

Alibaba Cloud

Resource Orchestration Service Common Tools

Document Version: 20200828

Legal disclaimer

Alibaba Cloud reminds you to carefully read and fully understand the terms and conditions of this legal disclaimer before you read or use this document. If you have read or used this document, it shall be deemed as your total acceptance of this legal disclaimer.

1. You shall download and obtain this document from the Alibaba Cloud website or other Alibaba Cloud-authorized channels, and use this document for your own legal business activities only. The content of this document is considered confidential information of Alibaba Cloud. You shall strictly abide by the confidentiality obligations. No part of this document shall be disclosed or provided to any third party for use without the prior written consent of Alibaba Cloud.
2. No part of this document shall be excerpted, translated, reproduced, transmitted, or disseminated by any organization, company or individual in any form or by any means without the prior written consent of Alibaba Cloud.
3. The content of this document may be changed because of product version upgrade, adjustment, or other reasons. Alibaba Cloud reserves the right to modify the content of this document without notice and an updated version of this document will be released through Alibaba Cloud-authorized channels from time to time. You should pay attention to the version changes of this document as they occur and download and obtain the most up-to-date version of this document from Alibaba Cloud-authorized channels.
4. This document serves only as a reference guide for your use of Alibaba Cloud products and services. Alibaba Cloud provides this document based on the "status quo", "being defective", and "existing functions" of its products and services. Alibaba Cloud makes every effort to provide relevant operational guidance based on existing technologies. However, Alibaba Cloud hereby makes a clear statement that it in no way guarantees the accuracy, integrity, applicability, and reliability of the content of this document, either explicitly or implicitly. Alibaba Cloud shall not take legal responsibility for any errors or lost profits incurred by any organization, company, or individual arising from download, use, or trust in this document. Alibaba Cloud shall not, under any circumstances, take responsibility for any indirect, consequential, punitive, contingent, special, or punitive damages, including lost profits arising from the use or trust in this document (even if Alibaba Cloud has been notified of the possibility of such a loss).
5. By law, all the contents in Alibaba Cloud documents, including but not limited to pictures, architecture design, page layout, and text description, are intellectual property of Alibaba Cloud and/or its affiliates. This intellectual property includes, but is not limited to, trademark rights, patent rights, copyrights, and trade secrets. No part of this document shall be used, modified, reproduced, publicly transmitted, changed, disseminated, distributed, or published without the prior written consent of Alibaba Cloud and/or its affiliates. The names owned by Alibaba Cloud shall not be used, published, or reproduced for marketing, advertising, promotion, or other purposes without the prior written consent of Alibaba Cloud. The names owned by Alibaba Cloud include, but are not limited to, "Alibaba Cloud", "Aliyun", "HiChina", and other brands of Alibaba Cloud and/or its affiliates, which appear separately or in combination, as well as the auxiliary signs and patterns of the preceding brands, or anything similar to the company names, trade names, trademarks, product or service names, domain names, patterns, logos, marks, signs, or special descriptions that third parties identify as Alibaba Cloud and/or its affiliates.
6. Please directly contact Alibaba Cloud for any errors of this document.

Document conventions









Style	Description	Example
 Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
 Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: If the weight is set to 0, the server no longer receives new requests.
 Note	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type .
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click OK .
Courier font	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

Table of Contents

1.Command line tools -----	05
1.1. Install Alibaba Cloud CLI -----	05
1.2. Configure Alibaba Cloud CLI -----	07
1.3. API operation examples -----	10
1.3.1. Overview -----	10
1.3.2. Stack operations -----	10
1.3.3. Resource operations -----	33
1.3.4. Template operations -----	44
1.3.5. Stack policy operations -----	53
1.3.6. Change set operations -----	55
1.3.7. Other API operations -----	72
2.Plug-in tools -----	78
2.1. Use Ansible to manage stacks -----	78
2.1.1. Overview -----	78
2.1.2. Use ali_ros_stack to create a stack -----	85
2.1.3. Use ali_ros_stack to update a stack -----	87
2.1.4. Use ali_ros_stack to delete a stack -----	89
2.1.5. Use ali_ros_stack_info to query information about a ... -----	90
2.2. Use Aliyun Serverless VSCode Extension to create a tem... -----	91

1. Command line tools

1.1. Install Alibaba Cloud CLI

Resource Orchestration Service (ROS) allows you to use Alibaba Cloud CLI to create, view, update, and delete stacks. This topic describes how to install Alibaba Cloud CLI.

Context

You can install Alibaba Cloud CLI by downloading the installation package or compiling the source code. The following sections describe how to download the installation package. To install Alibaba Cloud CLI by compiling the source code, see [Install CLI](#).

Alibaba Cloud CLI can be used in the following scenarios:

- You cannot use the Alibaba Cloud console.
- You need to manage stacks by calling API operations, such as when you need to view and delete stacks or view resource types.

Install Alibaba Cloud CLI on Windows

1. Go to the download page on the [Alibaba Cloud official website](#) or [GitHub](#), and download the *aliyun-cli-windows-3.0.32-amd64.zip* installation package.
2. Decompress the *aliyun-cli-windows-3.0.32-amd64.zip* package to obtain the executable file *aliyun.exe*.
3. Add the path of the directory where the *aliyun.exe* file is located to the Path environment variable.
 - i. In the **Environment Variables** window, select **Path** in the user variables section and click **Edit**.
 - ii. In the **Edit Environment Variable** window that appears, click **Create**.
 - iii. In the **Edit Environment Variable** window, enter the path of the directory where the *aliyun.exe* file is located.
 - iv. In the **Edit Environment Variable** window, click **OK**.
 - v. In the **Environment Variables** window, click **OK**.
 - vi. Run the following commands in the terminals to check whether the environment variable is configured:

- **CMD:** [Try online](#)

```
set path
```

- **PowerShell:** [Try online](#)

```
env:path
```

- vii. Run the following command in the terminal to check whether Alibaba Cloud CLI is installed: [Try online](#)

```
aliyun version
```


If the system displays the current version number as shown in the following example, Alibaba Cloud CLI is installed.

```
3.0.32
```

Install Alibaba Cloud CLI on Linux

1. Go to the download page on the [Alibaba Cloud official website](#) or [GitHub](#), and download the *aliyun-cli-linux-3.0.32-amd64.tgz* installation package.
2. Run the following command to decompress the *aliyun-cli-linux-3.0.32-amd64.tgz* package and obtain the executable file *aliyun*:

```
cd $HOME/aliyun
tar xzvf aliyun-cli-linux-3.0.32-amd64.tgz
```

 **Note** The preceding command assumes that the *aliyun-cli-linux-3.0.32-amd64.tgz* package is downloaded and decompressed to the *\$HOME/aliyun* directory.

3. Run the following command to copy the *aliyun* file to the */usr/local/bin* directory: [Try online](#)


```
sudo cp aliyun /usr/local/bin
```

 **Note** If you are the root user, remove *sudo* from the command.

Install Alibaba Cloud CLI on MacOS


1. Go to the download page on the [Alibaba Cloud official website](#) or [GitHub](#), and download the *aliyun-cli-macosx-3.0.32-amd64.tgz* installation package.
2. Run the following command to decompress the *aliyun-cli-macosx-3.0.32-amd64.tgz* package and obtain the executable file *aliyun*:

```
cd $HOME/aliyun
tar xzvf aliyun-cli-macosx-3.0.32-amd64.tgz
```

 **Note** The preceding command assumes that the *aliyun-cli-macosx-3.0.32-amd64.tgz* package is downloaded and decompressed to the *\$HOME/aliyun* directory.

3. Run the following command to copy the *aliyun* file to the */usr/local/bin* directory: [Try online](#)

```
sudo cp aliyun /usr/local/bin
```

 **Note** If you are the root user, remove *sudo* from the command.


1.2. Configure Alibaba Cloud CLI

Before you use Alibaba Cloud CLI, configure information required to call Alibaba Cloud resources. This information includes the credential, region, and language.

Credential types

To specify the credential type, you can add the `--mode <authenticationMethod>` option to the `configure` command in Alibaba Cloud CLI. The following table describes supported credential types.

Credential type	Limit	Interactive credential configuration (fast)	Non-interactive credential configuration
AK	Use an AccessKey ID and an AccessKey secret to authorize access.	Configure AccessKey credential	非交互式配置
StsToken	Use a Security Token Service (STS) token to authorize access.	Configure STS token credential	非交互式配置
RamRoleArn	Use the role of a Resource Access Management (RAM) user to authorize access.	Configure RamRoleArn credential	非交互式配置
EcsRamRole	Use the RAM role of an Elastic Compute Service (ECS) instance to authorize password-free access.	Configure EcsRamRole credential	非交互式配置

 **Note** In the preceding four credential types, only EcsRamRole does not require the AccessKey information.

Credential configuration methods

You can specify the credential type and configure the credential in Alibaba Cloud CLI in interactive or non-interactive mode. This topic describes how to configure the AccessKey credential in interactive mode. For more information about how to configure other credential types and the non-interactive configuration mode, see [Method of configuring credentials](#).

- **Interactive configuration (fast):** The configuration is convenient and fast in this mode. You only need to enter required information as prompted.
- **Non-interactive configuration:** All the required information is configured through a single command line in this mode. This information includes the profile name, credential type, and authentication information required for the corresponding credential.

Interactive configuration

Run the `configure` command to configure the credential. The command syntax is as follows:


```
aliyun configure --mode <AuthenticateMode> --profile <profileName>
```


The configuration options are described as follows:

- `--profile`: specifies the profile name. If the specified profile already exists, modify the profile. If the specified profile does not exist, create a profile.
- `--mode`: specifies the type of the credential. Valid values: *AK*, *StsToken*, *RamRoleArn*, and *EcsRamRole*.

