The model attribute does not exist.	The model attribute does not exist.	Add the model attribute.
400	RML.0403	The model attribute name already exists.	The model attribute name already exists.	Change the model attribute name and try again.
400	RML.0404	The model attribute identifier already exists.	The model attribute identifier already exists.	Change the model attribute identifier and try again.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0405	A model with products attached cannot be deleted.	A model with products attached cannot be deleted.	Delete all products of the model and try again.
400	RML.0406	Invalid model ID.	Invalid model ID.	Check whether the model ID is valid.
400	RML.0407	The model ID does not exist.	The model ID does not exist.	Create the model ID.
400	RML.0408	The model does not exist.	The model does not exist.	Create the model.
400	RML.0409	Invalid model name.	Invalid model name.	Check whether the model name is valid.
400	RML.0410	The model description is longer than 200 characters.	The model description is longer than 200 characters.	Change the length of the model description.
400	RML.0411	The model already exists.	The model already exists.	Change the model and try again.
400	RML.0412	Invalid attribute identifier.	Invalid attribute identifier.	Check whether attribute identifier is valid.
400	RML.0413	Invalid attribute data unit.	Invalid attribute data unit.	Check whether attribute data unit is valid.
400	RML.0414	Invalid attribute default data type.	Invalid attribute default data type.	Check whether attribute default data type is valid.
400	RML.0415	The attribute description is longer than 200 characters.	The attribute description is longer than 200 characters.	Change the length of attribute description.
400	RML.0416	Invalid attribute name.	Invalid attribute name.	Check whether the attribute name is valid.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0417	The model status is null or invalid.	The model status is null or invalid.	Check whether the model status is valid.
400	RML.0500	The data source of the rule engine is invalid.	The data source of the rule engine is invalid.	Check whether the data source of the rule engine is valid.
400	RML.0501	The rule engine does not exist.	The rule engine does not exist.	Add the rule engine.
400	RML.0502	Invalid rule engine ID.	Invalid rule engine ID.	Check whether the rule engine is valid.
400	RML.0503	The level of the rule engine should be 0 or 1.	The level of the rule engine should be 0 or 1.	Change the level of the rule engine.
400	RML.0504	The rule engine source does not exist.	The rule engine source does not exist.	Add the rule engine source.
400	RML.0505	Invalid rule name.	Invalid rule name.	Check whether the rule name is valid.
400	RML.0506	The topic is already added to the source.	The topic is already added to the source.	Change the topic of the source.
400	RML.0507	Only one topic can be added to the source rule.	Only one topic can be added to the source rule.	Change the number of the source rule's topics.
400	RML.0508	The source rule is not supported.	The source rule is not supported.	Change the source rule.
400	RML.0509	Only one topic can be added to the destination rule.	Only one topic can be added to the destination rule.	Change the number of the destination rule's topics.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0510	The topic quota is not enough.	The topic quota is not enough.	Contact the administrator to increase the quota.
400	RML.0511	Invalid destination address.	Invalid destination address.	Check whether the destination address is valid.
400	RML.0512	The topic of the MQS destination is invalid.	The topic of the MQS destination is invalid.	Change MQS Topic.
400	RML.0513	The destination MQS user name or password is null.	The destination MQS user name or password is null.	Check whether the user name or password is null.
400	RML.0514	The level of the rule engine should be device or product.	The level of the rule engine should be device or product.	Change the level of the rule engine.
400	RML.0515	The rule engine already exists.	The rule engine already exists.	Change the rule engine and try again.
400	RML.0516	The rule engine status is invalid.	The rule engine status is invalid.	Change the rule engine status.
400	RML.0517	The rule engine description is too long.	The rule engine description is too long.	Change the length of rule engine description.
400	RML.0518	The rule name already exists.	The rule name already exists.	Change the rule name.
400	RML.0519	Invalid rule source ID.	Invalid rule source ID.	Change the rule source ID.
400	RML.0520	Invalid rule destination ID.	Invalid rule destination ID.	Change the rule destination ID.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.0521	Invalid rule destination type.	Invalid rule destination type.	Change the type of rule destination.
400	RML.0522	Rule destination device topic exists.	Rule destination device topic exists.	Change the topic of rule destination device.
400	RML.0523	Rule destination connection failed.	Rule destination connection failed.	Check whether the rule destination connection is normal. If the fault persists, contact technical support for assistance.
400	RML.0524	Rule already has javascript express.	Rule already has javascript express.	Delete the javascript express and try again.
400	RML.0525	The sql field is invalid.	The sql field is invalid.	Modify the SQL field.
400	RML.0526	Rule already has sql express.	Rule already has sql express.	Delete SQL and try again.
400	RML.0527	Product does not belong to the app.	Product does not belong to the app.	Choose the product under this app.
400	RML.0528	The rule and product belong to different apps.	The rule and product belong to different apps.	Choose the rule engine and product under the same app.

Status Code	Error Codes	Error Message	Description	Solution
400	RML.4038	The input parameters of the interface used for query are incorrect. judge the error information according to the prompt. Fill in the correct parameters again.	Invalid {x} parameter in the request.	Check whether the input parameters comply with the rules as prompted.
400	RML.4039	The input parameters of the interface used for requesting are incorrect, and the error information is judged according to the prompt. Enter the correct parameters again	Invalid {x} parameter in the request.	Check whether the input parameters comply with the rules as prompted.
400	RML.4040	The input parameter format of the interface used for requesting is incorrect. judge the error information according to the prompt and fill in the parameter that complies with the rule again.	parameter {x} format error. It must be {1}.	Check whether the input parameters comply with the rules as prompted.

Status Code	Error Codes	Error Message	Description	Solution
400	ROMA.00110001	The parameter does not meet verification rules: {0}	The parameter does not meet verification rules: {0}	Check whether the parameter complies with the rules as prompted.
401	RML.4101	The token carried in the request interface is invalid. The login page may time out. You need to refresh the page for login.	Invalid token.	The login page may have timed out and needs to be refreshed. Login again before operation.
403	RML.4303	The currently logged in user or role does not have permission to perform the operation.	This role does not have the permission to perform this operation.	You need to replace the user or role that has the permission to perform this operation.
403	ROMA.00110005	You do not have the {0} permission on the application to which the resource belongs.	You do not have the {0} permission on the application to which the resource belongs.	Grant the required permission by clicking Authorize User on the Integration Applications page of the ROMA Connect console.

Status Code	Error Codes	Error Message	Description	Solution
403	ROMA.00110007	You do not have the permission to view any application resources. Choose Integration Applications > Authorize User, and check whether you have been granted the corresponding permission.	You do not have the permission to view any application resources. Choose Integration Applications > Authorize User, and check whether you have been granted the corresponding permission.	Grant the required permission by clicking Authorize User on the Integration Applications page of the ROMA Connect console.
403	ROMA.00110008	You do not have the {0} permission on the resource. Check whether you have been granted the corresponding permission in the related service.	You do not have the {0} permission on the resource. Check whether you have been granted the corresponding permission in the related service.	Grant the required permission by clicking Authorize User on the Integration Applications page of the ROMA Connect console.
403	ROMA.00110014	The current login account has limited rights and no op _ service rights.	The account is not an op_service account and does not have permission to perform the current operation	Change the account with op _ service permission to log in again.
403	ROMA.00110015	The current account has limited rights and does not have the right to operate the current instance.	The current account does not have permission to operate the current instance: {0}	Change the account with permission to operate the instance to log in and then operate.

