



Resource Formation Service

API Reference

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1 Before You Start

[1.1 Overview](#)

[1.2 Concepts](#)

1.1 Overview

Resource Formation Service (RFS) provides the latest [resource formation APIs](#).

RFS is a new final-state resource formation engine for cloud services and fully supports Terraform (HCL and Provider), which is a de facto standard. It is an upgrade of the Application Orchestration Service (AOS) in terms of the ecosystem, experience, and features. Based on HCL syntax template, RFS automatically builds cloud service resources in batches to help you create, manage, and upgrade cloud service resources in an efficient, secure, and consistent manner, improving resource management efficiency and reducing security risks caused by resource management changes.

This document describes how to use APIs to perform operations on RFS, such as template creation, deletion, and query.

Before calling RFS APIs, ensure that you are familiar with RFS concepts. For details, see [Service Overview](#).

1.2 Concepts

- **Account**
An account is created upon successful registration. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, which should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.
- **User**
An IAM user is created by an account in IAM to use cloud services. Each IAM user has its own identity credentials (password and access keys).

API authentication requires information such as the account name, username, and password.

- Region

A region is a geographic area in which cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.

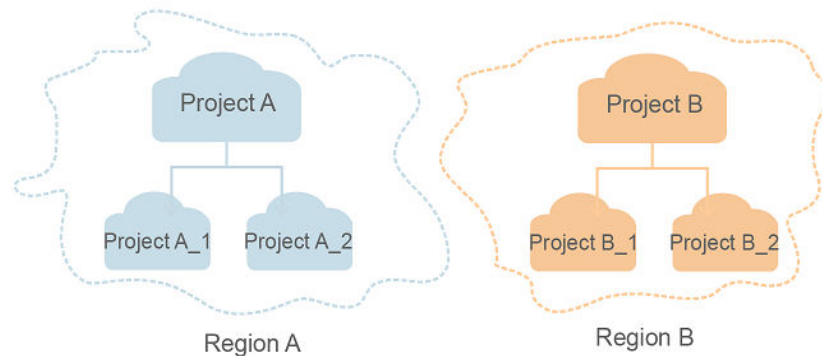
- AZ

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

- Project

A project corresponds to a region. Default projects are defined to group and physically isolate resources (including computing, storage, and network resources) across regions. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the project. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

Figure 1-1 Project isolation model



- Enterprise project

Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated. An enterprise project can contain resources of multiple projects, and resources can be added to or removed from enterprise projects.

For details about enterprise projects and about how to obtain enterprise project IDs, see *Enterprise Management User Guide*.

2 API

Status Code

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

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

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

Response Header

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

[Figure 2-1](#) shows the response header fields for the API used to [obtaining 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 2-1 Header fields of the response to the request for obtaining a user token

```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → MIIVXQVJKoZIhvcNAQcCoIIYJCCEGoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6ijlwMTktMDItMTNUMC
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgkIQ1wi4JlGzrpd18LGXK5tdfdq4lqHCYb8P4NaYONYeJcAgzJVeFYtLWT1GSO0zxKZmlQHQj82HBqHdglZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXI1jipPEGA270g1FruooL6jgglFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUUbpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==
x-xss-protection → 1; mode=block;
```

(Optional) Response Body

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

The following is part of the response body for the API used to [obtaining 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, an error code and a message will be displayed. The following shows 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.

- [2.1 Calling APIs](#)
- [2.2 Stacks](#)
- [2.3 Execution Plans](#)
- [2.4 Template Analysis](#)
- [2.5 Template Management](#)
- [2.6 Stack Sets](#)

2.1 Calling APIs

2.1.1 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

The format of a request URI is as follows:

{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 2-1 Parameters in a URI

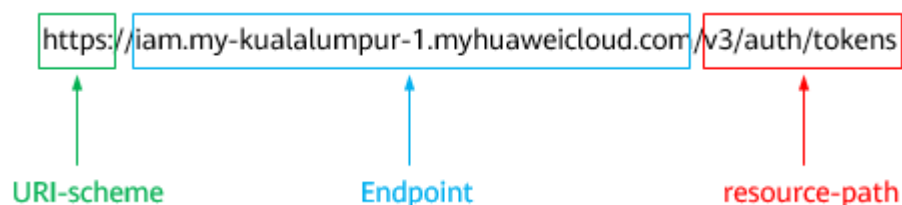
Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS .
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from Regions and Endpoints . For example, the endpoint of IAM in the my-kualalumpur-1 region is iam.my-kualalumpur-1.myhuaweicloud.com .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .
query-string	Query parameter, which is optional. Not all APIs have a query parameter. Ensure that a question mark (?) is included before each query parameter that is in the format of <i>Parameter name=Parameter value</i> . For example, ? limit=10 indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **my-kualalumpur-1** region, obtain the endpoint of IAM (**iam.my-kualalumpur-1.myhuaweicloud.com**) for this region and the **resource-path** (**/v3/auth/tokens**) in the URI of the API used to **obtaining a user token**. Then, construct the URI as follows:

```
https://iam.my-kualalumpur-1.alphaedge.tnone.com.my/v3/auth/tokens
```

Figure 2-2 Example URI

Figure 2-3 Example URI



NOTE

To simplify the URI display, 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

HTTP-based request methods, which are also called operations or actions, specifying the type of operations that you are requesting.

Table 2-2 HTTP methods

Method	Description
GET	Requests a server to return a specified resource.
PUT	Requests the server to update a specified resource.
POST	Requests a server to add a resource or perform a special operation.
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 partial contents of a specified resource. If the resource does not exist, a new resource will be created.

For example, in the case of the API used to [obtaining a user token](#), the request method is **POST**. The request is as follows:

```
POST https://iam.my-kualalumpur-1.myhuaweicloud.com/v3/auth/tokens
```

Request Header

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

[Table 2-3](#) lists common request header fields.

Table 2-3 Common request headers

Name	Description	Mandatory	Example Value
Host	Server domain name and port number of the resource being requested. The value can be obtained from the URL of the service API. The value is in the format of <i>Hostname:Port number</i> . If the port number is not specified, the default port is used. The default port number for HTTPS is 443 .	No This parameter is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the type (or format) of the message body. The default value application/json is recommended. Other values of this field will be provided for specific APIs if any.	Yes	application/json
Content-Length	Length of the request body. The unit is byte.	No	3495
X-Project-Id	Specifies a project ID. Obtain the project ID by following the instructions in 3.3 Obtaining a Project ID .	No	e9993fc787d94b6c886cb aa340f9c0f4

Name	Description	Mandatory	Example Value
X-Auth-Token	<p>User token.</p> <p>It is a response to the API for obtaining a user token (This is the only API that does not require authentication).</p> <p>After the request is processed, the value of X-Subject-Token in the response header is the token value.</p>	<p>No</p> <p>Mandatory for token-based authentication.</p>	<p>The following is part of an example token:</p> <p>MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ</p>

 **NOTE**

In addition to supporting token-based authentication, cloud service APIs also support authentication using the 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" in [2.1.2 Authentication](#).

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

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

(Optional) Request Body

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

Request bodies vary with APIs. Some APIs do not require a request body, such as the APIs requested using the GET and DELETE methods.

In the case of the API used to [obtaining a user token](#), the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace *username*, *domainname*, ******* (login password), and *xxxxxxxxxxxxxxxxxxx* (project name) with the actual values. Obtain a project name from [Regions and Endpoints](#).

 **NOTE**

The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see [obtaining a user token](#).

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

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

If all data required by a request is available, you can send the request to call the API through [curl](#), [Postman](#), or coding. For the API of obtaining a user token, **x-subject-token** in the response header is the required user token. Use the token to authenticate the calling of other APIs.

2.1.2 Authentication

You can use either of the following authentication methods to call APIs:

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

Token Authentication

NOTE

A token is valid for 24 hours. If a token is required, the system caches the token to avoid frequent calling.

A token specifies certain permissions in a computer system. During token-based API authentication, the token is added to requests to get permissions for calling the API.

You can obtain a token by calling the [obtaining a user token](#) API. When you call the API, 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 other APIs are called. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

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

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 authentication is recommended.

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

- AK: is a unique identifier associated with the SK. It is a unique identifier associated with an SK and is used together with an SK to sign requests cryptographically.
- SK: secret access key used together 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 using the signing SDK. For details about how to sign requests and use the signing SDK, see [API Request Signing Guide](#).

NOTE

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

2.1.3 Response

Status Code

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

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

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

Response Header

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

Figure 2-4 shows the response header fields for the API used to **obtaining 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 2-4 Header fields of the response to the request for obtaining a user token

```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → MIiYXQYJKoZIhvcNAQcCoIIYtJCCGEOCAQEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOansiZXhwaXJlc19hdCI6IiwMTktMDItMTNUMD
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgkqlqO1wi4JIGzrpd18LGXK5bdfq4lqHCYb8P4NaYONYejeAgz/VeFYtLWT1GSO0zxKZmlQHq82HBqHdgIZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jqglFkNPQuFSOU8+uSsttVwrRtnfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxjECKnoH3HRozv0vN--n5d6Nbxg==
x-xss-protection → 1; mode=block;
```

(Optional) Response Body

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

The following is part of the response body for the API used to **obtaining 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, an error code and a message will be displayed. The following shows 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.

2.2 Stacks

2.2.1 Listing Events of a Stack

Function

ListStackEvents

This API lists all deployment events of a stack.

- If deployment_id is assigned, deployment_id is used as a query criterion and the stack events corresponding to a specific deployment are returned. If no deployment_id is assigned, all of the stack events are returned.
- If the deployment corresponding to the given deployment_id does not exist, 404 is returned.
- You can use filter to query stack events by specifying the event type (event_type), resource type (resource_type), and resource name (resource_name).
- You can use field to set the attributes to be returned. The attribute event type (event_type) cannot be configured and it is returned by default. The available attributes are elapsed time (elapsed_seconds), event message (event_message), resource ID key (resource_id_key), resource ID value (resource_id_value), resource key (resource_key), resource type (resource_type), resource name (resource_name), and timestamp (timestamp).
- The returned events are arranged in descending order of time.

URI

GET /v1/{project_id}/stacks/{stack_name}/events

Table 2-4 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Parameter	Mandatory	Type	Description
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-5 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	Unique stack ID. It is a UUID generated by RFS when a stack is created. Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned. Minimum: 36 Maximum: 36

Parameter	Mandatory	Type	Description
deployment_id	No	String	<p>Unique deployment ID. It is a UUID generated by RFS when deployment or rollback is triggered.</p> <p>Minimum: 36 Maximum: 36</p>
filter	No	String	<p>Filter criteria.</p> <ul style="list-style-type: none"> • The AND operator is defined using a comma (,). • The OR operator is defined using a vertical bar (). The OR operator has a higher priority than the AND operator. • Parentheses are not supported. • Only equal signs (==) are supported as the filter operator. • Filter parameter names and values can contain only letters, digits, and underscores (_). Semicolons (;) are not allowed in filter criteria. If semicolons are used, the filter criteria will be ignored. • A filter parameter can be related to only one AND condition. Multiple OR conditions in an AND condition can be related to only one filter parameter. <p>Minimum: 0 Maximum: 512</p>
field	No	String	<p>Specified attribute name.</p> <ul style="list-style-type: none"> • The attribute name can contain only letters, digits, and underscores (_). • Multiple attribute names are separated by commas (,). <p>Minimum: 0 Maximum: 128</p>

Request Parameters

Table 2-6 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 200

Table 2-7 Response body parameters

Parameter	Type	Description
stack_events	Array of StackEvent objects	List of stack events.

Table 2-8 StackEvent

Parameter	Type	Description
resource_type	String	Resource type. For example, in the following HCL template, the value of resource_type is huaweicloud_vpc. <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> In a JSON template, the value of resource_type is huaweicloud_vpc. <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>

Parameter	Type	Description
resource_name	String	<p>Resource name. The default value is the logical name of a resource.</p> <p>For example, in the following HCL template, the value of resource_name is my_hello_world_vpc.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> <p>In a JSON template, the value of resource_name is my_hello_world_vpc.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>
resource_id_key	String	<p>Name of resource ID. If a resource is not created, resource_id_key is not returned. The ID is defined by a provider. Different providers may comply with different naming rules. For details about the naming rules, contact provider developers or read provider's documentation.</p>
resource_id_value	String	<p>Resource ID value. If a resource is not created, resource_id_value is not returned.</p>

Parameter	Type	Description
resource_key	String	<p>Resource key. If count or for_each is used in a template, resource_key will be returned.</p> <p>If count is used in a template, resource_key is a number starting from 0.</p> <p>For example, in the following HCL template, if the count is 2, two resources will be generated and the value of resource_key is 0 and 1.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { count = 2 name = "test_vpc" }</pre> <p>In a JSON template, the value of resource_key is 0 and 1.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc", "count": 2 } } } }</pre> <p>If for_each is used in a template, resource_key is a user-defined string. In the following HCL template, the value of resource_key is vpc1 and vpc2.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { for_each = { "vpc1" = "test_vpc" "vpc2" = "test_vpc" } name = each.value }</pre> <p>In the following JSON template, the value of resource_key is vpc1 and vpc2.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "for_each": { "vpc1": "test_vpc", "vpc2": "test_vpc" } "name": "\${each.value}" } } } }</pre>
time	String	<p>Occurrence time of an event. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.</p>

Parameter	Type	Description
event_type	String	<p>Event types may include:</p> <ul style="list-style-type: none"> ● LOG: records status information, such as the current status and target status. ● ERROR: records failure information. ● DRIFT: records resource deviation information. – SUMMARY: records summary of resource change results. – CREATION_IN_PROGRESS: The event is being created. – CREATION_FAILED: Failed to create the event. – CREATION_COMPLETE: Event created. – DELETION_IN_PROGRESS: The event is being deleted. – DELETION_FAILED: Delete event failed. – DELETION_COMPLETE: Event deleted. – UPDATE_IN_PROGRESS: The event is being updated. The update is not a replacement. In the case of a replacement update, a replacement event is created and then the old event is deleted. – UPDATE_FAILED: Update event failed. The update is not a replacement. In the case of a replacement update, a replacement event is created and then the old event is deleted. – UPDATE_COMPLETE: Event updated. The update is not a replacement. In the case of a replacement update, a replacement event is created and then the old event is deleted. <p>Enumeration values:</p> <ul style="list-style-type: none"> ● LOG ● ERROR ● DRIFT ● SUMMARY ● CREATION_IN_PROGRESS ● CREATION_FAILED ● CREATION_COMPLETE ● DELETION_IN_PROGRESS ● DELETION_FAILED

Parameter	Type	Description
		<ul style="list-style-type: none"> • DELETION_COMPLETE • UPDATE_IN_PROGRESS • UPDATE_FAILED • UPDATE_COMPLETE
event_message	String	Details about a stack event.
elapsed_seconds	Integer	Event execution duration (Unit: seconds)

Status code: 400

Table 2-9 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-10 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-11 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-12 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-13 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-14 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Use filter to obtain stack events with the specified event_type and resource_name.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/events?filter=event_type==LOG,resource_name==my_hello_world_resource
- Use field to select the following returned attributes: resource_key, resource_name, and event_type. The event_type attribute is automatically selected even if you do not select it.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/events?field=resource_key,resource_name
- Obtain stack events of a specified deployment using deployment_id.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/events?deployment_id=81edbb3e-00d9-42fd-94c8-59c7525d0f28

Example Responses

Status code: 200

Stack events listed.

```
{
  "stack_events": [ {
    "event_message": "Apply required resource success. ",
    "event_type": "LOG",
    "time": "2023-05-17T11:56:47Z"
  }, {
    "event_message": "Apply complete! Resources: 1 added, 0 changed, 0 destroyed.",
    "event_type": "SUMMARY",
    "time": "2023-05-17T11:56:45Z"
  }, {
    "resource_type": "huaweicloud_vpc",
    "resource_name": "vpc",
    "elapsed_seconds": 8,
    "event_message": "huaweicloud_vpc.vpc: Creation complete after 8s [id=38d617da-9b7f-4550-9ff7-d0e271dd4735]",
    "event_type": "CREATION_COMPLETE",
    "resource_id_key": "id",
    "resource_id_value": "38d617da-9b7f-4550-9ff7-d0e271dd4735",
    "time": "2023-05-17T11:56:40Z"
  }, {
    "resource_type": "huaweicloud_vpc",
    "resource_name": "vpc",
    "event_message": "huaweicloud_vpc.vpc: Creating...",
    "event_type": "CREATION_IN_PROGRESS",
    "time": "2023-05-17T11:56:32Z"
  }
 ]
}
```



```
}, {  
  "event_message": "Creating required resource now",  
  "event_type": "LOG",  
  "time": "2023-05-17T11:56:31Z"  
}]  
}
```

Status Codes

Status Code	Description
200	Stack events listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack or the specified deployment does not exist.
429	Too frequent requests.
500	Internal server error.

2.2.2 Obtaining Stack Metadata

Function

GetStackMetadata

This API obtains the metadata of a stack, including the stack ID, stack name, stack description, creation time, update time, stack status, and agency. You can obtain details by referring to `GetStackMetadataResponseBody`.

If a stack is in a non-final state (The state ends with `IN_PROGRESS`. Details are shown in the following description.), its metadata is in a transition phase, which may be a state before or after deployment. The metadata of the stack is in a state after deployment only when the stack is in a final state (ending with `COMPLETE` or `FAILED`).

The non-final states may include:

- `DEPLOYMENT_IN_PROGRESS`
- `ROLLBACK_IN_PROGRESS`
- `DELETION_IN_PROGRESS`

The final states may include:

- `CREATION_COMPLETE`
- `DEPLOYMENT_FAILED`
- `DEPLOYMENT_COMPLETE`
- `ROLLBACK_FAILED`

- ROLLBACK_COMPLETE
- DELETION_FAILED

URI

GET /v1/{project_id}/stacks/{stack_name}/metadata

Table 2-15 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p>A project ID is obtained by calling an API or from the console.</p> <p>Obtaining a Project ID</p> <p>Minimum: 3</p> <p>Maximum: 64</p>
stack_name	Yes	String	<p>A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>

Table 2-16 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-17 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: **200**

Table 2-18 Response body parameters

Parameter	Type	Description
stack_id	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_name	String	<p>A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>
description	String	<p>Description of a stack. It can be used by customers to identify their own stacks.</p> <p>Minimum: 0</p> <p>Maximum: 1024</p>

Parameter	Type	Description
vars_structure	Array of VarsStructure objects	<p>HCL variable structure. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • var_structure allows string variables. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • vars_structure only supports string variables. To use variables of other types, you need to convert them in HCL reference. Alternatively, you can use vars_uri and vars_body, which support various types and complex structures supported by HCL. • If vars_structure is too large, you can use vars_uri. • Note: vars_structure cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to set the encryption field. <p>Array Length: 0 - 100</p>
vars_body	String	<p>Content of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • If vars_body is too large, you can use vars_uri. • If the content in vars is simple strings, you can use var_structure. • vars_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Type	Description
enable_deletion_protection	Boolean	<p>Deletion protection flag. If this variable is not assigned, the default value is false, indicating that deletion protection is disabled by default. (After deletion protection is enabled, stacks cannot be deleted.)</p> <p><i>In the UpdateStack API, if this variable is not assigned in the RequestBody, the deletion protection attribute of the stack will not be updated.</i></p>
enable_auto_rollback	Boolean	<p>Auto-rollback flag. If this variable is not assigned, the default value is false, indicating that auto-rollback is disabled by default. (After auto-rollback is enabled, if the deployment fails, the stack is automatically rolled back and returns to the previous stable status.)</p> <p><i>In the UpdateStack API, if this variable is not assigned in the RequestBody, the auto-rollback attribute of the stack will not be updated. This property is mutually exclusive with the import resources using templates feature, which does not allow the deployment of templates containing imported resources if the stack's auto-rollback is set to true.</i></p>

Parameter	Type	Description
status	String	<p>Status of a stack. * CREATION_COMPLETE indicates an empty stack has been created and no deployment is performed. * DEPLOYMENT_IN_PROGRESS indicates the stack deployment is in progress. * DEPLOYMENT_FAILED indicates the deployment fails. You can obtain the error information summary from status_message. To obtain event details, you can call ListStackEvents. * DEPLOYMENT_COMPLETE indicates the deployment completed. * ROLLBACK_IN_PROGRESS indicates the deployment failed and the rollback is in progress. * ROLLBACK_FAILED indicates the rollback failed. You can obtain the error information summary from status_message. To obtain event details, you can call ListStackEvents. * ROLLBACK_COMPLETE indicates the rollback completed. * DELETION_IN_PROGRESS indicates the deletion is in progress. * DELETION_FAILED indicates the deletion failed. You can obtain the error information summary from status_message. To obtain event details, you can call ListStackEvents.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • CREATION_COMPLETE • DEPLOYMENT_IN_PROGRESS • DEPLOYMENT_FAILED • DEPLOYMENT_COMPLETE • ROLLBACK_IN_PROGRESS • ROLLBACK_FAILED • ROLLBACK_COMPLETE • DELETION_IN_PROGRESS • DELETION_FAILED
agencies	Array of Agency objects	<p>Agency information.</p> <p>RFS uses an agency only in requests that involve resource operations, such as creating a stack (triggering deployment), creating an execution plan, deploying a stack, and deleting a stack. In addition, the agency applies only to resource operations performed by the provider bound to the agency. If the permissions provided by the agency are insufficient, operations on related resources may fail.</p> <p>Array Length: 0 - 10</p>

Parameter	Type	Description
status_message	String	If a stack is in a failure state (ending with FAILED), a brief error information summary is displayed for debugging.
vars_uri_content	String	File content corresponding to vars_uri.
create_time	String	Creation time of a stack. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.
update_time	String	Update time of a stack (applied to the metadata update and deployment). The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.

Table 2-19 VarsStructure

Parameter	Type	Description
var_key	String	Variable name. Minimum: 1 Maximum: 32
var_value	String	Variable value. Variables must be in the form of a string. If a parameter is a number, it must also be in the form of a string, for example, '10'. For different types or complex structures, you can use vars_uri or vars_body. Minimum: 0 Maximum: 2048
encryption	EncryptionStructure object	If a transferred var_value has been encrypted, you can declare this variable to require RFS to decrypt the var_value before using it. Currently, only KMS encryption and decryption are supported.

Table 2-20 EncryptionStructure

Parameter	Type	Description
kms	KmsStructure object	<p>If an assigned var_value is encrypted by KMS, related encryption information can be transferred. RFS will help you decrypt the var_value by KMS.</p> <p>For more details about KMS encryption and its sample code, refer to KMS Application Scenarios.</p> <p>Note:</p> <ul style="list-style-type: none"> • The agency you specify for RFS should have the operation permissions on the specified key ID. • KMS provides a quota for free trial every month. If the quota is exceeded, you will be billed for KMS. The fee is not billed by RFS • KMS encryption only indicates that RFS uses ciphertext for storage and transmission. However, RFS still uses plaintext in stack-events. If you want RFS to use ciphertext in logs, you can declare sensitive in templates. For more information about sensitive, refer to https://learn.hashicorp.com/tutorials/terraform/sensitive-variables.

Table 2-21 KmsStructure

Parameter	Type	Description
id	String	<p>KMS key ID is used by RFS during decryption. Generally, the key ID is that used for encryption.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
cipher_text	String	<p>Ciphertext of data encryption key.</p> <p>Minimum: 2</p> <p>Maximum: 2048</p>

Table 2-22 Agency

Parameter	Type	Description
provider_name	String	Name of the provider used by a user. If the provider_name value given by the user is duplicate, 400 is returned. Minimum: 1 Maximum: 128
agency_name	String	IAM agency used by the corresponding provider. RFS uses this agency to access and create resources of the provider. Either agency_name or agency_urn must be specified. Minimum: 1 Maximum: 64
agency_urn	String	Agency URN When a user defines an agency, either agency_name or agency_urn must be specified. You are advised to set agency_urn when using the trust agency. agency_name can only receive common agency names. If agency_name is set to a trust agency name, template deployment will fail.

Status code: 400

Table 2-23 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-24 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-25 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-26 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-27 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-28 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Obtain stack metadata.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/metadata
- Obtain stack metadata, with a stack ID provided to check whether the stack ID matches the current stack.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/metadata?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2

Example Responses

Status code: 200

Stack metadata obtained.

```
{
  "stack_id": "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
  "stack_name": "my_hello_world_stack",
  "description": "my hello world stack",
  "enable_deletion_protection": false,
  "enable_auto_rollback": false,
  "status": "DEPLOYMENT_COMPLETE",
  "agencies": [ {
```

```
"agency_name" : "rf_admin_trust",  
"provider_name" : "huaweicloud"  
}],  
"create_time" : "2023-03-16T03:28:20Z",  
"update_time" : "2023-05-24T08:56:10Z"  
}
```

Status Codes

Status Code	Description
200	Stack metadata obtained.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack does not exist.
429	Too frequent requests.
500	Internal server error.

2.2.3 Listing Stacks

Function

ListStacks

This API lists all stacks in current region.

- Stacks are sorted by creation time in descending order so that the stack created latest is displayed at the front.
- Pagination is not supported so all stacks will be returned.
- If no stacks are available, a list of empty value will be returned.

ListStacks returns only the summary information, ListStacksResponseBody returns details, and GetStackMetadata returns detailed metadata of stacks.

URI

GET /v1/{project_id}/stacks

Table 2-29 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Request Parameters

Table 2-30 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: **200**

Table 2-31 Response body parameters

Parameter	Type	Description
stacks	Array of Stack objects	Stack list. Stacks are sorted by creation time in descending order. The one created latest is displayed on the top.

Table 2-32 Stack

Parameter	Type	Description
stack_name	String	<p>A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1 Maximum: 128</p>
description	String	<p>Description of a stack. It can be used by customers to identify their own stacks.</p> <p>Minimum: 0 Maximum: 1024</p>
stack_id	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Parameter	Type	Description
status	String	<p>Status of a stack. * CREATION_COMPLETE indicates an empty stack has been created and no deployment is performed. * DEPLOYMENT_IN_PROGRESS indicates the stack deployment is in progress. * DEPLOYMENT_FAILED indicates the deployment fails. You can obtain the error information summary from <code>status_message</code>. To obtain event details, you can call <code>ListStackEvents</code>. * DEPLOYMENT_COMPLETE indicates the deployment completed. * ROLLBACK_IN_PROGRESS indicates the deployment failed and the rollback is in progress. * ROLLBACK_FAILED indicates the rollback failed. You can obtain the error information summary from <code>status_message</code>. To obtain event details, you can call <code>ListStackEvents</code>. * ROLLBACK_COMPLETE indicates the rollback completed. * DELETION_IN_PROGRESS indicates the deletion is in progress. * DELETION_FAILED indicates the deletion failed. You can obtain the error information summary from <code>status_message</code>. To obtain event details, you can call <code>ListStackEvents</code>.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● CREATION_COMPLETE ● DEPLOYMENT_IN_PROGRESS ● DEPLOYMENT_FAILED ● DEPLOYMENT_COMPLETE ● ROLLBACK_IN_PROGRESS ● ROLLBACK_FAILED ● ROLLBACK_COMPLETE ● DELETION_IN_PROGRESS ● DELETION_FAILED
create_time	String	<p>Creation time of a stack. The format complies with the RFC 3339 format (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.</p>
update_time	String	<p>Update time of a stack (applied to the metadata update and deployment scenarios). The format complies with the RFC 3339 format (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.</p>

Parameter	Type	Description
status_message	String	If a stack is in a failure state (ending with FAILED), a brief error information summary is displayed for debugging.

Status code: 400

Table 2-33 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorization_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-34 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorization_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-35 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-36 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-37 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

List stacks.

GET https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks

Example Responses

Status code: 200

Stacks listed.

```
{
  "stacks": [ {
    "stack_name": "my_second_stack",
    "description": "my second stack",
    "stack_id": "4d4f4ece-b291-4c71-8083-bec9b8a44de0",
    "status": "DEPLOYMENT_COMPLETE",
    "create_time": "2023-05-17T07:34:22Z",
    "update_time": "2023-05-17T07:34:44Z"
  }, {
    "stack_name": "my_first_stack",
    "description": "my second stack",
    "stack_id": "e830c288-ee34-48c0-ba6b-a0e6f6b48d3e",
    "status": "CREATION_COMPLETE",
    "create_time": "2023-05-17T07:34:06Z",
    "update_time": "2023-05-17T07:34:28Z"
  } ]
}
```

Status Codes

Status Code	Description
200	Stacks listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
429	Too frequent requests.
500	Internal server error.

2.2.4 Creating a Stack

Function

CreateStack creates a stack.

- If template, vars, and other information are not included in the request, an empty stack will be created and stack_id will be returned.
- If template, vars, and other information are included in the request, a stack will be created and stack_id and deployment_id will be returned.

URI

POST /v1/{project_id}/stacks

Table 2-38 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Request Parameters

Table 2-39 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-40 Request body parameters

Parameter	Mandatory	Type	Description
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Parameter	Mandatory	Type	Description
agencies	No	Array of Agency objects	Agency information. RFS uses an agency only in requests that involve resource operations, such as creating a stack (triggering deployment), creating an execution plan, deploying a stack, and deleting a stack. In addition, the agency applies only to resource operations performed by the provider bound to the agency. If the permissions provided by the agency are insufficient, operations on related resources may fail. Array Length: 0 - 10
description	No	String	Description of a stack. It can be used by customers to identify their own stacks. Minimum: 0 Maximum: 1024
enable_deletion_protection	No	Boolean	Deletion protection flag. If this variable is not assigned, the default value is false, indicating that deletion protection is disabled by default. (After deletion protection is enabled, stacks cannot be deleted.) <i>In the UpdateStack API, if this variable is not assigned in the RequestBody, the deletion protection attribute of the stack will not be updated.</i>

Parameter	Mandatory	Type	Description
enable_auto_rollback	No	Boolean	<p>Auto-rollback flag. If this variable is not assigned, the default value is false, indicating that auto-rollback is disabled by default. (After auto-rollback is enabled, if the deployment fails, the stack is automatically rolled back and returns to the previous stable status.)</p> <p><i>In the UpdateStack API, if this variable is not assigned in the RequestBody, the auto-rollback attribute of the stack will not be updated. This property is mutually exclusive with the import resources using templates feature, which does not allow the deployment of templates containing imported resources if the stack's auto-rollback is set to true.</i></p>

Parameter	Mandatory	Type	Description
template_body	No	String	<p>HCL template. It describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>Either template_body or template_uri must be specified but they both cannot be specified together.</p> <p><i>In the CreateStack API, template_body and template_uri are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> template_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding template_body in plaintext. If the information is sensitive, you are advised to use vars_structure to change the information to a variable and set the encryption field to enable encrypted transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
template_uri	No	String	<p>OBS address of an HCL template. The template describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <p>The corresponding file must be a tf file or a zip package.</p> <p>A pure .tf file must end with .tf or .tf.json and comply with the HCL syntax.</p> <p>Currently, only the .zip package is supported. The file name extension must be .zip. The decompressed file cannot contain the .tfvars file and must be encoded in UTF8 format (the .tf.json file cannot contain the BOM header). The .zip package supports a maximum of 100 subfiles.</p> <p>Either template_body or template_uri must be specified.</p> <p><i>In the CreateStack API, template_body and template_uri are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> • The template file corresponds to template_uri cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the content of the template file in plaintext. If the information is sensitive,

Parameter	Mandatory	Type	Description
			<p>you are advised to use <code>vars_structure</code> to change the information to a variable and set the encryption field to enable encrypted transmission.</p> <ul style="list-style-type: none">• If the template file corresponding to <code>template_uri</code> is of zip type, the length of the internal file or folder name must not exceed 255 bytes, the length of the deepest path must not exceed 2048 bytes, and the size of the zip package must not exceed 1MB. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • If vars_body is too large, you can use vars_uri. • If the content in vars is simple strings, you can use var_structure. • vars_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
vars_structure	No	Array of VarsStructure objects	<p>HCL variable structure. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • vars_structure allows string variables. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • vars_structure only supports string variables. To use variables of other types, you need to convert them in HCL reference. Alternatively, you can use vars_uri and vars_body, which support various types and complex structures supported by HCL. • If vars_structure is too large, you can use vars_uri. • Note: vars_structure cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to set the encryption field. <p>Array Length: 0 - 100</p>

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri. • vars_uri cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 2048</p>

Table 2-41 Agency

Parameter	Mandatory	Type	Description
provider_name	Yes	String	Name of the provider used by a user. If the provider_name value given by the user is duplicate, 400 is returned. Minimum: 1 Maximum: 128
agency_name	No	String	IAM agency used by the corresponding provider. RFS uses this agency to access and create resources of the provider. Either agency_name or agency_urn must be specified. Minimum: 1 Maximum: 64
agency_urn	No	String	Agency URN When a user defines an agency, either agency_name or agency_urn must be specified. You are advised to set agency_urn when using the trust agency. agency_name can only receive common agency names. If agency_name is set to a trust agency name, template deployment will fail.