In interactive configuration mode, you are prompted to enter required information, including the AccessKey information and region ID.

- Enter correct AccessKey information. Otherwise, misoperation may occur or API operations may fail to be called.

 **Note** You can create and view your AccessKey information on the [AccessKey page](#) in the Alibaba Cloud console, or contact your system administrator to obtain the AccessKey information.

- For more information about the region IDs supported by Alibaba Cloud, see .

Configure the AccessKey credential

In Alibaba Cloud CLI, the AccessKey credential type is named AK and is the default credential type. Therefore, you can omit the `--mode` option when configuring the AccessKey credential in interactive mode.

The following example shows you how to configure an AccessKey credential named `akProfile`:

```
aliyun configure --profile akProfile
Configuring profile 'akProfile' in "
authenticate mode...
Access Key Id []: AccessKey ID
Access Key Secret []: AccessKey Secret
Default Region Id []: cn-hangzhou
Default Output Format [json]: json (Only support json)
Default Language [zh|en] en:
Saving profile[akProfile] ...Done.
```

Configure the auto-complete feature

When using Alibaba Cloud CLI, you can use the following commands to enable or disable the auto-complete feature. Only Z shell (Zsh) or Bash shell is supported.

- Enable the auto-complete feature

```
aliyun auto-completion
```

- Disable the auto-complete feature

```
aliyun auto-completion --uninstall
```

1.3. API operation examples

1.3.1. Overview

This topic describes how to use Alibaba Cloud CLI version 3.0.25 or later to call the 20190910 version of the ROS API.

View the version of Alibaba Cloud CLI

```
aliyun version
```

New version of the ROS API

New version of the ROS API is RPC-based. Parameters are passed with HTTP GET requests.

After Alibaba Cloud CLI is installed, enter `aliyun ros` to use the tool.

- Run the `aliyun ros` command to view the help information of Alibaba Cloud ROS.


```
aliyun ros --help
```

- View the API help information

```
# aliyun ros <ApiName> --help
aliyun ros ListStacks --help
```

- API calling format

```
aliyun ros <ApiName> --parameter1 value1 --parameter2 value2 ...
```

 **Note** For more information about the new version of the ROS API, see [List of operations by function](#).

1.3.2. Stack operations


This topic describes how to use Alibaba Cloud CLI to call API operations related to stacks.


CreateStack


You can call this operation to create a stack.

Parameter	Type	Required	Example	Description
<code>--RegionId</code>	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.

Parameter	Type	Required	Example	Description
<code>--StackName</code>	String	Yes	MyStack	<p>The name of the stack.</p> <p>The name can be up to 255 characters in length and can contain digits, letters, hyphens (-), and underscores (_). It must start with a digit or letter.</p>
<code>--TimeoutInMinutes</code>	Long	Yes	10	<p>The timeout period that is specified for the stack creation request.</p> <ul style="list-style-type: none"> • Default value: 60. • Unit: minutes.
<code>--Parameters.N.ParameterKey</code>	String	No	Instanceid	<p>The key of parameter N. If the key and value of the parameter are not specified, the key and value specified in the template are used by default.</p> <p>Maximum value of N: 200.</p>
<code>--Parameters.N.ParameterValue</code>	String	No	i-xxxxxx	<p>The value of parameter N.</p> <p>Maximum value of N: 200.</p>
<code>--DisableRollback</code>	Boolean	No	false	<p>Specifies whether to disable rollback on stack creation failure. Default value: false. Valid values:</p> <ul style="list-style-type: none"> • true: disables rollback on stack creation failure. • false: enables rollback on stack creation failure.

Parameter	Type	Required	Example	Description
--TemplateBody	String	No	{ "ROSTemplateFormatVersion": "2015-09-01" }	<p>The structure that contains the template body. The template body must be 1 to 524,288 bytes in length.</p> <p>If the length of the template body is longer than required, we recommend that you add parameters to the HTTP POST request body to avoid request failures due to excessive length of URLs.</p> <p>You must specify one of the TemplateBody and TemplateURL parameters, but you cannot specify both of them.</p>
--StackPolicyURL	String	No	oss://ros-stack-policy/demo	<p>The URL for the file that contains the stack policy. The URL must point to a policy located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: oss://ros/stack-policy/demo and oss://ros/stack-policy/demo?RegionId=cn-hangzhou. The policy can be up to 16,384 bytes in length and the URL can be up to 1,350 bytes in length.</p> <div style="background-color: #e6f2ff; padding: 5px; border: 1px solid #d9e1f2;"> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> </div> <p>You can specify one of the StackPolicyBody and StackPolicyURL parameters, but you cannot specify both of them.</p>
--StackPolicyBody	String	No	{"Statement": [{"Action": "Update:*", "Resource": "*", "Effect": "Allow", "Principal": "*"}]}	<p>The structure that contains the stack policy body. The stack policy body must be 1 to 16,384 bytes in length.</p> <p>You can specify one of the StackPolicyBody and StackPolicyURL parameters, but you cannot specify both of them.</p>

Parameter	Type	Required	Example	Description
<code>--NotificationURLs.N</code>	RepeatList	No	<code>http://my-site.com/ros-event</code>	<p>The callback URL for receiving stack event N. Only HTTP POST is supported.</p> <ul style="list-style-type: none"> Maximum value of N: 5. Each URL can be up to 1,024 bytes in length. <p>ROS sends a notification to the specified URL when the stack status changes. If rollback is enabled on the stack, notifications are sent if the stack is in the <code>CREATE_ROLLBACK</code> or <code>ROLLBACK</code> state, but are not sent when the stack is in the <code>CREATE_FAILED</code> or <code>UPDATE_FAILED</code> state.</p> <div style="border: 1px solid #add8e6; padding: 5px; margin: 10px 0;"> <p> Note ROS does not send notifications when the stack is in the <code>IN_PROGRESS</code> state.</p> </div> <p>Notifications are sent regardless of whether the <code>Outputs</code> parameter is specified. The following segment is an example of a notification:</p> <pre style="background-color: #f0f0f0; padding: 10px; margin: 10px 0;"> { "Outputs": [{ "Description": "No description given", "OutputKey": "InstanceId", "OutputValue": "i-xxx" }], "StackId": "80bd6b6c-e888-4573-ae3b-93d29113****", "StackName": "test-notification-url", "Status": "CREATE_COMPLETE" } </pre>

Parameter	Type	Required	Example	Description
<code>--TemplateURL</code>	String	No	<code>oss://ros-template/demo</code>	<p>The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: <code>oss://ros/template/demo</code> and <code>oss://ros/template/demo?RegionId=cn-hangzhou</code>. The template can be up to 524,288 bytes in length.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin: 5px 0;"> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> </div> <p>You must specify one of the <code>TemplateBody</code> and <code>TemplateURL</code> parameters, but you cannot specify both of them.</p>
<code>--ClientToken</code>	String	No	<code>123e4567-e89b-12d3-a456-42665544****</code>	<p>The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests.</p> <p>The token can be up to 64 characters in length, and can contain only letters, digits, hyphens (-), and underscores (_).</p> <p>For more information, see How to ensure idempotence.</p>

Sample requests

```
aliyun ros CreateStack --StackName MyStack --TemplateBody '{"ROSTemplateFormatVersion": "2015-09-01"}' --TimeoutInMinutes 10
```

Sample success responses

```
{
  "StackId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
  "RequestId": "53C2DB3A-8374-4464-9466-952614EEC159"
}
```

ListStacks

You can call this operation to query the list of stacks.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackName.N	RepeatList	No	MyStack	The name of stack N. The name can be up to 255 characters in length and can contain digits, letters, hyphens (-), and underscores (_). It must start with a digit or letter. Fuzzy search with the asterisk (*) is supported. Valid values of N: 1 to 5.
--Status.N	RepeatList	No	CREATE_COMPLETE	The status of stack N. Valid values: <ul style="list-style-type: none"> CREATE_IN_PROGRESS CREATE_FAILED CREATE_COMPLETE UPDATE_IN_PROGRESS UPDATE_FAILED UPDATE_COMPLETE DELETE_IN_PROGRESS DELETE_FAILED DELETE_COMPLETE ROLLBACK_IN_PROGRESS ROLLBACK_FAILED ROLLBACK_COMPLETE CHECK_IN_PROGRESS CHECK_FAILED CHECK_COMPLETE REVIEW_IN_PROGRESS

Parameter	Type	Required	Example	Description
<code>--ParentStackId</code>	String	No	<code>fgce558a-bdd6-d52j-555b-63755971****</code>	The ID of the parent stack.
<code>--ShowNestedStack</code>	Boolean	No	<code>true</code>	Specifies whether to display nested stacks.
<code>--PageNumber</code>	Long	No	<code>1</code>	The number of the page to return. <ul style="list-style-type: none">• Pages start from page 1.• Default value: 1.
<code>--PageSize</code>	Long	No	<code>10</code>	The number of entries to return on each page. <ul style="list-style-type: none">• Maximum value: 100.• Default value: 10.

Sample requests

```
aliyun ros ListStacks --PageNumber 3 --PageSize 1
```

Sample success responses


```
{
  "PageNumber": 3,
  "TotalCount": 4,
  "PageSize": 1,
  "RequestId": "B2B3B873-25AE-4A86-B320-8C7298628393",
  "Stacks": [
    {
      "StatusReason": "Stack CREATE completed successfully",
      "Status": "CREATE_COMPLETE",
      "TimeoutInMinutes": 60,
      "StackId": "aace595a-a00d-4631-858b-61134991****",
      "RegionId": "cn-beijing",
      "CreateTime": "2019-08-26T09:52:06",
      "DisableRollback": false,
      "StackName": "Test"
    }
  ]
}
```

GetStack

You can call this operation to query information about a stack.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.