Status Code	Error Codes	Error Message	Description	Solution
404	RML.4041	The interface input parameter for the request is missing a field, and an error message is judged according to the prompt. Fill in the correct parameters again.	missing param {x}.	Add this field parameter according to the page prompt.
404	RML.4402	Failed to create the instance. failed to query the instance. Database error. querying database failed.	This ROMALINK instance does not exist.	Contact technical support for assistance.
404	ROMA.00110006	The resource does not exist. Check whether the resource ID {0} is correct.	The resource does not exist. Check whether the resource ID {0} is correct.	Check whether the resource ID exists.
500	ROMA.00110000	Internal Error.	Internal Error.	Contact technical support for assistance.
500	ROMA.00110002	The instance does not exist. project_id: {0}, instance_id: {1}	The instance does not exist. project_id: {0}, instance_id: {1}	Create an instance or use another instance.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110003	An error occurs when reading data from or writing data to Redis on the data plane.	An error occurs when reading data from or writing data to Redis on the data plane.	Check whether the network and instance status are normal. If the fault persists, contact technical support for assistance.
500	ROMA.00110004	The quota exceeds the upper limit, {0}. Increase the quota.	The quota exceeds the upper limit, {0}. Increase the quota.	Contact the administrator to increase the quota.
500	ROMA.00110009	The request body is empty.	The request body is empty.	Transfer the correct request body.
500	ROMA.00110010	Failed to call the MQS interface.	Failed to call the MQS interface.	Check whether the MQS service is normal. If the fault persists, contact technical support for assistance.
500	ROMA.00110011	Invalid encoding format. Check whether the encoding format of the file is UTF8.	Invalid encoding format. Check whether the encoding format of the file is UTF8.	Check the file encoding format. If the file encoding format is not UTF8, change it to UTF8.
500	ROMA.00110012	The maximum number of products to be deleted at a time cannot exceed {0}.	The maximum number of products to be deleted at a time cannot exceed {0}.	Reduce the number of products to batch delete each time.
500	ROMA.00110013	The maximum number of devices to be deleted at a time cannot exceed {0}.	The maximum number of devices to be deleted at a time cannot exceed {0}.	Reduce the number of devices to batch delete each time.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110 201	The product template name {0} already exists. Change the name and try again.	The product template name {0} already exists. Change the name and try again.	Use another product template name and try again.
500	ROMA.00110 202	The product template corresponding to the ID {0} does not exist. Select an existing product template and try again.	The product template corresponding to the ID {0} does not exist. Select an existing product template and try again.	Select an existing product template and try again.
500	ROMA.00110 203	The product template is being disabled. Enable the template first.	The product template is being disabled. Enable the template first.	Enable the product template and try again.
500	ROMA.00110 401	The command name {0} already exists. Change the name and try again.	The command name {0} already exists. Change the name and try again.	Use another command name and try again.
500	ROMA.00110 402	The command name {0} does not exist. Select an existing command and try again.	The command name {0} does not exist. Select an existing command and try again.	Select an existing command and try again.
500	ROMA.00110 403	The command delivery field name {0} already exists. Change the name and try again.	The command delivery field name {0} already exists. Change the name and try again.	Use another name and try again.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110 404	The command delivery field name {0} does not exist. Select an existing command delivery field and try again.	The command delivery field name {0} does not exist. Select an existing command delivery field and try again.	Select an existing command delivery field and try again.
500	ROMA.00110 405	The command response field name {0} already exists. Change the name and try again.	The command response field name {0} already exists. Change the name and try again.	Use another command response field name and try again.
500	ROMA.00110 406	The service name {0} already exists. Change the name and try again.	The service name {0} already exists. Change the name and try again.	Use another name and try again.
500	ROMA.00110 407	The attribute name {0} already exists. Change the name and try again.	The attribute name {0} already exists. Change the name and try again.	Use another attribute name and try again.
500	ROMA.00110 701	The product name {0} already exists.	The product name {0} already exists.	Use another product name.
500	ROMA.00110 702	The product with ID {0} does not exist.	The product with ID {0} does not exist.	Check whether the corresponding product exists.
500	ROMA.00110 703	The product named {0} contains devices. Delete all devices under the product and try again.	The product named {0} contains devices. Delete all devices under the product and try again.	Delete all devices under the product and then delete the product.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110704	The product has been used in a rule.	The product has been used in a rule.	Delete the product used in the rule engine.
500	ROMA.00110705	The topic name {0} of the product already exists.	The topic name {0} of the product already exists.	Use another topic name and try again.
500	ROMA.00110706	The manufacturer ID and product model already exist.	The manufacturer ID and product model already exist.	Use another manufacturer ID and product model and try again.
500	ROMA.00110707	The product topic has been used in the rule {0} and cannot be modified. Delete the product topic used in the rule and then modify the product topic.	The product topic has been used in the rule {0} and cannot be modified. Delete the product topic used in the rule and then modify the product topic.	Delete the product topic used in the rule engine.
500	ROMA.00110708	Failed to create an MQS topic for product {0}. Check whether the number of MQS topic partitions exceeds the partition limit or whether the MQS service is normal, and try again.	Failed to create an MQS topic for product {0}. Check whether the number of MQS topic partitions exceeds the partition limit or whether the MQS service is normal, and try again.	Check whether the MQS service is normal. If the fault persists, contact technical support for assistance.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110709	Failed to delete the MQS topic when deleting product {0}. Check whether the MQS service is available.	Failed to delete the MQS topic when deleting product {0}. Check whether the MQS service is available.	Check whether the MQS service is normal. If the fault persists, contact technical support for assistance.
500	ROMA.00110710	The product protocol {0} is not supported.	The product protocol {0} is not supported.	Select a correct product protocol.
500	ROMA.00110711	The topic has been bound to a connection point on the OPC UA device {0} and cannot be modified. Delete the connection point from the OPC UA device first.	The topic has been bound to a connection point on the OPC UA device {0} and cannot be modified. Delete the connection point from the OPC UA device first.	Delete the connection of the OPC UA device, and then modify the product topic.
500	ROMA.00110712	The app ID does not exist. Enter a correct app ID.	The app ID does not exist. Enter a correct app ID.	Use a correct application ID.
500	ROMA.00110713	Gateway products cannot be created on old instances. Create a common product.	Gateway products cannot be created on old instances. Create a common product.	Create a common product.
500	ROMA.00110714	All products to be imported already exist.	All products to be imported already exist.	Select the product to import again.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110715	The title row contains incorrect fields. See the title: {0}.	The title row contains incorrect fields. See the title: {0}.	Check and modify the fields in the title row of the file as prompted.
500	ROMA.00110716	The product does not exist. Select at least one product to export.	The product does not exist. Select at least one product to export.	Check whether the subscriber has products. If yes, select at least one product and export it again.
500	ROMA.00110717	The number of products to be exported cannot exceed 500.	The number of products to be exported cannot exceed 500.	Check that the number of products to export does not exceed 500.
500	ROMA.00110718	Failed to read the file stream. Check whether the file is normal or whether the network connection is normal.	Failed to read the file stream. Check whether the file is normal or whether the network connection is normal.	Check whether the network connection is normal. Check whether the file is damaged. Check whether the file contains a large number of empty rows.
500	ROMA.00110719	The app name does not exist. Check the app name {0}.	The app name does not exist. Check the app name {0}.	Based on the error information, change the application name in the file or create an application with the same name.
500	ROMA.00110720	The file does not exist or the file format is incorrect. Import a CSV file.	The file does not exist or the file format is incorrect. Import a CSV file.	Check whether the imported CSV file is correct.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110721	Failed to read the CSV file. Check the file content.	Failed to read the CSV file. Check the file content.	Check whether the CSV file content is valid.
500	ROMA.00110722	Failed to query the product. Check whether product data in the request exists.	Failed to query the product. Check whether product data in the request exists.	Check whether the product data exists in the request.
500	ROMA.00110723	Incorrect DeviceType field in the file: {0}.	Incorrect DeviceType field in the file: {0}.	Check whether the value of the DeviceType field is correct.
500	ROMA.00110724	Incorrect ProductType field in the file: {0}.	Incorrect ProductType field in the file: {0}.	Check whether the value of the ProductType field is correct.
500	ROMA.00110725	Incorrect DataFormat field in the file: {0}.	Incorrect DataFormat field in the file: {0}.	Check whether the value of the DataFormat field is correct.
500	ROMA.00110726	The file is abnormal. Check the file content {0}.	The file is abnormal. Check the file content {0}.	Check whether the file content is correct.
500	ROMA.00110727	Failed to obtain the service address of ROMA Server. Check whether this service address is configured in the environment.	Failed to obtain the service address of ROMA Server. Check whether this service address is configured in the environment.	Contact technical support for assistance.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00110728	Incorrect device type: {0}. Enter a correct device type or define a new device type in the data dictionary.	Incorrect device type: {0}. Enter a correct device type or define a new device type in the data dictionary.	Enter the correct device type when calling the API of creating a product.
500	ROMA.00110729	Failed to request ROMA Server. Check whether ROMA Server is available.	Failed to request ROMA Server. Check whether ROMA Server is available.	Contact technical support for assistance.
500	ROMA.00110730	Illegal product ID during export: {0}.	Illegal product ID during export: {0}.	Check whether the entered product ID list is a numeric value. If yes, import the product ID list again.
500	ROMA.00111001	The product associated with the device does not belong to the specified application {0}. Check whether the app ID is correct.	The product associated with the device does not belong to the specified application {0}. Check whether the app ID is correct.	Check whether the application ID is correct.
500	ROMA.00111002	Invalid tag name: {0}. Enter a maximum of 64 characters, consisting of letters, digits, hyphens (-), and underscores (_).	Invalid tag name: {0}. Enter a maximum of 64 characters, consisting of letters, digits, hyphens (-), and underscores (_).	Check whether the tag key is valid.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111003	The device ID {0} already exists. Change the device ID.	The device ID {0} already exists. Change the device ID.	Change the device ID.
500	ROMA.00111004	Failed to forcibly bring device {0} offline. Possible cause: The data plane service is abnormal.	Failed to forcibly bring device {0} offline. Possible cause: The data plane service is abnormal.	Check whether the network between the management plane and the data plane is normal and whether the instance is running properly. If the fault persists, contact technical support for assistance.
500	ROMA.00111005	Commands cannot be delivered to a device in disconnected state. Bring the device online first.	Commands cannot be delivered to a device in disconnected state. Bring the device online first.	Bring the device online and try again.
500	ROMA.00111006	Commands cannot be delivered to a device in disabled state. Enable the device first.	Commands cannot be delivered to a device in disabled state. Enable the device first.	Enable the device.
500	ROMA.00111007	Commands cannot be delivered to an offline device if the device shadow is disabled. Enable the device shadow first.	Commands cannot be delivered to an offline device if the device shadow is disabled. Enable the device shadow first.	Enable the device shadow.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111008	Failed to deliver the command. Check whether the server status is normal.	Failed to deliver the command. Check whether the server status is normal.	Check whether the device is connected. Check whether the network connection of the data plane is normal. Check whether the instance status is normal. If the fault persists, contact technical support for assistance.
500	ROMA.00111009	An online device cannot be deleted. Bring the device offline first.	An online device cannot be deleted. Bring the device offline first.	Check whether the device is online. If the device is online, bring the device offline and delete the device.
500	ROMA.00111010	Failed to query the device. Check whether the device data in the request exists.	Failed to query the device. Check whether the device data in the request exists.	Check whether the device data exists in the request.
500	ROMA.00111011	The device contains subdevices and cannot be deleted. Delete the subdevices under the device first.	The device contains subdevices and cannot be deleted. Delete the subdevices under the device first.	Delete the subdevices under the device and then delete the device.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111012	Failed to deliver the command for deleting the subdevice. Check whether the gateway managing the subdevice exists.	Failed to deliver the command for deleting the subdevice. Check whether the gateway managing the subdevice exists.	Check whether the gateway of the subdevice exists.
500	ROMA.00111013	Failed to deliver the command for deleting the subdevice. Check whether the product to which the subdevice belongs exists.	Failed to deliver the command for deleting the subdevice. Check whether the product to which the subdevice belongs exists.	Check whether the product associated with the subdevice exists.
500	ROMA.00111014	Failed to register the subdevice because the specified gateway does not exist.	Failed to register the subdevice because the specified gateway does not exist.	Check whether the specified gateway device ID is correct.
500	ROMA.00111015	Failed to register the subdevice because the specified gateway is invalid.	Failed to register the subdevice because the specified gateway is invalid.	Use a correct gateway device ID.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111016	Failed to register the subdevice because the product associated with the subdevice must be of the common type.	Failed to register the subdevice because the product associated with the subdevice must be of the common type.	Check whether the associated product is a common product.
500	ROMA.00111017	Failed to obtain the username and password of the device. Check whether the device data is correct.	Failed to obtain the username and password of the device. Check whether the device data is correct.	Check whether the token_oid associated with the device exists.
500	ROMA.00111018	Only a directly connected device can be added as a gateway subdevice. Check whether the type of the added device is correct.	Only a directly connected device can be added as a gateway subdevice. Check whether the type of the added device is correct.	Check the device type and select a directly connected device as the subdevice of the gateway.
500	ROMA.00111019	An online device cannot be added as a gateway subdevice. Bring the device offline first.	An online device cannot be added as a gateway subdevice. Bring the device offline first.	Check the device status and bring the device offline.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111020	The Modbus connection point does not exist. Device ID: {0}; connection point ID: {1}.	The Modbus connection point does not exist. Device ID: {0}; connection point ID: {1}.	Check whether the Modbus connection point exists. If the connection point does not exist, create it. If yes, contact technical support for assistance.
500	ROMA.00111021	The Modbus policy does not exist. Device ID: {0}; connection point ID: {1}; policy ID: {2}.	The Modbus policy does not exist. Device ID: {0}; connection point ID: {1}; policy ID: {2}.	Check whether the Modbus policy exists. If the Modbus policy does not exist, create it. If the Modbus policy already exists, contact technical support for assistance.
500	ROMA.00111022	The Modbus policy name {2} (device ID: {0}; connection point ID: {1}) already exists. Change the Modbus policy name.	The Modbus policy name {2} (device ID: {0}; connection point ID: {1}) already exists. Change the Modbus policy name.	Use another Modbus policy name.
500	ROMA.00111023	All node paths in the imported file already exist.	All node paths in the imported file already exist.	Change the node path in the imported file.
500	ROMA.00111024	The OPC UA connection point does not exist. Device ID: {0}; connection point ID: {1}.	The OPC UA connection point does not exist. Device ID: {0}; connection point ID: {1}.	Check whether the OPC UA connection point exists. If the connection point does not exist, create it. If the connection point already exists, contact technical support for assistance.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111025	The OPC UA connection point name {1} (device ID: {0}) already exists. Change the OPC UA connection point name.	The OPC UA connection point name {1} (device ID: {0}) already exists. Change the OPC UA connection point name.	Use another connection point name.