Table 2-42 VarsStructure

Parameter	Mandatory	Type	Description
var_key	Yes	String	Variable name. Minimum: 1 Maximum: 32

Parameter	Mandatory	Type	Description
var_value	Yes	String	<p>Variable value.</p> <p>Variables must be in the form of a string. If a parameter is a number, it must also be in the form of a string, for example, '10'.</p> <p>For different types or complex structures, you can use vars_uri or vars_body.</p> <p>Minimum: 0</p> <p>Maximum: 2048</p>
encryption	No	EncryptionStructure object	<p>If a transferred var_value has been encrypted, you can declare this variable to require RFS to decrypt the var_value before using it. Currently, only KMS encryption and decryption are supported.</p>

Table 2-43 EncryptionStructure

Parameter	Mandatory	Type	Description
kms	Yes	KmsStructure object	<p>If an assigned var_value is encrypted by KMS, related encryption information can be transferred. RFS will help you decrypt the var_value by KMS.</p> <p>For more details about KMS encryption and its sample code, refer to KMS Application Scenarios.</p> <p>Note:</p> <ul style="list-style-type: none"> The agency you specify for RFS should have the operation permissions on the specified key ID. KMS provides a quota for free trial every month. If the quota is exceeded, you will be billed for KMS. The fee is not billed by RFS. KMS encryption only indicates that RFS uses ciphertext for storage and transmission. However, RFS still uses plaintext in stack-events. If you want RFS to use ciphertext in logs, you can declare sensitive in templates. For more information about sensitive, refer to https://learn.hashicorp.com/tutorials/terraform/sensitive-variables.

Table 2-44 KmsStructure

Parameter	Mandatory	Type	Description
id	Yes	String	<p>KMS key ID is used by RFS during decryption. Generally, the key ID is that used for encryption.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Parameter	Mandatory	Type	Description
cipher_text	Yes	String	Ciphertext of data encryption key. Minimum: 2 Maximum: 2048

Response Parameters

Status code: 201

Table 2-45 Response body parameters

Parameter	Type	Description
stack_id	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Parameter	Type	Description
deployment_id	String	<p>Deployment ID Deployment request is accepted by RFS and will be processed asynchronously. You can call GetStackMetadata to query the stack status.</p> <p>Note:</p> <ul style="list-style-type: none"> The RFS will persist the deployment request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. RFS queues these asynchronous deployment requests and processes them in order. The maximum waiting time for each deployment is 6 hours.

Status code: 400

Table 2-46 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorization_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-47 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorization_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-48 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-49 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-50 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.

Parameter	Type	Description
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-51 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- **Create a stack.**
POST `https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks`

```
{
  "stack_name": "my_first_stack",
  "description": "my first stack"
}
```
- **Create a stack using an agency.**
POST `https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks`

```
{
  "stack_name": "my_second_stack",
  "description": "my second stack",
  "agencies": [ {
    "provider_name": "huaweicloud",
    "agency_name": "my_agency"
  } ]
}
```
- **Create and deploy a stack using the URI of a template.**
POST `https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks`

```
{
  "stack_name": "my_third_stack",
  "template_uri": "https://my_hello_world_bucket.{region}.myhuaweicloud.com/my-hello-world-template.tf",
  "description": "my third stack"
}
```
- **Create and deploy a stack using a template.**

```
{
  "stack_name": "my_fourth_stack",
  "template_body": "terraform {\n  required_providers {\n    huaweicloud = {\n    source = "
```

```

{"huawei.com/provider/huaweicloud": {
  "version": "1.41.0",
  "provider": "huaweicloud",
  "insecure": true,
  "cloud": "{cloud_name}",
  "region": "{region}",
  "endpoints": {
    "iam": "{iam_endpoint}",
    "vpc": "172.16.0.0/16",
    "name": "my_vpc",
    "description": "my fourth stack"
  }
}

```

Example Responses

Status code: 201

Stack created.

```

{
  "stack_id": "ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2"
}

```

Status Codes

Status Code	Description
201	Stack created.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. Too many stacks.
409	Request conflict. Another stack with the same name already exists.
429	Too frequent requests.
500	Internal server error.

2.2.5 Obtaining a Stack Template

Function

GetStackTemplate

This API obtains the template used for the current deployment if the stack is in the final state.

Note: When a stack is in a non-final state (ending with IN_PROGRESS), the stack is in the transition phase. This API obtains the template used for the last deployment of the stack. Only when the stack is in the final state (ending with COMPLETE or FAILED), this API obtains the template used for the current deployment. CREATION_COMPLETE is an exception because there is no template yet and 404 is returned, indicating that the template does not exist.

The non-final states may include:

- DEPLOYMENT_IN_PROGRESS

- ROLLBACK_IN_PROGRESS
- DELETION_IN_PROGRESS

The final states may include:

- CREATION_COMPLETE (an empty stack has been created)
- DEPLOYMENT_FAILED
- DEPLOYMENT_COMPLETE
- ROLLBACK_FAILED
- ROLLBACK_COMPLETE
- DELETION_FAILED

If the template is successfully obtained, the template download link (OBS presigned URL, valid for 5 minutes) is returned in temporary redirection mode. Most clients automatically redirect and download the template. If automatic redirection is not performed, refer to the HTTP redirection rule and manually download the template.

URI

GET /v1/{project_id}/stacks/{stack_name}/templates

Table 2-52 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-53 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-54 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: **307**

Table 2-55 Response header parameters

Parameter	Type	Description
Location	String	HTTP redirect header. The client can use this header to redirect to a template download link (OBS presigned URL, valid for 5 minutes).

Status code: 400

Table 2-56 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-57 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-58 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-59 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-60 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-61 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Obtain a stack template.
GET `https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks/my_hello_world_stack/templates`
- Obtain a stack template and check whether the stack ID matches the current stack.
GET `https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks/my_hello_world_stack/templates?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2`

Example Responses

None

Status Codes

Status Code	Description
307	Stack template obtained. Temporary redirect.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack or template does not exist.
429	Too frequent requests.
500	Internal server error.

2.2.6 Listing Stack Resources

Function

ListStackResources

This API lists the information about all resources managed by a stack.

When the stack is in a non-final state, only brief information about the resources in the stack is output, including `logical_resource_name`, `logical_resource_type`, `physical_resource_id`, `physical_resource_name`, and `status`. When the stack is in the final status, additional detailed information is output. For example, the `resource_attributes`.

The non-final states may include:

- `DEPLOYMENT_IN_PROGRESS`
- `DELETION_IN_PROGRESS`
- `ROLLBACK_IN_PROGRESS`

URI

GET `/v1/{project_id}/stacks/{stack_name}/resources`

Table 2-62 Path Parameters

Parameter	Mandatory	Type	Description
<code>project_id</code>	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
<code>stack_name</code>	Yes	String	A stack name is unique within its domain (<code>domain_id</code>), region, and project (<code>project_id</code>). It is case-sensitive and starts with a letter. Only letters, digits, underscores (<code>_</code>), and hyphens (<code>-</code>) are allowed. Minimum: 1 Maximum: 128

Table 2-63 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-64 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: **200**

Table 2-65 Response body parameters

Parameter	Type	Description
stack_resources	Array of StackResource objects	List of resources managed by a stack.

Table 2-66 StackResource

Parameter	Type	Description
physical_resource_id	String	Physical ID of a resource, generated by the resource provider, cloud service provider, or other service providers during resource deployment.
physical_resource_name	String	Physical name of the resource, defined by the resource provider, cloud service provider, or other service providers during resource deployment.
logical_resource_name	String	<p>Logical name of the resource, defined in a template.</p> <p>Logical variables are only used as identifiers of the resource in the template.</p> <p>For example, in the following HCL template, the value of logical_resource_name is my_hello_world_vpc.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> <p>In a JSON template, the value of logical_resource_name is my_hello_world_vpc.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>

Parameter	Type	Description
logical_resource_type	String	<p>Resource type.</p> <p>Logical variables are only used as identifiers of the resource in the template.</p> <p>For example, in the following HCL template, the value of <code>logical_resource_type</code> is <code>huaweicloud_vpc</code>.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> <p>In a JSON template, the value of <code>logical_resource_type</code> is <code>huaweicloud_vpc</code>.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>

Parameter	Type	Description
index_key	String	<p>Resource index. If count or for_each is used in a template, index_key is returned. If index_key appears, logical_resource_name + index_key can be used as an identifier of the resource.</p> <p>If count is used in a template, index_key is a number starting from 0.</p> <p>For example, in the following HCL template, you can use huaweicloud_vpc.my_hello_world_vpc[0] and huaweicloud_vpc.my_hello_world_vpc[1] to identify two resources.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { count = 2 name = "test_vpc" }</pre> <p>In a JSON template, you can use huaweicloud_vpc.my_hello_world_vpc[0] and huaweicloud_vpc.my_hello_world_vpc[1] to identify two resources.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc", "count": 2 } } } }</pre> <p>If for_each is used in a template, index_key is a user-defined string. For example, in the following HCL template, huaweicloud_vpc.my_hello_world_vpc["vpc1"] and huaweicloud_vpc.my_hello_world_vpc["vpc2"] identify two resources.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { for_each = { "vpc1" = "test_vpc" "vpc2" = "test_vpc" } name = each.value }</pre> <p>In a JSON template, huaweicloud_vpc.my_hello_world_vpc["vpc1"] and huaweicloud_vpc.my_hello_world_vpc["vpc2"] identify two resources.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "for_each": { "vpc1": "test_vpc", "vpc2": "test_vpc" } } } } }</pre>

Parameter	Type	Description
		<pre> "name": "\${each.value}" } } } } </pre>
resource_status	String	<p>Status of the resource.</p> <ul style="list-style-type: none"> • CREATION_IN_PROGRESS: The resource is being created. • CREATION_FAILED: Create resource failed. • CREATION_COMPLETE: Resource created. • DELETION_IN_PROGRESS: The resource is being deleted. • DELETION_FAILED: Delete resource failed. • DELETION_COMPLETE: Resource deleted. • UPDATE_IN_PROGRESS: The resource is being updated. The update is not a replacement. In the case of a replacement update, a replacement resource is created and then the old resource is deleted. • UPDATE_FAILED: Update resource failed. The update is not a replacement. In the case of a replacement update, a replacement resource is created and then the old resource is deleted. • UPDATE_COMPLETE: Resource updated. The update is not a replacement. In the case of a replacement update, a replacement resource is created and then the old resource is deleted. <p>Enumeration values:</p> <ul style="list-style-type: none"> • CREATION_IN_PROGRESS • CREATION_FAILED • CREATION_COMPLETE • DELETION_IN_PROGRESS • DELETION_FAILED • DELETION_COMPLETE • UPDATE_IN_PROGRESS • UPDATE_FAILED • UPDATE_COMPLETE
status_message	String	<p>If the resource is in a failure state (ending with FAILED), a summary of the error information is displayed for debugging.</p>

Parameter	Type	Description
resource_attri butes	Array of ResourceAttribute objects	Resource attribute list.

Table 2-67 ResourceAttribute

Parameter	Type	Description
key	String	Resource attribute key.
value	String	Resource attribute value.

Status code: 400

Table 2-68 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-69 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-70 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-71 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-72 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-73 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- List the stack resources.
GET `https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/resources`
- List the stack resources and check whether the stack ID matches the current stack.
GET `https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/resources?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2`

Example Responses

Status code: 200

Stack resources listed.

```
{
  "stack_resources": [ {
    "logical_resource_name": "vpc",
    "logical_resource_type": "huaweicloud_vpc",
    "physical_resource_id": "38d617da-9b7f-4550-9ff7-d0e271dd4735",
    "physical_resource_name": "my_vpc",
    "resource_attributes": [ {
      "key": "cidr",
      "value": "172.16.0.0/16"
    }, {
      "key": "description",
      "value": ""
    }, {
      "key": "enterprise_project_id",
      "value": "0"
    }, {
      "key": "id",
      "value": "38d617da-9b7f-4550-9ff7-d0e271dd4735"
    }, {
      "key": "name",
      "value": "test_name"
    }, {
      "key": "region",
      "value": "region_id"
    }, {
      "key": "routes",
      "value": "[]"
    }, {

```

```

    "key" : "secondary_cidr",
    "value" : "null"
  }, {
    "key" : "status",
    "value" : "OK"
  }, {
    "key" : "tags",
    "value" : "null"
  }, {
    "key" : "timeouts",
    "value" : "null"
  } ],
  "resource_status" : "CREATION_COMPLETE"
} ]
}

```

Status Codes

Status Code	Description
200	Stack resources listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack does not exist.
429	Too frequent requests.
500	Internal server error.

2.2.7 Listing Stack Outputs

Function

ListStackOutputs

This API lists all outputs of a stack.

The stack output is the return information generated after the deployment of the output statement block defined in the template is complete. After the deployment is complete, you can call this API to obtain the specific output information.

If the stack is in a non-final state (ending with IN_PROGRESS), this API returns empty value. The non-final states may include:

- DEPLOYMENT_IN_PROGRESS
- DELETION_IN_PROGRESS
- ROLLBACK_IN_PROGRESS

Output is defined in the HCL syntax. The returned information is similar to the return value programmatically. For details, refer to the HCL documentation.

URI

GET /v1/{project_id}/stacks/{stack_name}/outputs

Table 2-74 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-75 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Request Parameters

Table 2-76 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36</p> <p>Maximum: 128</p>

Response Parameters

Status code: **200**

Table 2-77 Response body parameters

Parameter	Type	Description
outputs	Array of StackOutput objects	Stack output list.

Table 2-78 StackOutput

Parameter	Type	Description
name	String	Name of a stack output, defined in a template. For example, in the following HCL template, the value of name is vpc_id. <pre>output "vpc_id" { value = huaweicloud_vpc.my_hello_world_vpc.id }</pre> In a JSON template, the value of name is vpc_id. <pre>{ "output": { "vpc_id": [{ "value": "\${huaweicloud_vpc.my_hello_world_vpc.id}" }] } }</pre>
description	String	Description of a stack output, defined in a template.
type	String	Output type of a stack.
value	String	Output value of a stack.
sensitive	Boolean	Whether a stack output is sensitive. This is defined in a template. If an output is defined as sensitive in a template, the actual value and type of the output will not be returned in the response body. Instead, <code>[/topic/body/section/table/tgroup/tbody/row/entry/p/br {""}]</code> (br) will be returned.

Status code: 400

Table 2-79 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-80 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-81 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-82 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-83 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-84 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- List the stack outputs.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/outputs
- List the stack outputs and check whether the stack ID matches the current stack.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/outputs?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2

Example Responses

Status code: 200

The stack outputs listed.

```
{
  "outputs" : [ {
    "name" : "my_first_vpc",
    "sensitive" : true,
    "type" : "<sensitive>",
    "value" : "<sensitive>",
    "description" : "type and value is invisible when sensitive is true."
  }, {
    "name" : "my_second_vpc",
    "type" : "string",
    "value" : "\"huaweicloud_vpc.my_second_vpc\"",
    "description" : "type and value is real when sensitive not set or is false."
  } ]
}
```

Status Codes

Status Code	Description
200	The stack outputs listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack does not exist.
429	Too frequent requests.
500	Internal server error.

2.2.8 Continuing to Deploy a Stack

Function

ContinueDeployStack

This API continues to deploy an existing stack.

- If a stack is in the DEPLOYMENT_FAILED status, it can continue to be deployed, then 202 and the deploymentId will return. If it is in other statuses, deployment is not allowed and the corresponding error code is returned.
- If the deployment still fails, you can obtain the logs by calling the ListStackEvents API. Fix the problems and call this API again to continue to deploy.

URI

POST /v1/{project_id}/stacks/{stack_name}/continuations

Table 2-85 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Request Parameters

Table 2-86 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-87 Request body parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Response Parameters

Status code: 202

Table 2-88 Response body parameters

Parameter	Type	Description
deployment_id	String	<p>Deployment ID Deployment request is accepted by RFS and will be processed asynchronously. You can call GetStackMetadata to query the stack status.</p> <p>Note:</p> <ul style="list-style-type: none"> The RFS will persist the deployment request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. RFS queues these asynchronous deployment requests and processes them in order. The maximum waiting time for each deployment is 6 hours.

Status code: 400

Table 2-89 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorization_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-90 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.

Parameter	Type	Description
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-91 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-92 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-93 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-94 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-95 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Continue to deploy a stack.
POST https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks/my_hello_world_stack/continuations
- Continue to deploy a stack and check whether the stack ID matches the current stack.
POST https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks/my_hello_world_stack/continuations

```
{  
  "stack_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3"  
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{  
  "deployment_id" : "3fef5d3e-27b6-44e8-9769-1d7262bd9430"  
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. Invalid stack status, cannot continue to be deployed. 2. The user does not have the permission to call this API.
404	The stack does not exist.
409	Request conflict. Another request is being processed on the current stack.
429	Too frequent requests.
500	Internal server error.

2.2.9 Deploying a Stack

Function

DeployStack

This API deploys a created stack.

- You can call this API to update the template and parameters and trigger a new deployment.

- This API triggers deployment directly. If users want to confirm deployment details in advance, create an execution plan by calling `CreateExecutionPlan` and get the execution plan by calling `GetExecutionPlan`.
- Assign all the templates and vars and then call this API.
- If automatic rollback is enabled, the stack rolls back once its deployment fails. If automatic rollback is disabled, the stack stays in the current status when the deployment fails.

URI

POST `/v1/{project_id}/stacks/{stack_name}/deployments`

Table 2-96 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Request Parameters

Table 2-97 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-98 Request body parameters

Parameter	Mandatory	Type	Description
template_body	No	String	<p>HCL template. It describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>Either <code>template_body</code> or <code>template_uri</code> must be specified but they both cannot be specified together.</p> <p><i>In the <code>CreateStack</code> API, <code>template_body</code> and <code>template_uri</code> are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> • <code>template_body</code> cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding <code>template_body</code> in plaintext. If the information is sensitive, you are advised to use <code>vars_structure</code> to change the information to a variable and set the encryption field to enable encrypted transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
template_uri	No	String	<p>OBS address of an HCL template. The template describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <p>The corresponding file must be a tf file or a zip package.</p> <p>A pure .tf file must end with .tf or .tf.json and comply with the HCL syntax.</p> <p>Currently, only the .zip package is supported. The file name extension must be .zip. The decompressed file cannot contain the .tfvars file and must be encoded in UTF8 format (the .tf.json file cannot contain the BOM header). The .zip package supports a maximum of 100 subfiles.</p> <p>Either template_body or template_uri must be specified.</p> <p><i>In the CreateStack API, template_body and template_uri are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> The template file corresponds to template_uri cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the content of the template file in plaintext. If the information is sensitive,

Parameter	Mandatory	Type	Description
			<p>you are advised to use <code>vars_structure</code> to change the information to a variable and set the encryption field to enable encrypted transmission.</p> <ul style="list-style-type: none">• If the template file corresponding to <code>template_uri</code> is of zip type, the length of the internal file or folder name must not exceed 255 bytes, the length of the deepest path must not exceed 2048 bytes, and the size of the zip package must not exceed 1MB. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_structure	No	Array of VarsStructure objects	<p>HCL variable structure. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • vars_structure allows string variables. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • vars_structure only supports string variables. To use variables of other types, you need to convert them in HCL reference. Alternatively, you can use vars_uri and vars_body, which support various types and complex structures supported by HCL. • If vars_structure is too large, you can use vars_uri. • Note: vars_structure cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to set the encryption field. <p>Array Length: 0 - 100</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • If vars_body is too large, you can use vars_uri. • If the content in vars is simple strings, you can use var_structure. • vars_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri. • vars_uri cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Table 2-99 VarsStructure

Parameter	Mandatory	Type	Description
var_key	Yes	String	<p>Variable name.</p> <p>Minimum: 1</p> <p>Maximum: 32</p>

Parameter	Mandatory	Type	Description
var_value	Yes	String	<p>Variable value.</p> <p>Variables must be in the form of a string. If a parameter is a number, it must also be in the form of a string, for example, '10'.</p> <p>For different types or complex structures, you can use vars_uri or vars_body.</p> <p>Minimum: 0</p> <p>Maximum: 2048</p>
encryption	No	EncryptionStructure object	<p>If a transferred var_value has been encrypted, you can declare this variable to require RFS to decrypt the var_value before using it. Currently, only KMS encryption and decryption are supported.</p>

Table 2-100 EncryptionStructure

Parameter	Mandatory	Type	Description
kms	Yes	KmsStructure object	<p>If an assigned var_value is encrypted by KMS, related encryption information can be transferred. RFS will help you decrypt the var_value by KMS.</p> <p>For more details about KMS encryption and its sample code, refer to KMS Application Scenarios.</p> <p>Note:</p> <ul style="list-style-type: none"> The agency you specify for RFS should have the operation permissions on the specified key ID. KMS provides a quota for free trial every month. If the quota is exceeded, you will be billed for KMS. The fee is not billed by RFS. KMS encryption only indicates that RFS uses ciphertext for storage and transmission. However, RFS still uses plaintext in stack-events. If you want RFS to use ciphertext in logs, you can declare sensitive in templates. For more information about sensitive, refer to https://learn.hashicorp.com/tutorials/terraform/sensitive-variables.

Table 2-101 KmsStructure

Parameter	Mandatory	Type	Description
id	Yes	String	<p>KMS key ID is used by RFS during decryption. Generally, the key ID is that used for encryption.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Parameter	Mandatory	Type	Description
cipher_text	Yes	String	Ciphertext of data encryption key. Minimum: 2 Maximum: 2048

Response Parameters

Status code: 202

Table 2-102 Response body parameters

Parameter	Type	Description
deployment_id	String	Deployment ID Deployment request is accepted by RFS and will be processed asynchronously. You can call GetStackMetadata to query the stack status. Note: <ul style="list-style-type: none"> The RFS will persist the deployment request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. RFS queues these asynchronous deployment requests and processes them in order. The maximum waiting time for each deployment is 6 hours.

Status code: 400

Table 2-103 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-104 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-105 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-106 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-107 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-108 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-109 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

Transfer template and variable information using OBS signed URL.

```
POST https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/deployments
{
  "template_uri" : "https://my_hello_world_bucket.{region}.myhuaweicloud.com/my-hello-world-template.tf",
  "vars_uri" : "https://my_hello_world_bucket.{region}.myhuaweicloud.com/my-hello-world-vars.tfvars",
  "stack_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3"
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "deployment_id" : "3fef5d3e-27b6-44e8-9769-1d7262bd9430"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. Invalid stack status. 2. The user does not have the permission to call this API.
404	The stack does not exist.
409	Request conflict. Another request is being processed on the current stack.
429	Too frequent requests.
500	Internal server error.

2.2.10 Deleting a Stack

Function

DeleteStack

This API deletes a stack. ****Exercise caution when performing this operation. Deleting a stack will delete all data related to the stack by default, such as execution plans, stack events, stack outputs, and resources. ****

- This API triggers the deletion of a stack, and all data of the stack is deleted for eventual consistency. You can call `GetStackMetadata` or `ListStacks` to track the deletion.
- A stack cannot be deleted if it is in a non-final state (ending with `IN_PROGRESS`). The states may include:
 - `DEPLOYMENT_IN_PROGRESS`
 - `DELETION_IN_PROGRESS`
 - `ROLLBACK_IN_PROGRESS`
- If deletion protection is enabled for a stack, the stack cannot be deleted. You can call `GetStackMetadata` and view the `enable_deletion_protection` field in the returned result to check whether deletion protection is enabled. You can call `UpdateStack` to disable deletion protection.
- If the deletion of a stack fails, you can correct the current template based on the information in `StackEvents`, and delete the stack again after completing deployment. Deployment can be triggered in either of the following ways:
 - Call `CreateExecutionPlan` to create an execution plan. After the execution plan is created, call `ApplyExecutionPlan` to deploy the stack.
 - Call `DeployStack` to deploy the stack.

URI

DELETE /v1/{project_id}/stacks/{stack_name}

Table 2-110 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-111 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-112 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: **400**

Table 2-113 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-114 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-115 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-116 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-117 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-118 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Delete a specified stack.
DELETE https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack
- Delete a specified stack and check whether the provided stack ID matches the current stack.
DELETE https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2

Example Responses

None

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. Invalid stack status. 2. The user does not have the permission to call this API.
404	The stack does not exist.
429	Too frequent requests.
500	Internal server error.

2.2.11 Updating a Stack

Function

This API updates the attributes of a stack based on the information provided by users. One or more of the following attributes can be updated: **description**, **enable_deletion_protection**, **enable_auto_rollback**, and **agencies**.

This API updates only the fields contained in the information assigned by the user.

Note: All attributes are overwritten once updated. New parameters will overwrite original attributes of a stack.

For example, if you want to add agencies, call `GetStackMetadata` to obtain the original agencies, integrate the information of old and new agencies, and then call `UpdateStack`.

- A stack cannot be updated if it is in a non-final state (ending with *IN_PROGRESS*). The states may include:
 - `DEPLOYMENT_IN_PROGRESS`

- DELETION_IN_PROGRESS
- ROLLBACK_IN_PROGRESS
- If the value of `enable_auto_rollback` is changed from `false` to `true`, the stack state is determined more strictly. A stack cannot be updated if it is in a state ending with `_FAILED`. The states may include:
 - DEPLOYMENT_FAILED
 - ROLLBACK_FAILED
 - DELETION_FAILED

URI

PATCH /v1/{project_id}/stacks/{stack_name}

Table 2-119 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (<code>domain_id</code>), region, and project (<code>project_id</code>). It is case-sensitive and starts with a letter. Only letters, digits, underscores (<code>_</code>), and hyphens (<code>-</code>) are allowed. Minimum: 1 Maximum: 128

Request Parameters

Table 2-120 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-121 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Description of a stack. It can be used by customers to identify their own stacks. Minimum: 0 Maximum: 1024
stack_id	No	String	Unique stack ID. It is a UUID generated by RFS when a stack is created. Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned. Minimum: 36 Maximum: 36
enable_deletion_protection	No	Boolean	Deletion protection flag. If this variable is not assigned, the default value is false, indicating that deletion protection is disabled by default. (After deletion protection is enabled, stacks cannot be deleted.) <i>In the UpdateStack API, if this variable is not assigned in the RequestBody, the deletion protection attribute of the stack will not be updated.</i>

Parameter	Mandatory	Type	Description
enable_auto_rollback	No	Boolean	<p>Auto-rollback flag. If this variable is not assigned, the default value is false, indicating that auto-rollback is disabled by default. (After auto-rollback is enabled, if the deployment fails, the stack is automatically rolled back and returns to the previous stable status.)</p> <p><i>In the UpdateStack API, if this variable is not assigned in the RequestBody, the auto-rollback attribute of the stack will not be updated. This property is mutually exclusive with the import resources using templates feature, which does not allow the deployment of templates containing imported resources if the stack's auto-rollback is set to true.</i></p>
agencies	No	Array of Agency objects	<p>Agency information.</p> <p>RFS uses an agency only in requests that involve resource operations, such as creating a stack (triggering deployment), creating an execution plan, deploying a stack, and deleting a stack. In addition, the agency applies only to resource operations performed by the provider bound to the agency. If the permissions provided by the agency are insufficient, operations on related resources may fail.</p> <p>Array Length: 0 - 10</p>

Table 2-122 Agency

Parameter	Mandatory	Type	Description
provider_name	Yes	String	Name of the provider used by a user. If the provider_name value given by the user is duplicate, 400 is returned. Minimum: 1 Maximum: 128
agency_name	No	String	IAM agency used by the corresponding provider. RFS uses this agency to access and create resources of the provider. Either agency_name or agency_urn must be specified. Minimum: 1 Maximum: 64
agency_urn	No	String	Agency URN When a user defines an agency, either agency_name or agency_urn must be specified. You are advised to set agency_urn when using the trust agency. agency_name can only receive common agency names. If agency_name is set to a trust agency name, template deployment will fail.

Response Parameters

Status code: 400

Table 2-123 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-124 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-125 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-126 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-127 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-128 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-129 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Update the description of a stack.
PATCH `https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack`

```
{
  "stack_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3",
  "description" : "my hello world stack"
}
```
- Disable deletion protection and auto-rollback of a stack.
PATCH `https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack`

```
{
  "stack_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3",
  "enable_deletion_protection" : false,
  "enable_auto_rollback" : false
}
```
- Update agency information of a stack.
PATCH `https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack`

```
{
  "stack_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3",
  "agencies" : {
    "provider_name" : "my_hello_world_provider",
    "agency_name" : "my_agency"
  }
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Updated.
400	Invalid request.
401	Authentication failed.
403	1. Invalid stack status. 2. The user does not have the permission to call this API.
404	The stack does not exist.
409	Request conflict. Another request is being processed on the current stack.
429	Too frequent requests.
500	Internal server error.

2.2.12 Deleting a Stack with Conditions

Function

This API deletes a stack with conditions. You can determine whether to retain resources. ****Exercise caution when performing this operation. Deleting a stack will delete all data related to the stack by default, such as execution plans, stack events, stack outputs, and resources. **** ****If you want to retain stack resources when deleting the stack, specify *retain_all_resources* in the request.**

- This API triggers the deletion of a stack, and all data of the stack is deleted for eventual consistency. You can call `GetStackMetadata` or `ListStacks` to track the deletion. After the deletion is complete, the deleted stack will not be returned in the preceding API.
- A stack cannot be deleted if it is in a non-final state (ending with *IN_PROGRESS*). The states may include:
 - `DEPLOYMENT_IN_PROGRESS`
 - `DELETION_IN_PROGRESS`
 - `ROLLBACK_IN_PROGRESS`
- If deletion protection is enabled for a stack, the stack cannot be deleted. You can call `GetStackMetadata` and view the *enable_deletion_protection* field in the returned result to check whether deletion protection is enabled. You can call `UpdateStack` to disable deletion protection.
- If the deletion of a stack fails, you can correct the current template based on the information in `StackEvents`, and delete the stack again after completing deployment. Deployment can be triggered in either of the following ways:
 - Call `CreateExecutionPlan` to create an execution plan. After the execution plan is created, call `ApplyExecutionPlan` to deploy the stack.
 - Call `DeployStack` to deploy the stack.

URI

POST `/v1/{project_id}/stacks/{stack_name}/deletion`

Table 2-130 Path Parameters

Parameter	Mandatory	Type	Description
<code>project_id</code>	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Parameter	Mandatory	Type	Description
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Request Parameters

Table 2-131 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-132 Request body parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>
retain_all_resources	No	Boolean	<p>Indicates whether to retain resources when deleting a stack. If this variable is not assigned, the default value false is used, indicating that resources are not retained by default. (After a stack is deleted, resources in the stack are deleted.)</p> <ul style="list-style-type: none"> In the DeleteStackEnhanced API, if this variable is not assigned in the RequestBody, the resources in the stack are not retained during deletion. *

Response Parameters

Status code: 400

Table 2-133 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-134 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-135 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-136 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-137 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-138 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Delete a stack without retaining resources.
POST `https://{endpoint}/v1/{project_id}/stacks/{stack_name}/deletion`

```
{
  "stack_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3"
}
```
- Delete a stack while retaining resources.
POST `https://{endpoint}/v1/{project_id}/stacks/{stack_name}/deletion`

```
{
  "stack_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3",
  "retain_all_resources" : true
}
```

Example Responses

None

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. Invalid stack status. 2. The user does not have the permission to call this API.
404	The stack does not exist.
429	Too frequent requests.
500	Internal server error.

2.2.13 Continuing to Roll Back a Stack

Function

`ContinueRollbackStack`

This API continues to roll back an existing stack.

If auto-rollback is enabled for a stack, the stack automatically rolls back when its deployment fails. However, the auto-rollback may fail. You can troubleshoot the issues based on the error message and then call `ContinueRollbackStack` to trigger the continuation of the rollback, which means retrying rollback.

- If the stack is in the `ROLLBACK_FAILED` state, indicating that it can be rolled back, 202 and `deploymentId` are returned. Otherwise, the stack cannot be rolled back and a response error code is returned.

- The continuation of rollback may also fail. If it fails, you can obtain the corresponding logs by calling ListStackEvents and troubleshoot the issues. Once the issues are resolved, you can call ContinueRollbackStack again to trigger the rollback.

URI

POST /v1/{project_id}/stacks/{stack_name}/rollbacks

Table 2-139 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Request Parameters

Table 2-140 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-141 Request body parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Response Parameters

Status code: 202

Table 2-142 Response body parameters

Parameter	Type	Description
deployment_id	String	<p>Unique ID of the deployment triggered by continuing rollback. The ID is generated by RFS and is usually a UUID. Rollback request is accepted by RFS and will be processed asynchronously. You can call <code>GetStackMetadata</code> to query the rollback status for the stack.</p> <p>Note:</p> <ul style="list-style-type: none"> RFS queues these asynchronous rollback requests and processes them in order when the sever is idle. The maximum waiting time for each rollback is 6 hours.

Status code: 400

Table 2-143 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-144 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-145 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-146 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-147 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-148 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-149 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Continue to roll back a stack.
POST `https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/rollbacks`
- Continue to roll back a stack and check whether the provided stack ID matches the current stack.
POST `https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/rollbacks`

```
{  
  "stack_id" : "8592967b-18b0-421b-b6c1-079c9ded3931"  
}
```

Example Responses

Status code: 202

The request is accepted. The stack continues to roll back.