Parameter	Type	Required	Example	Description
--ClientToken	String	No	123e4567-e89b-12d3-a456-42665544****	<p>The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests.</p> <p>The token can be up to 64 characters in length, and can contain only letters, digits, hyphens (-), and underscores (_).</p> <p>For more information, see How to ensure idempotence.</p>

Sample requests

```
aliyun ros GetStack --RegionId cn-hangzhou --StackId 628e9ed4-899b-4e64-8a8c-2a2b00e4****
```

Sample success responses

```
{
  "Parameters": [
    {
      "ParameterValue": "22536460730754****",
      "ParameterKey": "ALIYUN::AccountId"
    },
    {
      "ParameterValue": "cn-beijing",
      "ParameterKey": "ALIYUN::Region"
    },
    {
      "ParameterValue": "628e9ed4-899b-4e64-8a8c-2a2b00e4****",
      "ParameterKey": "ALIYUN::StackId"
    },
    {
      "ParameterValue": "MyStack",
      "ParameterKey": "ALIYUN::StackName"
    }
  ],
  "TimeoutInMinutes": 60,
  "Description": "No description",
  "StackId": "628e9ed4-899b-4e64-8a8c-2a2b00e4****",
  "UpdateTime": "2019-08-26T08:27:23",
  "DisableRollback": false,
  "StackName": "MyStack",
  "StatusReason": "Stack successfully updated",
  "Status": "UPDATE_COMPLETE",
  "TemplateDescription": "No description",
  "CreateTime": "2019-08-26T08:26:05",
  "RegionId": "cn-hangzhou",
  "RequestId": "754AEAE5-C800-41EC-A64D-A08C1A4A718F"
}
```


UpdateStack


You can call this operation to update a stack.


Parameter	Type	Required	Example	Description
-----------	------	----------	---------	-------------

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-beijing	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
--Parameters.N.ParameterKey	String	No	InstanceId	The key of parameter N. If the key and value of the parameter are not specified, the key and value in the template are used by default. Maximum value of N: 200.
--Parameters.N.ParameterValue	String	No	i-xxxxxx	The value of parameter N. Maximum value of N: 200.
--ClientToken	String	No	123e4567-e89b-12d3-a456-42665544****	The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests. The token can be up to 64 characters in length, and can contain only letters, digits, hyphens (-), and underscores (_). For more information, see How to ensure idempotence .

Parameter	Type	Required	Example	Description
<code>--StackPolicyDuringUpdateBody</code>	String	No	<pre>{ "Statement": [{ "Effect": "Allow", "Action": "Update:*", "Principal": "*", "Resource": "*" }] }</pre>	<p>The structure that contains the body of the temporary overriding stack policy. The stack policy body must be 1 to 16,384 bytes in length.</p> <p>To update protected resources, specify a temporary overriding stack policy during the update. If you do not specify a stack policy, the current policy that is associated with the stack will be used by default.</p> <p>This parameter takes effect only when the <code>ChangeSetType</code> parameter is set to <code>UPDATE</code>. You can specify only one of the following parameters:</p> <ul style="list-style-type: none"> • <code>StackPolicyBody</code> • <code>StackPolicyURL</code> • <code>StackPolicyDuringUpdateBody</code> • <code>StackPolicyDuringUpdateURL</code>
<code>--TimeoutInMinutes</code>	Long	No	10	<p>The timeout period that is specified for the stack update request.</p> <ul style="list-style-type: none"> • Default value: 60. • Unit: minutes.
<code>--TemplateBody</code>	String	No	<pre>{ "ROSTemplateFormatVersion": "2015-09-01" }</pre>	<p>The structure that contains the template body. The template body must be 1 to 524,288 bytes in length.</p> <p>If the length of the template body is longer than required, we recommend that you add parameters to the HTTP POST request body to avoid request failures due to excessive length of URLs.</p> <p>You must specify one of the <code>TemplateBody</code> and <code>TemplateURL</code> parameters, but you cannot specify both of them.</p>

Parameter	Type	Required	Example	Description
<code>--StackPolicyURL</code>	String	No	<code>oss://ros-stack-policy/demo</code>	<p>The URL for the file that contains the stack policy. The URL must point to a policy located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: <code>oss://ros/stack-policy/demo</code> and <code>oss://ros/stack-policy/demo?RegionId=cn-hangzhou</code>. The policy can be up to 16,384 bytes in length and the URL can be up to 1,350 bytes in length.</p> <p> Note If the region of the OSS bucket is not specified, the <code>RegionId</code> parameter value is used by default.</p> <p>You can specify one of the <code>StackPolicyBody</code> and <code>StackPolicyURL</code> parameters, but you cannot specify both of them.</p>

Parameter	Type	Required	Example	Description
-- StackPolicyDuringUpdateURL	String	No	oss://ros-stack-policy/demo	<p>The URL for the file that contains the temporary overriding stack policy. The URL must point to a policy located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: <code>oss://ros/stack-policy/demo</code> and <code>oss://ros/stack-policy/demo?RegionId=cn-hangzhou</code>. The policy can be up to 16,384 bytes in length and the URL can be up to 1,350 bytes in length.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin: 10px 0;"> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> </div> <p>To update protected resources, specify a temporary overriding stack policy during this update. If you do not specify a stack policy, the current policy that is associated with the stack will be used by default. This parameter takes effect only when the ChangeSetType parameter is set to UPDATE. You can specify only one of the following parameters:</p> <ul style="list-style-type: none"> • StackPolicyBody • StackPolicyURL • StackPolicyDuringUpdateBody • StackPolicyDuringUpdateURL
-- StackPolicyBody	String	No	<pre>{"Statement": [{"Action": "Update:*", "Resource": "*", "Effect": "Allow", "Principal": "*"}]}</pre>	<p>The structure that contains the stack policy body. The stack policy body must be 1 to 16,384 bytes in length.</p> <p>You can specify one of the StackPolicyBody and StackPolicyURL parameters, but you cannot specify both of them.</p>
-- UsePreviousParameters	Boolean	No	true	Specifies whether to use the values that were passed last time for the parameters that you do not specify in the current request.

Parameter	Type	Required	Example	Description
<code>--DisableRollback</code>	Boolean	No	false	<p>Specifies whether to disable rollback on stack update failure. Default value: false. Valid values:</p> <ul style="list-style-type: none"> • true: disables rollback on stack update failure. • false: enables rollback on stack update failure.
<code>--TemplateURL</code>	String	No	oss://ros-template/demo	<p>The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: oss://ros/template/demo and oss://ros/template/demo?RegionId=cn-hangzhou. The template can be up to 524,288 bytes in length, and the URL can be up to 1,024 bytes in length.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin: 10px 0;"> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> </div> <p>You must specify one of the TemplateBody and TemplateURL parameters, but you cannot specify both of them.</p>

Sample requests

```
aliyun ros UpdateStack --TemplateBody '{"ROSTemplateFormatVersion": "2015-09-01", "Parameters": {"username": {"Type": "String", "Label": "cli"}}, "Resources": {"TestVPC": {"Type": "ALIYUN::ECS::VPC", "Properties": {"CidrBlock": "172. *. *. */*", "VpcName": "vpc-test"}}}' --Parameters.1.ParameterKey 'username' --Parameters.1.ParameterValue 'test_parameter' --StackId c18d62d8-51ce-4e8e-b8f6-e00be431****
```


Sample success responses


```
{
  "StackId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
  "RequestId": "53C2DB3A-8374-4464-9466-952614EEC467"
}
```

PreviewStack

You can call this operation to preview the stack to be created through a specified template.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-beijing	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackName	String	Yes	MyStack	The name of the stack. The name can be up to 255 characters in length and can contain digits, letters, hyphens (-), and underscores (_). It must start with a digit or letter. Fuzzy search with the asterisk (*) is supported. Valid values: 1 to 5.
--TimeoutInMinutes	Long	Yes	10	The timeout period that is specified for the stack creation request. <ul style="list-style-type: none"> Default value: 60. Unit: minutes.
--Parameters.N.ParameterValue	String	No	ecs.cm4.6xlarge	The value of parameter N. Maximum value of N: 200.
--Parameters.N.ParameterKey	String	No	InstanceType	The key of parameter N. If the key and value of the parameter are not specified, the key and value in the template are used by default. Maximum value of N: 200.