500	ROMA.00111026	The OPC UA node does not exist. Device ID: {0}; connection point ID: {1}; node ID: {2}.	The OPC UA node does not exist. Device ID: {0}; connection point ID: {1}; node ID: {2}.	Check whether the OPC UA node exists. If the OPC UA node does not exist, create it. If the OPC UA node already exists, contact technical support for assistance.
500	ROMA.00111027	The OPC UA node does not belong to the current device. Node ID: {0}; device ID: {1}.	The OPC UA node does not belong to the current device. Node ID: {0}; device ID: {1}.	Check whether the OPC UA node exists. If the OPC UA node does not exist, create it. If the OPC UA node already exists, contact technical support for assistance.
500	ROMA.00111028	The node_path {2} (device ID: {0}; connection point ID: {1}) already exists. Change the node path of the OPC UA node.	The node_path {2} (device ID: {0}; connection point ID: {1}) already exists. Change the node path of the OPC UA node.	Modify the corresponding connection point in the OPC UA configuration of the device.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111029	The Modbus connection point (device ID: {0}; connection point name: {1}) already exists. Change the Modbus connection point name.	The Modbus connection point (device ID: {0}; connection point name: {1}) already exists. Change the Modbus connection point name.	Use another Modbus connection point name.
500	ROMA.00111030	The Modbus connection point name {1} (device ID: {0}) already exists. Change the Modbus connection point name.	The Modbus connection point name {1} (device ID: {0}) already exists. Change the Modbus connection point name.	Modify the name of the Modbus connection point as prompted.
500	ROMA.00111031	Failed to deliver the command to Edgeshell.	Failed to deliver the command to Edgeshell.	Check whether the LINK instance is normal. If the fault persists, contact technical support for assistance.
500	ROMA.00111032	Failed to deliver commands to the offline Edgeshell. Bring Edgeshell online and try again.	Failed to deliver commands to the offline Edgeshell. Bring Edgeshell online and try again.	Check whether the device is online. If not, bring the device online.
500	ROMA.00111033	The specified service ID or command ID does not exist. Check whether the entered service ID or command ID is correct.	The specified service ID or command ID does not exist. Check whether the entered service ID or command ID is correct.	Check whether the service ID and command ID exist under the product to which the device belongs.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111034	{0} OPC UA nodes to be exported, which exceeds the upper limit {1}.	{0} OPC UA nodes to be exported, which exceeds the upper limit {1}.	Reduce the number of OPC UA nodes to ensure that the number of OPC UA nodes to export is less than the maximum limit allowed.
500	ROMA.00111035	{0} OPC UA nodes to be imported, which exceeds the upper limit {1}.	{0} OPC UA nodes to be imported, which exceeds the upper limit {1}.	Reduce the number of OPC UA nodes to ensure that the number of OPC UA nodes to import is less than the maximum limit allowed.
500	ROMA.00111036	The imported OPC UA node file is empty. Select a valid file.	The imported OPC UA node file is empty. Select a valid file.	Select a valid file.
500	ROMA.00111038	The total number of node paths exceeds the quota. Ensure that the total number of imported nodes and existing nodes under the same OPC UA connection point is less than the quota.	The total number of node paths exceeds the quota. Ensure that the total number of imported nodes and existing nodes under the same OPC UA connection point is less than the quota.	Reduce the number of nodes to import or contact the administrator to increase the quota.
500	ROMA.00111039	The topic {0} used for command delivery does not meet the "%s/in/%s" rule.	The topic {0} used for command delivery does not meet the "%s/in/%s" rule.	Check whether the topic used for command delivery meets the rules.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111040	The attribute value of the device shadow is invalid. Check the parameter and try again.	The attribute value of the device shadow is invalid. Check the parameter and try again.	Check whether the entered attribute value of the device shadow is valid.
500	ROMA.00111041	The exported device data is empty. Export at least one device data record.	The exported device data is empty. Export at least one device data record.	Select at least one device to export.
500	ROMA.00111042	The number of exported devices cannot exceed the upper limit {0}.	The number of exported devices cannot exceed the upper limit {0}.	Reduce the number of devices to export and try again.
500	ROMA.00111043	The customized topic {0} already exists. Change the topic name and try again.	The customized topic {0} already exists. Change the topic name and try again.	Use another topic name and try again.
500	ROMA.00111044	Devices using the Modbus or OPC UA protocol cannot be added as subdevices.	Devices using the Modbus or OPC UA protocol cannot be added as subdevices.	Select a device that uses another protocol.
500	ROMA.00111045	Subdevice registration does not support products using the Modbus or OPC UA protocol.	Subdevice registration does not support products using the Modbus or OPC UA protocol.	Use another protocol when registering a subdevice.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111046	Connection point {0} can be created only for common devices. Check the device type.	Connection point {0} can be created only for common devices. Check the device type.	Check whether the device is a common device. If not, change the device type.
500	ROMA.00111047	All the devices to be imported already exist or the devices do not have corresponding products.	All the devices to be imported already exist or the devices do not have corresponding products.	Check whether all devices exist. Check whether the corresponding product exists for the devices.
500	ROMA.00111048	The number of imported devices exceeds the upper limit {0}.	The number of imported devices exceeds the upper limit {0}.	Reduce the number of devices in the file based on the maximum number of devices that can be imported.
500	ROMA.00111049	The imported field does not match the title. Import correct data based on the title {0}.	The imported field does not match the title. Import correct data based on the title {0}.	Import correct data based on the title fields.
500	ROMA.00111050	The device name {0} already exists in the product {1}.	The device name {0} already exists in the product {1}.	Use another device name.
500	ROMA.00111051	The device {0} does not exist. Check the parameters and try again.	The device {0} does not exist. Check the parameters and try again.	Register a new device or replace the device with another one.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111052	Invalid topic permission. Change the permission to pub or sub and try again.	Invalid topic permission. Change the permission to pub or sub and try again.	Change the topic permission and try again.
500	ROMA.00111053	The device topic {0} does not exist. Check the parameters and try again.	The device topic {0} does not exist. Check the parameters and try again.	Check whether the topic exists.
500	ROMA.00111054	The device password cannot be empty. Check information of the device ID {0}.	The device password cannot be empty. Check information of the device ID {0}.	Check whether the device password in the file is empty.
500	ROMA.00111055	Incorrect Enable field. Enter 0 (indicating that the device is enabled) or 1 (indicating that the device is disabled).	Incorrect Enable field. Enter 0 (indicating that the device is enabled) or 1 (indicating that the device is disabled).	Check whether the Enable field of the device in the file is correct.
500	ROMA.00111056	The topic_perm field cannot be empty when devices with customized topics are exported. Log in to the database and check the device whose client ID is {0}.	The topic_perm field cannot be empty when devices with customized topics are exported. Log in to the database and check the device whose client ID is {0}.	Based on the clientId field, check whether the topic_perm field of the custom topic corresponding to the device is empty. If the field is empty, change the value to pub or sub and export the topic again.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111 301	The group name {0} already exists. Change the name and try again.	The group name {0} already exists. Change the name and try again.	Use another name and try again.
500	ROMA.00111 302	The current group is associated with devices and cannot be deleted. Delete the devices first.	The current group is associated with devices and cannot be deleted. Delete the devices first.	Delete the devices associated with the group and try again.
500	ROMA.00111 303	The parent group {0} does not exist. Change the parent group and try again.	The parent group {0} does not exist. Change the parent group and try again.	Change the parent group and try again.
500	ROMA.00111 304	The group supports a maximum of five levels. Create subgroups under other groups.	The group supports a maximum of five levels. Create subgroups under other groups.	Change the parent group and try again.
500	ROMA.00111 601	The rule name {0} already exists. Change the rule name and try again.	The rule name {0} already exists. Change the rule name and try again.	Use another rule name and try again.
500	ROMA.00111 602	The product at the source does not exist. Select an existing product and try again.	The product at the source does not exist. Select an existing product and try again.	Select an existing product and try again.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111 603	The device at the source does not exist. Select an existing device and try again.	The device at the source does not exist. Select an existing device and try again.	Select an existing device and try again.
500	ROMA.00111 605	Invalid data parsing parameter. If data parsing is enabled, the query field cannot be left blank. If data parsing is disabled, the query field and search criteria must be left blank.	Invalid data parsing parameter. If data parsing is enabled, the query field cannot be left blank. If data parsing is disabled, the query field and search criteria must be left blank.	Check whether the rule data parsing parameter is valid.
500	ROMA.00111 606	If the destination type is KAFKA or ROMA_MQS and supports SSL connections, the value of mqs_sasl_ssl must be true and the username and password cannot be left empty.	If the destination type is KAFKA or ROMA_MQS and supports SSL connections, the value of mqs_sasl_ssl must be true and the username and password cannot be left empty.	Ensure that the username and password are not empty when the value of mqs_sasl_ssl is true.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111 607	The topic {0} of the destination KAFKA or ROMA_MQS does not meet the rule. Enter 3 to 200 characters, including only digits, letters, underscores (_), and hyphens (-).	The topic {0} of the destination KAFKA or ROMA_MQS does not meet the rule. Enter 3 to 200 characters, including only digits, letters, underscores (_), and hyphens (-).	Check whether the topic meets the rules and modify it if necessary.
500	ROMA.00111 608	The connection address {0} of the destination does not meet the rule. Enter 10 to 200 characters, including digits, colons (:), periods (.), and commas (,).	The connection address {0} of the destination does not meet the rule. Enter 10 to 200 characters, including digits, colons (:), periods (.), and commas (,).	Check whether the connection address meets the rules.
500	ROMA.00111 609	The application ID of the device is inconsistent with that of the rule. Enter a correct application ID.	The application ID of the device is inconsistent with that of the rule. Enter a correct application ID.	Enter the correct application ID of the device.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111610	If the destination type is KAFKA or ROMA_MQS, the destination_type, app_id, server and topic fields must be specified.	If the destination type is KAFKA or ROMA_MQS, the destination_type, app_id, server and topic fields must be specified.	Check the parameters and try again.
500	ROMA.00111611	Failed to connect to the destination {0}. Check whether the connection information is correct or whether the destination address is reachable.	Failed to connect to the destination {0}. Check whether the connection information is correct or whether the destination address is reachable.	Check whether the connection information is correct or whether the destination address is reachable. The username and password correspond to the appKey and appSecret of the application to which the topic belongs, respectively.
500	ROMA.00111612	The device-level topic {0} at the source does not meet the "/v1/devices/device ID/datas" or "product serial number/out/device ID" rule.	The device-level topic {0} at the source does not meet the "/v1/devices/device ID/datas" or "product serial number/out/device ID" rule.	Check whether the topic meets the rules and try again.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111613	The product-level topic {0} at the source does not meet the "/v1/products/product serial number/datas" or "product serial number/out/+" rule.	The product-level topic {0} at the source does not meet the "/v1/products/product serial number/datas" or "product serial number/out/+" rule.	Check whether the topic meets the rules and try again.
500	ROMA.00111614	The topic {0} at the source already exists. Check the topic and try again.	The topic {0} at the source already exists. Check the topic and try again.	Change the name and try again.
500	ROMA.00111615	If the destination type is DEVICE, multiple destinations can be added. If not, only one destination can be added. Check the destination type and try again.	If the destination type is DEVICE, multiple destinations can be added. If not, only one destination can be added. Check the destination type and try again.	Check the destination type and modify the number of records added to the destination.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111616	Failed to obtain the data source from FDI. Check whether the data source name and application name are correct and whether FDI is normal.	Failed to obtain the data source from FDI. Check whether the data source name and application name are correct and whether FDI is normal.	Check whether the data source name and application name are correct. Check whether the FDI service is normal.
500	ROMA.00111617	Failed to parse the application SQL. Enter the correct SQL field and try again.	Failed to parse the application SQL. Enter the correct SQL field and try again.	Enter the correct SQL field or SQL condition and try again.
500	ROMA.00111618	If the destination KAFKA or ROMA_MQS does not support SSL connections, the value of mqs_sasl_ssl must be false (default value), and the username and password must be left blank.	If the destination KAFKA or ROMA_MQS does not support SSL connections, the value of mqs_sasl_ssl must be false (default value), and the username and password must be left blank.	Check the parameters when the destination is Kafka or ROMA_MQS and try again.
500	ROMA.00111619	If the destination type is MQS, the destination_type, app_id, server, token, and topic fields must be specified.	If the destination type is MQS, the destination_type, app_id, server, token, and topic fields must be specified.	Check whether the parameters meet the requirements as prompted.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111620	If the destination type is DEVICE, the destination_type, server, token, topic, and tag fields must be specified.	If the destination type is DEVICE, the destination_type, server, token, topic, and tag fields must be specified.	Check whether the parameters meet the requirements as prompted.
500	ROMA.00111621	If the destination type is DIS, the destination_type, tag, and topic fields must be specified.	If the destination type is DIS, the destination_type, tag, and topic fields must be specified.	Check whether the parameters meet the requirements as prompted.
500	ROMA.00111622	The connection address {0} of the destination does not meet the rule. Enter 10 to 200 characters, consisting only digits, colons (:), periods (.), and semicolons (;).	The connection address {0} of the destination does not meet the rule. Enter 10 to 200 characters, consisting only digits, colons (:), periods (.), and semicolons (;).	Check and correct the connection address of the destination.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111623	The Topic Level parameter at the source of the rule is invalid. If the device name is specified, Topic Level must be Device-level. If the device name is not specified, Topic Level must be Product-level.	The Topic Level parameter at the source of the rule is invalid. If the device name is specified, Topic Level must be Device-level. If the device name is not specified, Topic Level must be Product-level.	Check the rule level parameter and try again.
500	ROMA.00111624	The Topic Name parameter at the source of the rule is invalid. If the device name is specified, Topic Name must be specified. If the device name is left blank, Topic Name can be left blank.	The Topic Name parameter at the source of the rule is invalid. If the device name is specified, Topic Name must be specified. If the device name is left blank, Topic Name can be left blank.	Check whether the topic parameter is valid and try again.
500	ROMA.00111625	The application ID {0} is inconsistent with the ID of the application to which the rule {1} belongs. Check the rule name and application ID and try again.	The application ID {0} is inconsistent with the ID of the application to which the rule {1} belongs. Check the rule name and application ID and try again.	Check whether the application ID to which the rule name belongs is the same as the application ID in the request. If they are different, change the application ID or rule name in the request.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111 626	The application ID is empty. When the rule does not exist, the application ID must be specified.	The application ID is empty. When the rule does not exist, the application ID must be specified.	Check whether the rule exists in the system. If the rule does not exist, enter the correct application ID in the request.
500	ROMA.00111 627	The application ID of the product is inconsistent with that of the rule. Enter a correct application ID.	The application ID of the product is inconsistent with that of the rule. Enter a correct application ID.	Enter the correct application ID of the product.
500	ROMA.00111 637	The current data plane instance version: {0} does not support this destination data source type: {1}, if you need to use this function, please upgrade the data plane to version 1.8.0 or higher.	The data source type cannot be set to the destination in the current version.	If this function is required, upgrade the data plane instance to a later version to support this function.