```
{  
  "deployment_id": "8592967b-18b0-421b-b6c1-079c9ded3931"  
}
```

Status Codes

Status Code	Description
202	The request is accepted. The stack continues to roll back.
400	Invalid request.
401	Authentication failed.
403	1. Invalid stack status. 2. The user does not have the permission to call this API.
404	The stack does not exist.
409	Request conflict. Another request is being processed on the current stack.
429	Too frequent requests.
500	Internal server error.

2.3 Execution Plans

2.3.1 Listing Execution Plans

Function

ListExecutionPlans

This API lists all execution plans of a specified stack in the current region.

- By default, the execution plans are sorted by creation time in descending order. The one created latest is displayed on the top.
- Currently, all of the existing execution plans are returned. Pagination is not supported.
- If the specified stack does not have any execution plan, an empty list is returned.
- If the specified stack does not exist, 404 is returned. ListExecutionPlans returns only the summary information. You can obtain details about the summary information by referring to ListExecutionPlansResponseBody. For detailed execution plan metadata, call GetExecutionPlanMetadata.

URI

GET /v1/{project_id}/stacks/{stack_name}/execution-plans

Table 2-150 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p>A project ID is obtained by calling an API or from the console.</p> <p>Obtaining a Project ID</p> <p>Minimum: 3</p> <p>Maximum: 64</p>
stack_name	Yes	String	<p>A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>

Table 2-151 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-152 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: **200**

Table 2-153 Response body parameters

Parameter	Type	Description
execution_plans	Array of ExecutionPlan objects	Execution plan list, sorted by creation time in descending order. The one created latest is displayed on the top.

Table 2-154 ExecutionPlan

Parameter	Type	Description
stack_name	String	<p>A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1 Maximum: 128</p>
stack_id	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Parameter	Type	Description
execution_plan_id	String	<p>Unique execution plan ID.</p> <p>A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Note:</p> <ul style="list-style-type: none"> The RFS will persist the request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. RFS queues these asynchronous requests and processes them in order when the server is idle. The maximum waiting time for each request is 1 hours. <p>Minimum: 36 Maximum: 36</p>
execution_plan_name	String	<p>An execution plan name is unique within its domain (domain_id), region, project (project_id), and stack (stack_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1 Maximum: 128</p>
description	String	<p>Execution plan description. It is used to identify your own execution plans.</p> <p>Minimum: 0 Maximum: 1024</p>

Parameter	Type	Description
status	String	Status of an execution plan. * CREATION_IN_PROGRESS indicates that creation is in progress. * CREATION_FAILED indicates the creation failed. You can obtain the error information summary from status_message. * AVAILABLE indicates the creation completed. You can call ApplyExecutionPlan to apply the plan. * APPLY_IN_PROGRESS indicates the execution is in progress. You can call GetStackMetadata to query the stack status, or call ListStackEvents to obtain the stack events generated during the execution. * APPLIED indicates the plan has been applied. Enumeration values: <ul style="list-style-type: none"> • CREATION_IN_PROGRESS • CREATION_FAILED • AVAILABLE • APPLY_IN_PROGRESS • APPLIED
status_message	String	If an execution plan is in a CREATION_FAILED status, a brief error information summary is displayed for debugging.
create_time	String	Creation time of an execution plan. The format complies with the RFC 3339 format (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.
apply_time	String	Time when an execution plan was applied. The format complies with the RFC 3339 format (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 2-155 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.

Parameter	Type	Description
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-156 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-157 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-158 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-159 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-160 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- List all execution plans of a specified stack.
GET `https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans`
- List all execution plans of a specified stack with a stack ID to check whether the stack ID matches the current stack.
GET `https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans?stack_id=f689e9fd-97e7-4185-bd8a-7d5f708d45d7`

Example Responses

Status code: 200

Execution plans listed.

```
{
  "execution_plans": [ {
    "stack_name": "my_hello_world_stack",
    "stack_id": "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
    "execution_plan_id": "b3e7e15f-f96b-4190-94f4-bb8120f8c4dc",
    "execution_plan_name": "my_third_execution_plan",
    "description": "my third execution plan",
    "status": "AVAILABLE",
    "create_time": "2023-05-15T15:39:25Z"
  }, {
    "stack_name": "my_hello_world_stack",
    "stack_id": "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
    "execution_plan_id": "3ca87537-8d5c-4c9d-9292-d19068aaacbb",
    "execution_plan_name": "my_second_execution_plan",
    "description": "my second execution plan",
    "status": "APPLIED",
    "create_time": "2023-05-15T15:32:45Z"
  }, {
    "stack_name": "my_hello_world_stack",
    "stack_id": "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
    "execution_plan_id": "8c1fb31d-9eec-4ce3-a4e6-fd07059ceec83",
    "execution_plan_name": "my_first_execution_plan",
    "description": "my first execution plan",
    "status": "CREATION_FAILED",
    "status_message": "Failed to init workflow due to bad template. Error: Invalid variable name A name must start with a letter or underscore and may contain only letters, digits, underscores, and dashes.",
    "create_time": "2023-05-15T12:23:38Z"
  }
]
```

Status Codes

Status Code	Description
200	Execution plans listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack does not exist.
429	Too frequent requests.

Status Code	Description
500	Internal server error.

2.3.2 Creating an Execution Plan

Function

CreateExecutionPlan

This API creates an execution plan in a specified stack. An execution plan describes the differences between the resource status recorded in the current stack and the target resource status described in the template. For example, resource A will be generated according to the following configuration file, and resource B will change the following parameters from XXX to YYY.

After an execution plan is created by calling this API, you can query the execution plan status by calling `GetExecutionPlanMetadata`. Once the execution plan is in an `AVAILABLE` state, you can call `GetExecutionPlan` to obtain the execution result.

An execution plan does not support in-depth checks and verification, such as whether the user has the permission to generate or modify resources.

Note:

- When creating an execution plan, the specified resource stack must exist. If the specified resource stack does not exist, 404 is returned, and the user can create a resource stack by calling the `CreateStack` API.
- If the request does not contain `template_body` or `template_uri`, 400 is returned.
- Once a stack is deployed, all execution plans created before this deployment becomes invalid.
- An execution plan indicates only the resource configurations at the creation time. Once created, it will not automatically update upon your manual changes to the resource status.
- If the stack is in a `DEPLOYMENT_IN_PROGRESS`, `ROLLBACK_IN_PROGRESS`, or `DELETION_IN_PROGRESS` state, execution plans cannot be created and 403 is returned.

URI

POST `/v1/{project_id}/stacks/{stack_name}/execution-plans`

Table 2-161 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Request Parameters

Table 2-162 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-163 Request body parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Parameter	Mandatory	Type	Description
template_body	No	String	<p>HCL template. It describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>Either template_body or template_uri must be specified but they both cannot be specified together.</p> <p><i>In the CreateStack API, template_body and template_uri are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> template_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding template_body in plaintext. If the information is sensitive, you are advised to use vars_structure to change the information to a variable and set the encryption field to enable encrypted transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
template_uri	No	String	<p>OBS address of an HCL template. The template describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <p>The corresponding file must be a tf file or a zip package.</p> <p>A pure .tf file must end with .tf or .tf.json and comply with the HCL syntax.</p> <p>Currently, only the .zip package is supported. The file name extension must be .zip. The decompressed file cannot contain the .tfvars file and must be encoded in UTF8 format (the .tf.json file cannot contain the BOM header). The .zip package supports a maximum of 100 subfiles.</p> <p>Either template_body or template_uri must be specified.</p> <p><i>In the CreateStack API, template_body and template_uri are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> The template file corresponds to template_uri cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the content of the template file in plaintext. If the information is sensitive,

Parameter	Mandatory	Type	Description
			<p>you are advised to use <code>vars_structure</code> to change the information to a variable and set the encryption field to enable encrypted transmission.</p> <ul style="list-style-type: none"> If the template file corresponding to <code>template_uri</code> is of zip type, the length of the internal file or folder name must not exceed 255 bytes, the length of the deepest path must not exceed 2048 bytes, and the size of the zip package must not exceed 1MB. <p>Minimum: 0 Maximum: 2048</p>
<code>execution_plan_name</code>	Yes	String	<p>An execution plan name is unique within its domain (<code>domain_id</code>), region, project (<code>project_id</code>), and stack (<code>stack_id</code>). It is case-sensitive and starts with a letter. Only letters, digits, underscores (<code>_</code>), and hyphens (<code>-</code>) are allowed.</p> <p>Minimum: 1 Maximum: 128</p>
<code>description</code>	No	String	<p>Execution plan description. It is used to identify your own execution plans.</p> <p>Minimum: 0 Maximum: 1024</p>

Parameter	Mandatory	Type	Description
vars_structure	No	Array of VarsStructure objects	<p>HCL variable structure. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • vars_structure allows string variables. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • vars_structure only supports string variables. To use variables of other types, you need to convert them in HCL reference. Alternatively, you can use vars_uri and vars_body, which support various types and complex structures supported by HCL. • If vars_structure is too large, you can use vars_uri. • Note: vars_structure cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to set the encryption field. <p>Array Length: 0 - 100</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • If vars_body is too large, you can use vars_uri. • If the content in vars is simple strings, you can use var_structure. • vars_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri. • vars_uri cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 2048</p>

Table 2-164 VarsStructure

Parameter	Mandatory	Type	Description
var_key	Yes	String	Variable name. Minimum: 1 Maximum: 32
var_value	Yes	String	Variable value. Variables must be in the form of a string. If a parameter is a number, it must also be in the form of a string, for example, '10'. For different types or complex structures, you can use vars_uri or vars_body. Minimum: 0 Maximum: 2048
encryption	No	EncryptionStructure object	If a transferred var_value has been encrypted, you can declare this variable to require RFS to decrypt the var_value before using it. Currently, only KMS encryption and decryption are supported.

Table 2-165 EncryptionStructure

Parameter	Mandatory	Type	Description
kms	Yes	KmsStructure object	<p>If an assigned var_value is encrypted by KMS, related encryption information can be transferred. RFS will help you decrypt the var_value by KMS.</p> <p>For more details about KMS encryption and its sample code, refer to KMS Application Scenarios.</p> <p>Note:</p> <ul style="list-style-type: none"> The agency you specify for RFS should have the operation permissions on the specified key ID. KMS provides a quota for free trial every month. If the quota is exceeded, you will be billed for KMS. The fee is not billed by RFS. KMS encryption only indicates that RFS uses ciphertext for storage and transmission. However, RFS still uses plaintext in stack-events. If you want RFS to use ciphertext in logs, you can declare sensitive in templates. For more information about sensitive, refer to https://learn.hashicorp.com/tutorials/terraform/sensitive-variables.

Table 2-166 KmsStructure

Parameter	Mandatory	Type	Description
id	Yes	String	<p>KMS key ID is used by RFS during decryption. Generally, the key ID is that used for encryption.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Parameter	Mandatory	Type	Description
cipher_text	Yes	String	Ciphertext of data encryption key. Minimum: 2 Maximum: 2048

Response Parameters

Status code: 202

Table 2-167 Response body parameters

Parameter	Type	Description
execution_plan_id	String	<p>Unique execution plan ID.</p> <p>A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Note:</p> <ul style="list-style-type: none"> The RFS will persist the request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. RFS queues these asynchronous requests and processes them in order when the sever is idle. The maximum waiting time for each request is 1 hours. <p>Minimum: 36 Maximum: 36</p>

Status code: 400

Table 2-168 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-169 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-170 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-171 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-172 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-173 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Create an execution plan in a specified stack based on the template URI.
POST `https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans`

```
{
  "execution_plan_name": "my_first_execution_plan",
  "template_uri": "https://my_hello_world_bucket.{region}.myhuaweicloud.com/vpc.tf"
}
```

- Create an execution plan in a specified stack based on the template.
POST `https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans`

```
{
  "execution_plan_name": "my_second_execution_plan",
  "template_body": "terraform {\n  required_providers {\n    huaweicloud = {\n      source =\n        \"huawei.com/provider/huaweicloud\"\n      version = \"1.41.0\"\n    }\n  }\n  provider\n    \"huaweicloud\" {\n    insecure = true\n    cloud = \"{cloud_name}\"\n    region = \"{region}\"\n    endpoints = {\n      iam = \"{iam_endpoint}\"\n    }\n  }\n  resource \"huaweicloud_vpc\" \"vpc\" {\n    cidr = \"172.16.0.0/16\"\n    name = \"my_vpc\"\n  }\n}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "execution_plan_id": "fb5e781e-a27d-46e2-9954-242753857a9f"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. The maximum number of execution plans has been reached.
409	Creation requests conflict. An execution plan with the same name already exists.
429	Too frequent requests.
500	Internal server error.

2.3.3 Obtaining Execution Plans

Function

GetExecutionPlan

This API obtains the details (items) of a specified execution plan. By calling this API, you can check the changes of resources in a stack once the specified execution plan is applied.

If the execution plan is in a CREATION_IN_PROGRESS or CREATION_FAILED state, the list of execution plan items will not be returned.

URI

GET /v1/{project_id}/stacks/{stack_name}/execution-plans/{execution_plan_name}

Table 2-174 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128
execution_plan_name	Yes	String	An execution plan name is unique within its domain (domain_id), region, project (project_id), and stack (stack_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-175 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Parameter	Mandatory	Type	Description
execution_plan_id	No	String	<p>Unique execution plan ID. A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-176 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 200

Table 2-177 Response body parameters

Parameter	Type	Description
execution_plan_items	Array of ExecutionPlanItem objects	Item list of an execution plan.

Table 2-178 ExecutionPlanItem

Parameter	Type	Description
resource_type	String	<p>Resource type.</p> <p>For example, in the following HCL template, the value of resource_type is huaweicloud_vpc.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> <p>In a JSON template, the value of resource_type is huaweicloud_vpc.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>
resource_name	String	<p>Resource name. The default value is the logical name of a resource.</p> <p>For example, in the following HCL template, the value of resource_name is my_hello_world_vpc.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> <p>In a JSON template, the value of resource_name is my_hello_world_vpc.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>

Parameter	Type	Description
index	String	<p>Resource index. If count or for_each is used in a template, index is returned. If index appears, resource_name and index can be used to identify a resource. If count is used in a template, index is a number starting from 0.</p> <p>For example, in the following HCL template, huaweicloud_vpc.my_hello_world_vpc[0] and huaweicloud_vpc.my_hello_world_vpc[1] identify two resources.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { count = 2 name = "test_vpc" }</pre> <p>In a JSON template, huaweicloud_vpc.my_hello_world_vpc[0] and huaweicloud_vpc.my_hello_world_vpc[1] identify two resources.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc", "count": 2 } } } }</pre> <p>If for_each is used in a template, index is a user-defined string. For example, in the following HCL template, huaweicloud_vpc.my_hello_world_vpc["vpc1"] and huaweicloud_vpc.my_hello_world_vpc["vpc2"] identify two resources.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { for_each = { "vpc1" = "test_vpc" "vpc2" = "test_vpc" } name = each.value }</pre> <p>In a JSON template, huaweicloud_vpc.my_hello_world_vpc["vpc1"] and huaweicloud_vpc.my_hello_world_vpc["vpc2"] identify two resources.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "for_each": { "vpc1": "test_vpc", "vpc2": "test_vpc" } "name": "\${each.value}" } } } }</pre>

Parameter	Type	Description
		} }
action	String	<p>Resource change types may include:</p> <ul style="list-style-type: none"> • ADD: adds a resource. • ADD_THEN_DELETE: creates a resource and then deletes the old one. It is returned by resources those cannot be updated. • DELETE: deletes a resource. • DELETE_THEN_ADD: deletes the old resource and then creates a new one. It is returned by resources those cannot be updated. • UPDATE: updates a resource. <ul style="list-style-type: none"> – NO_OPERATION: only changes the dependencies of a resource. The resource itself is not changed. <p>Enumeration values:</p> <ul style="list-style-type: none"> • ADD • ADD_THEN_DELETE • DELETE • DELETE_THEN_ADD • UPDATE • NO_OPERATION
action_reason	String	Reason for triggering project changes, for example, a user updates a template or a resource is deleted remotely.
provider_name	String	Name of the provider to which the project belongs.
mode	String	<p>Resource modes may include:</p> <ul style="list-style-type: none"> • DATA: a type of resource that can run and obtain server data during template parsing. Operations on infrastructure components are not involved. • RESOURCE: important infrastructure objects defined by services and managed by templates. It can be physical resources or logical resources. <p>Enumeration values:</p> <ul style="list-style-type: none"> • DATA • RESOURCE

Parameter	Type	Description
drifted	Boolean	<p>Whether the change of the current resource is caused by deviation.</p> <p>Deviation, also called drift. After a resource is created by RFS but not modified by RFS, for example, modified manually or by SDK, the resource configuration will be inconsistent with that recorded by RFS. This inconsistency is called deviation.</p> <p>After a resource deviation occurs:</p> <ul style="list-style-type: none"> • If you attempt to create an execution plan, a message is displayed, indicating that a deviation occurs. • If you directly deploy an execution plan, the deviation may be overwritten. RFS only ensures that the resources are configured as written in the template. <p>The resource deviation types may include:</p> <ul style="list-style-type: none"> • Modification of resource location attribute: mostly happens after a resource is deleted and then a new one is created. The new resource is not the same one before modification. In this case, RFS considers that the original resource has been deleted and attempts to create a new resource. • Modification of resource common attribute: RFS can still find the resource, but it will attempt to rectify the deviation during the next deployment to make the resource configuration be consistent with that written in the template. <p>Note: It is advised to use RFS to maintain and update resources created on RFS to ensure that resource configurations are consistent with those written in your templates. Avoid modifying resources manually except for emergencies.</p>
imported	Boolean	Whether changes to the current resource are imported.
resource_id	String	Unique resource physical ID. It is generated by the resource provider, cloud service provider, or other service providers during resource deployment.
attributes	Array of ExecutionPlanDiffAttribute objects	Execution plan item attributes that are changed. If no attribute is changed, this value is an empty list.

Table 2-179 ExecutionPlanDiffAttribute

Parameter	Type	Description
name	String	Name of the to-be-modified parameter of the current resource.
previous_value	String	<p>Original value of the modified parameter of the current resource.</p> <p>During resource creation, previous_value is empty.</p> <p>If a deviation occurs in a remote resource, the resource returns two ExecutionPlanItems, the drifted values of which are true and false, respectively.</p> <ul style="list-style-type: none"> • The previous_value whose drifted is true indicates the original resource attribute and status in the stack. • The previous_value whose drifted is false indicates the resource attribute and status returned by the remote resource after the provider requests the remote resource. <p>If no deviation occurs in a remote resource, only one ExecutionPlanItem whose drifted is false is returned.</p> <ul style="list-style-type: none"> • The previous_value whose drifted is false indicates the original resource attribute and status in the stack.

Parameter	Type	Description
target_value	String	<p>Target value of the modified parameter of the current resource.</p> <p>During resource deletion, target_value is empty.</p> <p>If a deviation occurs in a remote resource, the resource returns two ExecutionPlanItems, the drifted values of which are true and false, respectively.</p> <ul style="list-style-type: none"> • The target_value whose drifted is true indicates the resource attribute and status returned by the remote resource after the provider requests the remote resource. • The target_value whose drifted is false indicates the resource attribute and status updated based on your template. <p>If no deviation occurs in a remote resource, only one ExecutionPlanItem whose drifted is false is returned.</p> <ul style="list-style-type: none"> • The target_value whose drifted is false indicates the resource attribute and status updated based on your template.

Status code: 400

Table 2-180 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-181 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-182 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-183 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-184 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-185 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Obtain the details (items) of a specified execution plan.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan
- Obtain the details (items) of a specified execution plan, with a stack ID and an execution plan ID provided to check whether they match the current stack and execution plan.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2&execution_plan_id=fb5e781e-a27d-46e2-9954-242753857a9f

Example Responses

Status code: 200

Execution plan details obtained.

```
{
  "execution_plan_items": [ {
    "resource_type": "huaweicloud_iec_vpc_subnet",
    "resource_name": "subnet",
    "action": "ADD",
```

```
"attributes" : [ {
  "name" : "cidr",
  "target_value" : "172.16.0.0/16"
}, {
  "name" : "dhcp_enable",
  "target_value" : "true"
}, {
  "name" : "dns_list",
  "target_value" : "(will be generated after apply)"
}, {
  "name" : "gateway_ip",
  "target_value" : "192.168.128.1"
}, {
  "name" : "id",
  "target_value" : "(will be generated after apply)"
}, {
  "name" : "name",
  "target_value" : "subnet_demo"
}, {
  "name" : "region"
}, {
  "name" : "site_id",
  "target_value" : "mock_site_id"
}, {
  "name" : "site_info",
  "target_value" : "(will be generated after apply)"
}, {
  "name" : "status",
  "target_value" : "(will be generated after apply)"
}, {
  "name" : "timeouts"
}, {
  "name" : "vpc_id",
  "target_value" : "mock_vpc_id"
}
],
"mode" : "RESOURCE",
"provider_name" : "huawei.com/provider/huaweicloud"
}, {
  "resource_type" : "huaweicloud_vpc",
  "resource_name" : "vpc",
  "action" : "ADD",
  "attributes" : [ {
    "name" : "cidr",
    "target_value" : "172.16.0.0/16"
  }, {
    "name" : "description"
  }, {
    "name" : "enterprise_project_id",
    "target_value" : "(will be generated after apply)"
  }, {
    "name" : "id",
    "target_value" : "(will be generated after apply)"
  }, {
    "name" : "name",
    "target_value" : "test_name"
  }, {
    "name" : "region",
    "target_value" : "(will be generated after apply)"
  }, {
    "name" : "routes",
    "target_value" : "(will be generated after apply)"
  }, {
    "name" : "secondary_cidr"
  }, {
    "name" : "status",
    "target_value" : "(will be generated after apply)"
  }, {
    "name" : "tags"
  }, {

```



```
"name" : "timeouts"  
  },  
  "mode" : "RESOURCE",  
  "provider_name" : "huawei.com/provider/huaweicloud"  
  }  
}
```

Status Codes

Status Code	Description
200	Execution plan details obtained.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	1. The stack does not exist. 2. The execution plan does not exist.
429	Too frequent requests.
500	Internal server error.

2.3.4 Applying an Execution Plan

Function

ApplyExecutionPlan

This API applies an execution plan.

- Once the execution request is received, the state of the execution plan changes to `APPLY_IN_PROGRESS`, and the request is processed asynchronously in the background.
- Once the execution is completed, the state of the execution plan changes to `APPLIED`.
- You can call `GetStackMetadata` to query the stack status to trace the stack deployment status and check whether the execution is successful.

If you do not want to deploy a stack using an execution plan, you can call `DeployStack` for direct deployment.

Expiration of execution plans:

1. If a stack has multiple execution plans, all the remaining plans will expire once any of them is applied (regardless of whether the execution is successful).
2. If the specified execution plan has expired when you call `ApplyExecutionPlan`, 403 is returned. If a stack is in a non-final state (ending with `IN_PROGRESS`), its execution plans cannot be applied and 403 is returned. The non-final states may include:

- DEPLOYMENT_IN_PROGRESS
- DELETION_IN_PROGRESS
- ROLLBACK_IN_PROGRESS

URI

POST /v1/{project_id}/stacks/{stack_name}/execution-plans/
{execution_plan_name}

Table 2-186 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128
execution_plan_name	Yes	String	An execution plan name is unique within its domain (domain_id), region, project (project_id), and stack (stack_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Request Parameters

Table 2-187 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-188 Request body parameters

Parameter	Mandatory	Type	Description
execution_plan_id	No	String	<p>Unique execution plan ID. A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Note:</p> <ul style="list-style-type: none"> • The RFS will persist the request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. • RFS queues these asynchronous requests and processes them in order when the sever is idle. The maximum waiting time for each request is 1 hours. <p>Minimum: 36 Maximum: 36</p>

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Response Parameters

Status code: 202

Table 2-189 Response body parameters

Parameter	Type	Description
deployment_id	String	<p>Unique deployment ID. It is a UUID generated by RFS when deployment or rollback is triggered.</p> <p>Deployment request is accepted by RFS and will be processed asynchronously. You can call GetStackMetadata to query the stack status.</p> <p>Note:</p> <ul style="list-style-type: none"> The RFS will persist the deployment request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. RFS queues these asynchronous deployment requests and processes them in order. The maximum waiting time for each deployment is 6 hours.

Status code: 400

Table 2-190 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorization_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-191 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.

Parameter	Type	Description
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-192 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-193 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-194 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-195 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-196 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Apply an execution plan of a specified stack.
POST `https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan`
- Apply an execution plan of a specified stack, with a stack ID provided to check whether the stack ID matches the current stack.
POST `https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan`

```
{
  "stack_id" : "f689e9fd-97e7-4185-bd8a-7d5f708d45d7"
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "deployment_id" : "07e21c3e-d33c-4513-9d0f-e9e673817772"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. Invalid stack status. 3. The execution plan has expired.
404	1. The stack does not exist. 2. The execution plan does not exist.
409	Execution requests conflict. Another request is being processed on the execution plan.
429	Too frequent requests.
500	Internal server error.

2.3.5 Deleting an Execution Plan

Function

DeleteExecutionPlan

This API deletes an execution plan.

If an execution plan is in a `CREATION_IN_PROGRESS` or `APPLY_IN_PROGRESS` state, the execution plan cannot be deleted and 403 is returned.

URI

DELETE /v1/{project_id}/stacks/{stack_name}/execution-plans/{execution_plan_name}

Table 2-197 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128
execution_plan_name	Yes	String	An execution plan name is unique within its domain (domain_id), region, project (project_id), and stack (stack_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-198 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Parameter	Mandatory	Type	Description
execution_plan_id	No	String	<p>Unique execution plan ID. A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-199 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 400

Table 2-200 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-201 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-202 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-203 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-204 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Delete an execution plan of a specified stack.

```
DELETE https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan
```
- Delete an execution plan of a specified stack, with a stack ID and an execution plan ID provided to check whether they match the current stack and execution plan.

```
DELETE https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2&execution_plan_id=fb5e781e-a27d-46e2-9954-242753857a9f
```

Example Responses

None

Status Codes

Status Code	Description
204	Execution plan deleted.
400	Invalid request.
401	Authentication failed.
403	<ol style="list-style-type: none"> The user does not have the permission to call this API. The execution plan cannot be deleted due to its invalid status.
404	<ol style="list-style-type: none"> The stack does not exist. The execution plan does not exist.
500	Internal server error.

2.3.6 Obtaining Execution Plan Metadata

Function

GetExecutionPlanMetadata

This API obtains the metadata of a specified execution plan, including the ID and name of the stack and the ID, name, description, creation time, execution time, and status of the execution plan.

You can obtain details by referring to `GetExecutionPlanMetadataResponseBody`.

To obtain the details of an execution plan, call `GetExecutionPlan`.

URI

GET `/v1/{project_id}/stacks/{stack_name}/execution-plans/{execution_plan_name}/metadata`

Table 2-205 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p>A project ID is obtained by calling an API or from the console.</p> <p>Obtaining a Project ID</p> <p>Minimum: 3</p> <p>Maximum: 64</p>

Parameter	Mandatory	Type	Description
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128
execution_plan_name	Yes	String	An execution plan name is unique within its domain (domain_id), region, project (project_id), and stack (stack_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-206 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Parameter	Mandatory	Type	Description
execution_plan_id	No	String	<p>Unique execution plan ID. A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-207 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 200

Table 2-208 Response body parameters

Parameter	Type	Description
stack_id	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_name	String	<p>A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>

Parameter	Type	Description
execution_plan_id	String	<p>Unique execution plan ID.</p> <p>A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Note:</p> <ul style="list-style-type: none"> The RFS will persist the request and return the response immediately. Clients do not need to wait for the request to be processed. Therefore, users cannot detect the result in real-time. RFS queues these asynchronous requests and processes them in order when the server is idle. The maximum waiting time for each request is 1 hours. <p>Minimum: 36 Maximum: 36</p>
execution_plan_name	String	<p>An execution plan name is unique within its domain (domain_id), region, project (project_id), and stack (stack_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed.</p> <p>Minimum: 1 Maximum: 128</p>
description	String	<p>Execution plan description. It is used to identify your own execution plans.</p> <p>Minimum: 0 Maximum: 1024</p>

Parameter	Type	Description
vars_structure	Array of VarsStructure objects	<p>HCL variable structure. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • var_structure allows string variables. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • vars_structure only supports string variables. To use variables of other types, you need to convert them in HCL reference. Alternatively, you can use vars_uri and vars_body, which support various types and complex structures supported by HCL. • If vars_structure is too large, you can use vars_uri. • Note: vars_structure cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to set the encryption field. <p>Array Length: 0 - 100</p>
vars_uri_content	String	File content corresponding to vars_uri.

Parameter	Type	Description
vars_body	String	<p>Content of the HCL variable file. Transferring variables is supported by the HCL template. The same template can use different variables for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error code 400 will be reported. • If vars_body is too large, you can use vars_uri. • If the content in vars is simple strings, you can use var_structure. • vars_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding vars in plaintext. If the information is sensitive, you are advised to use vars_structure and set the encryption field for transmission. <p>Minimum: 0 Maximum: 51200</p>
status	String	<p>Status of an execution plan. * CREATION_IN_PROGRESS indicates that creation is in progress. * CREATION_FAILED indicates the creation failed. You can obtain the error information summary from status_message. * AVAILABLE indicates the creation completed. You can call ApplyExecutionPlan to apply the plan. * APPLY_IN_PROGRESS indicates the execution is in progress. You can call GetStackMetadata to query the stack status, or call ListStackEvents to obtain the stack events generated during the execution. * APPLIED indicates the plan has been applied.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • CREATION_IN_PROGRESS • CREATION_FAILED • AVAILABLE • APPLY_IN_PROGRESS • APPLIED
status_message	String	<p>If an execution plan is in a CREATION_FAILED status, a brief error information summary is displayed for debugging.</p>

Parameter	Type	Description
create_time	String	Creation time of an execution plan. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.
apply_time	String	Time of applying an execution plan. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.
summary	ExecutionPlanSummary object	Summary of the execution plan result may include: <ul style="list-style-type: none"> • Number of resources to be added. • Number of resources to be updated. • Number of resources to be deleted. ** Note:** • The summary is returned only when the execution plan is in the following states: <i>AVAILABLE</i>, <i>APPLY_IN_PROGRESS</i> or <i>APPLIED</i>. • The summary also includes resource changes brought by a drift. The resource status drift is caused by inconsistency between the resource status recorded in the stack and the remote resource status.

Table 2-209 VarsStructure

Parameter	Type	Description
var_key	String	Variable name. Minimum: 1 Maximum: 32
var_value	String	Variable value. Variables must be in the form of a string. If a parameter is a number, it must also be in the form of a string, for example, '10'. For different types or complex structures, you can use vars_uri or vars_body. Minimum: 0 Maximum: 2048

Parameter	Type	Description
encryption	EncryptionStructure object	If a transferred var_value has been encrypted, you can declare this variable to require RFS to decrypt the var_value before using it. Currently, only KMS encryption and decryption are supported.

Table 2-210 EncryptionStructure

Parameter	Type	Description
kms	KmsStructure object	<p>If an assigned var_value is encrypted by KMS, related encryption information can be transferred. RFS will help you decrypt the var_value by KMS.</p> <p>For more details about KMS encryption and its sample code, refer to KMS Application Scenarios.</p> <p>Note:</p> <ul style="list-style-type: none"> • The agency you specify for RFS should have the operation permissions on the specified key ID. • KMS provides a quota for free trial every month. If the quota is exceeded, you will be billed for KMS. The fee is not billed by RFS. • KMS encryption only indicates that RFS uses ciphertext for storage and transmission. However, RFS still uses plaintext in stack-events. If you want RFS to use ciphertext in logs, you can declare sensitive in templates. For more information about sensitive, refer to https://learn.hashicorp.com/tutorials/terraform/sensitive-variables.

Table 2-211 KmsStructure

Parameter	Type	Description
id	String	<p>KMS key ID is used by RFS during decryption. Generally, the key ID is that used for encryption.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Parameter	Type	Description
cipher_text	String	Ciphertext of data encryption key. Minimum: 2 Maximum: 2048

Table 2-212 ExecutionPlanSummary

Parameter	Type	Description
resource_add	Integer	Number of new resources.
resource_update	Integer	Number of updated resources.
resource_delete	Integer	Number of deleted resources.
resource_import	Integer	Number of imported resources.

Status code: 400

Table 2-213 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-214 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11

Parameter	Type	Description
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-215 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-216 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-217 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-218 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Obtain the metadata of a specified execution plan.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan/metadata
- Obtain the metadata of a specified execution plan, with a stack ID and an execution plan ID provided to check whether they match the current stack and execution plan.
GET https://{endpoint}/v1/ba2b9930c977f71eda3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan/metadata?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2&execution_plan_id=fb5e781e-a27d-46e2-9954-242753857a9f

Example Responses

Status code: 200

Execution plan metadata obtained.