Parameter	Type	Required	Example	Description
<code>--DisableRollback</code>	Boolean	No	false	<p>Specifies whether to disable rollback on stack creation failure. Default value: false. Valid values:</p> <ul style="list-style-type: none"> • true: disables rollback on stack creation failure. • false: enables rollback on stack creation failure.
<code>--TemplateBody</code>	String	No	<pre>{ "ROSTemplateFormatVersion": "2015-09-01" }</pre>	<p>The structure that contains the template body. The template body must be 1 to 524,288 bytes in length.</p> <p>If the length of the template body is longer than required, we recommend that you add parameters to the HTTP POST request body to avoid request failures due to excessive length of URLs.</p> <p>You must specify one of the TemplateBody and TemplateURL parameters, but you cannot specify both of them.</p>
<code>--StackPolicyURL</code>	String	No	oss://ros-stack-policy/demo	<p>The URL for the file that contains the stack policy. The URL must point to a policy located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: oss://ros/stack-policy/demo and oss://ros/stack-policy/demo?RegionId=cn-hangzhou. The policy can be up to 16,384 bytes in length and the URL can be up to 1,350 bytes in length.</p> <div style="background-color: #e6f2ff; padding: 5px; border: 1px solid #d9e1f2;"> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> </div> <p>You can specify one of the StackPolicyBody and StackPolicyURL parameters, but you cannot specify both of them.</p>

Parameter	Type	Required	Example	Description
<code>--StackPolicyBody</code>	String	No	<pre>{ "Statement": [{ "Action": "Update:*", "Resource": "*", "Effect": "Allow", "Principal": "*" }] }</pre>	<p>The structure that contains the stack policy body. The stack policy body must be 1 to 16,384 bytes in length.</p> <p>You can specify one of the <code>StackPolicyBody</code> and <code>StackPolicyURL</code> parameters, but you cannot specify both of them.</p>
<code>--TemplateURL</code>	String	No	<code>oss://ros-template/demo</code>	<p>The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket.</p> <p>Examples: <code>oss://ros/template/demo</code> and <code>oss://ros/template/demo?RegionId=cn-hangzhou</code>. The template can be up to 524,288 bytes in length.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin: 5px 0;"> <p> Note If the region of the OSS bucket is not specified, the <code>RegionId</code> parameter value is used by default.</p> </div> <p>You must specify one of the <code>TemplateBody</code> and <code>TemplateURL</code> parameters, but you cannot specify both of them.</p>
<code>--ClientToken</code>	String	No	<code>123e4567-e89b-12d3-a456-42665544****</code>	<p>The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests.</p> <p>The token can be up to 64 characters in length and can contain only letters, digits, hyphens (-), and underscores (_).</p> <p>For more information, see How to ensure idempotence.</p>

Sample requests

```
aliyun ros PreviewStack --StackName PreStack --TimeoutInMinutes 10 --TemplateBody '{"ROSTemplateFormatVersion": "2015-09-01"}'
```

Sample success responses

```
{
  "Stack": {
    "Parameters": [
      {
        "ParameterValue": "26492326756309****",
        "ParameterKey": "ALIYUN::AccountId"
      },
      {
        "ParameterValue": "None",
        "ParameterKey": "ALIYUN::NoValue"
      },
      {
        "ParameterValue": "cn-hangzhou",
        "ParameterKey": "ALIYUN::Region"
      },
      {
        "ParameterValue": "None",
        "ParameterKey": "ALIYUN::StackId"
      },
      {
        "ParameterValue": "PreStack",
        "ParameterKey": "ALIYUN::StackName"
      }
    ],
    "TemplateDescription": "No description",
    "Description": "No description",
    "TimeoutInMinutes": 10,
    "RegionId": "cn-hangzhou",
    "DisableRollback": false,
    "Resources": [],
    "StackName": "PreStack"
  },
  "RequestId": "0400B1C6-0CD5-4E6B-A674-9A2507ED07B5"
}
```

DeleteStack

You can call this operation to delete a stack and all of its resources.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691f2ff	The ID of the stack.
--RetainAllResources	Boolean	No	false	Specifies whether to retain the resources in the stack.

Sample requests

```
aliyun ros DeleteStack --RegionId cn-hangzhou --StackId 3763bb21-5aa2-4a46-86ec-4b149b2f****
```

Sample success responses

```
{
  "RequestId": "DC2C269B-C29C-4F07-9A6F-6CE47A267A2F"
}
```

CancelUpdateStack

You can call this operation to cancel the update of a stack.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
--CancelType	String	No	Safe	The method to cancel the update operation. We recommend that you set the <code>DisableRollback</code> parameter to true. Valid values: <ul style="list-style-type: none">• Quick: cancels the update of a stack as soon as possible.• Safe: cancels the update of a stack as safely as possible.

Sample requests

```
aliyun ros CancelUpdateStack --StackId c18d62d8-51ce-4e8e-b8f6-e00be431****
```

Sample success responses

```
{
  "RequestId": "F5DFBC9B-1604-4281-B52C-BB35B96018C5"
}
```

ContinueCreateStack

You can call this operation to create a new stack based on the template of the previous stack that fails to be created.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
--RecreatingResources.N	RepeatList	No	WebServer	The resource N to be recreated on creation failure. You can also list extra resources on which resource N is dependent to recreate them.

Sample requests

```
aliyun ros ContinueCreateStack --StackId c18d62d8-51ce-4e8e-b8f6-e00be43****
```

Sample success responses

```
{
  "StackId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
  "RequestId": "E7C8199F-2DC4-4D1B-BA5E-7860BF3A530C"
}
```

ListStackEvents

You can call this operation to query the list of stacks.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.

Parameter	Type	Required	Example	Description
<code>--Status.N</code>	RepeatList	No	<code>CREATE_IN_PROGRESS</code>	<p>The status of resource N. Valid values:</p> <ul style="list-style-type: none"> • <code>CREATE_COMPLETE</code> • <code>CREATE_FAILED</code> • <code>CREATE_IN_PROGRESS</code> • <code>DELETE_FAILED</code> • <code>DELETE_IN_PROGRESS</code> • <code>ROLLBACK_COMPLETE</code> • <code>ROLLBACK_FAILED</code> • <code>ROLLBACK_IN_PROGRESS</code>
<code>--ResourceType.N</code>	RepeatList	No	<code>ALIYUN::ECS::Instance</code>	<p>The type of resource N. Maximum value of N: 200.</p>
<code>--PageNumber</code>	Long	No	1	<p>The number of the page to return.</p> <ul style="list-style-type: none"> • Pages start from page 1. • Default value: 1.
<code>--PageSize</code>	Long	No	10	<p>The number of entries to return on each page.</p> <ul style="list-style-type: none"> • Maximum value: 100. • Default value: 10.

Sample requests

```
aliyun ros ListStackEvents --StackId c18d62d8-51ce-4e8e-b8f6-e00be431****
```

Sample success responses


```
{
  "PageNumber": 1,
  "TotalCount": 2,
  "PageSize": 10,
  "RequestId": "2AE74AAF-F467-4476-AC0E-208C5AE66666",
  "Events": [
    {
      "StatusReason": "Stack CREATE completed successfully",
      "Status": "CREATE_COMPLETE",
      "PhysicalResourceId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
      "LogicalResourceId": "test_stack",
      "ResourceType": "ALIYUN::ROS::Stack",
      "StackId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
      "CreateTime": "2019-09-05T01:27:58",
      "EventId": "51cc568c-4112-4507-aa8b-d432af5b****",
      "StackName": "MyStack"
    },
    {
      "StatusReason": "Stack CREATE started",
      "Status": "CREATE_IN_PROGRESS",
      "PhysicalResourceId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
      "LogicalResourceId": "test_stack",
      "ResourceType": "ALIYUN::ROS::Stack",
      "StackId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
      "CreateTime": "2019-09-05T01:27:58",
      "EventId": "5b9161fc-d4a1-46ef-bbde-a06cceb****",
      "StackName": "MyStack"
    }
  ]
}
```

1.3.3. Resource operations

This topic describes how to use Alibaba Cloud CLI version 3.0.25 or later to call API operations related to resources.

GetResourceType

You can call this operation to query details about a resource type.

Parameter	Type	Required	Example	Description
--ResourceType	String	Yes	ALIYUN::ROS::WaitConditionHandle	The type of the resource.

Sample requests

```
aliyun ros GetResourceType --ResourceType ALIYUN::ECS::VPC
```

Sample success responses

```
{
  "Attributes": {
    "RouteTableId": {
      "Description": "The router table id of created VPC."
    },
    "VRouterId": {
      "Description": "Router id of created VPC."
    },
    "VpcId": {
      "Description": "Id of created VPC."
    }
  },
  "ResourceType": "ALIYUN::ECS::VPC",
  "RequestId": "8A897F64-6A61-446A-A913-30CA572EE181",
  "Properties": {
    "CidrBlock": {
      "Required": false,
      "Description": "The IP address range of the VPC in the CIDR block form. You can use the following IP address ranges and their subnets:\n10.0.0.0/8\n172.16.0.0/12 (Default)\n192.168.0.0/16",
      "Immutable": true,
      "Type": "string",
      "Constraints": [
        {
          "CustomConstraint": "vpc.cidr"
        }
      ],
      "UpdateAllowed": false
    },
    "VpcName": {
      "Required": false,
```

```

"Description": "Display name of the vpc instance, [2, 128] English or Chinese characters, must start with a letter or Chinese in size, can contain numbers, '_' or '-',",
"Immutable": false,
"Type": "string",
"Constraints": [
{
"CustomConstraint": "ecs.name"
}
],
"UpdateAllowed": false
},
"Description": {
"Required": false,
"Description": "Description of the vpc, [2, 256] characters. Do not fill or empty, the default is empty.",
"Immutable": false,
"Type": "string",
"Constraints": [
{
"CustomConstraint": "ecs.description"
}
],
"UpdateAllowed": false
},
"ResourceGroupId": {
"Description": "Resource group id.",
"Required": false,
"Immutable": false,
"Type": "string",
"UpdateAllowed": false
}
}
}
}

```

GetResourceTypeTemplate

You can call this operation to query the template of a resource by resource type.

Parameter	Type	Required	Example	Description
--ResourceType	String	Yes	ALIYUN::ECS::VPC	The type of the resource.