Status Code	Error Codes	Error Message	Description	Solution
500	ROMA.00111901	The destination configuration of the subscription type already exists in the current application. Cancel the enabled destination configuration and try again.	The destination configuration of the subscription type already exists in the current application. Cancel the enabled destination configuration and try again.	Cancel the enabled configuration of the destination and try again.

10.5 APIC Features Supported by ROMA Connect Instances

 NOTE

If the instance you are using does not have related features, [submit a service ticket](#) to upgrade your instance.

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
lts	Reporting of SHUB AO access logs	Yes	{ "name": "lts", "enable": true, "config": { "group_id": " ", "topic_id": " ", "log_group": " ", "log_stream": " ", "log_stream": " " } }	group_id	Log group ID.	-	-
				topic_id	Log stream ID.	-	-
				log_group	Name of a log group.	-	-
				log_stream	Name of a log stream.	-	-

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
gateway_responses	Custom gateway responses	No	-	-	-	-	-
ratelimit	Request throttling limit configuration	Yes	<code>{"name": "ratelimit", "enable": true, "config": {"api_limits": 500}}</code>	api_limits	Default request throttling value applied to all APIs. Set this parameter properly to meet service requirements. A small value may constantly throttle your services.	200 calls per second	1–1,000,000 calls per second
request_body_size	Configuration of the maximum request body size	Yes	<code>{"name": "request_body_size", "enable": true, "config": "104857600"}</code>	request_body_size	Maximum size of the body allowed in an API request.	12 M	1–9536 MB

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
backend_timeout	Backend timeout configuration	Yes	{"name": "backend_timeout", "enable": true, "config": {"max_timeout": 500}}	max_timeout	Maximum timeout duration for APIC to access a backend service.	60000 ms	1–600,000 ms
app_token	app_token authentication	Yes	{"name": "app_token", "enable": true, "config": {"enable": {"on": "\app_token_expire_time": 3600, "\app_token_uri": "\/v1/apigw/oauth2/token", "\refresh_token_expire_time": 7200}}}	enable	Whether to enable the feature.	off	on/off
				app_token_expire_time	Validity period of the access token.	3600s	1–72,000s
				refresh_token_expire_time	Validity period of the refresh token.	7200s	1–72,000s
				app_token_uri	URI used for obtaining the token.	/v1/apigw/oauth2/token	-
				app_token_key	Encryption key of the token.	-	-
app_basic	app_basic authentication	Yes	{"name": "app_basic", "enable": true, "config": {"on": true}}	-	-	off	on/off