```
{
  "stack_id": "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
  "stack_name": "my_hello_world_stack",
  "execution_plan_id": "ebc0979a-c617-4382-9147-57fc83a634aa",
  "execution_plan_name": "my_first_execution_plan",
}
```

```
"status": "APPLIED",  
"apply_time": "2023-05-17T11:56:40Z",  
"create_time": "2023-05-16T03:37:24Z",  
"summary": {  
  "resource_add": 2  
}  
}
```

Status Codes

Status Code	Description
200	Execution plan metadata obtained.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	1. The execution plan does not exist. 2. The stack does not exist.
429	Too frequent requests.
500	Internal server error.

2.3.7 Estimating the Price of an Execution Plan

Function

EstimateExecutionPlanPrice

This API queries the price of new resources in an existing execution plan. Currently, price inquiry is supported in the following billing modes: pay-per-use, and free. Other billing modes, such as spot pricing, do not support price inquiry.

Note:

- Some resource attributes may contain default values and are related to price inquiry parameters. If they are not declared for the resources in your template, the inquiry result may be inaccurate.
 - The price inquiry result is an estimation for reference only.
 - If the **depends_on** variable is used in the template, for example, the mandatory fields for price inquiry of resource A depend on the creation of resource B, resource A does not support price query.
 - Price inquiry is not supported for when a data source's **flavor.id** is transferred.
- Price inquiry is not supported for images.
- Price inquiry is not supported for resource A if the required field "sensitive" of resource A is set to true.

- Price inquiry is supported for a limited number of resources in the template. Currently, a maximum of 24 pay-per-use resources are supported.
- Resources that support price inquiry and parameters required for price inquiry:
 - huaweicloud_cce_cluster:
 - Supported billing modes: pay-per-use
 - huaweicloud_css_cluster:
 - Supported billing mode: pay-per-use
 - huaweicloud_efs_volume:
 - Supported billing modes: pay-per-use
 - Parameter required for price inquiry: **size** (disk specifications)
 - huaweicloud_compute_instance:
 - Supported billing modes: pay-per-use
 - Parameters required for price inquiry: **flavor_id**, **flavor_name** (either **flavor_id** or **flavor_name** must be specified.), and **system_disk_size**.
 - huaweicloud_vpc_bandwidth:
 - Supported billing mode: pay-per-use
 - Parameter required for price inquiry: **charge_mode** supports only **bandwidth**.
 - huaweicloud_vpc_eip:
 - Supported billing modes: pay-per-use
 - Parameter required for price inquiry: **bandwidth.size**
 - huaweicloud_gaussdb_redis_instance:
 - Supported billing modes: pay-per-use
 - huaweicloud_nat_gateway:
 - Supported billing mode: pay-per-use
 - huaweicloud_rds_instance:
 - Supported billing modes: pay-per-use
 - Supported database type: MySQL, PostgreSQL, Microsoft SQL Server
 - huaweicloud_sfs_turbo:
 - Supported billing mode: pay-per-use
 - Parameter required for price inquiry: **share_type** (file system type)
 - huaweicloud_dms_kafka_instance:
 - Supported billing mode: pay-per-use

- Parameters required for price inquiry: either **flavor_id** or **product_id**, and **storage_space**
- huaweicloud_dcs_instance:
 - Supported billing modes: pay-per-use
- huaweicloud_gaussdb_mysql_instance:
 - Supported billing modes: pay-per-use
 - Parameters required for price inquiry: **proxy_node_number** (number of proxy nodes) and **volume_size** (storage space of mounted volumes)
- huaweicloud_vpc:
 - Supported billing mode: free
- huaweicloud_drs_job:
 - Supported billing mode: pay-per-use
- huaweicloud_apig_instance:
 - Supported billing mode: pay-per-use

URI

GET /v1/{project_id}/stacks/{stack_name}/execution-plans/{execution_plan_name}/prices

Table 2-219 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
stack_name	Yes	String	A stack name is unique within its domain (domain_id), region, and project (project_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Parameter	Mandatory	Type	Description
execution_plan_name	Yes	String	An execution plan name is unique within its domain (domain_id), region, project (project_id), and stack (stack_id). It is case-sensitive and starts with a letter. Only letters, digits, underscores (_), and hyphens (-) are allowed. Minimum: 1 Maximum: 128

Table 2-220 Query Parameters

Parameter	Mandatory	Type	Description
stack_id	No	String	Unique stack ID. It is a UUID generated by RFS when a stack is created. Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the stack they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each stack has a unique ID that does not change with updates. If the stack_id value differs from the current stack ID, 400 is returned. Minimum: 36 Maximum: 36

Parameter	Mandatory	Type	Description
execution_plan_id	No	String	<p>Unique execution plan ID. A UUID is generated by RFS when an execution plan is created.</p> <p>Execution plan names are unique at one specific time, so you can create an execution plan named HelloWorld and another execution plan with the same name after deleting the first one.</p> <p>For parallel development, team members may want to ensure that they are operating the execution plan they created, not one with the same name created by other members after deleting the previous one.</p> <p>To avoid this mismatch, check the ID, since RFS ensures each execution plan has a unique ID that does not change with updates. If the execution_plan_id value differs from the current execution plan ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-221 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>A unique request ID is specified by a user to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 200

Table 2-222 Response body parameters

Parameter	Type	Description
currency	String	Currency, which can be:
items	Array of ItemsResponse objects	Inquiry results of all resources in an execution plan.

Table 2-223 ItemsResponse

Parameter	Type	Description
resource_type	String	<p>Resource type.</p> <p>For example, in the following HCL template, the value of resource_type is huaweicloud_vpc.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> <p>In a JSON template, the value of resource_type is huaweicloud_vpc.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>
resource_name	String	<p>Resource name. The default value is the logical name of a resource.</p> <p>For example, in the following HCL template, the value of resource_name is my_hello_world_vpc.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { name = "test_vpc" }</pre> <p>In a JSON template, the value of resource_name is my_hello_world_vpc.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc" } } } }</pre>

Parameter	Type	Description
index	String	<p>Resource index. If count or for_each is used in a template, index is returned. If index appears, resource_name and index can be used to identify a resource. If count is used in a template, index is a number starting from 0.</p> <p>For example, in the following HCL template, huaweicloud_vpc.my_hello_world_vpc[0] and huaweicloud_vpc.my_hello_world_vpc[1] identify two resources.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { count = 2 name = "test_vpc" }</pre> <p>In a JSON template, huaweicloud_vpc.my_hello_world_vpc[0] and huaweicloud_vpc.my_hello_world_vpc[1] identify two resources.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "name": "test_vpc", "count": 2 } } } }</pre> <p>If for_each is used in a template, index is a user-defined string. For example, in the following HCL template, huaweicloud_vpc.my_hello_world_vpc["vpc1"] and huaweicloud_vpc.my_hello_world_vpc["vpc2"] identify two resources.</p> <pre>resource "huaweicloud_vpc" "my_hello_world_vpc" { for_each = { "vpc1" = "test_vpc" "vpc2" = "test_vpc" } name = each.value }</pre> <p>In a JSON template, huaweicloud_vpc.my_hello_world_vpc["vpc1"] and huaweicloud_vpc.my_hello_world_vpc["vpc2"] identify two resources.</p> <pre>{ "resource": { "huaweicloud_vpc": { "my_hello_world_vpc": { "for_each": { "vpc1": "test_vpc", "vpc2": "test_vpc" } "name": "\${each.value}" } } } }</pre>

Parameter	Type	Description
		} }
supported	Boolean	Whether price inquiry is supported for the resource or its variables.
unsupported_message	String	Causes for not supporting price inquiry.
resource_price	Array of ResourcePriceResponse objects	Price inquiry information of the resource. If the resource supports pay-per-use billing, or the resource is free of charge, this field is returned. If the resource does not support price inquiry, this field is not returned.

Table 2-224 ResourcePriceResponse

Parameter	Type	Description
charge_mode	String	Billing mode. <ul style="list-style-type: none"> • POST_PAID: pay-per-use • FREE: free of charge Enumeration values: <ul style="list-style-type: none"> • POST_PAID • FREE
sale_price	Double	Final price of the resource (only website, commercial, and partner discounts are considered, and promotion discounts and coupons are excluded). The value is rounded up to two decimal places.
discount	Double	Total discounted price of the resource. The value is rounded up to two decimal places.
original_price	Double	Original price of the resource. The value is rounded up to two decimal places.

Parameter	Type	Description
period_type	String	<p>Billing unit.</p> <p>If the resource supports pay-per-use billing, this field is returned. If the resource is free of charge, this field is not returned.</p> <ul style="list-style-type: none"> • HOUR: hour, unit of the pay-per-use billing mode. • DAY: day, unit of the pay-per-use billing mode. • BYTE: byte, unit of the pay-per-use billing mode. • MB: megabyte, unit of the pay-per-use billing modes. • GB: gigabyte, unit of the pay-per-use billing modes. <p>Enumeration values:</p> <ul style="list-style-type: none"> • HOUR • DAY • BYTE • MB • GB
period_count	Integer	<p>Billed amount of the resource. This parameter must be used together with period_type.</p> <p>If the resource is billed in pay-per-use mode, this field is returned. If the resource is free of charge, this field is not returned.</p> <ul style="list-style-type: none"> • For pay-per-use resources, 1 is returned by default, indicating the price of the resource in one billing unit.

Status code: 400

Table 2-225 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.

Parameter	Type	Description
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-226 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-227 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-228 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-229 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-230 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Example Requests

- Estimate the price of an execution plan. The execution plan contains a new VPC resource.

```
GET https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan/prices
```
- Estimate the price of an execution plan. The execution plan contains a new VPC resource. A stack ID and an execution plan ID are provided to check whether they match the current stack and execution plan.

```
GET https://{endpoint}/v1/ba2b9930c977f71edaeaa3a5e96a8ff1/stacks/my_hello_world_stack/execution-plans/my_first_execution_plan/prices?stack_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2&execution_plan_id=fb5e781e-a27d-46e2-9954-242753857a9f
```

Example Responses

Status code: 200

Price inquired.

```
{
  "items" : [ {
    "resource_type" : "huaweicloud_vpc",
    "resource_name" : "vpc",
    "resource_price" : [ {
      "charge_mode" : "FREE",
      "discount" : 0,
      "original_price" : 0,
      "sale_price" : 0
    } ],
    "supported" : true
  } ]
}
```

Status Codes

Status Code	Description
200	Price inquired.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The execution plan does not exist.
429	Too frequent requests.
500	Internal server error.

2.4 Template Analysis

2.4.1 Parsing Template Variables

Function

ParseTemplateVariables

This API parses variables in your input template and returns all variable blocks in the template.

- If variables are defined in the input template, 200 and all variables are returned.
- If variables are not defined in the input template, 200 and an empty object are returned.
- If your request or the input template is invalid, 400 is returned.

URI

POST /v1/{project_id}/template-analyses/variables

Table 2-231 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	A project ID is obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Request Parameters

Table 2-232 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	A unique request ID is specified by a user to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-233 Request body parameters

Parameter	Mandatory	Type	Description
template_body	No	String	<p>HCL template. It describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>Either template_body or template_uri must be specified but they both cannot be specified together.</p> <p><i>In the CreateStack API, template_body and template_uri are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> template_body cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the corresponding template_body in plaintext. If the information is sensitive, you are advised to use vars_structure to change the information to a variable and set the encryption field to enable encrypted transmission. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
template_uri	No	String	<p>OBS address of an HCL template. The template describes the target status of a resource. RFS compares the differences between the statuses of this template and the current remote resources.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <p>The corresponding file must be a tf file or a zip package.</p> <p>A pure .tf file must end with .tf or .tf.json and comply with the HCL syntax.</p> <p>Currently, only the .zip package is supported. The file name extension must be .zip. The decompressed file cannot contain the .tfvars file and must be encoded in UTF8 format (the .tf.json file cannot contain the BOM header). The .zip package supports a maximum of 100 subfiles.</p> <p>Either template_body or template_uri must be specified.</p> <p><i>In the CreateStack API, template_body and template_uri are optional.</i></p> <p>Note:</p> <ul style="list-style-type: none"> • The template file corresponds to template_uri cannot contain any sensitive information. RFS directly uses, logs, displays, and stores the content of the template file in plaintext. If the information is sensitive,

Parameter	Mandatory	Type	Description
			<p>you are advised to use <code>vars_structure</code> to change the information to a variable and set the encryption field to enable encrypted transmission.</p> <ul style="list-style-type: none"> If the template file corresponding to <code>template_uri</code> is of zip type, the length of the internal file or folder name must not exceed 255 bytes, the length of the deepest path must not exceed 2048 bytes, and the size of the zip package must not exceed 1MB. <p>Minimum: 0 Maximum: 2048</p>

Response Parameters

Status code: 200

Table 2-234 Response body parameters

Parameter	Type	Description
variables	Array of VariableResponse objects	Variables parsed from a template.

Table 2-235 VariableResponse

Parameter	Type	Description
name	String	<p>Variable name.</p> <p>For example, in the following HCL template, the value of name is my_hello_world_variable.</p> <pre>variable "my_hello_world_variable" { type = string description = "this is a variable" default = "hello world" sensitive = false nullable = false validation { condition = length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == "hello" error_message = "my_hello_world_variable should start with 'hello'." } }</pre> <p>In a JSON template, the value of name is my_hello_world_variable.</p> <pre>{ "variable": { "my_hello_world_variable": [{ "default": "hello world", "description": "this is a variable", "nullable": false, "sensitive": false, "type": "string", "validation": [{ "condition": "\${length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == \"hello \"}", "error_message": "my_hello_world_variable should start with 'hello'." }] }] } }</pre>

Parameter	Type	Description
type	String	<p>Variable type.</p> <p>For example, in the following HCL template, the value of type is string.</p> <pre>variable "my_hello_world_variable" { type = string description = "this is a variable" default = "hello world" sensitive = false nullable = false validation { condition = length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == "hello" error_message = "my_hello_world_variable should start with 'hello'." } }</pre> <p>In a JSON template, the value of type is string.</p> <pre>{ "variable": { "my_hello_world_variable": [{ "default": "hello world", "description": "this is a variable", "nullable": false, "sensitive": false, "type": "string", "validation": [{ "condition": "\${length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == \"hello \"}", "error_message": "my_hello_world_variable should start with 'hello'." }] }] } }</pre>

Parameter	Type	Description
description	String	<p>Variable description.</p> <p>For example, in the following HCL template, the value of description is <i>this is a variable</i>.</p> <pre>variable "my_hello_world_variable" { type = string description = "this is a variable" default = "hello world" sensitive = false nullable = false validation { condition = length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == "hello" error_message = "my_hello_world_variable should start with 'hello'." } }</pre> <p>In a JSON template, the value of description is <i>this is a variable</i>.</p> <pre>{ "variable": { "my_hello_world_variable": [{ "default": "hello world", "description": "this is a variable", "nullable": false, "sensitive": false, "type": "string", "validation": [{ "condition": "\${length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == \"hello \"}", "error_message": "my_hello_world_variable should start with 'hello'." }] }] } }</pre>

Parameter	Type	Description
default	Object	<p>Default variable value. The type of the return value is the same as that defined in the type field.</p> <p>For example, for a variable whose type is string, the type of the return value is string; for a variable whose type is number, the type of the return value is number.</p> <p>For example, in the following HCL template, the value of default is <i>hello world</i>.</p> <pre>variable "my_hello_world_variable" { type = string description = "this is a variable" default = "hello world" sensitive = false nullable = false validation { condition = length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == "hello" error_message = "my_hello_world_variable should start with 'hello'." } }</pre> <p>In a JSON template, the value of default is <i>hello world</i>.</p> <pre>{ "variable": { "my_hello_world_variable": [{ "default": "hello world", "description": "this is a variable", "nullable": false, "sensitive": false, "type": "string", "validation": [{ "condition": "\${length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == \"hello \"}", "error_message": "my_hello_world_variable should start with 'hello'." }] }] } }</pre>

Parameter	Type	Description
sensitive	Boolean	<p>Whether the variable is sensitive.</p> <p>If sensitive is not defined in the variable, false is returned by default.</p> <p>For example, in the following HCL template, the value of sensitive is false.</p> <pre>variable "my_hello_world_variable" { type = string description = "this is a variable" default = "hello world" sensitive = false nullable = false validation { condition = length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == "hello" error_message = "my_hello_world_variable should start with 'hello'." } }</pre> <p>In a JSON template, the value of sensitive is false.</p> <pre>{ "variable": { "my_hello_world_variable": [{ "default": "hello world", "description": "this is a variable", "nullable": false, "sensitive": false, "type": "string", "validation": [{ "condition": "\${length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == \"hello\"}", "error_message": "my_hello_world_variable should start with 'hello'." }] }] } }</pre>

Parameter	Type	Description
nullable	Boolean	<p>Whether the variable can be set to null.</p> <p>If nullable is not defined in the variable, true is returned by default.</p> <p>For example, in the following HCL template, the value of nullable is false.</p> <pre>variable "my_hello_world_variable" { type = string description = "this is a variable" default = "hello world" sensitive = false nullable = false validation { condition = length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == "hello" error_message = "my_hello_world_variable should start with 'hello'." } }</pre> <p>In a JSON template, the value of nullable is false.</p> <pre>{ "variable": { "my_hello_world_variable": [{ "default": "hello world", "description": "this is a variable", "nullable": false, "sensitive": false, "type": "string", "validation": [{ "condition": "\${length(var.my_hello_world_variable) > 0 && substr(var.my_hello_world_variable, 0, 5) == \"hello \"}", "error_message": "my_hello_world_variable should start with 'hello'." }] }] } }</pre>
validations	Array of VariableValidationResponse objects	Variable verification module.

Table 2-236 VariableValidationResponse

Parameter	Type	Description
condition	String	Variable expression.
error_message	String	Error message generated upon verification failure.

Status code: 400

Table 2-237 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-238 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-239 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-240 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_au thorization_mes sage	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-241 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_au thorization_mes sage	String	The message contains information about unauthorized requests.

Example Requests

- Parse template variables in the URI.

POST https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/template-analyses/variables

```
{
  "template_uri" : "https://my_hello_world_bucket.{region}.myhuaweicloud.com/
my_hello_world_template.zip"
}
```

- Parse template variables in the request.

POST https://{endpoint}/v1/ba2b9930c977f71edaeea3a5e96a8ff1/template-analyses/variables

```
{
  "template_body" : "terraform {
    required_providers {
      huaweicloud = {
        source =
        \"huawei.com/provider/huaweicloud\"
        version = \"1.41.0\"
      }
    }
    provider
    \"huaweicloud\" {
      insecure = true
      cloud = \"{cloud_name}\"
      region = \"{region}\"
      endpoints = {
        iam = \"{iam_endpoint}\"
      }
      variable \"name\" {
        type = string
        default = \"my_default_vpc\"
        sensitive = true
        nullable = true
        validation {
          condition =
          length(var.name) > 2 && substr(var.name, 0, 2) == \"my\"
          error_message = \"The name value must
          be a valid name, starting with my.\"
        }
        resource \"huaweicloud_vpc\" \"vpc\" {
          cidr =
          \"172.16.0.0/16\"
          name = var.name
        }
      }
    }
  }
```

Example Responses

Status code: 200

Variables parsed.

```
{
  "variables" : [ {
    "default" : "my_default_vpc",
    "name" : "name",
    "nullable" : true,
    "sensitive" : true,
    "type" : "string",
    "validations" : [ {
      "condition" : "${length(var.id) > 2 && substr(var.id, 0, 2) == \"my\"}",
      "error_message" : "The id value must be a valid id, starting with my."
    } ]
  } ]
}
```

Status Codes

Status Code	Description
200	Variables parsed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
429	Too frequent requests.
500	Internal server error.

2.5 Template Management

2.5.1 Listing Templates

Function

ListTemplates

This API lists all your templates at the current region.

- By default, the templates are sorted by creation time. The template created latest is displayed on the top.
- Currently, all templates are returned. Pagination is not supported.
- If no template is available, an empty list will be returned.
- To obtain details about template versions, call ListTemplateVersions.

ListTemplates returns only summaries of templates. You can obtain details about the summaries by referring to ListTemplatesResponseBody. For details about a particular template, call ShowTemplateMetadata.

URI

GET /v1/{project_id}/templates

Table 2-242 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Request Parameters

Table 2-243 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 200

Table 2-244 Response body parameters

Parameter	Type	Description
templates	Array of Template objects	Template list. Array Length: 0 - 100

Table 2-245 Template

Parameter	Type	Description
template_id	String	Unique template ID. It is randomly generated by the template service. Minimum: 36 Maximum: 36
template_name	String	Name of the template to be created. Minimum: 1 Maximum: 128
template_description	String	Template description. It can be used by users to identify their own templates. Minimum: 0 Maximum: 1024
create_time	String	Creation time of a template. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.
update_time	String	Update time of a template. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.
latest_version_id	String	ID of the latest template version. Minimum: 2 Maximum: 11
latest_version_description	String	Description of the latest template version. Minimum: 0 Maximum: 1024

Status code: 400

Table 2-246 Response body parameters

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

Status code: 401

Table 2-247 Response body parameters

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

Status code: 403

Table 2-248 Response body parameters

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

Status code: 429

Table 2-249 Response body parameters

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

Status code: 500

Table 2-250 Response body parameters

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

Example Requests

List all your templates at the current region.

```
GET https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates
```

Example Responses

Status code: 200

Templates listed.

```
{
  "templates": [ {
    "template_id": "69f8d5ea-aaa4-4a3b-a96d-bae9230e97c8",
    "template_name": "my_first_template",
    "template_description": "Template description",
    "create_time": "2023-05-09T08:00:00Z",
    "update_time": "2023-05-09T09:00:00Z",
    "latest_version_description": "Latest version description",
    "latest_version_id": "V10"
  }, {
    "template_id": "69f8d5ea-aaa4-4a3b-a96d-bae9230e97c9",
    "template_name": "my_second_template",
    "template_description": "Description",
    "create_time": "2023-05-09T09:00:00Z",
    "update_time": "2023-05-09T10:00:00Z",
    "latest_version_description": "Latest version description",
    "latest_version_id": "V10"
  } ]
}
```

Status Codes

Status Code	Description
200	Templates listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
429	Too frequent requests.
500	Internal server error.

2.5.2 Deleting a Template

Function

DeleteTemplate

This API deletes a template and all its versions. ****Exercise caution when performing this operation. Deleting a template will delete all its versions. ****

- `template_id` is the unique ID of the template. It is a UUID generated by RFS when a template is created. Template names are unique at one specific time, so you can create a template named HelloWorld and another template with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the template they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each template has a unique ID that does not change with updates. If the `template_id` value differs from the current template ID, 400 is returned.

URI

DELETE /v1/{project_id}/templates/{template_name}

Table 2-251 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
template_name	Yes	String	Name of the template to be created. Minimum: 1 Maximum: 128

Table 2-252 Query Parameters

Parameter	Mandatory	Type	Description
template_id	No	String	ID of a template. If template_id exists, the template service checks whether template_id matches template_name . If not, 400 is returned. Minimum: 36 Maximum: 36

Request Parameters

Table 2-253 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 400

Table 2-254 Response body parameters

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

Status code: 401

Table 2-255 Response body parameters

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

Status code: 403

Table 2-256 Response body parameters

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

Status code: 404

Table 2-257 Response body parameters

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

Status code: 429

Table 2-258 Response body parameters

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

Status code: 500

Table 2-259 Response body parameters

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

Example Requests

- Delete a template.
DELETE https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template
- Delete a template and check whether the template ID matches the current template.
DELETE https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template?template_id=1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3

Example Responses

None

Status Codes

Status Code	Description
204	Template deleted. No data returned.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The template does not exist.
429	Too frequent requests.
500	Internal server error.

2.5.3 Updating Template Metadata

Function

UpdateTemplateMetadata

This API updates template metadata.

- This API only updates template description.

URI

PATCH /v1/{project_id}/templates/{template_name}/metadata

Table 2-260 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
template_name	Yes	String	Name of the template to be created. Minimum: 1 Maximum: 128

Request Parameters

Table 2-261 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-262 Request body parameters

Parameter	Mandatory	Type	Description
template_id	No	String	Unique template ID. It is randomly generated by the template service. Minimum: 36 Maximum: 36
template_description	No	String	Template description. It can be used by users to identify their own templates. Minimum: 0 Maximum: 1024

Response Parameters

Status code: 400

Table 2-263 Response body parameters

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

Status code: 401

Table 2-264 Response body parameters

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

Status code: 403

Table 2-265 Response body parameters

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

Status code: 404

Table 2-266 Response body parameters

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

Status code: 429

Table 2-267 Response body parameters

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

Status code: 500

Table 2-268 Response body parameters

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

Example Requests

Update template metadata.

```
PATCH https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/metadata
{
  "template_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3",
  "template_description" : "my template description"
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Template metadata updated. No data returned.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The template does not exist.
429	Too frequent requests.
500	Internal server error.

2.5.4 Obtaining Template Metadata

Function

ShowTemplateMetadata

This API obtains the metadata of the current template.

To obtain details, you can refer to ShowTemplateMetadataResponseBody. To view all versions of a template, call ListTemplateVersions.

- `template_id` is the unique ID of the template. It is a UUID generated by RFS when a template is created. Template names are unique at one specific time, so you can create a template named HelloWorld and another template with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the template they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each template has a unique ID that does not change with updates. If the `template_id` value differs from the current template ID, 400 is returned.

URI

GET /v1/{project_id}/templates/{template_name}/metadata

Table 2-269 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
template_name	Yes	String	Name of the template to be created. Minimum: 1 Maximum: 128

Table 2-270 Query Parameters

Parameter	Mandatory	Type	Description
template_id	No	String	ID of a template. If template_id exists, the template service checks whether template_id matches template_name . If not, 400 is returned. Minimum: 36 Maximum: 36

Request Parameters

Table 2-271 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: **200**

Table 2-272 Response body parameters

Parameter	Type	Description
template_id	String	Unique template ID. It is randomly generated by the template service. Minimum: 36 Maximum: 36
template_name	String	Name of the template to be created. Minimum: 1 Maximum: 128
template_description	String	Template description. It can be used by users to identify their own templates. Minimum: 0 Maximum: 1024
create_time	String	Creation time of a template. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.
update_time	String	Update time of a template. The format complies with RFC 3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 2-273 Response body parameters

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

Status code: 401

Table 2-274 Response body parameters

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

Status code: 403

Table 2-275 Response body parameters

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

Status code: 404

Table 2-276 Response body parameters

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

Status code: 429

Table 2-277 Response body parameters

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

Status code: 500

Table 2-278 Response body parameters

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

Example Requests

- Obtain the metadata of the current template.
GET `https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/metadata`
- Obtain the metadata of the current template and check whether the template ID matches the current template.
GET `https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/metadata?template_id=1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3`

Example Responses

Status code: 200

Template metadata obtained.

```
{
  "template_id" : "69f8d5ea-aaa4-4a3b-a96d-bae9230e97c8",
  "template_name" : "my_first_template",
  "template_description" : "Template description",
  "create_time" : "2023-05-09T08:00:00Z",
  "update_time" : "2023-05-09T09:00:00Z"
}
```

Status Codes

Status Code	Description
200	Template metadata obtained.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The template does not exist.
429	Too frequent requests.
500	Internal server error.

2.5.5 Listing Template Versions

Function

ListTemplateVersions

This API lists all template versions in a template.

- By default, the template versions are sorted by creation time. The template created latest is displayed on the top.
- Currently, all template versions are returned. Pagination is not supported.
- If there is no template version, an empty list will be returned.
- `template_id` is the unique ID of the template. It is a UUID generated by RFS when a template is created. Template names are unique at one specific time, so you can create a template named HelloWorld and another template with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the template they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each template has a unique ID that does not change with updates. If the `template_id` value differs from the current template ID, 400 is returned.

- If the template does not exist, 404 is returned.

ListTemplateVersions returns only summaries of template versions. For details, refer to ListTemplateVersionsResponseBody. To obtain the template version, call ShowTemplateVersionContent.

URI

GET /v1/{project_id}/templates/{template_name}/versions

Table 2-279 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
template_name	Yes	String	Name of the template to be created. Minimum: 1 Maximum: 128

Table 2-280 Query Parameters

Parameter	Mandatory	Type	Description
template_id	No	String	ID of a template. If template_id exists, the template service checks whether template_id matches template_name . If not, 400 is returned. Minimum: 36 Maximum: 36

Request Parameters

Table 2-281 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: **200**

Table 2-282 Response body parameters

Parameter	Type	Description
versions	Array of TemplateVersion objects	Template version list. Array Length: 0 - 100

Table 2-283 TemplateVersion

Parameter	Type	Description
template_id	String	Unique template ID. It is randomly generated by the template service. Minimum: 36 Maximum: 36
template_name	String	Name of the template to be created. Minimum: 1 Maximum: 128
version_description	String	Description of a template version. It can be used by users to identify their own template versions. Minimum: 0 Maximum: 1024
create_time	String	Creation time of a template version. The format complies with RFC3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.

Parameter	Type	Description
version_id	String	Template version ID. Minimum: 2 Maximum: 11

Status code: 400

Table 2-284 Response body parameters

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

Status code: 401

Table 2-285 Response body parameters

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

Status code: 403

Table 2-286 Response body parameters

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

Status code: 404

Table 2-287 Response body parameters

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

Status code: 429

Table 2-288 Response body parameters

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

Status code: 500

Table 2-289 Response body parameters

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

Example Requests

- List all versions of the current template.
GET https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions
- List all versions of the current template and check whether the template ID matches the current template.
GET https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions?template_id=1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3

Example Responses

Status code: 200

Template versions listed.

```
{
  "versions": [ {
    "template_id": "69f8d5ea-aaa4-4a3b-a96d-bae9230e97c8",
    "template_name": "my_first_template",
    "version_description": "Second version of the current template",
    "create_time": "2023-05-09T08:01:24Z",
    "version_id": "V2"
  }, {
    "template_id": "69f8d5ea-aaa4-4a3b-a96d-bae9230e97c8",
    "template_name": "my_first_template",
    "version_description": "First version of the current template",
    "create_time": "2023-05-09T08:01:23Z",
    "version_id": "V1"
  }
]
```

Status Codes

Status Code	Description
200	Template versions listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The template does not exist.
429	Too frequent requests.
500	Internal server error.

2.5.6 Deleting a Template Version

Function

DeleteTemplateVersion

This API deletes a template version.

- `template_id` is the unique ID of the template. It is a UUID generated by RFS when a template is created. Template names are unique at one specific time, so you can create a template named HelloWorld and another template with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the template they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each template has a unique ID that does not change with updates. If the `template_id` value differs from the current template ID, 400 is returned.
- If a template has only one version, the version cannot be deleted. To delete the only version, call `DeleteTemplate`. A template must have at least one version.

Exercise caution when you perform this operation.

URI

DELETE /v1/{project_id}/templates/{template_name}/versions/{version_id}

Table 2-290 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64
template_name	Yes	String	Name of the template to be created. Minimum: 1 Maximum: 128
version_id	Yes	String	Template version ID. It starts with V (uppercase). The number of the ID is incremented by 1 each time a version is created. Minimum: 2 Maximum: 11

Table 2-291 Query Parameters

Parameter	Mandatory	Type	Description
template_id	No	String	ID of a template. If template_id exists, the template service checks whether template_id matches template_name . If not, 400 is returned. Minimum: 36 Maximum: 36

Request Parameters

Table 2-292 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 400

Table 2-293 Response body parameters

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

Status code: 401

Table 2-294 Response body parameters

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

Status code: 403

Table 2-295 Response body parameters

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

Status code: 404

Table 2-296 Response body parameters

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

Status code: 429

Table 2-297 Response body parameters

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

Status code: 500

Table 2-298 Response body parameters

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

Example Requests

- Delete a specified template version.
DELETE https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions/V1
- Delete a specified template version and check whether the template ID matches the current template.
DELETE https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions/V1?template_id=1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3

Example Responses

None

Status Codes

Status Code	Description
204	Template version deleted. No data returned.
400	Invalid request.

Status Code	Description
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The template or template version does not exist.
429	Too frequent requests.
500	Internal server error.

2.5.7 Obtaining Template Version Content

Function

ShowTemplateVersionContent

This API obtains the template version content.

- `template_id` is the unique ID of the template. It is a UUID generated by RFS when a template is created. Template names are unique at one specific time, so you can create a template named HelloWorld and another template with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the template they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each template has a unique ID that does not change with updates. If the `template_id` value differs from the current template ID, 400 is returned.
- This API returns the download link (a pre-signed URL of OBS, valid for 5 minutes) of the template content through temporary redirection. You can download the template version content from the link.

ShowTemplateVersionContent returns only the template version content. To obtain the metadata of a template version, call ShowTemplateVersionMetadata.

URI

GET /v1/{project_id}/templates/{template_name}/versions/{version_id}

Table 2-299 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Parameter	Mandatory	Type	Description
template_name	Yes	String	Name of the template to be created. Minimum: 1 Maximum: 128
version_id	Yes	String	Template version ID. It starts with V (uppercase). The number of the ID is incremented by 1 each time a version is created. Minimum: 2 Maximum: 11

Table 2-300 Query Parameters

Parameter	Mandatory	Type	Description
template_id	No	String	ID of a template. If template_id exists, the template service checks whether template_id matches template_name . If not, 400 is returned. Minimum: 36 Maximum: 36

Request Parameters

Table 2-301 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: **307**

Table 2-302 Response header parameters

Parameter	Type	Description
Location	String	HTTP redirection header. The client can use this header to redirect to a new address. The content is a template download link, which is a pre-signed OBS URL valid for 10 minutes.