Sample requests

```
aliyun ros GetResourceTypeTemplate --ResourceType ALIYUN::ECS::VPC
```

Sample success responses

```
{
  "TemplateBody": {
    "Outputs": {
      "RouteTableId": {
        "Value": {
          "Fn::GetAtt": [
            "Vpc",
            "RouteTableId"
          ]
        },
        "Description": "The router table id of created VPC."
      },
      "VRouterId": {
        "Value": {
          "Fn::GetAtt": [
            "Vpc",
            "VRouterId"
          ]
        },
        "Description": "Router id of created VPC."
      },
      "VpcId": {
        "Value": {
          "Fn::GetAtt": [
            "Vpc",
            "VpcId"
          ]
        },
        "Description": "Id of created VPC."
      }
    },
    "Parameters": {
      "CidrBlock": {
        "Description": "The IP address range of the VPC in the CIDR block form. You can use the following IP address ranges and their subnets:\n10.0.0.0/8\n172.16.0.0/12 (Default)\n192.168.0.0/16",
        "Type": "String"
      }
    }
  }
}
```

```

    "Type": "String"
  },
  "VpcName": {
    "Description": "Display name of the vpc instance, [2, 128] English or Chinese characters, must start with a letter or Chinese in size, can contain numbers, '_' or '-', '-'",
    "Type": "String"
  },
  "Description": {
    "Description": "Description of the vpc, [2, 256] characters. Do not fill or empty, the default is empty.",
    "Type": "String"
  },
  "ResourceGroupId": {
    "Description": "Resource group id.",
    "Type": "String"
  }
},
"ROSTemplateFormatVersion": "2015-09-01",
"Resources": {
  "Vpc": {
    "Type": "ALIYUN::ECS::VPC",
    "Properties": {
      "CidrBlock": {
        "Ref": "CidrBlock"
      },
      "VpcName": {
        "Ref": "VpcName"
      },
      "Description": {
        "Ref": "Description"
      },
      "ResourceGroupId": {
        "Ref": "ResourceGroupId"
      }
    }
  }
}
"RequestId": "F79C5749-A43E-4915-9FF1-60BD760E822B"
}

```

GetStackResource

You can call this operation to query information about a resource in a specific stack.

Parameter	Type	Required	Example	Description
<code>--RegionId</code>	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
<code>--StackId</code>	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
<code>--LogicalResourceId</code>	String	Yes	WebServer	The logical resource ID defined in the template.
<code>--ShowResourceAttributes</code>	Boolean	No	true	Specifies whether to query resource attributes.
<code>--ClientToken</code>	String	No	123e4567-e89b-12d3-a456-42665544****	The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests. The token can contain only letters, digits, hyphens (-), and underscores (_) and cannot exceed 64 characters in length. For more information, see How to ensure idempotence .

Sample requests

```
aliyun ros GetStackResource --RegionId cn-beijing --StackId bd98e636-68e9-4632-82df-ce2aba56**** --LogicalResourceId Test-VPC
```

Sample success responses

```
{
  "LogicalResourceId": "Test-VPC",
  "Description": "",
  "StackId": "bd98e636-68e9-4632-82df-ce2aba56****",
  "UpdateTime": "2019-09-04T13:22:54",
  "StackName": "CLI-Test-VPC",
  "StatusReason": "state changed",
  "Status": "CREATE_COMPLETE",
  "PhysicalResourceId": "vpc-2ze4leztt48nn5u3o****",
  "ResourceType": "ALIYUN::ECS::VPC",
  "RequestId": "686DC916-FF92-42E1-A9CA-63B811ACDF88",
  "CreateTime": "2019-09-04T13:22:51",
  "Metadata": {}
}
```

ListStackResources

You can call this operation to query the resource list of a specific stack.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.

Sample requests

```
aliyun ros ListStackResources --RegionId cn-beijing --StackId bd98e636-68e9-4632-82df-ce2aba56****
```

Sample success responses

```
{
  "RequestId": "F6D7A5E4-E557-4A8D-A2EF-96036E22BD77",
  "Resources": [
    {
      "StatusReason": "state changed",
      "Status": "CREATE_COMPLETE",
      "PhysicalResourceId": "vpc-2ze4leztt48nn5u3o****",
      "LogicalResourceId": "MyVPC",
      "ResourceType": "ALIYUN::ECS::VPC",
      "StackId": "bd98e636-68e9-4632-82df-ce2aba56****",
      "CreateTime": "2019-09-04T13:22:51",
      "UpdateTime": "2019-09-04T13:22:54",
      "StackName": "CLI-Test-VPC"
    }
  ]
}
```

ListResourceTypes

You can call this operation to query the list of supported resource types.

Sample requests

```
aliyun ros ListResourceTypes
```

Sample success responses

```
{
  "RequestId": "E78F6F42-209A-4F60-89AF-BC0BCEB3DDA5",
  "ResourceTypes": [
    "ALIYUN::ACTIONTRAIL::Trail",
    "ALIYUN::ACTIONTRAIL::TrailLogging",
    "ALIYUN::ApiGateway::Api",
    "ALIYUN::ApiGateway::App",
    "ALIYUN::ApiGateway::Authorization",
    "ALIYUN::ApiGateway::CustomDomain",
    "ALIYUN::ApiGateway::Deployment",
    "ALIYUN::ApiGateway::Group",
    "ALIYUN::ApiGateway::Signature",
    "ALIYUN::ApiGateway::SignatureBinding",
    "ALIYUN::ApiGateway::StageConfig",
    "ALIYUN::ApiGateway::TrafficControl",
    "ALIYUN::AniGateway::TrafficControlBinding".
  ]
}
```



```
"ALIYUN::ECS::NetworkInterfaceAttachment",
"ALIYUN::ECS::NetworkInterfacePermission",
"ALIYUN::ECS::PrepayInstance",
"ALIYUN::ECS::PrepayInstanceGroupClone",
"ALIYUN::ECS::Route",
"ALIYUN::ECS::SNatEntry",
"ALIYUN::ECS::SSHKeyPair",
"ALIYUN::ECS::SSHKeyPairAttachment",
"ALIYUN::ECS::SecurityGroup",
"ALIYUN::ECS::SecurityGroupClone",
"ALIYUN::ECS::SecurityGroupEgress",
"ALIYUN::ECS::SecurityGroupIngress",
"ALIYUN::ECS::Snapshot",
"ALIYUN::ECS::VPC",
"ALIYUN::ECS::VSwitch",
"ALIYUN::EMR::Cluster",
"ALIYUN::ESS::AlarmTask",
"ALIYUN::ESS::AlarmTaskEnable",
"ALIYUN::ESS::LifecycleHook",
"ALIYUN::ESS::ScalingConfiguration",
"ALIYUN::ESS::ScalingGroup",
"ALIYUN::ESS::ScalingGroupEnable",
"ALIYUN::ESS::ScalingRule",
"ALIYUN::ESS::ScheduledTask",
"ALIYUN::ElasticSearch::Instance",
"ALIYUN::FC::CustomDomain",
"ALIYUN::FC::Function",
"ALIYUN::FC::FunctionInvoker",
"ALIYUN::FC::Service",
"ALIYUN::FC::Trigger",
"ALIYUN::FNF::Flow",
"ALIYUN::KMS::Alias",
"ALIYUN::KMS::Key",
"ALIYUN::MEMCACHE::Instance",
"ALIYUN::MNS::Queue",
"ALIYUN::MNS::Subscription",
"ALIYUN::MNS::Topic",
"ALIYUN::MONGODB::Instance",
"ALIYUN::MarketPlace::Image",
"ALIYUN::MarketPlace::Order",
"ALIYUN::NAS::AccessGroup",
```

```
"ALIYUN::NAS::AccessRule",
"ALIYUN::NAS::FileSystem",
"ALIYUN::NAS::MountTarget",
"ALIYUN::OSS::Bucket",
"ALIYUN::OTS::Instance",
"ALIYUN::OTS::VpcBinder",
"ALIYUN::PVTZ::Zone",
"ALIYUN::PVTZ::ZoneRecord",
"ALIYUN::PVTZ::ZoneVpcBinder",
"ALIYUN::RAM::AccessKey",
"ALIYUN::RAM::AttachPolicyToRole",
"ALIYUN::RAM::Group",
"ALIYUN::RAM::ManagedPolicy",
"ALIYUN::RAM::Role",
"ALIYUN::RAM::User",
"ALIYUN::RAM::UserToGroupAddition",
"ALIYUN::RDS::Account",
"ALIYUN::RDS::AccountPrivilege",
"ALIYUN::RDS::DBInstance",
"ALIYUN::RDS::DBInstanceParameterGroup",
"ALIYUN::RDS::DBInstanceSecurityIps",
"ALIYUN::RDS::PrepayDBInstance",
"ALIYUN::REDIS::Instance",
"ALIYUN::REDIS::PrepayInstance",
"ALIYUN::ROS::Stack",
"ALIYUN::ROS::WaitCondition",
"ALIYUN::ROS::WaitConditionHandle",
"ALIYUN::SAG::ACL",
"ALIYUN::SAG::ACLAssociation",
"ALIYUN::SAG::ACLRule",
"ALIYUN::SAG::CloudConnectNetwork",
"ALIYUN::SAG::SmartAccessGatewayBinding",
"ALIYUN::SLB::AccessControl",
"ALIYUN::SLB::BackendServerAttachment",
"ALIYUN::SLB::BackendServerToVServerGroupAddition",
"ALIYUN::SLB::Certificate",
"ALIYUN::SLB::DomainExtension",
"ALIYUN::SLB::Listener",
"ALIYUN::SLB::LoadBalancer",
"ALIYUN::SLB::LoadBalancerClone",
"ALIYUN::SLB::MasterSlaveServerGroup"
```

```

ALIYUN::SLB::MasterSlaveServerGroup ,
"ALIYUN::SLB::Rule",
"ALIYUN::SLB::VServerGroup",
"ALIYUN::SLS::ApplyConfigToMachineGroup",
"ALIYUN::SLS::MachineGroup",
"ALIYUN::UIS::Uis",
"ALIYUN::UIS::UisConnection",
"ALIYUN::UIS::UisNode",
"ALIYUN::VPC::CustomerGateway",
"ALIYUN::VPC::EIP",
"ALIYUN::VPC::EIPAssociation",
"ALIYUN::VPC::PeeringRouterInterfaceBinding",
"ALIYUN::VPC::PeeringRouterInterfaceConnection",
"ALIYUN::VPC::RouterInterface",
"ALIYUN::VPC::SnatEntry",
"ALIYUN::VPC::SslVpnClientCert",
"ALIYUN::VPC::SslVpnServer",
"ALIYUN::VPC::VpnConnection",
"ALIYUN::VPC::VpnGateway"
]
}

```

1.3.4. Template operations

This topic describes how to use Alibaba Cloud CLI version 3.0.25 or later to call API operations related to templates.