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
app_secret	app_secret authentication	Yes	{"name": "app_secret", "enable": true, "config": "on"}	-	-	off	on/off
backend_token_allow	Allowing tenants to transparently transmit tokens to the backend.	Yes	{"name": "backend_token_allow", "enable": true, "config": "{\"backend_token_allow_users\": [\"paas_apig_username_01\"]}"}	backend_token_allow_users	Regular expression for transparently transmitting the token to the common tenant whitelist of the tenant to match the domain name of the common tenant.	-	-
sign_basic	Basic signature keys.	No	-	-	-	-	-
multi_auth	Two-factor authentication	No	-	-	-	-	-

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
backend_client_certificate	Backend two-way authentication	Yes	{ "name": "backend_client_certificate", "enable": true, "config": { "enable": "on", "ca": "\", "content": "\", \"key": \"\" } }	enable	Whether to enable the feature.	off	on/off
				ca	CA file of two-way authentication.	-	-
				content	Two-way authentication file.	-	-
				key	Private key of two-way authentication.	-	-

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
ssl_ciphers	HTTP S cipher suites	Yes	<pre>{"name": "ssl_ciphers", "enable": true, "config": "config": [{"ssl_ciphers\\": [{"ECDHE-ECDSA-AES256-GCM-SHA384\\"}]}</pre>	ssl_ciphers	Encryption and decryption suites supported. The ssl_ciphers parameter cannot be left blank and can contain only the options in the default value.	-	ECDHE-ECDSA-AES256-GCM-SHA384, ECDHE-RSA-AES256-GCM-SHA384, ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES256-SHA384, ECDHE-RSA-AES256-SHA384, ECDHE-ECDSA-AES128-SHA256, ECDHE-RSA-AES128-SHA256
app_config	Extended configuration	No	-	-	-	-	-
green_tunnel	Green channels	No	-	-	-	-	-

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
app_route	IP access	Yes	{"name": "app_route", "enable": true, "config": "on"}	-	-	off	on/off
default_group_hide	Hiding the default group. Note: After the default group is hidden, IP access is not supported. If you want to use the IP access function, you are advised to enable the app_route configuration.	Yes	{"name": "default_group_hide", "enable": true, "config": "on"}	-	-	off	on/off

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
cascade	Cascading function	Yes	{ "name": "app_route", "enable": true, "config": { "enable": { "on": { "cascade_auth_key": "abcdefabcdefabcdefabcdef11", "cascade_instance_ids": "104e4816-1e9c-4345-be3a-14528727d0e3" } } }	enable	Whether to enable the cascading function.	off	on/off
				cascade_auth_key	Encryption key used to generate the cascading authentication token.	-	-
				cascade_instance_ids	ID of the instance that can be used as the upper-level instance during cascading.	-	-
sandbox	LDA function sandbox configuration	Yes	{ "name": "sandbox", "enable": true, "config": { "max_cpu_time": 30000, "max_memory": 1073741824 } }	max_cpu_time	Maximum CPU time that can be used by a function API. Unit: ms.	60000 ms	1–1,000,000 ms
				max_memory	Memory size allowed to be executed in a function API. Unit: byte.	256 M	1–9536 MB

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
livedata_config	Whether custom backend configurations are supported. If both sandbox and livedata_config exist, livedata_config is used preferentially.	Yes	{ "name": "sandbox", "enable": true, "config": { "max_cpu_time": 30000, "max_memory": 1073741824, "max_memory": 1073741824, "dataapi_return_type": "no_string", "gw_address_protocol": "http", "livedata_env": "offline", "procedure_async": "off" }}}	max_cpu_time	Maximum CPU time that can be used by a function API. Unit: ms.	60000 ms	1–1,000,000 ms
				max_memory	Memory size allowed to be executed in a function API. Unit: byte.	256 M	1–9536 MB
				livedata_env	Running mode of a custom backend. If this parameter is set to online , the custom backend API will be returned in the online format.	online	online/offline
				gw_address_protocol	Default request protocol used in the DICT:gw_rest_float_addr variable.	none	http/https/none

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
				procedure_async	Whether asynchronous execution is used during the stored procedure.	off	on/off
				dataapi_return_type	Response format of a data API.	no_string	string/no_string
real_ip_from_xff	Whether to use the IP addresses in the X-Forwarded-For header for access control and request throttling	Yes	{"name": "real_ip_from_xff", "enable": true, "config": {"enable": "on", "xff_index": -1}}	enable	Whether to enable the feature.	off	on/off

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
				xff_index	Sequence number of the IP address in the X-Forwarded-For header. The value can be positive, negative, or 0. • If the value is 0 or positive, obtain the IP address of the corresponding index in the X-Forwarded-For header. • If the value is negative, obtain the IP address in the	-1	Valid Int32 value

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
					indicated reverse order in the X-Forwarded-For header. For example, assume that the X-Forwarded-For header of a request received by API gateway contains three IP addresses: IP1, IP2, and IP3. If the value of <code>xff_index</code> is 0, IP1 is obtained. If the value is 1, IP2 is obtained. If the value is -1, IP3 is obtained. If the		

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
					value is -2, IP2 is obtained.		
apiclient_first_use_x_hw_id	Whether to preferentially use the X-HW-ID field to verify the ApiClient class of custom backends.	Yes	{"name": "apiclient_first_use_x_hw_id", "enable": true, "config": "on"}	-	-	off	on/off

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
custom_log	Whether to support custom logs.	Yes	{ "name": "custom_log", "enable": true, "config": { "custom_logs": { "location": { "header": { "name": "test"}, "location": { "query": { "name": "x-query-test001"} } } } } } }	custom_logs	Parameter sets to print in custom logs. Max. sets: 10	-	-
				location	Parameter location.	-	header/ query/ cookie
				name	Parameter name.	-	-

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
real_ip_header_getter	Whether to obtain source IP addresses from custom headers for them to take effect in access control and request throttling policies.	Yes	{ "name": "real_ip_header_getter", "enable": true, "config": { "enable": "on", "header_getter": "header:testIP" }}	enable	Whether to enable the feature.	off	on/off
				header_getter	Custom header for obtaining source IP addresses.	-	-
vpc_name_modifiable	Whether load balance channel names can be modified.	Yes	{ "name": "vpc_name_modifiable", "enable": true, "config": "on" }	-	-	on	on/off

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
default_group_host_trust_list	Whether to allow access to APIs in the DEFAULT group from the IP addresses that are not inbound access addresses of the current instance.	Yes	{ "name": "default_group_host_trustlist", "enable": true, "config": { "enable": " \"on\": \"on\", \"host_s\": [\"123.2.2.2\", \"202.2.2.2\"] } }	enable	Whether to enable the feature.	off	on/off
				hosts	IP addresses that are not inbound access addresses of the current instance.	-	-

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
data_api_column_types_converted_to_string	Whether to allow data backends to support converting data column types to String.	Yes	{ "name": "data_api_column_types_converted_to_string", "enable": true, "config": "{ \"enable\": \"on\", \"column_types\": [\"nvarchar2\"] }" }	enable	Whether to enable the feature.	off	on/off
				column_types	Types: data column types to be converted to String (only NVARCHAR2 is supported currently).	-	-
sse_strategy	Whether to support SSE transmission.	Yes	{ "name": "sse_strategy", "enable": true, "config": "on" }	-	-	off	on/off

Feature Name	Feature Description	Configurable	Feature Configuration Example	Configuration Parameter	Parameter Description	Default Value	Value Range
request_custom_config	Custom client request parameters.	Yes	{ "name": "request_custom_config" , "enable": true, "config": :{ "http2\":"on" }, "client_body_timeout\":"10" } }	http2	Whether to enable HTTP/2.	on	on/off
				client_body_timeout	Client request body timeout.	8 seconds	1 to 60
api_uri_no_escape	Unescaping request parameters of the request path in the API.	Yes	{"name": "api_uri_no_escape", "enable": true, "config": ""}	enable	Whether to enable this feature.	false	true/false

10.6 Data Integration Parameter Description

10.6.1 RawFormDataRequest

Table 10-2 RawFormDataRequest

Parameter	Mandatory	Type	Description
sourceSelectedDataSource	No	SourceDataSourceConfig	Data source at the source.

Parameter	Mandatory	Type	Description
targetSelectedData-source	No	TargetDataSourceConfig	Data source at the destination.
mappingTable	No	List< MappingTable >	Mapping between the source and destination.
mappingTableProperties	No	List< MappingTableProperties >	Property in the mapping between the source and destination. This property is used for relational data sources. For other types of data sources, leave this parameter blank.
mappingSourceTextOrNot	No	List< Flag >	Whether the text mode is used for the mapping between the source and destination. The default value is false .
mappingInput	No	List< MappingInput >	Metadata mapping between the source and destination.
mappingRequired	No	Boolean	Whether a mapping is required. The default value is true . - true : A mapping is required. - false : A mapping is not required.
error_handler	No	List< ErrorHandler >	Fault information storage configuration. This parameter is mandatory only if fault information needs to be stored.
afterImplementation	No	List< AfterImplementation >	After the task is complete, the system sends messages to the Kafka or MRS Kafka based on the configuration. The messages can also be sent to a third-party platform.

Table 10-3 MappingTable

Parameter	Mandatory	Type	Description
source_column	No	String	Name of a field in the source table.
source_column_type	No	String	Type of a field in the source table.
source_column_length	No	String	Length of a field in the source table.
target_column	No	String	Name of the destination field.
target_column_type	No	String	Type of a field in the destination table.
target_column_length	No	String	Length of a field in the destination table.
is_add_mapping	No	String	Whether a mapping is added. The default value is false .

Table 10-4 KeyValuePair

Parameter	Mandatory	Type	Description
keys	No	String	Property name.
value	No	String	Property value.