Status code: 400

Table 2-303 Response body parameters

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

Status code: 401

Table 2-304 Response body parameters

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

Status code: 403

Table 2-305 Response body parameters

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

Status code: 404

Table 2-306 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 429

Table 2-307 Response body parameters

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

Status code: 500

Table 2-308 Response body parameters

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

Example Requests

- Obtain a specified version of a specified template.
GET `https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions/V1`
- Obtain a specified version of a specified template and check whether the template ID matches the current template.
GET `https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions/V1?template_id=1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3`

Example Responses

None

Status Codes

Status Code	Description
200	Empty response body.
307	Template version content requested. The request is redirected to the download link.
400	Invalid request.

Status Code	Description
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The template or template version does not exist.
429	Too frequent requests.
500	Internal server error.

2.5.8 Obtaining Template Version Metadata

Function

ShowTemplateVersionMetadata

This API displays the metadata of a template version.

- `template_id` is the unique ID of the template. It is a UUID generated by RFS when a template is created. Template names are unique at one specific time, so you can create a template named `HelloWorld` and another template with the same name after deleting the first one. For parallel development, team members may want to ensure that they are operating the template they created, not one with the same name created by other members after deleting the previous one. To avoid this mismatch, check the ID, since RFS ensures each template has a unique ID that does not change with updates. If the `template_id` value differs from the current template ID, 400 is returned.

ShowTemplateVersionMetadata returns only the template version metadata. For details about the summary, refer to ShowTemplateVersionMetadataResponseBody. For details about template version, call ShowTemplateVersionContent.

URI

GET `/v1/{project_id}/templates/{template_name}/versions/{version_id}/metadata`

Table 2-309 Path Parameters

Parameter	Mandatory	Type	Description
<code>project_id</code>	Yes	String	Project ID. It can be obtained by calling an API or from the console. Obtaining a Project ID Minimum: 3 Maximum: 64

Parameter	Mandatory	Type	Description
template_name	Yes	String	Name of the template to be created. Minimum: 1 Maximum: 128
version_id	Yes	String	Template version ID. It starts with V (uppercase). The number of the ID is incremented by 1 each time a version is created. Minimum: 2 Maximum: 11

Table 2-310 Query Parameters

Parameter	Mandatory	Type	Description
template_id	No	String	ID of a template. If template_id exists, the template service checks whether template_id matches template_name . If not, 400 is returned. Minimum: 36 Maximum: 36

Request Parameters

Table 2-311 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 200

Table 2-312 Response body parameters

Parameter	Type	Description
template_id	String	Unique template ID. It is randomly generated by the template service. Minimum: 36 Maximum: 36
template_name	String	Name of the template to be created. Minimum: 1 Maximum: 128
version_description	String	Description of a template version. It can be used by users to identify their own template versions. Minimum: 0 Maximum: 1024
create_time	String	Creation time of a template version. The format complies with RFC3339 (YYYY-MM-DDTHH:MM:SSZ), for example, 1970-01-01T00:00:00Z.

Status code: 400

Table 2-313 Response body parameters

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

Status code: 401

Table 2-314 Response body parameters

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

Status code: 403

Table 2-315 Response body parameters

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

Status code: 404

Table 2-316 Response body parameters

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

Status code: 429

Table 2-317 Response body parameters

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

Status code: 500

Table 2-318 Response body parameters

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

Example Requests

- Display the metadata of a template version.
GET `https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions/V10/metadata`
- Display the metadata of a template version and check whether the template ID matches the current template.
GET `https://{endpoint}/v1/c364070ab35041ddae68cf8b4839b60f/templates/my_template/versions/V10/metadata?template_id=1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3`

Example Responses

Status code: 200

Template version metadata obtained.

```
{
  "template_id" : "1b15e005-bddb-4bd7-8f9a-a09b6774b4b3",
  "template_name" : "my_template",
  "version_description" : "version description",
  "create_time" : "2023-05-09T08:00:00Z"
}
```

Status Codes

Status Code	Description
200	Template version metadata obtained.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The template or template version does not exist.
429	Too frequent requests.
500	Internal server error.

2.6 Stack Sets

2.6.1 Listing Stack Sets

Function

ListStackSets

This API lists all stack sets of the current account (domain) at the current region.

- You can use filter to find stack sets with a specified permission model (permission_model).
- You can use sort_key and sort_dir as keywords to sort the returned results by creation time (create_time). The number of sort_keys must be the same as that of sort_dirs. Otherwise, error code 400 is returned. If sort_key and sort_dir are not assigned, results are sorted by creation time in descending order by default.
- Currently, all stack sets are returned. Pagination is not supported.
- If there is no stack set, an empty list will be returned.

URI

GET /v1/stack-sets

Table 2-319 Query Parameters

Parameter	Mandatory	Type	Description
filter	No	String	<p>Filter condition.</p> <ul style="list-style-type: none"> • The AND operator is defined by commas (,). • The OR operator is defined using a vertical bar (). The OR operator has a higher priority than the AND operator. • Parentheses are not supported. • The filter operator only supports the equal sign (=). • The filter parameter name and value can contain only letters, digits, and underscores (_). • Semicolons (;) are not allowed in filter criteria. If semicolons (;) are used, the filter criteria will be invalid. • A filter parameter can be related to only one AND condition. Multiple OR conditions in an AND condition can be related to only one filter criterion. <p>Minimum: 0 Maximum: 512</p>
sort_key	No	Array	<p>Sorting field. Only create_time is supported.</p> <p>Minimum: 1 Enumeration values:</p> <ul style="list-style-type: none"> • create_time

Parameter	Mandatory	Type	Description
sort_dir	No	Array	Specify an ascending or descending order. <ul style="list-style-type: none"> • <i>asc</i>: ascending order • <i>desc</i>: descending order Minimum: 1 Enumeration values: <ul style="list-style-type: none"> • asc • desc

Request Parameters

Table 2-320 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 200

Table 2-321 Response body parameters

Parameter	Type	Description
stack_sets	Array of StackSet objects	Stack sets.

Table 2-322 StackSet

Parameter	Type	Description
stack_set_id	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_set_name	String	<p>Name of a stack set. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>
stack_set_description	String	<p>Description of a stack set. It can be used by customers to identify their own stack sets.</p> <p>Minimum: 0</p> <p>Maximum: 1024</p>

Parameter	Type	Description
permission_model	String	<p>Permission model. It defines the creation mode of the agency required for RFS to operate stack sets. The permission model can be: *</p> <ul style="list-style-type: none"> <i>SERVICE_MANAGED</i>: You can use this model to create stack sets only after setting RFS as a trustworthy service in your organization. You do not need to manually create agencies. RFS automatically creates agencies for you based on the organization. Only an organization administrator or a delegated administrator can create stack sets using SERVICE_MANAGED permissions. <i>SELF_MANAGED</i>: For deployment, you manually create agencies in advance, including the agency created by the management account for RFS and the agency created by the member account for the management account. The stack set creation will not fail even if the agency does not exist or is incorrect. An error is reported only when the stack set or stack instance is deployed. <p>Default: SELF_MANAGED</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● SELF_MANAGED
status	String	<p>The stack set status can be:</p> <ul style="list-style-type: none"> ● <i>IDLE</i>: The stack set is idle. ● <i>OPERATION_IN_PROGRESS</i>: The stack set operation is in progress. ● <i>DEACTIVATED</i>: The stack set is disabled. <p>Enumeration values:</p> <ul style="list-style-type: none"> ● IDLE ● OPERATION_IN_PROGRESS ● DEACTIVATED
create_time	String	Time when a stack set is created. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.
update_time	String	Time when a stack set is updated. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.

Status code: 400

Table 2-323 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-324 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-325 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-326 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-327 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- You can obtain all stack sets of the current account (domain) at the current region. The returned stack sets are sorted in descending order by creation time.
GET `https://{endpoint}/v1/stack-sets`
- You can use filter to obtain the stack sets with the specified permission model SELF_MANAGED. The returned stack sets are sorted in descending order by creation time.
GET `https://{endpoint}/v1/stack-sets?filter=permission_model==SELF_MANAGED`
- You can use sort_key and sort_dir to specify the list of stack sets to be returned. The returned stack sets are sorted in ascending order by creation time.
GET `https://{endpoint}/v1/stack-sets?sort_key=create_time&sort_dir=asc`

Example Responses

Status code: 200

List stack sets succeeded.

```
{
  "stack_sets": [ {
    "stack_set_id": "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
    "stack_set_name": "my_first_stack_set",
    "stack_set_description": "my first stack set",
    "permission_model": "SELF_MANAGED",
    "status": "IDLE",
    "create_time": "2023-05-15T15:39:25.751Z",
    "update_time": "2023-05-15T16:39:25.751Z"
  }, {
    "stack_set_id": "b3e7e15f-f96b-4190-94f4-bb8120f8c4dc",
    "stack_set_name": "my_second_stack_set",
    "stack_set_description": "my second stack set",
    "permission_model": "SELF_MANAGED",
    "status": "OPERATION_IN_PROGRESS",
    "create_time": "2023-05-15T14:39:25.210Z",
    "update_time": "2023-05-15T15:39:25.233Z"
  } ]
}
```

Status Codes

Status Code	Description
200	List stack sets succeeded.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
429	Too frequent requests.
500	Internal server error.

2.6.2 Creating a Stack Set

Function

CreateStackSet

This is a synchronous API. This API creates an empty stack set that does not contain any stack instance and returns the stack set ID (stack_set_id).

URI

POST /v1/stack-sets

Request Parameters

Table 2-328 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-329 Request body parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Name of a stack set. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128
stack_set_description	No	String	Description of a stack set. It can be used by customers to identify their own stack sets. Minimum: 0 Maximum: 1024

Parameter	Mandatory	Type	Description
permission_model	No	String	<p>Permission model. It defines the creation mode of the agency required for RFS to operate stack sets. The permission model can be: * <i>SERVICE_MANAGED</i>: You can use this model to create stack sets only after setting RFS as a trustworthy service in your organization. You do not need to manually create agencies. RFS automatically creates agencies for you based on the organization. Only an organization administrator or a delegated administrator can create stack sets using <i>SERVICE_MANAGED</i> permissions. * <i>SELF_MANAGED</i>: For deployment, you manually create agencies in advance, including the agency created by the management account for RFS and the agency created by the member account for the management account. The stack set creation will not fail even if the agency does not exist or is incorrect. An error is reported only when the stack set or stack instance is deployed.</p> <p>Default: SELF_MANAGED</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SELF_MANAGED

Parameter	Mandatory	Type	Description
administration_agency_name	No	String	<p>Administration agency names. RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the iam:tokens:assume permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define SELF_MANAGED permissions, you must specify either administration_agency_name or administration_agency_urn, but not both.</p> <p>You are advised to specify administration_agency_urn when using a trust agency. administration_agency_name only receives agency names. If trust agency names are assigned to administration_agency_name, template fails to be deployed.</p> <p>Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0 Maximum: 64</p>

Parameter	Mandatory	Type	Description
managed_agency_name	No	String	<p>Name of the managed agency. RFS uses this agency to obtain the permissions required for deploying resources.</p> <p>The names of the agencies that different member accounts grants to the management account must be the same. Currently, different agency permissions cannot be defined based on different providers.</p> <p>This parameter must be specified when SELF_MANAGED permissions are defined. Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0 Maximum: 64</p>
template_body	No	String	<p>HCL template, which describes the target status of a resource. RFS compares the difference between the statuses of this template and the current remote resource.</p> <p>You can specify either template_body or template_uri, not both.</p> <p>Note:</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores template_body as plaintext. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
template_uri	No	String	<p>OBS address of an HCL template. The template describes the target status of a resource. RFS compares the difference between the statuses of this template and the current remote resource.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <p>The corresponding file must be a tf file or a zip package. A .tf file must be named with a .tf or .tf.json suffix, compatible with HCL, and UTF-8 encoded.</p> <p>Currently, only the .zip package is supported. The file name extension must be .zip. The decompressed files cannot contain .tfvars files. The maximum size of the file is 1 MB before decompression and 1 MB after decompression. A maximum of 100 files can be archived to one .zip package.</p> <p>You can specify either <code>template_body</code> or <code>template_uri</code>, not both.</p> <p>Note:</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores the template file content corresponding to <code>template_uri</code> as plaintext. <ul style="list-style-type: none"> If the template file specified by the <code>template_uri</code> is in .zip format, the names of

Parameter	Mandatory	Type	Description
			<p>the files or folders within the package contain a maximum of 255 bytes, the length of the longest directory cannot exceed 2048 bytes, and the size of the .zip package cannot exceed 1 MB.</p> <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL parameter file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> vars_uri directs to a pre-signed URL of OBS. Currently, other addresses are not supported. RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. <p>The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri.</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores the variable file content corresponding to vars_uri as plaintext. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. • If vars_body is too large, you can use vars_uri. • Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores vars_body as plaintext. <p>Minimum: 0 Maximum: 51200</p>
initial_stack_description	No	String	<p>Description of stacks that is being initialized. It can be used to identify stacks managed by a stack set.</p> <p>This description is used for stacks in the stack set only when they are created. To update the description of stacks that is being initialized, call the UpdateStackSet API.</p> <p>If the stack set description is updated later, the managed stack description will not be updated synchronously.</p> <p>Minimum: 0 Maximum: 1024</p>

Parameter	Mandatory	Type	Description
administration_urn	No	String	<p>Administration agency URNs. RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the sts:tokens:assume permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define SELF_MANAGED permissions, you must specify either administration_agency_name or administration_urn, but not both.</p> <p>You are advised to specify administration_urn when using a trust agency. administration_agency_name only receives agency names. If trust agency names are assigned to administration_agency_name, template fails to be deployed.</p> <p>Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p>
managed_operation	No	managed_operation object	A set of properties used to manage the stack set operation.

Table 2-330 managed_operation

Parameter	Mandatory	Type	Description
enable_parallel_operation	No	Boolean	<p>This parameter indicates whether the stack set can create multiple stack set operations concurrently. As an attribute of the stack set, this parameter can be specified by using CreateStackSet API and updated by using UpdateStackSet API.</p> <p>When false (default), the stack set performs one operation at a time in request order. To be specific, at a time, only one stack set operation in <code>QUEUE_IN_PROGRESS</code> or <code>OPERATION_IN_PROGRESS</code> status can be processed.</p> <p>When true, the stack set can create operations concurrently, handle non-conflicting operations, and queue conflicting operations.</p> <p>Note: When the stack set allows multiple operations to be created at the same time, if more than one operation deploys same stack instances, these operations are called conflicting operations.</p> <p>When the stack set is in <code>OPERATION_IN_PROGRESS</code> status, this parameter is not allowed to be modified by UpdateStackSet API.</p> <p><i>Currently, a maximum of 10 stack set operations in <code>QUEUE_IN_PROGRESS</code> or <code>OPERATION_IN_PROGRESS</code> status can exist in one stack set.</i></p>

Response Parameters

Status code: 201

Table 2-331 Response body parameters

Parameter	Type	Description
stack_set_id	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Status code: 400

Table 2-332 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-333 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-334 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-335 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-336 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Use the signed URL of OBS to transfer the template and administration agency names for creating a stack set.

POST https://{endpoint}/v1/stack-sets

```
{
  "stack_set_name": "my_first_stack_set",
  "template_uri": "https://my_hello_world_bucket.{region}.myhuaweicloud.com/vpc.tf",
  "managed_agency_name": "my_managed_agency_name",
  "administration_agency_name": "my_administration_agency_name"
}
```

- Use the template and administration agency URNs for creating a stack set.

POST https://{endpoint}/v1/stack-sets

```
{
  "stack_set_name": "my_second_stack_set",
  "managed_agency_name": "my_managed_agency_name",
  "administration_agency_urn": "iam::my-domain-id:agency:my-agency-name",
  "template_body": "terraform {\n  required_providers {\n    huaweicloud = {\n      source =\n        \"huawei.com/provider/huaweicloud\"\n      version = \"1.41.0\"\n    }\n  }\n  provider\n    \"huaweicloud\" {\n    insecure = true\n    cloud = \"{cloud_name}\"\n    region = \"{region}\"\n    endpoints = {\n      iam = \"{iam_endpoint}\"\n    }\n  }\n  resource \"huaweicloud_vpc\" \"vpc\" {\n    cidr = \"172.16.0.0/16\"\n    name = \"my_vpc\"\n  }\n}
```

Example Responses

Status code: 201

Stack set created successfully

```
{
  "stack_set_id": "1b15e005-bddb-4bd7-8f9a-a09b6774b4b3"
}
```

Status Codes

Status Code	Description
201	Stack set created successfully
400	Invalid request.

Status Code	Description
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. The maximum number of stack sets has been reached.
409	Creation requests conflict. The stack set with the same name already exists.
429	Too frequent requests.
500	Internal server error.

2.6.3 Obtaining a Stack Set Template

Function

ShowStackSetTemplate

This API obtains the template of a specified stack set.

If the template is successfully obtained, the template download link (OBS Pre Signed address, valid for 5 minutes) is returned in temporary redirection mode. Most clients automatically redirect and download the template. If automatic redirection is not performed, the template download link is obtained by referring to the HTTP redirection rule and manually download the template.

URI

GET /v1/stack-sets/{stack_set_name}/templates

Table 2-337 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Table 2-338 Query Parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack set is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-339 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 307

Table 2-340 Response header parameters

Parameter	Type	Description
Location	String	HTTP redirection header. The client can use this header to redirect to a new address. The content is a template download link, which is a pre-signed OBS URL with 5-min validity.

Status code: 400

Table 2-341 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-342 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-343 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-344 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-345 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-346 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Obtaining a Stack Set Template
GET `https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/templates`
- Obtain a stack set template and check whether the stack ID matches the current stack.
GET `https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/templates?stack_set_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2`

Example Responses

None

Status Codes

Status Code	Description
307	Obtained. Temporary redirection.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.4 Listing Stack Set Operations

Function

ListStackSetOperations

This API lists all stack set operations in a specified stack set.

You can use the filter to find stack set operations of specified status or type (action). You can use `sort_key` and `sort_dir` as keywords to sort the returned results by creation time (`create_time`). The number of `sort_keys` must be the same as that of `sort_dirs`. Otherwise, error code 400 is returned. If `sort_key` and `sort_dir` are not assigned, results are sorted by creation time in descending order by default. If no operation is performed in the specified stack set, an empty list is returned.

URI

GET /v1/stack-sets/{stack_set_name}/operations

Table 2-347 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (<code>domain_id</code>) and region. Only letters, digits, underscores (<code>_</code>), and hyphens (<code>-</code>) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Table 2-348 Query Parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack set is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Parameter	Mandatory	Type	Description
filter	No	String	<p>Filter condition.</p> <ul style="list-style-type: none"> • The AND operator is defined by commas (,). • The OR operator is defined using a vertical bar (). The OR operator has a higher priority than the AND operator. • Parentheses are not supported. • The filter operator only supports the equal sign (=). • The filter parameter name and value can contain only letters, digits, and underscores (_). • Semicolons (;) are not allowed in filter criteria. If semicolons (;) are used, the filter criteria will be invalid. • A filter parameter can be related to only one AND condition. Multiple OR conditions in an AND condition can be related to only one filter criterion. <p>Minimum: 0 Maximum: 512</p>
sort_key	No	Array	<p>Sorting field. Only create_time is supported.</p> <p>Minimum: 1</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • create_time
sort_dir	No	Array	<p>Specify an ascending or descending order.</p> <ul style="list-style-type: none"> • <i>asc</i>: ascending order • <i>desc</i>: descending order <p>Minimum: 1</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • asc • desc

Request Parameters

Table 2-349 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 200

Table 2-350 Response body parameters

Parameter	Type	Description
stack_set_operations	Array of StackSetOperation objects	Stack set operations.

Table 2-351 StackSetOperation

Parameter	Type	Description
operation_id	String	Stack set operation ID. It is a UUID generated by RFS when a stack set operation is created.

Parameter	Type	Description
stack_set_id	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_set_name	String	<p>Name of a stack set. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>
action	String	<p>Current operation of the user can be:</p> <ul style="list-style-type: none"> • <i>CREATE_STACK_INSTANCES</i>: Create a stack instance. • <i>DELETE_STACK_INSTANCES</i>: Delete a stack instance. • <i>DEPLOY_STACK_SET</i>: Deploy a stack set. • <i>DEPLOY_STACK_INSTANCES</i>: Deploy a stack instance. <p>Enumeration values:</p> <ul style="list-style-type: none"> • CREATE_STACK_INSTANCES • DELETE_STACK_INSTANCES • DEPLOY_STACK_SET • DEPLOY_STACK_INSTANCES • UPDATE_STACK_INSTANCES

Parameter	Type	Description
status	String	<p>The stack set operation status can be:</p> <ul style="list-style-type: none"> • <i>QUEUE_IN_PROGRESS</i>: The operation is in queue. • <i>OPERATION_IN_PROGRESS</i>: The operation is in progress. • <i>OPERATION_COMPLETE</i>: The operation is complete. • <i>OPERATION_FAILED</i>: The operation failed. • <i>STOP_IN_PROGRESS</i>: The operation is being stopped. • <i>STOP_COMPLETE</i> - The operation stopped. <ul style="list-style-type: none"> – <i>STOP_FAILED</i>: Failed to stop the operation. <p>Enumeration values:</p> <ul style="list-style-type: none"> • QUEUE_IN_PROGRESS • OPERATION_IN_PROGRESS • OPERATION_COMPLETE • OPERATION_FAILED • STOP_IN_PROGRESS • STOP_COMPLETE • STOP_FAILED
status_message	String	<p>If a stack set operation fails, the causes are displayed. For example, the number of stack instances to be deployed or deleted has exceeded the upper limit or the stack set operation times out.</p> <p>To view failure details, use the <code>ListStackInstances</code> API to obtain <code>status_message</code> of the stack instance.</p>
create_time	String	<p>Time when a stack set operation is created. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.</p>
update_time	String	<p>Time when a stack set operation is updated. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.</p>

Status code: 400

Table 2-352 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-353 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-354 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-355 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-356 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-357 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Obtain all stack set operations of a specified stack set. The operations are sorted by creation time in descending order.
GET https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/operations
- Use filter to obtain all stack set operations in CREATE_STACK_INSTANCES and DEPLOY_STACK_SET of a specified stack set. The operations are sorted by creation time in descending order.
GET https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/operations?filter=action==CREATE_STACK_INSTANCES|action==DEPLOY_STACK_SET
- Use sort_key and sort_dir to obtain all stack set operations of a specified stack set. The operations are sorted by creation time in ascending order.
GET https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/operations?sort_key=create_time&sort_dir=asc

Example Responses

Status code: 200

Stack set operations listed.

```
{
  "stack_set_operations" : [ {
    "stack_set_id" : "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
    "stack_set_name" : "my_hello_world_stack_set",
    "operation_id" : "3fef5d3e-27b6-44e8-9769-1d7262bd9430",
    "status" : "OPERATION_COMPLETE",
    "action" : "CREATE_STACK_INSTANCES",
    "create_time" : "2023-05-15T17:39:25.210Z",
    "update_time" : "2023-05-15T18:39:25.210Z"
  }, {
    "stack_set_id" : "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
    "stack_set_name" : "my_hello_world_stack_set",
    "operation_id" : "8592967b-18b0-421b-b6c1-079c9ded3931",
    "status" : "OPERATION_FAILED",
    "action" : "DEPLOY_STACK_SET",
    "create_time" : "2023-05-15T15:39:25.210Z",
    "update_time" : "2023-05-15T16:39:25.210Z"
  } ]
}
```

Status Codes

Status Code	Description
200	Stack set operations listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.5 Obtaining Metadata of a Stack Set

Function

ShowStackSetMetadata

- You can use this API to obtain the stack set metadata.

URI

GET /v1/stack-sets/{stack_set_name}/metadata

Table 2-358 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Table 2-359 Query Parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack set is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-360 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 200

Table 2-361 Response body parameters

Parameter	Type	Description
stack_set_id	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_set_name	String	<p>Name of a stack set. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>
stack_set_description	String	<p>Description of a stack set. It can be used by customers to identify their own stack sets.</p> <p>Minimum: 0</p> <p>Maximum: 1024</p>

Parameter	Type	Description
initial_stack_description	String	<p>Description of stacks that is being initialized. It can be used to identify stacks managed by a stack set.</p> <p>This description is used for stacks in the stack set only when they are created. To update the description of stacks that is being initialized, call the UpdateStackSet API.</p> <p>If the stack set description is updated later, the managed stack description will not be updated synchronously.</p> <p>Minimum: 0 Maximum: 1024</p>
permission_model	String	<p>Permission model. It defines the creation mode of the agency required for RFS to operate stack sets. The permission model can be: * <i>SERVICE_MANAGED</i>: You can use this model to create stack sets only after setting RFS as a trustworthy service in your organization. You do not need to manually create agencies. RFS automatically creates agencies for you based on the organization. Only an organization administrator or a delegated administrator can create stack sets using <i>SERVICE_MANAGED</i> permissions. * <i>SELF_MANAGED</i>: For deployment, you manually create agencies in advance, including the agency created by the management account for RFS and the agency created by the member account for the management account. The stack set creation will not fail even if the agency does not exist or is incorrect. An error is reported only when the stack set or stack instance is deployed.</p> <p>Default: SELF_MANAGED</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● SELF_MANAGED

Parameter	Type	Description
administration_agency_name	String	<p>Administration agency names.</p> <p>RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the <code>iam:tokens:assume</code> permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define <code>SELF_MANAGED</code> permissions, you must specify either <code>administration_agency_name</code> or <code>administration_agency_urn</code>, but not both.</p> <p>You are advised to specify <code>administration_agency_urn</code> when using a trust agency. <code>administration_agency_name</code> only receives agency names. If trust agency names are assigned to <code>administration_agency_name</code>, template fails to be deployed.</p> <p>Do not specify this parameter when <code>SERVICE_MANAGED</code> permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0 Maximum: 64</p>
managed_agency_name	String	<p>Name of the managed agency.</p> <p>RFS uses this agency to obtain the permissions required for deploying resources.</p> <p>The names of the agencies that different member accounts grants to the management account must be the same. Currently, different agency permissions cannot be defined based on different providers.</p> <p>This parameter must be specified when <code>SELF_MANAGED</code> permissions are defined. Do not specify this parameter when <code>SERVICE_MANAGED</code> permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0 Maximum: 64</p>

Parameter	Type	Description
status	String	<p>The stack set status can be:</p> <ul style="list-style-type: none"> • <i>IDLE</i>: The stack set is idle. • <i>OPERATION_IN_PROGRESS</i>: The stack set operation is in progress. • <i>DEACTIVATED</i>: The stack set is disabled. <p>Enumeration values:</p> <ul style="list-style-type: none"> • IDLE • OPERATION_IN_PROGRESS • DEACTIVATED
vars_uri_content	String	File content corresponding to vars_uri.
vars_body	String	<p>Content of the HCL variable file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. • If vars_body is too large, you can use vars_uri. • Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores vars_body as plaintext. <p>Minimum: 0 Maximum: 51200</p>
create_time	String	Time when a stack set is created. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.
update_time	String	Time when a stack set is updated. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.

Parameter	Type	Description
administration_urn	String	<p>Administration agency URNs.</p> <p>RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the sts:tokens:assume permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define SELF_MANAGED permissions, you must specify either administration_agency_name or administration_urn, but not both.</p> <p>You are advised to specify administration_urn when using a trust agency. administration_agency_name only receives agency names. If trust agency names are assigned to administration_agency_name, template fails to be deployed.</p> <p>Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p>
managed_operation	managed_operation object	A set of properties used to manage the stack set operation.

Table 2-362 managed_operation

Parameter	Type	Description
enable_parallel_operation	Boolean	<p>This parameter indicates whether the stack set can create multiple stack set operations concurrently. As an attribute of the stack set, this parameter can be specified by using CreateStackSet API and updated by using UpdateStackSet API.</p> <p>When false (default), the stack set performs one operation at a time in request order. To be specific, at a time, only one stack set operation in <code>QUEUE_IN_PROGRESS</code> or <code>OPERATION_IN_PROGRESS</code> status can be processed.</p> <p>When true, the stack set can create operations concurrently, handle non-conflicting operations, and queue conflicting operations.</p> <p>Note: When the stack set allows multiple operations to be created at the same time, if more than one operation deploys same stack instances, these operations are called conflicting operations.</p> <p>When the stack set is in <code>OPERATION_IN_PROGRESS</code> status, this parameter is not allowed to be modified by UpdateStackSet API.</p> <p><i>Currently, a maximum of 10 stack set operations in <code>QUEUE_IN_PROGRESS</code> or <code>OPERATION_IN_PROGRESS</code> status can exist in one stack set.</i></p>

Status code: 400

Table 2-363 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-364 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-365 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-366 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-367 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-368 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Obtain metadata of a specified stack set.
GET https://{endpoint}/v1/stack_sets/my_hello_world_stack_set/metadata
- Obtain the stack set metadata and check whether the stack set ID matches the current stack set.
GET https://{endpoint}/v1/stack_sets/my_hello_world_stack_set/metadata?stack_set_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2

Example Responses

Status code: 200

Stack set metadata obtained.

```
{
  "stack_set_id" : "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
  "stack_set_name" : "my_hello_world_stack_set",
  "stack_set_description" : "my first stack set",
  "initial_stack_description" : "my stack created by stack set",
  "permission_model" : "SELF_MANAGED",
```



```
"managed_agency_name" : "my_managed_agency_name",  
"administration_agency_name" : "my_administration_agency_name",  
"status" : "OPERATION_IN_PROGRESS",  
"create_time" : "2023-03-16T03:28:20.210Z",  
"update_time" : "2023-05-24T08:56:10.210Z",  
"managed_operation" : {  
  "enable_parallel_operation" : false  
}  
}
```

Status Codes

Status Code	Description
200	Stack set metadata obtained.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.6 Listing Stack Instances

Function

ListStackInstances

This API lists stack instances of a specified region or a specified member account (stack_domain_id), or all stack instances in a specified stack set.

- You can use filter to find stack instances of a specified region or member account (stack_domain_id).
- You can use sort_key and sort_dir as keywords to sort the returned results by creation time (create_time). The number of sort_keys must be the same as that of sort_dirs. Otherwise, error code 400 is returned. If sort_key and sort_dir are not assigned, results are sorted by creation time in descending order by default.
- If no stack instance exists in the specified stack set, an empty list is returned.

URI

GET /v1/stack-sets/{stack_set_name}/stack-instances

Table 2-369 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Table 2-370 Query Parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	Unique ID of a stack set. It is a UUID generated by RFS when a stack set is created. Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one. For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching. RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned. Minimum: 36 Maximum: 36

Parameter	Mandatory	Type	Description
filter	No	String	<p>Filter condition.</p> <ul style="list-style-type: none"> • The AND operator is defined by commas (,). • The OR operator is defined using a vertical bar (). The OR operator has a higher priority than the AND operator. • Parentheses are not supported. • The filter operator only supports the equal sign (=). • The filter parameter name and value can contain only letters, digits, and underscores (_). • Semicolons (;) are not allowed in filter criteria. If semicolons (;) are used, the filter criteria will be invalid. • A filter parameter can be related to only one AND condition. Multiple OR conditions in an AND condition can be related to only one filter criterion. <p>Minimum: 0 Maximum: 512</p>
sort_key	No	Array	<p>Sorting field. Only create_time is supported.</p> <p>Minimum: 1</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • create_time
sort_dir	No	Array	<p>Specify an ascending or descending order.</p> <ul style="list-style-type: none"> • <i>asc</i>: ascending order • <i>desc</i>: descending order <p>Minimum: 1</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • asc • desc

Request Parameters

Table 2-371 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Response Parameters

Status code: 200

Table 2-372 Response body parameters

Parameter	Type	Description
stack_instances	Array of StackInstance objects	Stack instance list.

Table 2-373 StackInstance

Parameter	Type	Description
stack_set_id	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_set_name	String	<p>Name of a stack set. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>

Parameter	Type	Description
status	String	<p>Stack instance status can be:</p> <ul style="list-style-type: none"> • <i>WAIT_IN_PROGRESS</i>: The stack instance is waiting for operation. • <i>CANCEL_COMPLETE</i> - The stack instance operation is canceled. • <i>OPERATION_IN_PROGRESS</i>: The stack instance operation is in progress. • <i>OPERATION_FAILED</i>: The stack instance operation failed. • <i>INOPERABLE</i> - The stack instance cannot be operated. • <i>OPERATION_COMPLETE</i>: The stack instance operation is complete. <p>Enumeration values:</p> <ul style="list-style-type: none"> • WAIT_IN_PROGRESS • CANCEL_COMPLETE • OPERATION_IN_PROGRESS • OPERATION_FAILED • INOPERABLE • OPERATION_COMPLETE
status_message	String	<p>When the stack instance is in an <i>INOPERABLE</i> or <i>OPERATION_FAILED</i> state, brief error information is displayed for debugging.</p>
stack_id	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack is different and does not change with updates. If the stack_id value is different from the current stack ID, 400 is returned.</p>

Parameter	Type	Description
stack_name	String	Stack name. The name is unique within its domain (domain_id), region, and project (project_id). Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128
stack_domain_id	String	Tenant ID of the stack associated with the stack instance.
latest_stack_set_operation_id	String	Stack set operation ID for the latest deployment of the stack instance. It is a UUID generated by RFS when a stack set operation is created.
region	String	Region of the stack associated with the stack instance.
create_time	String	Time when a stack instance is created. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.
update_time	String	Time when a stack instance is updated. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.