CreateTemplate

You can call this operation to create a template.

Parameter	Type	Required	Example	Description
--TemplateName	String	Yes	MyTemplate	The name of the template. The name can be up to 255 characters in length and can contain digits, letters, hyphens (-), and underscores (_). It must start with a digit or letter.
--Description	String	No	It is a demo.	The description of the template. The description can be up to 256 characters in length.

Parameter	Type	Required	Example	Description
<code>--TemplateBody</code>	String	No	<code>{"ROSTemplateFormatVersion": "2015-09-01"}</code>	The structure that contains the template body. The template body must be 1 to 51,200 bytes in length. You must specify either the <code>TemplateBody</code> parameter or the <code>TemplateURL</code> parameter. But you cannot specify both of them.
<code>--TemplateURL</code>	String	No	<code>oss://ros/template/demo</code>	The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket that is in the same region as the stack. Example: <code>oss://ros/template/demo</code> . The template can be up to 524,288 bytes in length. You must specify either the <code>TemplateBody</code> parameter or the <code>TemplateURL</code> parameter. But you cannot specify both of them.

Sample requests

```
aliyun ros CreateTemplate --TemplateName MyTemplate --TemplateBody '{"ROSTemplateFormatVersion": "2015-09-01"}'
```

Sample success responses

```
{
  "RequestId": "24C1BF0F-F65A-45CA-9612-53D0C11BC539",
  "TemplateId": "4237d4b9-31cc-45aa-9c11-6836b2fd****"
}
```

GetTemplate

You can call this operation to query detailed information about a template, including stacks and change sets associated with the template.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	No	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
--ChangeSetId	String	No	1f6521a4-05af-4975-afe9-bc4b45ad****	The ID of the change set.

Sample requests

```
aliyun ros GetTemplate --RegionId cn-beijing --StackId bd98e636-68e9-4632-82df-ce2aba56****
```

Sample success responses

```
{
  "TemplateBody": "{\"ROSTemplateFormatVersion\": \"2015-09-01\", \"Resources\": {\"MyVPC\": {\"Type\": \"ALIYUN::ECS::VPC\", \"Properties\": {\"VpcName\": \"vpc-test\", \"CidrBlock\": \"172.16.0.0/12\"}}}}",
  "RequestId": "3F5F5059-C8C3-473F-ABD3-9647D5384A18"
}
```

UpdateTemplate

You can call this operation to update a template.

Parameter	Type	Required	Example	Description
--TemplateId	String	Yes	4237d4b9-31cc-45aa-9c11-6836b2fd****	The ID of the template.
--Description	String	No	It is a demo.	The description of the template. The description can be up to 256 characters in length.

Parameter	Type	Required	Example	Description
<code>--TemplateName</code>	String	No	MyTemplate	The name of the template. The name can be up to 255 characters in length and can contain digits, letters, hyphens (-), and underscores (_). It must start with a digit or letter.
<code>--TemplateBody</code>	String	No	<code>{"ROSTemplateFormatVersion": "2015-09-01"}</code>	The structure that contains the template body. The template body must be 1 to 51,200 bytes in length. You must specify either the <code>TemplateBody</code> parameter or the <code>TemplateURL</code> parameter. But you cannot specify both of them.
<code>--TemplateURL</code>	String	No	<code>oss://ros/template/demo</code>	The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket that is in the same region as the stack. Example: <code>oss://ros/template/demo</code> . The template can be up to 524,288 bytes in length. You must specify either the <code>TemplateBody</code> parameter or the <code>TemplateURL</code> parameter. But you cannot specify both of them.

Sample requests

```
aliyun ros UpdateTemplate --TemplateId 4237d4b9-31cc-45aa-9c11-6836b2fd**** --Description "Add Description"
```

Sample success responses

```
{
  "RequestId": "72FA566A-CFCB-49C8-B409-9B2A0C6A2FF4",
  "TemplateId": "4237d4b9-31cc-45aa-9c11-6836b2fd****"
}
```

ListTemplates

You can call this operation to query the list of templates.

Parameter	Type	Required	Example	Description
-----------	------	----------	---------	-------------

Parameter	Type	Required	Example	Description
--PageNumber	Long	No	10	The number of the page to return. Pages start from page 1. Default value: 1.
--PageSize	Long	No	1	The number of entries to return on each page. Valid values: 1 to 50. Default value: 10.
--TemplateName	String	No	MyTemplate	The name of the template. The name can be up to 255 characters in length and can contain digits, letters, hyphens (-), and underscores (_). It must start with a digit or letter.

Sample requests

```
aliyun ros ListTemplates --TemplateName "MyTemplate"
```

Sample success responses

```
{
  "PageNumber": 1,
  "HttpStatusCode": 200,
  "TotalCount": 1,
  "PageSize": 10,
  "RequestId": "C8A71A8C-5E15-4B94-8BCC-8023C9B8C236",
  "Templates": [
    {
      "TemplateName": "MyTemplate",
      "Description": "Add Description",
      "CreateTime": "2019-10-24T02:29:09.000000",
      "UpdateTime": "2019-10-24T02:43:35.000000",
      "TemplateId": "4237d4b9-31cc-45aa-9c11-6836b2fd****"
    }
  ],
  "Success": true
}
```


DeleteTemplate

You can call this operation to delete a template.

Parameter	Type	Required	Example	Description
--TemplateId	String	Yes	4237d4b9-31cc-45aa-9c11-6836b2fd****	The ID of the template.

Sample requests

```
aliyun ros DeleteTemplate --TemplateId "4237d4b9-31cc-45aa-9c11-6836b2fd****"
```

Sample success responses

```
{
  "RequestId": "56F950C5-966B-4CFB-B350-1E08D770B5CE"
}
```

GetTemplateEstimateCost

You can call this operation to query estimated prices of resources to be created based on a template.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-beijing	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--Parameters.N.ParameterKey	String	No	Instanceid	The key of parameter N. If the key and value of the parameter are not specified, the key and value specified in the template are used. Maximum value of N: 200.
--Parameters.N.ParameterValue	String	No	i-xxxxxx	The value of parameter N. Maximum value of N: 200.

Parameter	Type	Required	Example	Description
--TemplateURL	String	No	oss://ros-template/demo	The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: oss://ros/template/demo and oss://ros/template/demo?RegionId=cn-hangzhou. If the region of the OSS bucket is not specified, the RegionId parameter value is used by default. The template can be up to 524,288 bytes in length. You must specify either the TemplateBody parameter or the TemplateURL parameter. But you cannot specify both of them.
--TemplateBody	String	No	{ "ROSTemplateFormatVersion": "2015-09-01" }	The structure that contains the template body. The template body must be 1 to 51,200 bytes in length. You must specify either the TemplateBody parameter or the TemplateURL parameter. But you cannot specify both of them.
--ClientToken	String	No	123e4567-e89b-12d3-a456-42665544****	The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests. The token can contain only letters, digits, hyphens (-), and underscores(_) and cannot exceed 64 characters in length. For more information, see How to ensure idempotence .

Sample requests

```
aliyun ros GetTemplateEstimateCost --TemplateBody '{"ROSTemplateFormatVersion': '2015-09-01', 'Resources': {'Database': {'Type': 'ALIYUN::RDS::DBInstance', 'Properties': {'Engine': 'MySQL', 'EngineVersion': '5.6', 'DBInstanceClass': 'rds.mysql.t1.small', 'DBInstanceStorage': '10', 'DBInstanceNetType': 'Intranet', 'SecurityIPList': '10.23.XX.XX/XX', 'MasterUsername': 'hope', 'MasterUserPassword': 'lvpd3****', 'DBMappings': [{'DBName': 'hope', 'CharacterSetName': 'utf8'}]}}}'
```

Sample success responses

```
{
  "RequestId": "FF1AB18B-10A4-4C0E-A377-C049728F215B",
  "Resources": {
    "Database": {
      "Result": {
        "RequestId": "47E01009-44A4-402D-AA6C-100CED430429",
        "Order": {
          "OriginalAmount": 0.307,
          "RuleIds": {
            "RuleId": []
          },
        },
        "TradeAmount": 0.307,
        "Coupons": {
          "Coupon": []
        },
        "DiscountAmount": 0.0,
        "Currency": "CNY"
      },
      "Rules": {
        "Rule": []
      }
    },
    "Type": "ALIYUN::RDS::DBInstance",
    "Success": true
  }
}
```

ValidateTemplate

You can call this operation to validate the template that is used to create stacks.

Parameter	Type	Required	Example	Description
--RegionId	String	No	cn-hangzhou	The region ID of the stack template. You can call the DescribeRegions operation to query the most recent region list.

Parameter	Type	Required	Example	Description
--TemplateBody	String	No	<code>{"ROSTemplateFormatVersion": "2015-09-01"}</code>	The structure that contains the template body. The template body must be 1 to 51,200 bytes in length. You must specify either the TemplateBody parameter or the TemplateURL parameter. But you cannot specify both of them.
--TemplateURL	String	No	<code>oss://ros/template/demo</code>	The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: <code>oss://ros/template/demo</code> and <code>oss://ros/template/demo?RegionId=cn-hangzhou</code> . If the region of the OSS bucket is not specified, the RegionId parameter value is used by default. The template can be up to 524,288 bytes in length. You must specify either the TemplateBody parameter or the TemplateURL parameter. But you cannot specify both of them.