Table 10-5 TargetDatasourceConfig

Parameter	Mandatory	Type	Description
targetNeedCreateTable	No	Boolean	Whether a table is automatically created. Currently, this parameter is supported only for the PostgreSQL data source. For other types of data sources, set this parameter to false .

Parameter	Mandatory	Type	Description
isSupportClearTab	No	Boolean	Whether to clear the table. If this parameter is set to true , the scheduling task clears the destination table first. The default value is false . If the data source type is Oracle, retain the default value false . If the data source type is DWS, you can set this parameter to either true or false .
targetTable	No	String	Name of the destination table. Set this parameter if the data source type is DWS or Oracle.
target_schema	No	String	Mode of the destination database. This parameter is used for the GaussDB 100 database.

Parameter	Mandatory	Type	Description
batchNumber	No	String	Batch number field. Select a field in the destination table as the batch number field. This field will store a random number that is used to identify the data of this batch. A field whose type is string and length is greater than 14 characters in the destination table can be selected as the batch number field. In addition, the batch number field cannot be the same as the destination field (target_column) in mapping information. Set this parameter if the data source type is DWS or Oracle.
targetSelectedColumnList	No	List<Column>	List of field names selected at the destination. Set this parameter if the data source type is DWS and Oracle.
supportPartUpdate	No	Boolean	Whether to update only the changed fields. If this option is enabled, only the table fields whose values are changed are updated. If this option is disabled, all table fields are updated. Set this parameter if the data source type is DWS or Oracle.

Parameter	Mandatory	Type	Description
meta_data	No	List<MetaD ata>	Metadata definition object of the data source. This parameter is mandatory only if is_parse is set to true . For the FTP data source type, the metadata must be entered in the sequence of the fields in the file. Set this parameter if the data source type is API or FTP.
path	No	String	File path. This parameter is mandatory for file data sources.
write_mode	No	String	Write mode. This parameter is mandatory for file data sources.
file_name_charset	No	String	Character code of the file name. Set this parameter if the data source type is FTP.
file_content_type	No	String	File content type. If this parameter is textFile , file_type must be csv or txt . If this parameter is binaryFile , file_type must be xls or xlsx . - binaryFile : binary file - textFile : text file This parameter is mandatory for file data sources.

Parameter	Mandatory	Type	Description
file_type	No	String	File type. If file_content_type is textFile , set this parameter to csv or txt . If file_content_type is binaryFile , set this parameter to xls or xlsx . This parameter is mandatory for file data sources.
file_name_prefix	No	String	File name prefix. This parameter is mandatory for file data sources.
null_format	No	String	Space format character, which defines the format of spaces in a file. This parameter is mandatory for file data sources.
remark_date_format	No	String	File name extension. This parameter is mandatory for file data sources.
add_header	No	Boolean	Whether to add a file header. This parameter is mandatory for file data sources.
file_content_charset	No	String	Character encoding format of the file content. This parameter is mandatory for file data sources.
field_delimiter	No	String	File separator. By default, files are separated by commas (.). This parameter is mandatory for file data sources.

Table 10-6 MappTableProperties

Parameter	Mandatory	Type	Description
source_nullable	No	String	Whether the source table field can be left blank. - 0 : The source table field cannot left blank. - 1 : The source table field can be left blank.
source_unique	No	String	Whether the source table field is unique. - 0 : The source table field is unique. - 1 : The source table field is not unique.
target_nullable	No	String	Whether the destination table field can be left blank. - 0 : The destination table field cannot left blank. - 1 : The destination table field can be left blank.
target_unique	No	String	Whether the destination table field is unique. - 0 : The destination table field is unique. - 1 : The destination table field is not unique.

Table 10-7 SourceDatasourceConfig

Parameter	Mandatory	Type	Description
need_inc_migration	No	Boolean	Whether to enable incremental migration This parameter is applicable to API data sources. - true : Incremental collection is used. - false : Incremental collection is not used. (Full collection is used for each task execution.)
incr_migration_type	No	String	Type of the period for incremental collection. This parameter is applicable to API data sources. - systemDefault : system default - selfDefine : custom
advanceStartTime	No	Integer	Number of days before the start time of data collection. The parameter is applicable to API data sources. This parameter is mandatory only if incr_migration_type is set to systemDefault . If data generated at the source changes in real time, such as alarm data, you can collect the data by setting this parameter. Start time of data collection = Data source system time – Start time offset
period_granularity	No	String	Period granularity unit. The parameter is applicable to API data sources. This parameter is mandatory only if incr_migration_type is set to selfDefine . - hour : hour - day : day - week : week - month : month

Parameter	Mandatory	Type	Description
period_assignment	No	String	Specified period. The parameter is applicable to API data sources. This parameter is mandatory only if incr_migration_type is set to selfDefine. - currentPeriod: current period - lastPeriod: previous period
period_right_boarder	No	String	Right boundary of a period. The parameter is applicable to API data sources. This parameter is mandatory only if incr_migration_type is set to selfDefine. - off: closed interval - on: open interval
timeZone	No	String	Time zone used for incremental collection. In normal cases, set this parameter to GMT+08:00. The parameter is applicable to API data sources. This parameter is mandatory only if need_inc_migration is set to true.
dataTimestamp	No	Integer	Initial timestamp of incremental collection. The parameter is applicable to API data sources. This parameter is mandatory only if need_inc_migration is set to true.

Parameter	Mandatory	Type	Description
compensation_time	No	Integer	Time compensation of incremental collection. The parameter is applicable to API data sources. If compensation is not required, set this parameter to 0. This parameter is mandatory only if need_inc_migration is set to true. If the data generated at the source is delayed, you can adjust the time based on the compensation time. The end time of data query is the current system time minus the compensation time.
date_form	No	String	Time format of incremental collection. The parameter is applicable to API data sources. This parameter is mandatory only if need_inc_migration is set to true.
isNeedPageSrcApi	No	Boolean	Whether to enable pagination query. This parameter is applicable to API data sources. - true: Pagination query is enabled. - false: Pagination query is disabled.
pageKeySrcApi	No	String	Name of the corresponding page number field during pagination query. This parameter is mandatory only if isNeedPageSrcApi is set to true. This parameter is applicable to API data sources.

Parameter	Mandatory	Type	Description
pageSizeKeySrcApi	No	String	Pagination size field name during pagination query. This parameter is mandatory only if isNeedPageSrcApi is set to true . This parameter is applicable to API data sources.
current_page_num	No	Integer	Page number in pagination query. In normal cases, set this parameter to 1 . This parameter is mandatory only if isNeedPageSrcApi is set to true . This parameter is applicable to API data sources.
page_size	No	Integer	Size of each page in pagination query. This parameter is mandatory if isNeedPageSrcApi is set to true . This parameter is applicable to API data sources.
pageNumLimit	No	Integer	Maximum number of pages the can be queried in a single query task. If this parameter is left blank or set to 0 , the number of pages is not limited. If this parameter is set to a value other than 0 , the query stops when the number of pages exceeds the specified value. This parameter is applicable to API data sources.

Parameter	Mandatory	Type	Description
pagingEndType	No	Boolean	Mode used for stopping pagination query. This parameter is applicable to API data sources. - paging-list: If no data record is returned, pagination query is stopped. This mode is used by default. - paging-total: If the number of records to be queried reaches the maximum limit allowed, pagination query is stopped. In this mode, pagingEndFieldPath must be used to specify the key value of the total number of records. The key value is returned by the API server.
pagingEndFieldPath	No	String	Key value returned by the API service, which indicates the total data volume. This parameter is mandatory only if pagingEndType is set to paging-total. This parameter is applicable to API data sources.
beginDateColSrcApi	No	String	Query key value of the start time when incremental collection is used. This parameter is mandatory only if need_inc_migration is set to true. This parameter is applicable to API data sources.
endDateColSrcApi	No	String	Query key value of the end time when incremental collection is used. This parameter is mandatory only if need_inc_migration is set to true. This parameter is applicable to API data sources.

Parameter	Mandatory	Type	Description
sourceParams	No	List<KeyVal uePair>	Parameter in a request. This parameter is applicable to API data sources.
sourceHeaders	No	List<KeyVal uePair>	Header in a request. This parameter is applicable to API data sources.
sourceBodyType	No	String	Body type in a request. This parameter is applicable to API data sources. - none - formData - x-www-form-urlencoded - raw-json (default value) - raw-sorted-json - raw-text
bodyRaw	No	String	Request body. Set this parameter when sourceBodyType is set to raw- json . This parameter is applicable to API data sources.
sourceBodyFormD ata	No	List<KeyVal uePair>	Request body in form format. This parameter is mandatory only if sourceBodyType is set to formData . This parameter is applicable to API data sources.
sourceResponseType	No	String	Data type of a response. This parameter is applicable to API data sources. - json - xml
isParse	No	Boolean	Whether to parse the request result. This parameter is applicable to API data sources. - true - false

Parameter	Mandatory	Type	Description
rootPath	No	String	Root path for parsing the response result. This parameter is applicable to API data sources.
sourceMetaData	No	List<MetaD ata>	Metadata of the data source type at the source. This parameter is applicable to API data sources.
path	No	String	File path. Enter the path of the folder to be accessed on the FTP server, for example, /data/FDI .
file_name	No	String	File name. File to be accessed on the FTP server.
file_name_charset	No	String	File name encoding. Set this parameter if the data source type is FTP.
max_file_size	No	Integer	Maximum file size, in unit of MB. Set this parameter if the data source type is FTP.
file_content_charset	No	String	File content encoding. Set this parameter if the data source type is FTP.
field_delimiter	No	String	File separator. Set this parameter if the data source type is FTP.
null_format	No	String	Space format character, which defines the format of spaces in a file. Set this parameter if the data source type is FTP.