Status code: 400

Table 2-374 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authorized_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-375 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-376 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-377 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-378 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-379 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Use filter to obtain the stack instances of a specified stack set in member accounts domainA and domainB.
GET https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances?filter=stack_domain_id==stackDomainIdA|stack_domain_id==stackDomainIdB
- Use sort_key and sort_dir to specify the list of stack instances to be returned. The returned instances are sorted in ascending order by creation time.
GET https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances?sort_key=create_time&sort_dir=asc

Example Responses

Status code: 200

Stack instances listed.

```
{
  "stack_instances" : [ {
    "stack_set_id" : "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
    "stack_set_name" : "my_hello_world_stack_set",
    "latest_stack_set_operation_id" : "3fef5d3e-27b6-44e8-9769-1d7262bd9430",
    "status" : "OPERATION_COMPLETE",
```

```
"stack_id" : "ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2",
"stack_name" : "my_hello_world_stack",
"stack_domain_id" : "6cbcca2a2f114a63841bdbc7a19b7b09",
"region" : "region_id",
"create_time" : "2023-05-17T15:39:25.210Z",
"update_time" : "2023-05-18T16:39:25.210Z"
}, {
"stack_set_id" : "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
"stack_set_name" : "my_hello_world_stack_set",
"latest_stack_set_operation_id" : "fb5e781e-a27d-46e2-9954-242753857a9f",
"status" : "OPERATION_FAILED",
"status_message" : "Deploy stack failed",
"stack_id" : "4abf1770-2760-4339-9c18-427fa115db6a",
"stack_name" : "my_hello_world_stack",
"stack_domain_id" : "6cbcca2a2f114a63841bdbc7a19b7b12",
"region" : "region_id",
"create_time" : "2023-05-15T15:39:25.210Z",
"update_time" : "2023-05-16T16:39:25.210Z"
}]
}
```

Status Codes

Status Code	Description
200	Stack instances listed.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.7 Creating Stack Instances

Function

CreateStackInstance

This API creates multiple stack instances in a specified stack set and returns the stack set operation ID (`stack_set_operation_id`).

This API uses `var_overrides` to specify the variable values for creating a stack instance to override variables. If `var_overrides` are not assigned, the variables recorded in the current stack are used for deployment by default. For details, see the description of the `var_overrides`.

After the stack set variables are updated through the `DeployStackSet` API, the overridden variables in the stack instance are not updated and the overridden values are retained.

You can override only the variables recorded in the stack set. If you want to add variables that can be overridden, use the DeployStackSet API to update the variable set recorded in the stack set.

- You can obtain the stack set operation status by calling the ShowStackSetOperationMetadata API based on the stack set operation ID (stack_set_operation_id).

URI

POST /v1/stack-sets/{stack_set_name}/stack-instances

Table 2-380 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Request Parameters

Table 2-381 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-382 Request body parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set. It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>
deployment_targets	Yes	deployment_targets object	Deployment target information.

Parameter	Mandatory	Type	Description
var_overrides	No	var_overrides object	<p>Variables that the user expects to update in the stack instance. Related variables will be overridden in all stack instances specified in this request, and the stack instances will be deployed based on the updated variables. The overwritten variables are permanently recorded in the stack instances and continue to be used in subsequent deployment until they are overridden in the next update.</p> <p>Only the variable set (vars) recorded in the stack set can be overridden. If a variable that does not exist in vars is specified, error code 400 is returned. If you want to add variables that can be overridden, use the <code>DeployStackSet</code> API to update the variable set (vars) recorded in the stack set. After the stack set variable set (vars) is updated through the <code>DeployStackSet</code> API, the overridden variables in the stack instance are not updated and the overridden values are retained.</p> <p>Variable overriding applies only to the variables specified by vars in the stack set, excluding the variables that use default values as defined in the template. If you want to override the variables that use the default values, use the <code>DeployStackSet</code> API to update the vars recorded in the stack set and explicitly define related variables in the vars.</p> <p>Each time a user use the <code>DeployStackSet</code> API to update the vars of the stack set, error code 400 is returned for loss of the overridden variables</p>

Parameter	Mandatory	Type	Description
			<p>recorded in the stack instance deployed to any targets. (The current overridden variables are not a subset of the vars of the updated stack set.)</p> <p>In a new update, existing variables cannot be retained. Instead, all existing variables should be overridden.</p> <p>The total length of the overridden vars_body of the stack instance does not exceed 51,200. After variable overriding, the size of the vars_uri file of the stack instance does not exceed 1 MB.</p> <p>For example, the vars_body recorded in the stack set is "key1=value1, key2=value2...", and the new vars_body in the stack instance is "key1=another_value1". The length of the overridden vars_body "key1=another_value1, key2=value2..." cannot exceed 51,200.</p> <p>For example, the file content specified by the vars_uri recorded in the stack set is "key1=value1, key2=value2...", and that of the new vars_uri in the stack instance is "key1=another_value1". The size of the file specified by the overridden vars_body "key1=another_value1, key2=value2..." cannot exceed 1 MB.</p> <p>If var_overrides is not assigned, the variables recorded in the overridden stack instance are not updated. If you have assigned at least one of vars_uri, vars_body, and use_stack_set_vars, the variables will be updated</p>

Parameter	Mandatory	Type	Description
			<p>through replacement. The new variables assigned by you override related variables in the specified stack instance.</p> <p>All variable sets declared in <code>vars_body</code>, <code>vars_uri</code>, and <code>use_stack_set_vars</code> must be consistent with those recorded in the stack set. Error code 400 is returned for the following scenarios: variables that do not exist in the stack set are declared, variables that have been recorded in the stack set are not declared, and duplicate variables are declared.</p> <p>Note:</p> <ul style="list-style-type: none"> • To override a specified variable value, specify the name and value of the variable to be overridden in <code>vars_uri</code> or <code>vars_body</code>. • To roll back an overridden variable to the value recorded in the stack set, specify the name of the variable to be rolled back to in <code>use_stack_set_vars</code>. <ul style="list-style-type: none"> - To roll back all overridden variables to the values recorded in the stack set, specify the names of all variables recorded in the stack set in <code>use_stack_set_vars</code>. - To use the variable values recorded in the current stack instance for deployment, <code>var_overrides</code> are not required.

Parameter	Mandatory	Type	Description
operation_preferences	No	operation_preferences object	<p>The user-specified preferences for how to perform a stack set operation. This parameter takes effect only in a specified single operation.</p> <p>If this parameter is not specified, the default operation preferences is that only one stack is deployed at a time and after all stack instances in a region are deployed completely, the next region will be selected randomly for deployment. The default value of failure tolerance count in a region is 0.</p> <p>This parameter can be specified in the following APIs: CreateStackInstance, DeployStackSet, UpdateStackInstance, DeleteStackInstance.</p>

Table 2-383 deployment_targets

Parameter	Mandatory	Type	Description
regions	Yes	Array of strings	<p>Regions involved in the stack set operations are specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a region that is not managed by the stack set is specified, an error is reported. *

Parameter	Mandatory	Type	Description
domain_ids	No	Array of strings	<p>When SELF_MANAGED permissions are used, the information about the tenant IDs involved in this operation is specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 1</p> <p>Maximum: 64</p>

Parameter	Mandatory	Type	Description
domain_ids_uri	No	String	<p>When SELF_MANAGED permissions are used, the OBS address of the tenant IDs involved in this operation is specified by the user.</p> <p>Tenant IDs are separated by commas (,) and line breaks are supported. Currently, only CSV files are supported, and the files should be encoded in UTF-8. The file size cannot exceed 100 KB.</p> <p>Do not use Excel for operations on the CSV file to be uploaded. Otherwise, inconsistencies may occur in results read from the CSV file. You are advised to use Notepad to open the file and check whether the content complies with your expectation.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the domain_ids_uri file and regions input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 0 Maximum: 2048</p>

Table 2-384 var_overrides

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL parameter file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> vars_uri directs to a pre-signed URL of OBS. Currently, other addresses are not supported. RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. <p>The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri.</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores the variable file content corresponding to vars_uri as plaintext. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. • If vars_body is too large, you can use vars_uri. • Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores vars_body as plaintext. <p>Minimum: 0 Maximum: 51200</p>
use_stack_set_vars	No	Array of strings	<p>Names of the variables whose values are recorded in the stack set and expected to be used for deployment.</p> <p>You can select only the variables that have been recorded in the stack set. Otherwise, error code 400 is returned.</p> <p>If the use_stack_set_vars contains name of a variable that has been overridden in the stack instance, the value of the variable is rolled back to that recorded in the stack set.</p>

Table 2-385 operation_preferences

Parameter	Mandatory	Type	Description
region_concurrency_type	No	String	<p>The concurrency type of deploying stack instances in regions. The value can be <code>SEQUENTIAL</code> (default) or <code>PARALLEL</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>SEQUENTIAL</i>: Stack instances are deployed in sequence among regions, that is, after all stack instances in a region are deployed completely, the next region will be selected for deployment. • <i>PARALLEL</i>: Stack instances are deployed in all specified regions concurrently. <p>Default: SEQUENTIAL</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SEQUENTIAL • PARALLEL
region_order	No	Array of strings	<p>Region deployment order. This parameter can be specified only when <code>region_concurrency_type</code> is set to <code>SEQUENTIAL</code>. The <code>region_order</code> must only contain all regions in this deployment target.</p> <p>If this parameter is not specified, the region deployment order is random. The <code>region_order</code> takes effect only during a specified single operation.</p>

Parameter	Mandatory	Type	Description
failure_tolerance_count	No	Long	<p>The maximum number of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>If the value of <code>region_concurrency_type</code> is <code>SEQUENTIAL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, all other instances that are still in <code>WAIT_IN_PROGRESS</code> status will be canceled. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>;</p> <p>If the value of <code>region_concurrency_type</code> is <code>PARALLEL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, the stack set only cancels all instances that are still in <code>WAIT_IN_PROGRESS</code> status in this region. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>.</p> <p>Stack instances that are in <code>OPERATION_IN_PROGRESS</code> status or have been deployed (that is, in <code>OPERATION_COMPLETE</code> or <code>OPERATION_FAILED</code> status) are not affected.</p> <p>Only one of <code>failure_tolerance_count</code> and <code>failure_tolerance_percentage</code> can exist.</p> <p>Minimum: 0 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_percentage	No	Long	<p>The maximum percentage of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>By multiplying the failure_tolerance_percentage by the number of stack instances in the region and rounding it down, the actual number of failure tolerance count can be obtained.</p> <p>Only one of failure_tolerance_count and failure_tolerance_percentage can exist.</p> <p>Minimum: 0 Maximum: 100</p>
max_concurrent_count	No	Long	<p>The maximum number of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>max_concurrent_count is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, max_concurrent_count is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 5</p>

Parameter	Mandatory	Type	Description
max_concurrent_percentage	No	Long	<p>The maximum percentage of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>The RFS calculates the actual maximum number of concurrent accounts by rounding down the value obtained by multiplying the percentage by the number of stack instances in each region.</p> <p>This actual maximum number of concurrent accounts is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, this actual maximum number of concurrent accounts is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_mode	No	String	<p>The failure tolerance mode of deploying stack instances in regions. The value can be <code>STRICT_FAILURE_TOLERANCE</code> or <code>SOFT_FAILURE_TOLERANCE</code>. The default value is <code>STRICT_FAILURE_TOLERANCE</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>STRICT_FAILURE_TOLERANCE</i>: This option dynamically lowers the concurrency level to ensure the number of failed stack instances never exceeds the value of <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option ensures the number of failed stack instances never exceeds the result of <code>failure_tolerance_percentage</code> multiplied by the number of stack instances in a region. • The initial actual maximum number of concurrent accounts is <code>max_concurrent_count</code>. If <code>max_concurrent_percentage</code> is specified, the initial actual maximum number of concurrent accounts is the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. The actual maximum number of concurrent accounts is then reduced proportionally by the number of failed stack instances. • <i>SOFT_FAILURE_TOLERANCE</i>: This option separates <code>failure_tolerance_count</code> (<code>failure_tolerance_percentage</code>) from the actual

Parameter	Mandatory	Type	Description
			<p>maximum number of concurrent accounts. This option allows actual maximum number of concurrent accounts to keep at the concurrency level set by the <code>max_concurrent_count</code>, or <code>max_concurrent_percentage</code>.</p> <ul style="list-style-type: none"> This option does not ensure the number of failed stack instances is less than <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option does not ensure the number of failed stack instances is less than the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. <p>Default: STRICT_FAILURE_TOLERANCE</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> STRICT_FAILURE_TOLERANCE SOFT_FAILURE_TOLERANCE

Response Parameters

Status code: 202

Table 2-386 Response body parameters

Parameter	Type	Description
<code>stack_set_operation_id</code>	String	<p>Unique ID of a stack set operation. It is a UUID generated by RFS when a stack set operation is created.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Status code: 400

Table 2-387 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-388 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-389 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-390 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-391 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-392 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Assign member account information through the array of domain IDs. Stack instances are created in sequential mode among regions.

POST `https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances`

```
{
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids": [ "6cbcca2a2f114a63841bdb7a19b7b12", "1e03325ba3cc47b1fdb03f3771bbb4f3" ]
  },
  "operation_preferences": {
    "region_concurrency_type": "SEQUENTIAL"
  }
}
```

- Assign member account information through the URL signed by domain IDs. Stack instances are created in parallel mode among regions.

POST `https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances`

```
{
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids_uri": "https://my-obs.obs.region_id.ulanqab.huawei.com/domain_ids.csv",
    "operation_preferences": {
      "region_concurrency_type": "PARALLEL"
    }
  }
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "stack_set_operation_id": "fb5e781e-a27d-46e2-9954-242753857a9f"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. The stack set status is invalid. Parallel operations are not allowed.
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.8 Deleting Stack Instance Deprecated

Function

DeleteStackInstanceDeprecated

This API deletes the stack instance of a specified region or member account (domain_id) in a specified stack set and returns the stack set operation ID (stack_set_operation_id).

** Exercise caution when performing this operation. Deleting a stack instance will delete related stacks and all resources managed by the stacks.

- You can obtain the stack set operation status by calling the ShowStackSetOperationMetadata API based on the stack set operation ID (stack_set_operation_id).

URI

DELETE /v1/stack-sets/{stack_set_name}/stack-instances

Table 2-393 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Request Parameters

Table 2-394 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-395 Request body parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set. It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>
deployment_targets	Yes	deployment_targets object	Deployment target information.

Parameter	Mandatory	Type	Description
operation_preferences	No	operation_preferences object	<p>The user-specified preferences for how to perform a stack set operation. This parameter takes effect only in a specified single operation.</p> <p>If this parameter is not specified, the default operation preferences is that only one stack is deployed at a time and after all stack instances in a region are deployed completely, the next region will be selected randomly for deployment. The default value of failure tolerance count in a region is 0.</p> <p>This parameter can be specified in the following APIs: CreateStackInstance, DeployStackSet, UpdateStackInstance, DeleteStackInstance.</p>

Table 2-396 deployment_targets

Parameter	Mandatory	Type	Description
regions	Yes	Array of strings	<p>Regions involved in the stack set operations are specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a region that is not managed by the stack set is specified, an error is reported. *

Parameter	Mandatory	Type	Description
domain_ids	No	Array of strings	<p>When SELF_MANAGED permissions are used, the information about the tenant IDs involved in this operation is specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 1</p> <p>Maximum: 64</p>

Parameter	Mandatory	Type	Description
domain_ids_uri	No	String	<p>When SELF_MANAGED permissions are used, the OBS address of the tenant IDs involved in this operation is specified by the user.</p> <p>Tenant IDs are separated by commas (,) and line breaks are supported. Currently, only CSV files are supported, and the files should be encoded in UTF-8. The file size cannot exceed 100 KB.</p> <p>Do not use Excel for operations on the CSV file to be uploaded. Otherwise, inconsistencies may occur in results read from the CSV file. You are advised to use Notepad to open the file and check whether the content complies with your expectation.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the domain_ids_uri file and regions input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 0 Maximum: 2048</p>

Table 2-397 operation_preferences

Parameter	Mandatory	Type	Description
region_concurrency_type	No	String	<p>The concurrency type of deploying stack instances in regions. The value can be <code>SEQUENTIAL</code> (default) or <code>PARALLEL</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>SEQUENTIAL</i>: Stack instances are deployed in sequence among regions, that is, after all stack instances in a region are deployed completely, the next region will be selected for deployment. • <i>PARALLEL</i>: Stack instances are deployed in all specified regions concurrently. <p>Default: SEQUENTIAL</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SEQUENTIAL • PARALLEL
region_order	No	Array of strings	<p>Region deployment order. This parameter can be specified only when <code>region_concurrency_type</code> is set to <code>SEQUENTIAL</code>. The <code>region_order</code> must only contain all regions in this deployment target.</p> <p>If this parameter is not specified, the region deployment order is random. The <code>region_order</code> takes effect only during a specified single operation.</p>

Parameter	Mandatory	Type	Description
failure_tolerance_count	No	Long	<p>The maximum number of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>If the value of <code>region_concurrency_type</code> is <code>SEQUENTIAL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, all other instances that are still in <code>WAIT_IN_PROGRESS</code> status will be canceled. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>;</p> <p>If the value of <code>region_concurrency_type</code> is <code>PARALLEL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, the stack set only cancels all instances that are still in <code>WAIT_IN_PROGRESS</code> status in this region. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>.</p> <p>Stack instances that are in <code>OPERATION_IN_PROGRESS</code> status or have been deployed (that is, in <code>OPERATION_COMPLETE</code> or <code>OPERATION_FAILED</code> status) are not affected.</p> <p>Only one of <code>failure_tolerance_count</code> and <code>failure_tolerance_percentage</code> can exist.</p> <p>Minimum: 0 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_percentage	No	Long	<p>The maximum percentage of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>By multiplying the failure_tolerance_percentage by the number of stack instances in the region and rounding it down, the actual number of failure tolerance count can be obtained.</p> <p>Only one of failure_tolerance_count and failure_tolerance_percentage can exist.</p> <p>Minimum: 0 Maximum: 100</p>
max_concurrent_count	No	Long	<p>The maximum number of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>max_concurrent_count is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, max_concurrent_count is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 5</p>

Parameter	Mandatory	Type	Description
max_concurrent_percentage	No	Long	<p>The maximum percentage of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>The RFS calculates the actual maximum number of concurrent accounts by rounding down the value obtained by multiplying the percentage by the number of stack instances in each region.</p> <p>This actual maximum number of concurrent accounts is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, this actual maximum number of concurrent accounts is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_mode	No	String	<p>The failure tolerance mode of deploying stack instances in regions. The value can be <code>STRICT_FAILURE_TOLERANCE</code> or <code>SOFT_FAILURE_TOLERANCE</code>. The default value is <code>STRICT_FAILURE_TOLERANCE</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>STRICT_FAILURE_TOLERANCE</i>: This option dynamically lowers the concurrency level to ensure the number of failed stack instances never exceeds the value of <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option ensures the number of failed stack instances never exceeds the result of <code>failure_tolerance_percentage</code> multiplied by the number of stack instances in a region. • The initial actual maximum number of concurrent accounts is <code>max_concurrent_count</code>. If <code>max_concurrent_percentage</code> is specified, the initial actual maximum number of concurrent accounts is the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. The actual maximum number of concurrent accounts is then reduced proportionally by the number of failed stack instances. • <i>SOFT_FAILURE_TOLERANCE</i>: This option separates <code>failure_tolerance_count</code> (<code>failure_tolerance_percentage</code>) from the actual

Parameter	Mandatory	Type	Description
			<p>maximum number of concurrent accounts. This option allows actual maximum number of concurrent accounts to keep at the concurrency level set by the <code>max_concurrent_count</code>, or <code>max_concurrent_percentage</code>.</p> <ul style="list-style-type: none"> This option does not ensure the number of failed stack instances is less than <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option does not ensure the number of failed stack instances is less than the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. <p>Default: STRICT_FAILURE_TOLERANCE</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> STRICT_FAILURE_TOLERANCE SOFT_FAILURE_TOLERANCE

Response Parameters

Status code: 202

Table 2-398 Response body parameters

Parameter	Type	Description
<code>stack_set_operation_id</code>	String	<p>Unique ID of a stack set operation. It is a UUID generated by RFS when a stack set operation is created.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Status code: 400

Table 2-399 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-400 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-401 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-402 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-403 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-404 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Assign member account information through the URL signed by domain IDs. Stack instances are deleted in sequential mode among regions.

```
DELETE https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances

{
  "stack_set_id": "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4",
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids_uri": "https://your-bucket.region_id.myhuaweicloud.com/my-domain-ids.csv",
    "operation_preferences": {
      "region_concurrency_type": "SEQUENTIAL"
    }
  }
}
```

- Assign member account information through the array of domain IDs. Stack instances are deleted in parallel mode among regions.

```
DELETE https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances

{
  "stack_set_id": "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4",
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids": [ "0e0bc7572c0dfb74efa6c60ecd7b1dbf" ],
    "operation_preferences": {
      "region_concurrency_type": "PARALLEL"
    }
  }
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "stack_set_operation_id": "fb5e781e-a27d-46e2-9954-242753857a9f"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. The stack set status is invalid. Parallel operations are not allowed.
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.9 Updating Stack Instances

Function

UpdateStackInstances

This API updates and deploys a specified stack instance set, and returns the stack set operation ID (`stack_set_operation_id`).

This API uses `var_overrides` to update the variable values of a specified stack instance to override variables. If `var_overrides` are not assigned, the variables recorded in the current stack are used for deployment by default. For details, see the description of the `var_overrides`. You can update only existing stack instances. To add more stack instances, use the `CreateStackInstances` API.

After the stack set variables are updated through the `DeployStackSet` API, the overridden variables in the stack instance are not updated and the overridden values are retained.

You can override only the variables recorded in the stack set. If you want to add variables that can be overridden, use the `DeployStackSet` API to update the variable set recorded in the stack set.

- When the triggered deployment fails, the stack instance does not automatically roll back variable overriding. However, the stack that fails to be deployed is automatically rolled back by default, and stacks that have been deployed do not trigger rollback.
- You can obtain the stack set operation status by calling the `ShowStackSetOperationMetadata` API based on the stack set operation ID (`stack_set_operation_id`).

URI

PATCH `/v1/stack-sets/{stack_set_name}/stack-instances`

Table 2-405 Path Parameters

Parameter	Mandatory	Type	Description
<code>stack_set_name</code>	Yes	String	Stack set name. The name is unique within its domain (<code>domain_id</code>) and region. Only letters, digits, underscores (<code>_</code>), and hyphens (<code>-</code>) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Request Parameters

Table 2-406 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Table 2-407 Request body parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set. It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>
deployment_targets	Yes	deployment_targets object	Deployment target information.

Parameter	Mandatory	Type	Description
var_overrides	No	var_overrides object	<p>Variables that the user expects to update in the stack instance. Related variables will be overridden in all stack instances specified in this request, and the stack instances will be deployed based on the updated variables. The overwritten variables are permanently recorded in the stack instances and continue to be used in subsequent deployment until they are overridden in the next update.</p> <p>Only the variable set (vars) recorded in the stack set can be overridden. If a variable that does not exist in vars is specified, error code 400 is returned. If you want to add variables that can be overridden, use the <code>DeployStackSet</code> API to update the variable set (vars) recorded in the stack set. After the stack set variable set (vars) is updated through the <code>DeployStackSet</code> API, the overridden variables in the stack instance are not updated and the overridden values are retained.</p> <p>Variable overriding applies only to the variables specified by vars in the stack set, excluding the variables that use default values as defined in the template. If you want to override the variables that use the default values, use the <code>DeployStackSet</code> API to update the vars recorded in the stack set and explicitly define related variables in the vars.</p> <p>Each time a user use the <code>DeployStackSet</code> API to update the vars of the stack set, error code 400 is returned for loss of the overridden variables</p>

Parameter	Mandatory	Type	Description
			<p>recorded in the stack instance deployed to any targets. (The current overridden variables are not a subset of the vars of the updated stack set.)</p> <p>In a new update, existing variables cannot be retained. Instead, all existing variables should be overridden.</p> <p>The total length of the overridden vars_body of the stack instance does not exceed 51,200. After variable overriding, the size of the vars_uri file of the stack instance does not exceed 1 MB.</p> <p>For example, the vars_body recorded in the stack set is "key1=value1, key2=value2...", and the new vars_body in the stack instance is "key1=another_value1". The length of the overridden vars_body "key1=another_value1, key2=value2..." cannot exceed 51,200.</p> <p>For example, the file content specified by the vars_uri recorded in the stack set is "key1=value1, key2=value2...", and that of the new vars_uri in the stack instance is "key1=another_value1". The size of the file specified by the overridden vars_body "key1=another_value1, key2=value2..." cannot exceed 1 MB.</p> <p>If var_overrides is not assigned, the variables recorded in the overridden stack instance are not updated. If you have assigned at least one of vars_uri, vars_body, and use_stack_set_vars, the variables will be updated</p>

Parameter	Mandatory	Type	Description
			<p>through replacement. The new variables assigned by you override related variables in the specified stack instance.</p> <p>All variable sets declared in <code>vars_body</code>, <code>vars_uri</code>, and <code>use_stack_set_vars</code> must be consistent with those recorded in the stack set. Error code 400 is returned for the following scenarios: variables that do not exist in the stack set are declared, variables that have been recorded in the stack set are not declared, and duplicate variables are declared.</p> <p>Note:</p> <ul style="list-style-type: none"> • To override a specified variable value, specify the name and value of the variable to be overridden in <code>vars_uri</code> or <code>vars_body</code>. • To roll back an overridden variable to the value recorded in the stack set, specify the name of the variable to be rolled back to in <code>use_stack_set_vars</code>. <ul style="list-style-type: none"> - To roll back all overridden variables to the values recorded in the stack set, specify the names of all variables recorded in the stack set in <code>use_stack_set_vars</code>. - To use the variable values recorded in the current stack instance for deployment, <code>var_overrides</code> are not required.

Parameter	Mandatory	Type	Description
operation_preferences	No	operation_preferences object	<p>The user-specified preferences for how to perform a stack set operation. This parameter takes effect only in a specified single operation.</p> <p>If this parameter is not specified, the default operation preferences is that only one stack is deployed at a time and after all stack instances in a region are deployed completely, the next region will be selected randomly for deployment. The default value of failure tolerance count in a region is 0.</p> <p>This parameter can be specified in the following APIs: CreateStackInstance, DeployStackSet, UpdateStackInstance, DeleteStackInstance.</p>

Table 2-408 deployment_targets

Parameter	Mandatory	Type	Description
regions	Yes	Array of strings	<p>Regions involved in the stack set operations are specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a region that is not managed by the stack set is specified, an error is reported. *

Parameter	Mandatory	Type	Description
domain_ids	No	Array of strings	<p>When SELF_MANAGED permissions are used, the information about the tenant IDs involved in this operation is specified by the user.</p> <ul style="list-style-type: none">• If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 1</p> <p>Maximum: 64</p>

Parameter	Mandatory	Type	Description
domain_ids_uri	No	String	<p>When SELF_MANAGED permissions are used, the OBS address of the tenant IDs involved in this operation is specified by the user.</p> <p>Tenant IDs are separated by commas (,) and line breaks are supported. Currently, only CSV files are supported, and the files should be encoded in UTF-8. The file size cannot exceed 100 KB.</p> <p>Do not use Excel for operations on the CSV file to be uploaded. Otherwise, inconsistencies may occur in results read from the CSV file. You are advised to use Notepad to open the file and check whether the content complies with your expectation.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the domain_ids_uri file and regions input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 0 Maximum: 2048</p>

Table 2-409 var_overrides

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL parameter file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> vars_uri directs to a pre-signed URL of OBS. Currently, other addresses are not supported. RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. <p>The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri.</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores the variable file content corresponding to vars_uri as plaintext. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. • If vars_body is too large, you can use vars_uri. • Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores vars_body as plaintext. <p>Minimum: 0 Maximum: 51200</p>
use_stack_set_vars	No	Array of strings	<p>Names of the variables whose values are recorded in the stack set and expected to be used for deployment.</p> <p>You can select only the variables that have been recorded in the stack set. Otherwise, error code 400 is returned.</p> <p>If the use_stack_set_vars contains name of a variable that has been overridden in the stack instance, the value of the variable is rolled back to that recorded in the stack set.</p>

Table 2-410 operation_preferences

Parameter	Mandatory	Type	Description
region_concurrency_type	No	String	<p>The concurrency type of deploying stack instances in regions. The value can be <code>SEQUENTIAL</code> (default) or <code>PARALLEL</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>SEQUENTIAL</i>: Stack instances are deployed in sequence among regions, that is, after all stack instances in a region are deployed completely, the next region will be selected for deployment. • <i>PARALLEL</i>: Stack instances are deployed in all specified regions concurrently. <p>Default: SEQUENTIAL</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SEQUENTIAL • PARALLEL
region_order	No	Array of strings	<p>Region deployment order. This parameter can be specified only when <code>region_concurrency_type</code> is set to <code>SEQUENTIAL</code>. The <code>region_order</code> must only contain all regions in this deployment target.</p> <p>If this parameter is not specified, the region deployment order is random. The <code>region_order</code> takes effect only during a specified single operation.</p>

Parameter	Mandatory	Type	Description
failure_tolerance_count	No	Long	<p>The maximum number of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>If the value of <code>region_concurrency_type</code> is <code>SEQUENTIAL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, all other instances that are still in <code>WAIT_IN_PROGRESS</code> status will be canceled. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>;</p> <p>If the value of <code>region_concurrency_type</code> is <code>PARALLEL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, the stack set only cancels all instances that are still in <code>WAIT_IN_PROGRESS</code> status in this region. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>.</p> <p>Stack instances that are in <code>OPERATION_IN_PROGRESS</code> status or have been deployed (that is, in <code>OPERATION_COMPLETE</code> or <code>OPERATION_FAILED</code> status) are not affected.</p> <p>Only one of <code>failure_tolerance_count</code> and <code>failure_tolerance_percentage</code> can exist.</p> <p>Minimum: 0 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_percentage	No	Long	<p>The maximum percentage of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>By multiplying the failure_tolerance_percentage by the number of stack instances in the region and rounding it down, the actual number of failure tolerance count can be obtained.</p> <p>Only one of failure_tolerance_count and failure_tolerance_percentage can exist.</p> <p>Minimum: 0 Maximum: 100</p>
max_concurrent_count	No	Long	<p>The maximum number of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>max_concurrent_count is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, max_concurrent_count is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 5</p>

Parameter	Mandatory	Type	Description
max_concurrent_percentage	No	Long	<p>The maximum percentage of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>The RFS calculates the actual maximum number of concurrent accounts by rounding down the value obtained by multiplying the percentage by the number of stack instances in each region.</p> <p>This actual maximum number of concurrent accounts is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, this actual maximum number of concurrent accounts is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_mode	No	String	<p>The failure tolerance mode of deploying stack instances in regions. The value can be STRICT_FAILURE_TOLERANCE or SOFT_FAILURE_TOLERANCE. The default value is STRICT_FAILURE_TOLERANCE. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> <p>STRICT_FAILURE_TOLERANCE: This option dynamically lowers the concurrency level to ensure the number of failed stack instances never exceeds the value of failure_tolerance_count + 1. If failure_tolerance_percentage is specified, this option ensures the number of failed stack instances never exceeds the result of failure_tolerance_percentage multiplied by the number of stack instances in a region.</p> <p>The initial actual maximum number of concurrent accounts is max_concurrent_count. If max_concurrent_percentage is specified, the initial actual maximum number of concurrent accounts is the result of max_concurrent_percentage multiplied by the number of stack instances. The actual maximum number of concurrent accounts is then reduced proportionally by the number of failed stack instances.</p> <p>SOFT_FAILURE_TOLERANCE: This option separates failure_tolerance_count (failure_tolerance_percentage) from the actual</p>

Parameter	Mandatory	Type	Description
			<p>maximum number of concurrent accounts. This option allows actual maximum number of concurrent accounts to keep at the concurrency level set by the <code>max_concurrent_count</code>, or <code>max_concurrent_percentage</code>.</p> <ul style="list-style-type: none"> This option does not ensure the number of failed stack instances is less than <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option does not ensure the number of failed stack instances is less than the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. <p>Default: STRICT_FAILURE_TOLERANCE</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> STRICT_FAILURE_TOLERANCE SOFT_FAILURE_TOLERANCE

Response Parameters

Status code: 202

Table 2-411 Response body parameters

Parameter	Type	Description
<code>stack_set_operation_id</code>	String	<p>Unique ID of a stack set operation. It is a UUID generated by RFS when a stack set operation is created.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Status code: 400

Table 2-412 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-413 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-414 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-415 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-416 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-417 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Assign the new variable through vars uri, retain the overridden variable var_key_1 in the stack instance, and trigger deployment. Stack instances are updated in sequential mode among regions.

```
PATCH https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances
{
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids_uri": "https://your-bucket.region_id.myhuaweicloud.com/my-domain-ids.csv"
  },
  "var_overrides": {
    "vars_uri": "https://{bucket_name}.{region}.myhuaweicloud.com/my-hello-world-vars.tfvars",
    "use_stack_set_vars": [ "var_key_1" ]
  },
  "stack_set_id": "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4",
  "operation_preferences": {
    "region_concurrency_type": "SEQUENTIAL"
  }
}
```