Sample requests

```
aliyun ros ValidateTemplate --TemplateBody '{"ROSTemplateFormatVersion": "2015-09-01", "Parameters": {"username": {"Type": "String", "Label": "CLI", "Default": "CLITest"}}}'
```

Sample success responses

```
{
  "Parameters": [
    {
      "Default": "CLITest",
      "NoEcho": "false",
      "Description": "",
      "Type": "String",
      "Label": "CLI",
      "ParameterKey": "username"
    }
  ],
  "Description": "No description",
  "RequestId": "30FA40B9-82DE-4849-A95C-7D19F308FD20"
}
```

1.3.5. Stack policy operations

This topic describes how to use Alibaba Cloud CLI version 3.0.25 or later to call API operations related to stack policies.

SetStackPolicy

You can call this operation to set a stack policy.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
--StackPolicyBody	String	No	{ "Statement": [{"Effect": "Allow", "Action": "Update*", "Principal": "*", "Resource": "*" }] }	The structure that contains the stack policy body. The policy body must be 1 to 16,384 bytes in length. You can specify either the StackPolicyBody parameter or the StackPolicyURL parameter. But you cannot specify both of them.

Parameter	Type	Required	Example	Description
<code>--StackPolicyURL</code>	String	No	<code>oss://ros/stack-policy/demo</code>	<p>The URL for the file that contains the stack policy. The URL must point to a policy located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: <code>oss://ros/stack-policy/demo</code> and <code>oss://ros/stack-policy/demo?RegionId=cn-hangzhou</code>. If the region of the OSS bucket is not specified, the <code>RegionId</code> parameter value is used by default. The policy can be up to 16,384 bytes in length and the URL can be up to 1,350 bytes in length.</p> <p>You can specify either the <code>StackPolicyBody</code> parameter or the <code>StackPolicyURL</code> parameter. But you cannot specify both of them.</p>

Sample requests

```
aliyun ros SetStackPolicy --StackId c18d62d8-51ce-4e8e-b8f6-e00be431**** --StackPolicyURL "oss://ros/stack-policy/demo"
```

Sample success responses

```
{
  "RequestId": "B258A0BE-D927-4381-B0F7-B35EF864B6E6F"
}
```

GetStackPolicy

You can call this operation to query information about a stack policy.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.

Sample requests

```
aliyun ros GetStackPolicy --RegionId cn-beijing --StackId 939963e3-e84a-42a8-992b-c2474b75****
```

Sample success responses

```
{
  "StackPolicyBody": {
    "Statement": [
      {
        "Resource": "*",
        "Principal": "*",
        "Action": "Update:*",
        "Effect": "Allow"
      },
      {
        "Resource": "LogicalResourceId/WebServer",
        "Principal": "*",
        "Action": "Update:*",
        "Effect": "Deny"
      }
    ]
  },
  "RequestId": "5A81C4B1-CF6A-448B-9E2E-80B0F4CB4164"
}
```

1.3.6. Change set operations


This topic describes how to use Alibaba Cloud CLI version 3.0.25 or later to call the API operations related to change sets.

CreateChangeSet

You can call this operation to create a change set.


Parameter	Type	Required	Example	Description
Action	String	Yes	CreateChangeSet	The operation that you want to perform. Set the value to CreateChangeSet.
ChangeSetName	String	Yes	MyChangeSet	<p>The name of the change set.</p> <p>The name can be up to 255 characters in length, and can contain digits, letters, hyphens (-), and underscores (_). It must start with a letter or digit.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin-top: 10px;"> <p> Note You must ensure that the name is unique among all change sets associated with a specified stack.</p> </div>
Parameters.N.ParameterKey	String	Yes	Amount	The key of parameter N. If the key and value of the parameter are not specified, the key and value in the template are used by default. Maximum value of N: 200.
Parameters.N.ParameterValue	String	Yes	12	The value of parameter N. Maximum value of N: 200.
RegionId	String	Yes	cn-hangzhou	The region ID of the change set. You can call the DescribeRegions operation to query the most recent region list. For more information about DescribeRegions, see DescribeRegions .


Parameter	Type	Required	Example	Description
StackId	String	No	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	<p>The ID of the stack for which you want to create the change set. ROS generates the change set by comparing the stack information with the information that you submit, such as a modified template or different inputs.</p> <p>This parameter takes effect only when the ChangeSetType parameter is set to UPDATE.</p>

Parameter	Type	Required	Example	Description
StackPolicyURL	String	No	oss://ros/stack-policy/demo	<p>The URL for the file that contains the stack policy. The URL must point to a policy located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: oss://ros/stack-policy/demo and oss://ros/stack-policy/demo?RegionId=cn-hangzhou. The policy can be up to 16,384 bytes in length and the URL can be up to 1,350 bytes in length.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin: 5px 0;"> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> </div> <p>You can specify one of the StackPolicyBody and StackPolicyURL parameters, but you cannot specify both of them.</p> <p>When you set the ChangeSetType parameter to CREATE, you can specify one of the StackPolicyBody and StackPolicyURL parameters, but you cannot specify both of them. When you set the ChangeSetType parameter to UPDATE, you can specify only one of the following parameters:</p> <ul style="list-style-type: none"> • StackPolicyBody • StackPolicyURL • StackPolicyDuringUpdateBody • StackPolicyDuringUpdateURL


Parameter	Type	Required	Example	Description
StackPolicyBody	String	No	<pre>{ "Statement": [{ "Effect": "Allow", "Action": "Update:*", "Principal": "*", "Resource": "*" }] }</pre>	<p>The structure that contains the stack policy body. The stack policy body must be 1 to 16,384 bytes in length. When you set the <code>ChangeSetType</code> parameter to <code>CREATE</code>, you can specify one of the <code>StackPolicyBody</code> and <code>StackPolicyURL</code> parameters, but you cannot specify both of them. When you set the <code>ChangeSetType</code> parameter to <code>UPDATE</code>, you can specify only one of the following parameters:</p> <ul style="list-style-type: none"> • <code>StackPolicyBody</code> • <code>StackPolicyURL</code> • <code>StackPolicyDuringUpdateBody</code> • <code>StackPolicyDuringUpdateURL</code>
StackName	String	No	MyStack	<p>The name of the stack for which you want to create the change set.</p> <p>The name can be up to 255 characters in length, and can contain digits, letters, hyphens (-), and underscores (_). It must start with a letter or digit.</p> <p>This parameter takes effect only when the <code>ChangeSetType</code> parameter is set to <code>CREATE</code>.</p>
UsePreviousParameters	Boolean	No	true	<p>Specifies whether to use the values that were passed last time for the parameters that you do not specify in the current request. Default value: <code>false</code>. Valid values:</p> <ul style="list-style-type: none"> • <code>true</code> • <code>false</code> <p>This parameter takes effect only when the <code>ChangeSetType</code> parameter is set to <code>UPDATE</code>.</p>

Parameter	Type	Required	Example	Description
ChangeSetType	String	No	UPDATE	<p>The type of the change set. Default value: UPDATE. Valid values:</p> <ul style="list-style-type: none"> • CREATE: creates a change set for a new stack. • UPDATE: creates a change set for an existing stack. <p>If you create a change set for a new stack, ROS creates a stack with a unique stack ID. The stack is in the REVIEW_IN_PROGRESS state until you execute the change set.</p> <p>You cannot use the UPDATE type to create a change set for a new stack or the CREATE type to create a change set for an existing stack.</p>
Description	String	No	It is a demo.	<p>The description of the change set. The description can be up to 1,024 bytes in length.</p>
ClientToken	String	No	123e4567-e89b-12d3-a456-42665544****	<p>The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests.</p> <p>It can be up to 64 characters in length, and can contain letters, digits, hyphens (-), and underscores (_).</p> <p>For more information, see How to ensure idempotence.</p>

Parameter	Type	Required	Example	Description
TemplateURL	String	No	oss://ros/template/demo	<p>The URL for the file that contains the template body. The URL must point to a template located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: <code>oss://ros/template/demo</code> and <code>oss://ros/template/demo?RegionId=cn-hangzhou</code>. The template can be up to 524,288 bytes in length, and the URL can be up to 1,024 bytes in length.</p> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> <p>You must specify one of the TemplateBody and TemplateURL parameters, but you cannot specify both of them.</p>

Parameter	Type	Required	Example	Description
StackPolicyDuringUpdateURL	String	No	oss://ros/stack-policy/demo	<p>The URL for the file that contains the temporary overriding stack policy. The URL must point to a policy located in an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: <code>oss://ros/stack-policy/demo</code> and <code>oss://ros/stack-policy/demo?RegionId=cn-hangzhou</code>. The policy can be up to 16,384 bytes in length and the URL can be up to 1,350 bytes in length.</p> <div style="background-color: #e1f5fe; padding: 5px; border: 1px solid #cfe2f3;"> <p> Note If the region of the OSS bucket is not specified, the RegionId parameter value is used by default.</p> </div> <p>You can specify one of the StackPolicyBody and StackPolicyURL parameters, but you cannot specify both of them.</p> <p>To update protected resources, specify a temporary overriding stack policy during the update. If you do not specify a stack policy, the current policy that is associated with the stack will be used. This parameter takes effect only when the ChangeSetType parameter is set to UPDATE. You can specify only one of the following parameters:</p> <ul style="list-style-type: none"> • StackPolicyBody • StackPolicyURL • StackPolicyDuringUpdateBody • StackPolicyDuringUpdateURL