Parameter	Mandatory	Type	Description
batch_num	No	Integer	Amount of data to be migrated. Enter the number of data rows to be parsed if is_parse is set to true. The maximum value is 1500000. Enter the number of files if is_parse is set to false. The maximum value is 20000. Set this parameter if the data source type is FTP.
skip_header	No	Boolean	Whether to skip the file header. This parameter is mandatory only if is_parse is set to true. This parameter specifies whether to skip the file header in the data file. The file header is the first line or several lines at the beginning of a file, which helps identify and distinguish the file content. Set this parameter if the data source type is FTP.
skip_header_rows	No	Integer	Number of file header lines to be skipped. Set this parameter if the data source type is FTP.
extend_meta_data	No	List<MetaD ata>	Metadata of the data source type at the source. Set this parameter if the data source type is FTP.
instanceId	No	String	Instance ID.
isAddSql	No	Boolean	Whether to add SQL statements. This parameter is used for relational databases. - true: SQL statements are added. - false: SQL statements are not added.

Parameter	Mandatory	Type	Description
querySql	No	String	SQL query statement, which can be left blank. This parameter is used for relational databases.
sourceTable	No	String	Source table name. This parameter is used for relational databases.
sourceSchema	No	String	Mode of the source database. This parameter is used for the GaussDB 100 database.
sourceSelectedColumnList	No	List<Column>	List of field names selected at the source. This parameter is used for relational databases.
orderColumn	No	String	List of field names used for sorting at the source. This parameter is used for relational databases.
orderType	No	String	Sorting type at the source, which can be left empty. This parameter is used for relational databases. - ASC : ascending order - DESC : descending order
sourceDateColumn	No	String	Column name used for incremental migration at the source. This parameter is used for relational databases.
need_inc_migration	No	Boolean	Whether to enable incremental migration. This parameter is used for relational databases. - true : Incremental collection is used. - false : Incremental collection is not used. (Full collection is used for each task execution.)

Parameter	Mandatory	Type	Description
timeZone	No	String	Time zone used for incremental collection. In normal cases, set this parameter to GMT+08:00. This parameter is used for relational databases. This parameter is mandatory only when need_inc_migration is set to true.
dataTimestamp	No	Integer	Initial timestamp during incremental collection. This parameter is used for relational databases. This parameter is mandatory only when need_inc_migration is set to true.
compensation_time	No	Integer	Time compensation value for incremental collection. This parameter is used for relational databases. If compensation is not required, set this parameter to 0. This parameter is mandatory only when need_inc_migration is set to true. If the data generated at the source is delayed, you can adjust the time based on the compensation time. The end time of data query is the current system time minus the compensation time.
where	No	List<Where>	Filter criteria statement of the relational or Hive data source at the source. This parameter can be left blank.

Parameter	Mandatory	Type	Description
whereOptions	No	List<Where Options>	Filter criteria at the source. This parameter can be left blank and is used for relational databases to filter types. - equal - notEqual - less - lessEqual - more - moreEqual - isNull - notNull - between - notBetween - inList - notInList

Table 10-8 Flag

Parameter	Mandatory	Type	Description
flag	No	Boolean	Whether the text mode is used. The default value is false . - true: The text mode is used. - false: The text mode is not used.

Table 10-9 MetaData

Parameter	Mandatory	Type	Description
dataSource	No	List<DataSource>	Mapping information of the data source.

Table 10-10 Datasource

Parameter	Mandatory	Type	Description
index	No	String	Field index.
name	No	String	Field name.
type	No	String	Field type.
format	No	String	Field format.
path	No	String	Parsing path.

Table 10-11 Column

Parameter	Mandatory	Type	Description
field_name	No	String	Field name.
field_type	No	String	Field type.
field_length	No	String	Field length.
null_able	No	String	Whether the field can be left blank. - 0 : The field cannot be left blank. - 1 : The field can be left blank.
unique	No	String	Whether the field is unique. - 0 : The field is unique. - 1 : The field is not unique.

Table 10-12 MappingInput

Parameter	Mandatory	Type	Description
dataSource	No	List< DataSource >	Mapping information of the data source.
mode	No	String	Content mode, for example, keyvalue.

Table 10-13 DataSource

Parameter	Mandatory	Type	Description
sourceKey	No	String	Source value.
targetKey	No	String	Destination value.

Table 10-14 ErrorHandler

Parameter	Mandatory	Type	Description
path	No	String	Save path.
datasource_id	No	String	Data source ID.
mode	No	String	Data source type.
app_id	No	String	Application ID.

Table 10-15 AfterImplementation

Parameter	Mandatory	Type	Description
projectId	No	String	Project ID.
actionType	No	String	Operation type.
appId	No	String	Application ID.
datasourceId	No	String	Data source ID.
topic	No	String	Topic name.
messageContent	No	String	Custom message.

10.6.2 RawFormDataRowResponse

Table 10-16 RawFormDataRowResponse

Parameter	Mandatory	Type	Description
project_id	No	String	Project ID.
task_name	No	String	Task name.

Parameter	Mandatory	Type	Description
task_type	No	String	Task type. - realtime : real-time - timing : scheduled
description	No	String	Task description.
source_datasource_type	No	String	Data source type at the source.
source_datasource	No	String	Data source name at the source.
source_ds_id	No	String	Data source ID at the source.
target_datasource_type	No	String	Data source type at the destination.
target_datasource	No	String	Data source name at the destination.
target_ds_id	No	String	Data source ID at the destination.
need_mqs	No	Boolean	Whether the offline version uses MQS as the internal channel. - true : The offline version uses MQS as the internal channel. - false : The offline version does not use MQS as the internal channel.
need_api	No	Boolean	Whether the offline version uses API as the internal channel. - true : The offline version uses API as the internal channel. - false : The offline version does not use API as the internal channel.

Parameter	Mandatory	Type	Description
need_email_new	No	Boolean	Whether the offline version uses Email as the internal channel. - true : The offline version uses Email as the internal channel. - false : The offline version does not use Email as the internal channel.
source_selected_data_source	No	SourceSelectedDataSource	Data source at the source.
target_selected_data_source	No	TargetSelectedDataSource	Data source at the destination.
mapping_table	No	List<MappingTable>	Mapping between the source and destination.
mapping_table_properties	No	List<MappingTableProperties>	Property in the mapping between the source and destination. This property is used for relational data sources. For other types of data sources, leave this parameter blank.
mapping_source_text_mode	No	List<Flag>	Whether the text mode is used for the mapping between the source and destination. The default value is false .
mapping_input	No	String	Mapping relationship. This parameter can be left blank.

Parameter	Mandatory	Type	Description
mapping_required	No	Boolean	Whether a mapping is required. The default value is true . - true : A mapping is required. - false : A mapping is not required.
task_tag	No	String	Task tag.

Table 10-17 MappingTable

Name	Mandatory	Type	Description
source_column	No	String	Name of a field in the source table.
source_column_type	No	String	Type of a field in the source table.
source_column_length	No	String	Length of a field in the source table.
target_column	No	String	Name of the destination field.
target_column_type	No	String	Type of a field in the destination table.
target_column_length	No	String	Length of a field in the destination table.
is_add_mapping	No	String	Whether a mapping is added. The default value is false .

Table 10-18 TargetSelectedDatasource

Parameter	Mandatory	Type	Description
instance_id	No	String	Instance ID.
target_need_create_table	No	Boolean	Whether a table is created at the destination. This parameter is fixed to false .

Parameter	Mandatory	Type	Description
is_support_clear_table	No	Boolean	Whether the table can be cleared. This parameter is fixed to false .
target_table	No	String	Name of the destination table.
target_schema	No	String	Mode of the destination database. This parameter is used for the GaussDB 100 database.
batch_number	No	String	Batch data.
target_selected_column_list	No	List<Column>	List of column names selected at the destination.
support_part_update	No	Boolean	Whether to update changed fields only. If this option is enabled, only the table fields whose values change are updated. If this option is disabled, all table fields are updated.
meta_data	No	List<MetaData>	Metadata of the data source type at the destination.
path	No	String	File path. Set this parameter to the path of the folder to be accessed on the FTP server.
write_mode	No	String	Write mode. This parameter is mandatory for file data sources.

Parameter	Mandatory	Type	Description
file_name_charset	No	String	Character encoding format of the file name. This parameter is mandatory for file data sources.
file_content_type	No	String	File content type. If file_content_type is textFile , set this parameter to csv or txt . If file_content_type is binaryFile , set this parameter to xls or xlsx . - binaryFile : binary file - textFile : text file
file_type	No	String	File type. This parameter is mandatory for file data sources. If file_content_type is textFile , set this parameter to csv or txt . If file_content_type is binaryFile , set this parameter to xls or xlsx .
file_name_prefix	No	String	File name prefix.
null_format	No	String	Space format character, which defines the format of spaces in a file.
remark_date_format	No	String	File name suffix.
add_header	No	Boolean	Whether to add a file header.

Parameter	Mandatory	Type	Description
file_content_charset	No	String	File content encoding.
field_delimiter	No	String	File separator. By default, files are separated by commas (.).

Table 10-19 MappTableProperties

Parameter	Mandatory	Type	Description
source_nullable	No	String	Whether the source table field can be left blank. - 0 : The source table field cannot be left blank. - 1 : The source table field can be left blank.
source_unique	No	String	Whether the source table field is unique. - 0 : The source table field is unique. - 1 : The source table field is not unique.
target_nullable	No	String	Whether the destination table field can be left blank. - 0 : The destination table field cannot be left blank. - 1 : The destination table field can be left blank.

Parameter	Mandatory	Type	Description
target_unique	No	String	Whether the destination table field is unique. - 0 : The destination table field is unique. - 1 : The destination table field is not unique.

Table 10-20 Flag

Parameter	Mandatory	Type	Description
flag	No	Boolean	Whether the text mode is used. The default value is false . - true : The text mode is used. - false : The text mode is not used.

Table 10-21 Column

Parameter	Mandatory	Type	Description
field_name	No	String	Field name.
field_type	No	String	Field type.
field_length	No	String	Field length.
null_able	No	String	Whether the field can be left blank. - 0 : The field cannot be left blank. - 1 : The field can be left blank.