- The stack instance whose tenant ID is my-domain-id is deployed in region_id. The variables are not overridden. Stack instances are updated in parallel mode among regions.

```
PATCH https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances
{
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids": [ "my-domain-id" ]
  },
  "stack_set_id": "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4",
  "operation_preferences": {
    "region_concurrency_type": "PARALLEL"
  }
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "stack_set_operation_id": "fb5e781e-a27d-46e2-9954-242753857a9f"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. The stack set status is invalid. Parallel operations are not allowed.

Status Code	Description
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.10 Deploying a Stack Set

Function

DeployStackSet

This API deploys an existing stack set and returns the stack set operation ID (stack_set_operation_id).

- You can use this API to update the template and variables of a stack set and deploy it.
- This API directly triggers deployment of stack instances. You can deploy all stack instances in a stack set or a specified stack instance.
- This API needs you providing full templates and vars for each deployment.
- When the triggered deployment fails, the stack set does not automatically roll back the template and variables. However, the stack that fails to be deployed determines whether to roll back based on its rollback configuration. Stacks that have been deployed do not trigger rollback.
- You can obtain the stack set operation status by calling the ShowStackSetOperationMetadata API based on the stack set operation ID (stack_set_operation_id).

URI

POST /v1/stack-sets/{stack_set_name}/deployments

Table 2-418 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Request Parameters

Table 2-419 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Table 2-420 Request body parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set. It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>
deployment_targets	Yes	deployment_targets object	Deployment target information.

Parameter	Mandatory	Type	Description
template_body	No	String	<p>HCL template, which describes the target status of a resource. RFS compares the difference between the statuses of this template and the current remote resource.</p> <p>You can specify either <code>template_body</code> or <code>template_uri</code>, not both.</p> <p>Note:</p> <ul style="list-style-type: none">Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores <code>template_body</code> as plaintext. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
template_uri	No	String	<p>OBS address of an HCL template. The template describes the target status of a resource. RFS compares the difference between the statuses of this template and the current remote resource.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <p>The corresponding file must be a tf file or a zip package. A .tf file must be named with a .tf or .tf.json suffix, compatible with HCL, and UTF-8 encoded.</p> <p>Currently, only the .zip package is supported. The file name extension must be .zip. The decompressed files cannot contain .tfvars files. The maximum size of the file is 1 MB before decompression and 1 MB after decompression. A maximum of 100 files can be archived to one .zip package.</p> <p>You can specify either <code>template_body</code> or <code>template_uri</code>, not both.</p> <p>Note:</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores the template file content corresponding to <code>template_uri</code> as plaintext. <ul style="list-style-type: none"> If the template file specified by the <code>template_uri</code> is in .zip format, the names of

Parameter	Mandatory	Type	Description
			<p>the files or folders within the package contain a maximum of 255 bytes, the length of the longest directory cannot exceed 2048 bytes, and the size of the .zip package cannot exceed 1 MB.</p> <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL parameter file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> vars_uri directs to a pre-signed URL of OBS. Currently, other addresses are not supported. RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. <p>The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri.</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores the variable file content corresponding to vars_uri as plaintext. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. • If vars_body is too large, you can use vars_uri. • Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores vars_body as plaintext. <p>Minimum: 0 Maximum: 51200</p>

Parameter	Mandatory	Type	Description
var_overrides	No	var_overrides object	<p>Variables that the user expects to update in the stack instance. Related variables will be overridden in all stack instances specified in this request, and the stack instances will be deployed based on the updated variables. The overwritten variables are permanently recorded in the stack instances and continue to be used in subsequent deployment until they are overridden in the next update.</p> <p>Only the variable set (vars) recorded in the stack set can be overridden. If a variable that does not exist in vars is specified, error code 400 is returned. If you want to add variables that can be overridden, use the <code>DeployStackSet</code> API to update the variable set (vars) recorded in the stack set. After the stack set variable set (vars) is updated through the <code>DeployStackSet</code> API, the overridden variables in the stack instance are not updated and the overridden values are retained.</p> <p>Variable overriding applies only to the variables specified by vars in the stack set, excluding the variables that use default values as defined in the template. If you want to override the variables that use the default values, use the <code>DeployStackSet</code> API to update the vars recorded in the stack set and explicitly define related variables in the vars.</p> <p>Each time a user use the <code>DeployStackSet</code> API to update the vars of the stack set, error code 400 is returned for loss of the overridden variables</p>

Parameter	Mandatory	Type	Description
			<p>recorded in the stack instance deployed to any targets. (The current overridden variables are not a subset of the vars of the updated stack set.)</p> <p>In a new update, existing variables cannot be retained. Instead, all existing variables should be overridden.</p> <p>The total length of the overridden vars_body of the stack instance does not exceed 51,200. After variable overriding, the size of the vars_uri file of the stack instance does not exceed 1 MB.</p> <p>For example, the vars_body recorded in the stack set is "key1=value1, key2=value2...", and the new vars_body in the stack instance is "key1=another_value1". The length of the overridden vars_body "key1=another_value1, key2=value2..." cannot exceed 51,200.</p> <p>For example, the file content specified by the vars_uri recorded in the stack set is "key1=value1, key2=value2...", and that of the new vars_uri in the stack instance is "key1=another_value1". The size of the file specified by the overridden vars_body "key1=another_value1, key2=value2..." cannot exceed 1 MB.</p> <p>If var_overrides is not assigned, the variables recorded in the overridden stack instance are not updated. If you have assigned at least one of vars_uri, vars_body, and use_stack_set_vars, the variables will be updated</p>

Parameter	Mandatory	Type	Description
			<p>through replacement. The new variables assigned by you override related variables in the specified stack instance.</p> <p>All variable sets declared in <code>vars_body</code>, <code>vars_uri</code>, and <code>use_stack_set_vars</code> must be consistent with those recorded in the stack set. Error code 400 is returned for the following scenarios: variables that do not exist in the stack set are declared, variables that have been recorded in the stack set are not declared, and duplicate variables are declared.</p> <p>Note:</p> <ul style="list-style-type: none"> • To override a specified variable value, specify the name and value of the variable to be overridden in <code>vars_uri</code> or <code>vars_body</code>. • To roll back an overridden variable to the value recorded in the stack set, specify the name of the variable to be rolled back to in <code>use_stack_set_vars</code>. <ul style="list-style-type: none"> - To roll back all overridden variables to the values recorded in the stack set, specify the names of all variables recorded in the stack set in <code>use_stack_set_vars</code>. - To use the variable values recorded in the current stack instance for deployment, <code>var_overrides</code> are not required.

Parameter	Mandatory	Type	Description
operation_preferences	No	operation_preferences object	<p>The user-specified preferences for how to perform a stack set operation. This parameter takes effect only in a specified single operation.</p> <p>If this parameter is not specified, the default operation preferences is that only one stack is deployed at a time and after all stack instances in a region are deployed completely, the next region will be selected randomly for deployment. The default value of failure tolerance count in a region is 0.</p> <p>This parameter can be specified in the following APIs: CreateStackInstance, DeployStackSet, UpdateStackInstance, DeleteStackInstance.</p>

Table 2-421 deployment_targets

Parameter	Mandatory	Type	Description
regions	Yes	Array of strings	<p>Regions involved in the stack set operations are specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a region that is not managed by the stack set is specified, an error is reported. *

Parameter	Mandatory	Type	Description
domain_ids	No	Array of strings	<p>When SELF_MANAGED permissions are used, the information about the tenant IDs involved in this operation is specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 1 Maximum: 64</p>

Parameter	Mandatory	Type	Description
domain_ids_uri	No	String	<p>When SELF_MANAGED permissions are used, the OBS address of the tenant IDs involved in this operation is specified by the user.</p> <p>Tenant IDs are separated by commas (,) and line breaks are supported. Currently, only CSV files are supported, and the files should be encoded in UTF-8. The file size cannot exceed 100 KB.</p> <p>Do not use Excel for operations on the CSV file to be uploaded. Otherwise, inconsistencies may occur in results read from the CSV file. You are advised to use Notepad to open the file and check whether the content complies with your expectation.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the domain_ids_uri file and regions input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 0 Maximum: 2048</p>

Table 2-422 var_overrides

Parameter	Mandatory	Type	Description
vars_uri	No	String	<p>OBS address of the HCL parameter file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <p>The OBS address allows mutual access to regions of the same type. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.</p> <ul style="list-style-type: none"> vars_uri directs to a pre-signed URL of OBS. Currently, other addresses are not supported. RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. <p>The content in vars_uri uses the tfvars format of HCL. You can save the content in .tfvars to a file, upload the file to OBS, and transfer the pre-signed URL of OBS to vars_uri.</p> <ul style="list-style-type: none"> Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores the variable file content corresponding to vars_uri as plaintext. <p>Minimum: 0 Maximum: 2048</p>

Parameter	Mandatory	Type	Description
vars_body	No	String	<p>Content of the HCL variable file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. • If vars_body is too large, you can use vars_uri. • Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores vars_body as plaintext. <p>Minimum: 0 Maximum: 51200</p>
use_stack_set_vars	No	Array of strings	<p>Names of the variables whose values are recorded in the stack set and expected to be used for deployment.</p> <p>You can select only the variables that have been recorded in the stack set. Otherwise, error code 400 is returned.</p> <p>If the use_stack_set_vars contains name of a variable that has been overridden in the stack instance, the value of the variable is rolled back to that recorded in the stack set.</p>

Table 2-423 operation_preferences

Parameter	Mandatory	Type	Description
region_concurrency_type	No	String	<p>The concurrency type of deploying stack instances in regions. The value can be <code>SEQUENTIAL</code> (default) or <code>PARALLEL</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>SEQUENTIAL</i>: Stack instances are deployed in sequence among regions, that is, after all stack instances in a region are deployed completely, the next region will be selected for deployment. • <i>PARALLEL</i>: Stack instances are deployed in all specified regions concurrently. <p>Default: SEQUENTIAL</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SEQUENTIAL • PARALLEL
region_order	No	Array of strings	<p>Region deployment order. This parameter can be specified only when <code>region_concurrency_type</code> is set to <code>SEQUENTIAL</code>. The <code>region_order</code> must only contain all regions in this deployment target.</p> <p>If this parameter is not specified, the region deployment order is random. The <code>region_order</code> takes effect only during a specified single operation.</p>

Parameter	Mandatory	Type	Description
failure_tolerance_count	No	Long	<p>The maximum number of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>If the value of <code>region_concurrency_type</code> is <code>SEQUENTIAL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, all other instances that are still in <code>WAIT_IN_PROGRESS</code> status will be canceled. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>;</p> <p>If the value of <code>region_concurrency_type</code> is <code>PARALLEL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, the stack set only cancels all instances that are still in <code>WAIT_IN_PROGRESS</code> status in this region. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>.</p> <p>Stack instances that are in <code>OPERATION_IN_PROGRESS</code> status or have been deployed (that is, in <code>OPERATION_COMPLETE</code> or <code>OPERATION_FAILED</code> status) are not affected.</p> <p>Only one of <code>failure_tolerance_count</code> and <code>failure_tolerance_percentage</code> can exist.</p> <p>Minimum: 0 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_percentage	No	Long	<p>The maximum percentage of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>By multiplying the failure_tolerance_percentage by the number of stack instances in the region and rounding it down, the actual number of failure tolerance count can be obtained.</p> <p>Only one of failure_tolerance_count and failure_tolerance_percentage can exist.</p> <p>Minimum: 0 Maximum: 100</p>
max_concurrent_count	No	Long	<p>The maximum number of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>max_concurrent_count is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, max_concurrent_count is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 5</p>

Parameter	Mandatory	Type	Description
max_concurrent_percentage	No	Long	<p>The maximum percentage of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>The RFS calculates the actual maximum number of concurrent accounts by rounding down the value obtained by multiplying the percentage by the number of stack instances in each region.</p> <p>This actual maximum number of concurrent accounts is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, this actual maximum number of concurrent accounts is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1</p> <p>Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_mode	No	String	<p>The failure tolerance mode of deploying stack instances in regions. The value can be <code>STRICT_FAILURE_TOLERANCE</code> or <code>SOFT_FAILURE_TOLERANCE</code>. The default value is <code>STRICT_FAILURE_TOLERANCE</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>STRICT_FAILURE_TOLERANCE</i>: This option dynamically lowers the concurrency level to ensure the number of failed stack instances never exceeds the value of <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option ensures the number of failed stack instances never exceeds the result of <code>failure_tolerance_percentage</code> multiplied by the number of stack instances in a region. • The initial actual maximum number of concurrent accounts is <code>max_concurrent_count</code>. If <code>max_concurrent_percentage</code> is specified, the initial actual maximum number of concurrent accounts is the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. The actual maximum number of concurrent accounts is then reduced proportionally by the number of failed stack instances. • <i>SOFT_FAILURE_TOLERANCE</i>: This option separates <code>failure_tolerance_count</code> (<code>failure_tolerance_percentage</code>) from the actual

Parameter	Mandatory	Type	Description
			<p>maximum number of concurrent accounts. This option allows actual maximum number of concurrent accounts to keep at the concurrency level set by the <code>max_concurrent_count</code>, or <code>max_concurrent_percentage</code>.</p> <ul style="list-style-type: none"> This option does not ensure the number of failed stack instances is less than <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option does not ensure the number of failed stack instances is less than the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. <p>Default: STRICT_FAILURE_TOLERANCE</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> STRICT_FAILURE_TOLERANCE SOFT_FAILURE_TOLERANCE

Response Parameters

Status code: 202

Table 2-424 Response body parameters

Parameter	Type	Description
<code>stack_set_operation_id</code>	String	<p>Unique ID of a stack set operation. It is a UUID generated by RFS when a stack set operation is created.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Status code: 400

Table 2-425 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-426 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-427 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-428 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-429 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-430 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-431 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

The following example shows how to pass template and parameter information using OBS Signed URL. Stack instances are deployed in sequential mode among regions.

```
POST https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/deployments
{
  "template_uri" : "https://{bucket_name}.{region}.myhuaweicloud.com/my-hello-world-template.tf",
  "vars_uri" : "https://{bucket_name}.{region}.myhuaweicloud.com/my-hello-world-vars.tfvars",
  "stack_set_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4",
  "deployment_targets" : {
    "regions" : [ "region_id" ],
    "domain_ids" : [ "0e0bc7572c0dfb74efa6c60ecd7b1dbf" ]
  },
  "operation_preferences" : {
    "region_concurrency_type" : "SEQUENTIAL"
  }
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "stack_set_operation_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b3"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.

Status Code	Description
403	1. The user does not have the permission to call this API. 2. The stack set status is invalid. Parallel operations are not allowed.
404	The stack set does not exist.
409	Request conflict. Another request is being processed on the current stack set.
429	Too frequent requests.
500	Internal server error.

2.6.11 Deleting Stack Instances

Function

DeleteStackInstances

This API deletes the stack instance of a specified region or member account (domain_id) in a specified stack set and returns the stack set operation ID (stack_set_operation_id).

** Exercise caution when performing this operation. Deleting a stack instance will delete related stacks and all resources managed by the stacks.

- You can obtain the stack set operation status by calling the ShowStackSetOperationMetadata API based on the stack set operation ID (stack_set_operation_id).

URI

POST /v1/stack-sets/{stack_set_name}/stack-instances/deletion

Table 2-432 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Request Parameters

Table 2-433 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Table 2-434 Request body parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set. It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>
deployment_targets	Yes	deployment_targets object	Deployment target information.

Parameter	Mandatory	Type	Description
operation_preferences	No	operation_preferences object	<p>The user-specified preferences for how to perform a stack set operation. This parameter takes effect only in a specified single operation.</p> <p>If this parameter is not specified, the default operation preferences is that only one stack is deployed at a time and after all stack instances in a region are deployed completely, the next region will be selected randomly for deployment. The default value of failure tolerance count in a region is 0.</p> <p>This parameter can be specified in the following APIs: CreateStackInstance, DeployStackSet, UpdateStackInstance, DeleteStackInstance.</p>

Table 2-435 deployment_targets

Parameter	Mandatory	Type	Description
regions	Yes	Array of strings	<p>Regions involved in the stack set operations are specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a region that is not managed by the stack set is specified, an error is reported. *

Parameter	Mandatory	Type	Description
domain_ids	No	Array of strings	<p>When SELF_MANAGED permissions are used, the information about the tenant IDs involved in this operation is specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 1 Maximum: 64</p>

Parameter	Mandatory	Type	Description
domain_ids_uri	No	String	<p>When SELF_MANAGED permissions are used, the OBS address of the tenant IDs involved in this operation is specified by the user.</p> <p>Tenant IDs are separated by commas (,) and line breaks are supported. Currently, only CSV files are supported, and the files should be encoded in UTF-8. The file size cannot exceed 100 KB.</p> <p>Do not use Excel for operations on the CSV file to be uploaded. Otherwise, inconsistencies may occur in results read from the CSV file. You are advised to use Notepad to open the file and check whether the content complies with your expectation.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the domain_ids_uri file and regions input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 0 Maximum: 2048</p>

Table 2-436 operation_preferences

Parameter	Mandatory	Type	Description
region_concurrency_type	No	String	<p>The concurrency type of deploying stack instances in regions. The value can be <code>SEQUENTIAL</code> (default) or <code>PARALLEL</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>SEQUENTIAL</i>: Stack instances are deployed in sequence among regions, that is, after all stack instances in a region are deployed completely, the next region will be selected for deployment. • <i>PARALLEL</i>: Stack instances are deployed in all specified regions concurrently. <p>Default: SEQUENTIAL</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SEQUENTIAL • PARALLEL
region_order	No	Array of strings	<p>Region deployment order. This parameter can be specified only when <code>region_concurrency_type</code> is set to <code>SEQUENTIAL</code>. The <code>region_order</code> must only contain all regions in this deployment target.</p> <p>If this parameter is not specified, the region deployment order is random. The <code>region_order</code> takes effect only during a specified single operation.</p>

Parameter	Mandatory	Type	Description
failure_tolerance_count	No	Long	<p>The maximum number of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>If the value of <code>region_concurrency_type</code> is <code>SEQUENTIAL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, all other instances that are still in <code>WAIT_IN_PROGRESS</code> status will be canceled. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>;</p> <p>If the value of <code>region_concurrency_type</code> is <code>PARALLEL</code>, when the number of stack instances that deploy failed in a region exceeds the <code>failure_tolerance_count</code>, the stack set only cancels all instances that are still in <code>WAIT_IN_PROGRESS</code> status in this region. The status of the canceled instance changes to <code>CANCEL_COMPLETE</code>.</p> <p>Stack instances that are in <code>OPERATION_IN_PROGRESS</code> status or have been deployed (that is, in <code>OPERATION_COMPLETE</code> or <code>OPERATION_FAILED</code> status) are not affected.</p> <p>Only one of <code>failure_tolerance_count</code> and <code>failure_tolerance_percentage</code> can exist.</p> <p>Minimum: 0 Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_percentage	No	Long	<p>The maximum percentage of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>By multiplying the failure_tolerance_percentage by the number of stack instances in the region and rounding it down, the actual number of failure tolerance count can be obtained.</p> <p>Only one of failure_tolerance_count and failure_tolerance_percentage can exist.</p> <p>Minimum: 0 Maximum: 100</p>
max_concurrent_count	No	Long	<p>The maximum number of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>max_concurrent_count is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, max_concurrent_count is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1 Maximum: 5</p>

Parameter	Mandatory	Type	Description
max_concurrent_percentage	No	Long	<p>The maximum percentage of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>The RFS calculates the actual maximum number of concurrent accounts by rounding down the value obtained by multiplying the percentage by the number of stack instances in each region.</p> <p>This actual maximum number of concurrent accounts is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, this actual maximum number of concurrent accounts is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1</p> <p>Maximum: 100</p>

Parameter	Mandatory	Type	Description
failure_tolerance_mode	No	String	<p>The failure tolerance mode of deploying stack instances in regions. The value can be STRICT_FAILURE_TOLERANCE or SOFT_FAILURE_TOLERANCE. The default value is STRICT_FAILURE_TOLERANCE. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> <p>STRICT_FAILURE_TOLERANCE: This option dynamically lowers the concurrency level to ensure the number of failed stack instances never exceeds the value of failure_tolerance_count + 1. If failure_tolerance_percentage is specified, this option ensures the number of failed stack instances never exceeds the result of failure_tolerance_percentage multiplied by the number of stack instances in a region.</p> <p>The initial actual maximum number of concurrent accounts is max_concurrent_count. If max_concurrent_percentage is specified, the initial actual maximum number of concurrent accounts is the result of max_concurrent_percentage multiplied by the number of stack instances. The actual maximum number of concurrent accounts is then reduced proportionally by the number of failed stack instances.</p> <p>SOFT_FAILURE_TOLERANCE: This option separates failure_tolerance_count (failure_tolerance_percentage) from the actual</p>

Parameter	Mandatory	Type	Description
			<p>maximum number of concurrent accounts. This option allows actual maximum number of concurrent accounts to keep at the concurrency level set by the <code>max_concurrent_count</code>, or <code>max_concurrent_percentage</code>.</p> <ul style="list-style-type: none"> This option does not ensure the number of failed stack instances is less than <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option does not ensure the number of failed stack instances is less than the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. <p>Default: STRICT_FAILURE_TOLERANCE</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> STRICT_FAILURE_TOLERANCE SOFT_FAILURE_TOLERANCE

Response Parameters

Status code: 202

Table 2-437 Response body parameters

Parameter	Type	Description
<code>stack_set_operation_id</code>	String	<p>Unique ID of a stack set operation. It is a UUID generated by RFS when a stack set operation is created.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>

Status code: 400

Table 2-438 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-439 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-440 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-441 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-442 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-443 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Assign member account information through the URL signed by domain IDs. Stack instances are deleted in sequential mode among regions.

POST `https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances/deletion`

```
{
  "stack_set_id": "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4",
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids_uri": "https://your-bucket.region_id.myhuaweicloud.com/my-domain-ids.csv"
  },
  "operation_preferences": {
    "region_concurrency_type": "SEQUENTIAL"
  }
}
```

- Assign member account information through the array of domain IDs. Stack instances are deleted in parallel mode among regions.

POST `https://{endpoint}/v1/stack-sets/my_hello_world_stack_set/stack-instances/deletion`

```
{
  "stack_set_id": "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4",
  "deployment_targets": {
    "regions": [ "region_id" ],
    "domain_ids": [ "0e0bc7572c0dfb74efa6c60ecd7b1dbf" ]
  },
  "operation_preferences": {
    "region_concurrency_type": "PARALLEL"
  }
}
```

Example Responses

Status code: 202

The request is accepted and processed asynchronously.

```
{
  "stack_set_operation_id": "fb5e781e-a27d-46e2-9954-242753857a9f"
}
```

Status Codes

Status Code	Description
202	The request is accepted and processed asynchronously.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. The stack set status is invalid. Parallel operations are not allowed.
404	The stack set does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.12 Deleting a Stack Set

Function

DeleteStackSet

** Exercise caution when performing this operation. Deleting a stack set will delete all related data, such as stack set operations and stack set operation events. **

A specified stack set can be deleted only when all the the following conditions are met. Otherwise, an error is reported.

- No stack instance exists in the stack set.
- The stack set is in an idle (*IDLE*) state.

URI

DELETE /v1/stack-sets/{stack_set_name}

Table 2-444 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Table 2-445 Query Parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack set is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-446 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 400

Table 2-447 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-448 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-449 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-450 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-451 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Delete a specified stack set.
DELETE https://{endpoint}/v1/stack-sets/my_hello_world_stack_set
- Delete a specified stack set and check whether the provided stack set ID matches the current stack set.
DELETE https://{endpoint}/v1/stack-sets/my_hello_world_stack_set?stack_set_id=ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2

Example Responses

None

Status Codes

Status Code	Description
204	Stack set deleted.
400	Invalid request.
401	Authentication failed.
403	1. The user does not have the permission to call this API. 2. The stack set cannot be deleted.
429	Too frequent requests.
500	Internal server error.

2.6.13 Updating a Stack Set

Function

UpdateStackSet

This API updates stack set attributes based on the information provided by the user. One or more of the following attributes can be updated: `stack_set_description`, `initial_stack_description`, `permission_model`, `administration_agency_name`, and `managed_agency_name`.

This API updates only the fields contained in the information provided by the user.

Note:

- Note: All attributes are overwritten once updated. New parameters will overwrite original attributes of a stack.
- `administration_agency_name` and `managed_agency_name` can be updated only when `permission_model` is set to `self_managed`.
- Currently, only `SELF_MANAGED` permissions can be updated.
- If the stack set is in the `OPERATION_IN_PROGRESS` state, the stack set cannot be updated.

URI

PATCH `/v1/stack-sets/{stack_set_name}`

Table 2-452 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128

Request Parameters

Table 2-453 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended. Minimum: 36 Maximum: 128

Table 2-454 Request body parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set. It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>
stack_set_description	No	String	<p>Description of a stack set. It can be used by customers to identify their own stack sets.</p> <p>Minimum: 0 Maximum: 1024</p>

Parameter	Mandatory	Type	Description
initial_stack_description	No	String	<p>Description of stacks that is being initialized. It can be used to identify stacks managed by a stack set.</p> <p>This description is used for stacks in the stack set only when they are created. To update the description of stacks that is being initialized, call the UpdateStackSet API.</p> <p>If the stack set description is updated later, the managed stack description will not be updated synchronously.</p> <p>Minimum: 0 Maximum: 1024</p>

Parameter	Mandatory	Type	Description
permission_model	No	String	<p>Permission model. It defines the creation mode of the agency required for RFS to operate stack sets. The permission model can be: * <i>SERVICE_MANAGED</i>. You can use this model to create stack sets only after setting RFS as a trustworthy service in your organization. You do not need to manually create agencies. RFS automatically creates agencies for you based on the organization. Only an organization administrator or a delegated administrator can create stack sets using <i>SERVICE_MANAGED</i> permissions. * <i>SELF_MANAGED</i>. For deployment, you manually create agencies in advance, including the agency created by the management account for RFS and the agency created by the member account for the management account. The stack set creation will not fail even if the agency does not exist or is incorrect. An error is reported only when the stack set or stack instance is deployed.</p> <p>Default: SELF_MANAGED</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SELF_MANAGED

Parameter	Mandatory	Type	Description
administration_agency_name	No	String	<p>Administration agency names. RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the iam:tokens:assume permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define SELF_MANAGED permissions, you must specify either administration_agency_name or administration_agency_urn, but not both.</p> <p>You are advised to specify administration_agency_urn when using a trust agency. administration_agency_name only receives agency names. If trust agency names are assigned to administration_agency_name, template fails to be deployed.</p> <p>Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0 Maximum: 64</p>

Parameter	Mandatory	Type	Description
managed_agency_name	No	String	<p>Name of the managed agency. RFS uses this agency to obtain the permissions required for deploying resources.</p> <p>The names of the agencies that different member accounts grants to the management account must be the same. Currently, different agency permissions cannot be defined based on different providers.</p> <p>This parameter must be specified when SELF_MANAGED permissions are defined. Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0 Maximum: 64</p>

Parameter	Mandatory	Type	Description
administration_urn	No	String	<p>Administration agency URNs. RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the sts:tokens:assume permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define SELF_MANAGED permissions, you must specify either administration_agency_name or administration_urn, but not both.</p> <p>You are advised to specify administration_urn when using a trust agency. administration_agency_name only receives agency names. If trust agency names are assigned to administration_agency_name, template fails to be deployed.</p> <p>Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p>
managed_operation	No	managed_operation object	A set of properties used to manage the stack set operation.

Table 2-455 managed_operation

Parameter	Mandatory	Type	Description
enable_parallel_operation	No	Boolean	<p>This parameter indicates whether the stack set can create multiple stack set operations concurrently. As an attribute of the stack set, this parameter can be specified by using CreateStackSet API and updated by using UpdateStackSet API.</p> <p>When false (default), the stack set performs one operation at a time in request order. To be specific, at a time, only one stack set operation in <code>QUEUE_IN_PROGRESS</code> or <code>OPERATION_IN_PROGRESS</code> status can be processed.</p> <p>When true, the stack set can create operations concurrently, handle non-conflicting operations, and queue conflicting operations.</p> <p>Note: When the stack set allows multiple operations to be created at the same time, if more than one operation deploys same stack instances, these operations are called conflicting operations.</p> <p>When the stack set is in <code>OPERATION_IN_PROGRESS</code> status, this parameter is not allowed to be modified by UpdateStackSet API.</p> <p><i>Currently, a maximum of 10 stack set operations in <code>QUEUE_IN_PROGRESS</code> or <code>OPERATION_IN_PROGRESS</code> status can exist in one stack set.</i></p>

Response Parameters

Status code: 400

Table 2-456 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-457 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-458 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-459 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 409

Table 2-460 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-461 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-462 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

- Update the description of a stack set.

```
PATCH https://{endpoint}/v1/stack-sets/{stack_set_name}
{
  "stack_set_description" : "my hello world stack set",
  "stack_set_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4"
}
```
- Update the description of the stack that is being initialized in the stack set.

```
PATCH https://{endpoint}/v1/stack-sets/{stack_set_name}
{
  "initial_stack_description" : "my initial stack description",
  "stack_set_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4"
}
```
- Update the stack set permission model.

```
PATCH https://{endpoint}/v1/stack-sets/{stack_set_name}
{
  "permission_model" : "SELF_MANAGED",
  "stack_set_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4"
}
```
- Update the administration agency name of a stack set.

```
PATCH https://{endpoint}/v1/stack-sets/{stack_set_name}
{
  "administration_agency_name" : "my administration agency name",
  "stack_set_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4"
}
```
- Update the managed agency name of the stack set.

```
PATCH https://{endpoint}/v1/stack-sets/{stack_set_name}
{
  "managed_agency_name" : "my managed agency name",
  "stack_set_id" : "1b15e005-bdbb-4bd7-8f9a-a09b6774b4b4"
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Stack set updated.
400	Invalid request.
401	Authentication failed.
403	1. Invalid stack set status. 2. The user does not have the permission to call this API.
404	The stack set does not exist.
409	Request conflict. Another request is being processed on the current stack set.
429	Too frequent requests.
500	Internal server error.

2.6.14 Obtaining Metadata of a Stack Set Operation

Function

ShowStackSetOperationMetadata

This API obtains the metadata of a specified stack set operation, including the stack set operation ID, stack set ID, stack set name, stack set operation status, creation time, update time, and deployment target.

For details, refer to ShowStackSetOperationMetadataResponseBody.

URI

GET /v1/stack-sets/{stack_set_name}/operations/{stack_set_operation_id}/
metadata

Table 2-463 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128
stack_set_operation_id	Yes	String	Unique ID of the stack set operation (stack_set_operation). It is a UUID generated by RFS when a stack set operation is created. Minimum: 36 Maximum: 36

Table 2-464 Query Parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack set is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-465 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 200

Table 2-466 Response body parameters

Parameter	Type	Description
stack_set_operation_id	String	<p>Unique ID of a stack set operation.</p> <p>It is a UUID generated by RFS when a stack set operation is created.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_set_id	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_set_name	String	<p>Name of a stack set. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>

Parameter	Type	Description
status	String	<p>The stack set operation status can be:</p> <ul style="list-style-type: none"> • <i>QUEUE_IN_PROGRESS</i>: The operation is in queue. • <i>OPERATION_IN_PROGRESS</i>: The operation is in progress. • <i>OPERATION_COMPLETE</i>: The operation is complete. • <i>OPERATION_FAILED</i>: The operation failed. • <i>STOP_IN_PROGRESS</i>: The operation is being stopped. • <i>STOP_COMPLETE</i> - The operation stopped. <ul style="list-style-type: none"> – <i>STOP_FAILED</i>: Failed to stop the operation. <p>Enumeration values:</p> <ul style="list-style-type: none"> • QUEUE_IN_PROGRESS • OPERATION_IN_PROGRESS • OPERATION_COMPLETE • OPERATION_FAILED • STOP_IN_PROGRESS • STOP_COMPLETE • STOP_FAILED
status_message	String	<p>If a stack set operation fails, the causes are displayed. For example, the number of stack instances to be deployed or deleted has exceeded the upper limit or the stack set operation times out.</p> <p>To view failure details, use the <code>ListStackInstances</code> API to obtain <code>status_message</code> of the stack instance.</p>

Parameter	Type	Description
action	String	<p>Current operation of the user can be:</p> <ul style="list-style-type: none"> • <i>CREATE_STACK_INSTANCES</i>: Create a stack instance. • <i>DELETE_STACK_INSTANCES</i>: Delete a stack instance. • <i>DEPLOY_STACK_SET</i>: Deploy a stack set. • <i>DEPLOY_STACK_INSTANCES</i>: Deploy a stack instance. <p>Enumeration values:</p> <ul style="list-style-type: none"> • CREATE_STACK_INSTANCES • DELETE_STACK_INSTANCES • DEPLOY_STACK_SET • DEPLOY_STACK_INSTANCES • UPDATE_STACK_INSTANCES
administration_agency_name	String	<p>Administration agency names.</p> <p>RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the iam:tokens:assume permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define SELF_MANAGED permissions, you must specify either administration_agency_name or administration_agency_urn, but not both.</p> <p>You are advised to specify administration_agency_urn when using a trust agency. administration_agency_name only receives agency names. If trust agency names are assigned to administration_agency_name, template fails to be deployed.</p> <p>Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0</p> <p>Maximum: 64</p>

Parameter	Type	Description
administration_urn	String	<p>Administration agency URNs.</p> <p>RFS uses this agency to obtain permissions that a member account grants to a management account.</p> <p>This agency must contain the sts:tokens:assume permission to subsequently obtain the managed agency credentials. If it is not included, adding or deploying instances will fail.</p> <p>When you define SELF_MANAGED permissions, you must specify either administration_agency_name or administration_urn, but not both.</p> <p>You are advised to specify administration_urn when using a trust agency. administration_agency_name only receives agency names. If trust agency names are assigned to administration_agency_name, template fails to be deployed.</p> <p>Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p>
managed_agency_name	String	<p>Name of the managed agency.</p> <p>RFS uses this agency to obtain the permissions required for deploying resources.</p> <p>The names of the agencies that different member accounts grants to the management account must be the same. Currently, different agency permissions cannot be defined based on different providers.</p> <p>This parameter must be specified when SELF_MANAGED permissions are defined. Do not specify this parameter when SERVICE_MANAGED permissions are used. Otherwise, error code 400 is returned.</p> <p>Minimum: 0</p> <p>Maximum: 64</p>
deployment_targets	deployment_targets object	Deployment target information.
create_time	String	<p>Time when a stack set operation is created. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.</p>

Parameter	Type	Description
update_time	String	Time when a stack set operation is updated. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.
operation_preferences	operation_preferences object	<p>The user-specified preferences for how to perform a stack set operation. This parameter takes effect only in a specified single operation.</p> <p>If this parameter is not specified, the default operation preferences is that only one stack is deployed at a time and after all stack instances in a region are deployed completely, the next region will be selected randomly for deployment. The default value of failure tolerance count in a region is 0.</p> <p>This parameter can be specified in the following APIs:</p> <p>CreateStackInstance, DeployStackSet, UpdateStackInstance, DeleteStackInstance.</p>

Table 2-467 deployment_targets

Parameter	Type	Description
regions	Array of strings	<p>Regions involved in the stack set operations are specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a region that is not managed by the stack set is specified, an error is reported. *

Parameter	Type	Description
domain_ids	Array of strings	<p>When SELF_MANAGED permissions are used, the information about the tenant IDs involved in this operation is specified by the user.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the regions and domain_ids input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 1</p> <p>Maximum: 64</p>
domain_ids_uri	String	<p>When SELF_MANAGED permissions are used, the OBS address of the tenant IDs involved in this operation is specified by the user.</p> <p>Tenant IDs are separated by commas (,) and line breaks are supported. Currently, only CSV files are supported, and the files should be encoded in UTF-8. The file size cannot exceed 100 KB.</p> <p>Do not use Excel for operations on the CSV file to be uploaded. Otherwise, inconsistencies may occur in results read from the CSV file. You are advised to use Notepad to open the file and check whether the content complies with your expectation.</p> <ul style="list-style-type: none"> If this parameter is specified in the DeployStackSet API, stack instances in the stack set are selected for deployment. This operation applies to the Cartesian product of the domain_ids_uri file and regions input by the user. If a domain_id that is not managed by the stack set is specified, an error is reported. * <p>You can specify either domain_ids or domain_ids_uri, but not both.</p> <p>Minimum: 0</p> <p>Maximum: 2048</p>

Table 2-468 operation_preferences

Parameter	Type	Description
region_concurrency_type	String	<p>The concurrency type of deploying stack instances in regions. The value can be <code>SEQUENTIAL</code> (default) or <code>PARALLEL</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>SEQUENTIAL</i>: Stack instances are deployed in sequence among regions, that is, after all stack instances in a region are deployed completely, the next region will be selected for deployment. • <i>PARALLEL</i>: Stack instances are deployed in all specified regions concurrently. <p>Default: SEQUENTIAL</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • SEQUENTIAL • PARALLEL
region_order	Array of strings	<p>Region deployment order. This parameter can be specified only when <code>region_concurrency_type</code> is set to <code>SEQUENTIAL</code>. The <code>region_order</code> must only contain all regions in this deployment target.</p> <p>If this parameter is not specified, the region deployment order is random. The <code>region_order</code> takes effect only during a specified single operation.</p>

Parameter	Type	Description
failure_tolerance_count	Long	<p>The maximum number of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>If the value of region_concurrency_type is SEQUENTIAL, when the number of stack instances that deploy failed in a region exceeds the failure_tolerance_count, all other instances that are still in WAIT_IN_PROGRESS status will be canceled. The status of the canceled instance changes to CANCEL_COMPLETE;</p> <p>If the value of region_concurrency_type is PARALLEL, when the number of stack instances that deploy failed in a region exceeds the failure_tolerance_count, the stack set only cancels all instances that are still in WAIT_IN_PROGRESS status in this region. The status of the canceled instance changes to CANCEL_COMPLETE.</p> <p>Stack instances that are in OPERATION_IN_PROGRESS status or have been deployed (that is, in OPERATION_COMPLETE or OPERATION_FAILED status) are not affected.</p> <p>Only one of failure_tolerance_count and failure_tolerance_percentage can exist.</p> <p>Minimum: 0 Maximum: 100</p>
failure_tolerance_percentage	Long	<p>The maximum percentage of failed stack instances in a region. The value must be 0 or a positive integer. The default value is 0.</p> <p>By multiplying the failure_tolerance_percentage by the number of stack instances in the region and rounding it down, the actual number of failure tolerance count can be obtained.</p> <p>Only one of failure_tolerance_count and failure_tolerance_percentage can exist.</p> <p>Minimum: 0 Maximum: 100</p>

Parameter	Type	Description
max_concurrent_count	Long	<p>The maximum number of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>max_concurrent_count is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, max_concurrent_count is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1</p> <p>Maximum: 5</p>
max_concurrent_percentage	Long	<p>The maximum percentage of concurrent accounts can be deployed in a region. The value must be a positive integer. The default value is 1.</p> <p>The RFS calculates the actual maximum number of concurrent accounts by rounding down the value obtained by multiplying the percentage by the number of stack instances in each region.</p> <p>This actual maximum number of concurrent accounts is at most one more than the failure tolerance count. If failure_tolerance_percentage is specified, this actual maximum number of concurrent accounts is at most one more than the result of failure_tolerance_percentage multiplied by the number of stack instances in a region to guarantee that the deployment stops at the required level of failure tolerance.</p> <p>Only one of max_concurrent_count and max_concurrent_percentage can exist.</p> <p>Minimum: 1</p> <p>Maximum: 100</p>

Parameter	Type	Description
failure_tolerance_mode	String	<p>The failure tolerance mode of deploying stack instances in regions. The value can be <code>STRICT_FAILURE_TOLERANCE</code> or <code>SOFT_FAILURE_TOLERANCE</code>. The default value is <code>STRICT_FAILURE_TOLERANCE</code>. The value is case-sensitive.</p> <p>Detailed introduction:</p> <ul style="list-style-type: none"> • <i>STRICT_FAILURE_TOLERANCE</i>: This option dynamically lowers the concurrency level to ensure the number of failed stack instances never exceeds the value of <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option ensures the number of failed stack instances never exceeds the result of <code>failure_tolerance_percentage</code> multiplied by the number of stack instances in a region. • The initial actual maximum number of concurrent accounts is <code>max_concurrent_count</code>. If <code>max_concurrent_percentage</code> is specified, the initial actual maximum number of concurrent accounts is the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. The actual maximum number of concurrent accounts is then reduced proportionally by the number of failed stack instances. • <i>SOFT_FAILURE_TOLERANCE</i>: This option separates <code>failure_tolerance_count</code> (<code>failure_tolerance_percentage</code>) from the actual maximum number of concurrent accounts. This option allows actual maximum number of concurrent accounts to keep at the concurrency level set by the <code>max_concurrent_count</code>, or <code>max_concurrent_percentage</code>. • This option does not ensure the number of failed stack instances is less than <code>failure_tolerance_count + 1</code>. If <code>failure_tolerance_percentage</code> is specified, this option does not ensure the number of failed stack instances is less than the result of <code>max_concurrent_percentage</code> multiplied by the number of stack instances. <p>Default: STRICT_FAILURE_TOLERANCE</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> • STRICT_FAILURE_TOLERANCE

Parameter	Type	Description
		<ul style="list-style-type: none"> SOFT_FAILURE_TOLERANCE

Status code: 400

Table 2-469 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_au thorization_mes sage	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-470 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_au thorization_mes sage	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-471 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11

Parameter	Type	Description
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-472 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-473 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_auth orization_mes sage	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-474 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

Obtain metadata of a stack set operation.

```
GET https://{endpoint}/v1/stack-sets/{stack_set_name}/operations/{stack_set_operation_id}/metadata
```

Example Responses

Status code: 200

Stack set operation metadata obtained.

```
{
  "stack_set_operation_id": "daa46d87-045b-4a50-a0d5-c167fc34b632",
  "stack_set_id": "10f29827-939f-4a11-8bcc-65b051257860",
  "stack_set_name": "my_hello_world_stack_set",
  "status": "OPERATION_COMPLETE",
  "administration_agency_name": "test_administration_agency_name",
  "managed_agency_name": "test_managed_agency_name",
  "action": "CREATE_STACK_INSTANCES",
  "deployment_targets": {
    "domain_ids": [ "dfda721e8ecd46088662f2dc9e97b1c6", "dfda721e8ecd46088662f2dc9e97b1c7" ],
    "regions": "region_id"
  },
  "create_time": "2023-05-15T15:39:25.210Z",
  "update_time": "2023-05-15T16:39:25.210Z",
  "operation_preferences": {
    "failure_tolerance_count": 4,
    "max_concurrent_count": 3,
    "region_order": [ "region_id" ],
    "region_concurrency_type": "SEQUENTIAL",
    "failure_tolerance_mode": "STRICT_FAILURE_TOLERANCE"
  }
}
```

Status Codes

Status Code	Description
200	Stack set operation metadata obtained.
400	Invalid request.

Status Code	Description
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack set or the stack set operation does not exist.
429	Too frequent requests.
500	Internal server error.

2.6.15 Obtaining a Stack Instance

Function

ShowStackInstance

This API obtains details about a stack instance, including the name and ID of its associated stack, creation time, and information about variable overriding.

URI

GET /v1/stack-sets/{stack_set_name}/stack-instances/{stack_instance_addr}

Table 2-475 Path Parameters

Parameter	Mandatory	Type	Description
stack_set_name	Yes	String	Stack set name. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128
stack_instance_addr	Yes	String	Unique address of a stack instance. The address combines region and stack_domain_id using slashes (/), whose escape codes are %2f or %2F). The address is unique within its domain (domain_id), region, and stack set (stack_set_name). Minimum: 1

Table 2-476 Query Parameters

Parameter	Mandatory	Type	Description
stack_set_id	No	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack set is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36 Maximum: 36</p>

Request Parameters

Table 2-477 Request header parameters

Parameter	Mandatory	Type	Description
Client-Request-Id	Yes	String	<p>Unique request ID. It is specified by a user and is used to locate a request. UUID is recommended.</p> <p>Minimum: 36 Maximum: 128</p>

Response Parameters

Status code: 200

Table 2-478 Response body parameters

Parameter	Type	Description
stack_set_id	String	<p>Unique ID of a stack set.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack set names are unique only at one specific time, so you can create a stack set named HelloWorld and another stack set with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack set they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack set is different and does not change with updates. If the stack_set_id value is different from the current stack set ID, 400 is returned.</p> <p>Minimum: 36</p> <p>Maximum: 36</p>
stack_set_name	String	<p>Name of a stack set. The name is unique within its domain (domain_id) and region. Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter.</p> <p>Minimum: 1</p> <p>Maximum: 128</p>

Parameter	Type	Description
status	String	<p>Stack instance status can be:</p> <ul style="list-style-type: none"> • <i>WAIT_IN_PROGRESS</i>: The stack instance is waiting for operation. • <i>CANCEL_COMPLETE</i> - The stack instance operation is canceled. • <i>OPERATION_IN_PROGRESS</i>: The stack instance operation is in progress. • <i>OPERATION_FAILED</i>: The stack instance operation failed. • <i>INOPERABLE</i> - The stack instance cannot be operated. • <i>OPERATION_COMPLETE</i>: The stack instance operation is complete. <p>Enumeration values:</p> <ul style="list-style-type: none"> • WAIT_IN_PROGRESS • CANCEL_COMPLETE • OPERATION_IN_PROGRESS • OPERATION_FAILED • INOPERABLE • OPERATION_COMPLETE
status_message	String	When the stack instance is in an INOPERABLE or OPERATION_FAILED state, brief error information is displayed for debugging.
stack_id	String	<p>Unique stack ID.</p> <p>It is a UUID generated by RFS when a stack is created.</p> <p>Stack names are unique at one specific time, so you can create a stack named HelloWorld and another stack with the same name after deleting the first one.</p> <p>For parallel development in a team, users may want to ensure that the stack they operate is the one created by themselves, not the one with the same name created by other teammates after deleting the previous one. Therefore, they can use this ID for strong matching.</p> <p>RFS ensures that the ID of each stack is different and does not change with updates. If the stack_id value is different from the current stack ID, 400 is returned.</p>

Parameter	Type	Description
stack_name	String	Stack name. The name is unique within its domain (domain_id), region, and project (project_id). Only letters, digits, underscores (_), and hyphens (-) are allowed. The name is case-sensitive and must start with a letter. Minimum: 1 Maximum: 128
stack_domain_id	String	Tenant ID of the stack associated with the stack instance.
latest_stack_set_operation_id	String	Stack set operation ID for the latest deployment of the stack instance. It is a UUID generated by RFS when a stack set operation is created.
region	String	Region of the stack associated with the stack instance.
create_time	String	Time when a stack instance is created. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.
update_time	String	Time when a stack instance is updated. It uses a UTC (YYYY-MM-DDTHH:mm:ss.SSSZ) format, for example, 1970-01-01T00:00:00.000Z.
var_overrides	var_overrides object	Overridden variables of the stack instance. If you use the CreateStackInstances or UpdateStackInstances APIs to override variables on the stack instance, this field returns the latest overridden variables recorded by the stack instance. If this field is not returned, use the variables recorded in the stack set to deploy the instance.

Table 2-479 var_overrides

Parameter	Type	Description
vars_uri_content	String	File content corresponding to vars_uri.

Parameter	Type	Description
vars_body	String	<p>Content of the HCL variable file. Transferring parameters is supported by the HCL template. The same template can use different parameters for different purposes.</p> <ul style="list-style-type: none"> • The vars_body uses the tfvars format of HCL. You can submit the content in the .tfvars file to the vars_body. • RFS supports vars_structure, vars_body, and vars_uri. If they declare the same variable, error 400 will be reported. • If vars_body is too large, you can use vars_uri. • Stack sets do not encrypt sensitive data. RFS uses, logs, displays, and stores vars_body as plaintext.

Status code: 400

Table 2-480 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 401

Table 2-481 Response body parameters

Parameter	Type	Description
error_code	String	<p>Response code.</p> <p>Minimum: 11</p> <p>Maximum: 11</p>
error_msg	String	Response message.

Parameter	Type	Description
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 403

Table 2-482 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 404

Table 2-483 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 429

Table 2-484 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Status code: 500

Table 2-485 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Minimum: 11 Maximum: 11
error_msg	String	Response message.
encoded_authentication_message	String	The message contains information about unauthorized requests.

Example Requests

Obtain details about the stack instance whose region is region_id and domain_id is my-domain-id.

```
GET https://{endpoint}/v1/stack-sets/my_stack_set/stack-instances/region_id%2fmy-domain-id
```

Example Responses

Status code: 200

Stack instance obtained.

```
{
  "stack_set_id": "f689e9fd-97e7-4185-bd8a-7d5f708d45d7",
  "stack_set_name": "my_hello_world_stack_set",
  "latest_stack_set_operation_id": "3fef5d3e-27b6-44e8-9769-1d7262bd9430",
  "status": "OPERATION_COMPLETE",
  "stack_id": "ea6a4f0e-ee8a-494e-b12a-8be4a1e65af2",
  "stack_name": "my_hello_world_stack",
  "stack_domain_id": "6cbcca2a2f114a63841bdb7a19b7b09",
  "region": "region_id",
  "create_time": "2023-05-15T15:39:25.210Z",
  "update_time": "2023-05-15T16:39:25.210Z",
}
```

```
"var_overrides" : {  
  "vars_body" : "var_key1=\"var_value1\"",  
  "vars_uri_content" : "var_key2=\"var_value2\""  
}
```

Status Codes

Status Code	Description
200	Stack instance obtained.
400	Invalid request.
401	Authentication failed.
403	The user does not have the permission to call this API.
404	The stack set or the stack instance does not exist.
429	Too frequent requests.
500	Internal server error.

3 Appendix

[3.1 Status Code](#)

[3.2 Error Codes](#)

[3.3 Obtaining a Project ID](#)

[3.4 Obtaining an Account ID](#)

3.1 Status Code

Table 3-1 describes status codes.

Table 3-1 Status codes

Status Code	Code	Description
100	Continue	The client should continue with its request. This interim response is used to inform the client that some requests have been received and have not been rejected by the server.
101	Switching Protocols	The protocol should be switched. The protocol can only be switched to a newer protocol. For example, the current HTTP protocol is switched to a later version.
201	Created	The request for creating resources has been fulfilled.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	Non-authoritative information. The request is successful.

Status Code	Code	Description
204	NoContent	The request has been fulfilled, but the HTTP response does not contain a response body. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has successfully processed the partial GET request.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which a user terminal (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned with a new permanent URI. This new URI is contained in the response.
302	Found	The requested resource resides temporarily under a different URI.
303	See Other	The response to the request can be found under a different URI, and should be retrieved using a GET or POST method.
304	Not Modified	The requested resource has not been modified. When the server returns this status code, it does not return any resources.
305	Use Proxy	The requested resource must be accessed through a proxy.
306	Unused	This HTTP status code is no longer used.
400	BadRequest	The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized	This status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.

Status Code	Code	Description
403	Forbidden	Access denied. The server understands the request, but refuses to fulfill it. The client should not repeat the request without modifications.
404	NotFound	The requested resource cannot be found. The client should not repeat the request without modifications.
405	MethodNotAllowed	The method specified in the request is not supported by the requested resource. The client should not repeat the request without modifications.
406	Not Acceptable	The server cannot fulfill the request based on the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must authenticate itself with the proxy first.
408	Request Time-out	The client does not send a request within the time that the server was prepared to wait. The client may repeat the request without modifications later.
409	Conflict	The request cannot be processed due to a conflict. This status code indicates that the resource that the client attempts to create already exists, or the request fails to be processed because of the update of the conflict request.
410	Gone	The requested resource cannot be found. The status code indicates that the requested resource has been deleted permanently.
411	Length Required	The server refuses to process the request without a defined Content-Length.
412	Precondition Failed	The server does not meet one of the preconditions that the requester puts on the request.
413	Request Entity Too Large	The server refuses to process a request because the request entity is too large. The server may disable the connection to prevent the client from sending requests consecutively. If the server cannot process the request temporarily, the response will contain a Retry-After field.

Status Code	Code	Description
414	Request-URI Too Large	The Request-URI is too long for the server to process.
415	Unsupported Media Type	The server cannot process the media format in the request.
416	Requested range not satisfiable	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client sends excessive requests to the server within a given time (exceeding the limit on the access frequency of the client), or the server receives excessive requests within a given time (beyond its processing capability). In this case, the client should repeat requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but unable to understand the request.
501	Not Implemented	The server does not support the function required to fulfill the request.
502	Bad Gateway	The server acting as a gateway or proxy receives an invalid response from a remote server.
503	ServiceUnavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	ServerTimeout	The request cannot be fulfilled within a given time. This status code is returned to the client only when the Timeout parameter is specified in the request.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

3.2 Error Codes

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011001	Missing required parameter(s).	Missing required parameter(s).	Contact technical support.
400	RF.10011002	Unrecognized parameter(s).	Unrecognized parameter(s).	Contact technical support.
400	RF.10011003	Both <code>template_uri</code> and <code>template_body</code> are given, you should only give exactly one parameter from <code>template_uri</code> and <code>template_body</code> .	Both <code>template_uri</code> and <code>template_body</code> are given, you should only give exactly one parameter from <code>template_uri</code> and <code>template_body</code> .	Contact technical support.
400	RF.10011005	The length of parameter is longer than upper limit.	The length of parameter is longer than upper limit.	Contact technical support.
400	RF.10011006	The length of parameter is shorter than lower limit.	The length of parameter is shorter than lower limit.	Contact technical support.
400	RF.10011008	Parameter contains invalid letter. Should only contains English characters, number or hyphen.	Parameter contains invalid letter. Should only contains English characters, number or hyphen.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011009	Parameter contains invalid letter. It should start with lower case English characters or number, and only contain lower case English characters, number or hyphen.	Parameter contains invalid letter. It should start with lower case English characters or number, and only contain lower case English characters, number or hyphen.	Contact technical support.
400	RF.10011010	Parameter contains invalid letter. Should start with Chinese or English characters, and only contains Chinese characters, English characters, number, underscore or hyphen.	Parameter contains invalid letter. Should start with Chinese or English characters, and only contains Chinese characters, English characters, number, underscore or hyphen.	Contact technical support.
400	RF.10011013	The size of the file obtained from template_uri exceeds the upper limit.	The size of the file obtained from template_uri exceeds the upper limit.	Contact technical support.
400	RF.10011014	The size of the file obtained from vars_uri exceeds the upper limit.	The size of the file obtained from vars_uri exceeds the upper limit.	Contact technical support.
400	RF.10011015	Stack ID is not matched with current stack with stack name.	Stack ID is not matched with current stack with stack name.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011016	Project ID contains invalid letter. Project ID should only contains English characters, number, hyphen.	Project ID contains invalid letter. Project ID should only contains English characters, number, hyphen.	Contact technical support.
400	RF.10011018	Execution plan ID is not matched with current execution plan with execution plan name.	Execution plan ID is not matched with current execution plan with execution plan name.	Contact technical support.
400	RF.10011022	Invalid file extension. Template file should end with .tf, .tf.json, or .zip	Invalid file extension. Template file should end with .tf, .tf.json, or .zip	Contact technical support.
400	RF.10011025	Invalid file(s) found in zip. A zip file should not contain tfvars files.	Invalid file(s) found in zip. A zip file should not contain tfvars files.	Contact technical support.
400	RF.10011026	The size of unzipped files in zip file is bigger than upper limit.	The size of unzipped files in zip file is bigger than upper limit.	Contact technical support.
400	RF.10011027	Invalid enum value.	Invalid enum value.	Contact technical support.
400	RF.10011028	Composite Validation Error.	Composite Validation Error.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011029	Parameter contains invalid letter. Should only contains English characters or number.	Parameter contains invalid letter. Should only contains English characters or number.	Contact technical support.
400	RF.10011031	Parameter contains invalid letter. Should only contains English characters, number, hyphen or underscore.	Parameter contains invalid letter. Should only contains English characters, number, hyphen or underscore.	Contact technical support.
400	RF.10011032	Can not find request body.	Can not find request body.	Contact technical support.
400	RF.10011033	Request body format is invalid json.	Request body format is invalid json.	Contact technical support.
400	RF.10011034	Invalid vars URI. Vars URI should start with [http https] and end with [.tfvars].	Invalid vars URI. Vars URI should start with [http https] and end with [.tfvars].	Contact technical support.
400	RF.10011035	Invalid template URI. Template URI should start with [http https] and end with [.tf .tf.json .zip].	Invalid template URI. Template URI should start with [http https] and end with [.tf .tf.json .zip].	Contact technical support.
400	RF.10011036	The value of parameter is not a valid instance of integer.	The value of parameter is not a valid instance of integer.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011037	The field value cannot be empty.	The field value cannot be empty.	Contact technical support.
400	RF.10011038	Invalid parameter value type.	Invalid parameter value type.	Contact technical support.
400	RF.10011039	VarKey contains invalid letter. VarKey should Starts with an English letter and only contains English characters, number, hyphen or underscore.	VarKey contains invalid letter. VarKey should Starts with an English letter and only contains English characters, number, hyphen or underscore.	Contact technical support.
400	RF.10011041	The count of unzipped files in zip file is bigger than upper limit.	The count of unzipped files in zip file is bigger than upper limit.	Contact technical support.
400	RF.10011042	The size of template zip is bigger than upper limit.	The size of template zip is bigger than upper limit.	Contact technical support.
400	RF.10011046	Account parameter should not contain octothorpe (#).	Account parameter should not contain octothorpe (#).	Contact technical support.
400	RF.10011049	Invalid vars uri.	Invalid vars uri.	Contact technical support.
400	RF.10011050	Invalid vars uri content.	Invalid vars uri content.	Contact technical support.
400	RF.10011051	Invalid vars body.	Invalid vars body.	Contact technical support.
400	RF.10011052	Var value is empty.	Var value is empty.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011055	Invalid json array.	Invalid json array.	Contact technical support.
400	RF.10011056	Both template_uri and template_body are absence, you should give exactly one parameter from template_uri and template_body.	Both template_uri and template_body are absence, you should give exactly one parameter from template_uri and template_body.	Contact technical support.
400	RF.10011057	Project ID should only contains lower case hexadecimal characters.	Project ID should only contains lower case hexadecimal characters.	Contact technical support.
400	RF.10011065	Found duplicate values in attribute provider_name.	Found duplicate values in attribute provider_name.	Contact technical support.
400	RF.10011073	Invalid template body.	Invalid template body.	Contact technical support.
400	RF.10011074	Invalid template.	Invalid template.	Contact technical support.
400	RF.10011075	File type is not matched with file content.	File type is not matched with file content.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011083	Invalid zip from template uri: zip contains malformed file(s) that points to a path outside the root directory of the zip file	Invalid zip from template uri: zip contains malformed file(s) that points to a path outside the root directory of the zip file	Contact technical support.
400	RF.10011084	No parameters in the request need to be modified.	No parameters in the request need to be modified.	Contact technical support.
400	RF.10011085	The encoding format of template content is unsupported, it should be utf-8 encoded.	The encoding format of template content is unsupported, it should be utf-8 encoded.	Contact technical support.
400	RF.10011087	Unrecognized search option parameter.	Unrecognized search option parameter.	Contact technical support.
400	RF.10011088	No valid filter method found.	No valid filter method found.	Contact technical support.
400	RF.10011089	The filter value is invalid.	The filter value is invalid.	Contact technical support.
400	RF.10011093	Duplicate fields found.	Duplicate fields found.	Contact technical support.
400	RF.10011095	Missing required template parameter for price inquiry.	Missing required template parameter for price inquiry.	Contact technical support.
400	RF.10011096	Template parameter is invalid for price inquiry.	Template parameter is invalid for price inquiry.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011102	Malformed template zip file found. Failed to read zip file.	Malformed template zip file found. Failed to read zip file.	Contact technical support.
400	RF.10011120	The encoding format of json template content [utf-8 with BOM] is unsupported, it should be utf-8 encoded.	The encoding format of json template content [utf-8 with BOM] is unsupported, it should be utf-8 encoded.	Contact technical support.
400	RF.10011122	Agency is not supported in iam v5 scene, if you want to use agency, please use iam v3.	Agency is not supported in iam v5 scene, if you want to use agency, please use iam v3.	Contact technical support.
400	RF.10011123	Parameter contains invalid letter. Should start with English characters or number, and only contains English characters, number or hyphen.	Parameter contains invalid letter. Should start with English characters or number, and only contains English characters, number or hyphen.	Contact technical support.
400	RF.10011141	The length of vars_body exceeds the upper limit.	The length of vars_body exceeds the upper limit.	Contact technical support.
400	RF.10011151	The length of file path in template zip file exceeds the upper limit.	The length of file path in template zip file exceeds the upper limit.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	RF.10011152	The length of file name in template zip file exceeds the upper limit.	The length of file name in template zip file exceeds the upper limit.	Contact technical support.
400	RF.10011155	The path of file in zip can not start with path separator(/)	The path of file in zip can not start with path separator(/)	Contact technical support.
400	RF.10011156	The value between path separator in zip can not be empty, single dot (.) or double dot (..).	The value between path separator in zip can not be empty, single dot (.) or double dot (..).	Contact technical support.
400	RF.10011157	No template file (file name ends with .tf or .tf.json) exists at root dir in zip. There should be at least one template file in root dir in zip.	No template file (file name ends with .tf or .tf.json) exists at root dir in zip. There should be at least one template file in root dir in zip.	Contact technical support.
400	RF.10011166	Parameter should only contain lower English characters, numbers or hyphens, start and end with lower English characters or numbers.	Parameter should only contain lower English characters, numbers or hyphens, start and end with lower English characters or numbers.	Contact technical support.
400	RF.10011167	Invalid function_grap h_urn format.	Invalid function_grap h_urn format.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
401	RF.10012001	Authentication failed.	Authentication failed.	Contact technical support.
403	RF.10012507	Policy doesn't allow action to be performed.	Policy doesn't allow action to be performed.	Contact technical support.
403	RF.10012538	The total count of stacks has exceeded the maximum limit.	The total count of stacks has exceeded the maximum limit.	Contact technical support.
403	RF.10012540	Too many stacks are being created in parallel, please take a rest and try again later.	Too many stacks are being created in parallel, please take a rest and try again later.	Contact technical support.
403	RF.10012541	Too many execution plans are being created in parallel, please take a rest and try again later.	Too many execution plans are being created in parallel, please take a rest and try again later.	Contact technical support.
403	RF.10012542	Execution plan cannot be applied due to invalid stack status.	Execution plan cannot be applied due to invalid stack status.	Contact technical support.
403	RF.10012543	Execution plan cannot be applied due to invalid execution plan status.	Execution plan cannot be applied due to invalid execution plan status.	Contact technical support.
403	RF.10012544	Stack cannot be deleted due to invalid stack status.	Stack cannot be deleted due to invalid stack status.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
403	RF.10012545	Execution plan cannot be applied because stack has been deployed since execution plan generated. Please regenerate the execution plan based on the latest stack.	Execution plan cannot be applied because stack has been deployed since execution plan generated. Please regenerate the execution plan based on the latest stack.	Contact technical support.
403	RF.10012546	Auto rollback of stack cannot be enabled due to invalid stack status.	Auto rollback of stack cannot be enabled due to invalid stack status.	Contact technical support.
403	RF.10012547	Invalid stack status. The stack cannot be continue-deployed.	Invalid stack status. The stack cannot be continue-deployed.	Contact technical support.
403	RF.10012549	Invalid stack status. The execution plan cannot be deleted.	Invalid stack status. The execution plan cannot be deleted.	Contact technical support.
404	RF.10013001	Stack is not exist.	Stack is not exist.	Contact technical support.
404	RF.10013002	Execution plan is not exist.	Execution plan is not exist.	Contact technical support.
404	RF.10013023	The stack template does not exist.	The stack template does not exist.	Contact technical support.
404	RF.10013029	Product does not exist for price inquiry.	Product does not exist for price inquiry.	Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
409	RF.10013501	Conflict execution plan name. Execution plan with name already exist.	Conflict execution plan name. Execution plan with name already exist.	Contact technical support.
409	RF.10013502	Conflict stack name. Stack with name already exist.	Conflict stack name. Stack with name already exist.	Contact technical support.
409	RF.10013503	Stack operation requests conflicted. Another request is being processed. Please retry later.	Stack operation requests conflicted. Another request is being processed. Please retry later.	Contact technical support.
429	RF.10014001	Too many requests. Please try again in a few minutes.	Too many requests. Please try again in a few minutes.	Contact technical support.
500	RF.10010001	Internal Server Error.	Internal Server Error.	Contact technical support.

3.3 Obtaining a Project ID

Scenarios

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. Two methods are available:

- [Obtain the Project ID by Calling an API](#)
- [Obtain the Project ID from the Console](#)

Obtain the Project ID by Calling an API

You can obtain the project ID by calling the IAM API used to query project information based on the specified criteria.

The API used to obtain a project ID is **GET https://{Endpoint}/v3/projects**. **{Endpoint}** is the IAM endpoint and can be obtained from [Regions and Endpoints](#). For details on API calling authentication, see [2.1.2 Authentication](#).

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

```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "id": "a4a5d4098fb4474fa22cd05f897d6b99",
      "enabled": true
    }
  ],
  "links": {
    "next": null,
    "previous": null,
    "self": "https://www.example.com/v3/projects"
  }
}
```

Obtain a Project ID from the Console

To obtain a project ID from the console, perform the following operations:

1. Log in to the management console.
2. Click the username and select **My Credentials** from the drop-down list.

On the **My Credentials** page, view the project ID (value in the **Project ID** column)

3.4 Obtaining an Account ID

An account ID (domain ID) is required for some URLs when an API is called. To obtain an account ID, perform the following operations:

1. Log in to the management console.
2. Click the username in the upper right corner and choose **My Credentials** from the drop-down list.

4 Change History

Date	Change History
2024-05-30	This issue is the first official release.