Parameter	Mandatory	Type	Description
unique	No	String	Whether the field is unique. - 0 : The field is unique. - 1 : The field is not unique.

Table 10-22 SourceSelectedDatasource

Parameter	Mandatory	Type	Description
instance_id	No	String	Instance ID.
is_add_sql	No	Boolean	Whether to add SQL statements. This parameter is used for relational databases. - true : SQL statements are added. - false : SQL statements are not added.
query_sql	No	String	SQL query statement, which can be left blank. This parameter is used for relational databases.
source_table	No	String	Source table name. This parameter is used for relational databases.
source_schema	No	String	Mode of the source database. This parameter is used for the GaussDB 100 database.

Parameter	Mandatory	Type	Description
source_selected_column_list	No	List< Column >	List of field names selected at the source. This parameter is used for relational databases.
order_column	No	String	List of field names used for sorting at the source. This parameter is used for relational databases.
order_type	No	String	Sorting type at the source, which can be left empty. This parameter is used for relational databases. - ASC : ascending order - DESC : descending order
source_date_column	No	String	Column name used for incremental migration at the source. This parameter is used for relational databases.
data_timestamp	No	Integer	Initial time of incremental migration at the source.
where	No	List< Where >	Filter criteria statement of the relational or Hive data source at the source. This parameter can be left blank.

Parameter	Mandatory	Type	Description
where_options	No	List< WhereOptions >	Filter criteria at the source. This parameter can be left blank and is used for relational databases to filter types. - equal - notEqual - less - lessEqual - more - moreEqual - isNull - notNull - between - notBetween - inList - notInList
is_text_input	No	Boolean	Whether the text mode is used.
text_input_value	No	String	Textual input value at the source, which can be left blank.
meta_data	No	List< MetaData >	Metadata of the data source type at the source.
need_incremental_migration	No	Boolean	Whether to perform incremental migration for data at the source.
time_zone	No	String	Time zone used for incremental migration of source data. The default value is GMT+08:00 .

Parameter	Mandatory	Type	Description
reset_incr_begin_time	No	Boolean	Whether to reset the start time of incremental migration at the source.
compensation_time	No	String	Compensation time for the initial time of incremental migration at the source.
is_parse	No	Boolean	Whether parsing is required. If this parameter is set to true, data is not transparently transmitted. If this parameter is set to false, data is transparently transmitted. Transparent transmission refers to pass-through, transmitting the data from the source to the destination without alteration. The default value is true. This parameter is used with source_meta_data.
path	No	String	File path. Enter the path of the folder to be accessed on the FTP server, for example, /data/FDI .

Parameter	Mandatory	Type	Description
file_name	No	String	File name. Enter the name of the file to be accessed on the FTP server.
file_name_charset	No	String	File name encoding.
max_file_size	No	Integer	Maximum file size.
file_content_charset	No	String	File content encoding.
field_delimiter	No	String	File separator.
null_format	No	String	Space format character, which defines the format of spaces in a file.
batch_num	No	Integer	Amount of data to be migrated. If is_parse is set to true , this parameter indicates the number of data rows to be parsed. The maximum value is 1500000 . If is_parse is set to false , this parameter indicates the number of files to be parsed. The maximum value is 20000 .

Parameter	Mandatory	Type	Description
skip_header	No	Boolean	Whether to skip the file header. This parameter is mandatory only if is_parse is set to true . This parameter specifies whether to skip the file header in the data file. The file header is the first line or several lines at the beginning of a file, which helps identify and distinguish the file content.
skip_header_rows	No	Integer	Number of file header lines to be skipped.
extend_meta_data	No	List<MetaData>	Extended information of the metadata configuration of the data source at the source.
source_meta_data	No	List<MetaData>	Metadata configuration of the data source at the source.

Table 10-23 Where

Parameter	Mandatory	Type	Description
andor	No	String	Filter. Set this parameter to and .
field_name	No	String	Field name.
field_type	No	String	Field type.
op	No	String	Filter criteria.
value	No	String	Value.

Parameter	Mandatory	Type	Description
minValue	No	String	Minimum value.
maxValue	No	String	Maximum value.

Table 10-24 WhereOptions

Parameter	Mandatory	Type	Description
options	No	List< Options >	Filter criteria. This parameter can be left blank and is used for relational databases to filter types. - equal - notEqual - less - lessEqual - more - moreEqual - isNull - notNull - between - notBetween - inList - notInList

Table 10-25 MetaData

Parameter	Mandatory	Type	Description
dataSource	No	List< DataSource >	Mapping information of the data source.

Table 10-26 Datasource

Parameter	Mandatory	Type	Description
index	No	String	Field index.
name	No	String	Field name.

Parameter	Mandatory	Type	Description
type	No	String	Field type.
format	No	String	Field format.
path	No	String	Parsing path.

Table 10-27 Options

Parameter	Mandatory	Type	Description
id	No	String	Filter type ID.
label	No	String	Filter type.

10.7 Obtaining a Data Source Configuration File

10.7.1 MRS Hive

To obtain an MRS Hive configuration file, perform the following steps:

1. Obtain **krb5.conf** and **user.keytab** files.
Download the user authentication file from MRS Manager by following the procedure described in [Downloading a User Authentication File](#), and decompress the file to obtain the **krb5.conf** and **user.keytab** files.
2. Obtain the **hiveclient.properties**, **core-site.xml**, **hdfs-site.xml**, **hosts**, and **version** files.
Download the client configuration file from the MRS console by following the procedure described in [Updating a Client Configuration File](#). After the file is decompressed:
 - Obtain the **hosts** and **Version** files from **MRS_Services_ClientConfig_ConfigFiles > MRS_Services_ClientConfig_ConfigFiles**.
 - Obtain the **hiveclient.properties** file from **MRS_Services_ClientConfig_ConfigFiles > MRS_Services_ClientConfig_ConfigFiles > Hive > config**.
 - Obtain the **core-site.xml** and **hdfs-site.xml** files from **MRS_Services_ClientConfig_ConfigFiles > MRS_Services_ClientConfig_ConfigFiles > HDFS > config**.
3. Generate the MRS Hive configuration file.
Save the obtained files to a new directory and compress them into a **.zip** package. All files are stored in the root directory of the **.zip** package.

 NOTE

- The file name contains a maximum of 255 characters, including only letters and digits.
- The file size cannot exceed 2 MB.

10.7.2 MRS HDFS

To obtain an MRS HDFS configuration file, perform the following steps:

1. Obtain **krb5.conf** and **user.keytab** files.

Download the user authentication file from MRS Manager by following the procedure described in [Downloading a User Authentication File](#), and decompress the file to obtain the **krb5.conf** and **user.keytab** files.

2. Obtain the **core-site.xml**, **hdfs-site.xml**, and **hosts** files.

Download the client configuration file from the MRS console by following the procedure described in [Updating a Client Configuration File](#). After the file is decompressed:

- Obtain the **hosts** file from **MRS_Services_ClientConfig_ConfigFiles > MRS_Services_ClientConfig_ConfigFiles**.
- Obtain the **core-site.xml** and **hdfs-site.xml** files from **MRS_Services_ClientConfig_ConfigFiles > MRS_Services_ClientConfig_ConfigFiles > HDFS > config**.

3. Generate the MRS HDFS configuration file.

Save the obtained files to a new directory and compress them into a **.zip** package. All files are stored in the root directory of the **.zip** package.

 NOTE

- The file name contains a maximum of 255 characters, including only letters and digits.
- The file size cannot exceed 2 MB.

10.7.3 MRS HBase

To obtain an MRS HBase configuration file, perform the following steps:

1. Obtain **krb5.conf** and **user.keytab** files.

Download the user authentication file from MRS Manager by following the procedure described in [Downloading a User Authentication File](#), and decompress the file to obtain the **krb5.conf** and **user.keytab** files.

2. Obtain the **core-site.xml**, **hbase-site.xml**, **hdfs-site.xml**, and **hosts** files.

Download the client configuration file from the MRS console by following the procedure described in [Updating a Client Configuration File](#). After the file is decompressed:

- Obtain the **hosts** file from **MRS_Services_ClientConfig_ConfigFiles > MRS_Services_ClientConfig_ConfigFiles**.
- Obtain the **hbase-site.xml** file from **MRS_Services_ClientConfig_ConfigFiles > MRS_Services_ClientConfig_ConfigFiles > HBase > config**.

- Obtain the **core-site.xml** and **hdfs-site.xml** files from
MRS_Services_ClientConfig_ConfigFiles >
MRS_Services_ClientConfig_ConfigFiles > HDFS > config.
- 3. Generate the MRS HBase configuration file.
Save the obtained files to a new directory and compress them into a **.zip** package. All files are stored in the root directory of the **.zip** package.

 NOTE

- The file name contains a maximum of 255 characters, including only letters and digits.
- The file size cannot exceed 2 MB.

10.7.4 MRS Kafka

To obtain an MRS Kafka configuration file, perform the following steps:

1. Obtain **krb5.conf** and **user.keytab** files.
Download the user authentication file from MRS Manager by following the procedure described in [Downloading a User Authentication File](#), and decompress the file to obtain the **krb5.conf** and **user.keytab** files.
2. Obtain the **fikafka-producer.properties**, **fikafka-consumer.properties**, and **hosts** files.
Download the client configuration file from the MRS console by following the procedure described in [Updating a Client Configuration File](#). After the file is decompressed:
Obtain the **fikafka-producer.properties** and **fikafka-consumer.properties** files from **MRS_Services_ClientConfig_ConfigFiles >**
MRS_Services_ClientConfig_ConfigFiles > Kafka > config.
Copy the value of **bootstrap.servers** in the **fikafka-producer.properties** file to the **fikafka-consumer.properties** file.
3. Generate the MRS Kafka configuration file.
Save the obtained files to a new directory and compress them into a **.zip** package. All files are stored in the root directory of the **.zip** package.

 NOTE

- The file name contains a maximum of 255 characters, including only letters and digits.
- The file size cannot exceed 2 MB.