Parameter	Type	Required	Example	Description
TemplateBody	String	No	<pre>{"ROSTemplateFormatVersion": "2015-09-01"}</pre>	<p>The structure that contains the template body. The template body must be 1 to 524,288 bytes in length.</p> <p>If the length of the template body is longer than required, we recommend that you add parameters to the HTTP POST request body to avoid request failures due to excessive length of URLs.</p> <p>You must specify one of the TemplateBody and TemplateURL parameters, but you cannot specify both of them.</p>
TimeoutInMinutes	Long	No	12	<p>The amount of time that can elapse before the stack status changes to CREATE_FAILED or UPDATE_FAILED.</p> <p>This parameter is required when the ChangeSetType parameter is set to CREATE. This parameter is optional when the ChangeSetType parameter is set to UPDATE.</p> <ul style="list-style-type: none"> • Unit: minutes. • Valid values: 10 to 1440. • Default value: 60.
DisableRollback	Boolean	No	false	<p>Specifies whether to disable rollback on stack creation failure.</p> <p>Default value: false. Valid values:</p> <ul style="list-style-type: none"> • true: disables rollback on stack creation failure. • false: enables rollback on stack creation failure. <p>This parameter takes effect only when the ChangeSetType parameter is set to CREATE.</p>

Parameter	Type	Required	Example	Description
StackPolicyDuringUpdateBody	String	No	<pre> {"Statement": [{"Effect":"Allow", "Action":"Update:*", "Principal": "*" , "Resource": "*"}]} </pre>	<p>The structure that contains the body of the temporary overriding stack policy. The stack policy body must be 1 to 16,384 bytes in length.</p> <p>To update protected resources, specify a temporary overriding stack policy to take effect during the update. If no stack policy is specified for this parameter, the current policy associated with the stack is used.</p> <p>This parameter takes effect only when the ChangeSetType parameter is set to UPDATE. You can specify only one of the following parameters:</p> <ul style="list-style-type: none"> StackPolicyBody StackPolicyURL StackPolicyDuringUpdateBody StackPolicyDuringUpdateURL
				<p>The callback URL that is used to receive stack event N. Only HTTP POST is supported.</p> <ul style="list-style-type: none"> Maximum value of N: 5. Each URL can be up to 1,024 bytes in length. Notifications are sent when the stack status changes. If rollback is enabled on the stack, notifications are sent if the stack is in the CREATE_ROLLBACK or ROLLBACK state, but are not sent when the stack is in the CREATE_FAILED or UPDATE_FAILED state. <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin: 10px 0;"> <p> Note ROS does not send notifications when the stack is in the IN_PROGRESS state.</p> </div> <p>Notifications are sent regardless of whether the Outputs parameter is specified. The following segment is an example of a notification:</p>

Parameter	Type	Required	Example	Description
NotificationURLs.N	RepeatList	No	http://my-site.com/ros-notify	<pre>{ "Outputs": [{ "Description": "No description given", "OutputKey": "InstanceId", "OutputValue": "i-xxx" }], "StackId": "80bd6b6c-e888-4573-ae3b-93d291*****", "StackName": "test-notification-url", "Status": "CREATE_COMPLETE" }</pre>

Parameter	Type	Required	Example	Description
RamRoleName	String	No	test-role	<p>The name of the RAM role. ROS assumes the specified RAM role to create the stack and call API operations by using the credentials of the role.</p> <p>All operations will be performed under this role. If a RAM user is authorized to perform operations on the stack but does not have the permission to use the role, ROS still uses the role and grants the role the least privilege.</p> <p>If you do not specify this parameter, ROS uses the role previously associated with the stack. If no roles are available, ROS uses the temporary credentials generated from the credentials of your account.</p> <p>The RAM role name can be up to 64 characters in length.</p>

Sample requests

```
aliyun ros CreateChangeSet --RegionId cn-beijing --ChangeSetName MyChangeSet --Parameters.1.ParameterKey Amount --Parameters.1.ParameterValue --TemplateURL oss://ros/template/demo
```

Sample success responses

```
{
  "ChangeSetId": "e8dshe0c-6428-46ab-a5g3-fdds6hg****",
  "StackId": "4a6c2547-3v5f-4y7f-bs8a-a14bf639****",
  "RequestId": "9C039DDC-98B2-4668-9FCC-EAE9BAEFDD36"
}
```

GetChangeSet

You can call this operation to query information about a change set.

Parameter	Type	Required	Example	Description
Action	String	Yes	GetChangeSet	The operation that you want to perform. Set the value to GetChangeSet.
ChangeSetId	String	Yes	1f6521a4-05af-4975-afe9-bc4b45ad****	The ID of the change set.
--RegionId	String	Yes	cn-hangzhou	The region ID of the change set. You can call the DescribeRegions operation to query the most recent region list. For more information about DescribeRegions, see DescribeRegions .
--ShowTemplate	Boolean	No	true	Specifies whether to show the template. Default value: false.

Sample requests

```
aliyun ros GetChangeSet --ChangeSetId 1f6521a4-05af-4975-afe9-bc4b45ad**** --ShowTemplate true
```

Sample success responses

```
{ "ExecutionStatus": "AVAILABLE",
  "Parameters": [
    {
      "ParameterValue": "342546988786****",
      "ParameterKey": "ALIYUN::AccountId"
    },
    {
      "ParameterValue": "None",
      "ParameterKey": "ALIYUN::NoValue"
    },
    {
      "ParameterValue": "cn-beijing",
      "ParameterKey": "ALIYUN::Region"
    },
    {
      "ParameterValue": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
      "ParameterKey": "ALIYUN::StackId"
    }
  ]
}
```

```
},
{
  "ParameterValue": "MyStack",
  "ParameterKey": "ALIYUN::StackName"
},
{
  "ParameterValue": "sg-bfwb3h3eosga1tj5****",
  "ParameterKey": "SecurityGroupId"
}
],
"Changes": [
{
  "Type": "Resource",
  "ResourceChange": {
    "LogicalResourceId": "WebServer",
    "ResourceType": "ALIYUN::ECS::Instance",
    "Action": "Add",
    "Details": [],
    "Scope": []
  }
}
],
"Description": "It is a demo.",
"TimeoutInMinutes": 12,
"ChangeSetId": "1f6521a4-05af-4975-afe9-bc4b45ad****", "StackId": "c18d62d8-51ce-4e8e-b8f6-e00be431****",
"DisableRollback": false,
"ChangeSetName": "MyChangeSet",
"ChangeSetType": "CREATE",
"StackName": "MyStack",
"Status": "CREATE_COMPLETE",
"TemplateBody": "{\"ROSTemplateFormatVersion\":\"2015-09-01\",\"Parameters\":{\"SecurityGroupId\":{\"Type\":\"String\"},\"Resources\":{\"WebServer\":{\"Type\":\"ALIYUN::ECS::Instance\",\"Properties\":{\"ImageId\":\"centos_7\",\"InstanceType\":\"ecs.c6.large\",\"SecurityGroupId\":{\"Ref\":\"SecurityGroupId\"}}},\"Outputs\":{\"InstanceId\":{\"Value\":{\"Fn:GetAtt\":\"WebServer\",\"InstanceId\"}},\"PublicIp\":{\"Value\":{\"Fn:GetAtt\":\"WebServer\",\"PublicIp\"}}}}\",
"RequestId": "A46D85A6-9C8E-4603-9989-1FF3F91512F6",
"RegionId": "cn-beijing",
"CreateTime": "2019-09-05T14:39:31"
}
```

DeleteChangeSet

You can call this operation to delete a change set.

Parameter	Type	Required	Example	Description
Action	String	Yes	DeleteChangeSet	The operation that you want to perform. Set the value to DeleteChangeSet.
RegionId	String	Yes	cn-hangzhou	The region ID of the change set. You can call the DescribeRegions operation to query the most recent region list. For more information about DescribeRegions, see DescribeRegions .
ChangeSetId	String	Yes	1f6521a4-05af-4975-afe9-bc4b45ad****	The ID of the change set.

Sample requests

```
aliyun ros DeleteChangeSet --ChangeSetId 1f6521a4-05af-4975-afe9-bc4b45ad****
```

Sample success responses

```
{
  "RequestId": "A74B9A63-C40A-41B9-9CCE-E4757E48FFA0"
}
```

ExecuteChangeSet

You can call this operation to execute a change set.

Parameter	Type	Required	Example	Description
Action	String	Yes	ExecuteChangeSet	The operation that you want to perform. Set the value to ExecuteChangeSet.
RegionId	String	Yes	cn-hangzhou	The region ID of the change set. You can call the DescribeRegions operation to query the most recent region list. For more information about DescribeRegions, see DescribeRegions .
ChangeSetId	String	Yes	1f6521a4-05af-4975-afe9-bc4b45ad****	The ID of the change set.

Sample requests

```
aliyun ros ExecuteChangeSet --ChangeSetId 1f6521a4-05af-4975-afe9-bc4b45ad****
```

Sample success responses

```
{
  "RequestId": "0A46C1A6-6823-43A7-8EF1-D8950DCF29D8"
}
```

ListChangeSets

You can call this operation to query the list of change sets.

Parameter	Type	Required	Example	Description
Action	String	Yes	ListChangeSets	The operation that you want to perform. Set the value to ListChangeSets.

Parameter	Type	Required	Example	Description
RegionId	String	Yes	cn-hangzhou	The region ID of the change set. You can call the DescribeRegions operation to query the most recent region list. For more information about DescribeRegions, see DescribeRegions .
StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
ChangeSetName.N	RepeatList	No	MyChangeSet	The name of change set N. Maximum value of N: 5. Fuzzy search with the asterisk (*) is supported.
Status.N	RepeatList	No	CREATE_COMPLETE	The status of change set N. Maximum value of N: 5. Valid values: <ul style="list-style-type: none"> CREATE_PENDING CREATE_IN_PROGRESS CREATE_COMPLETE CREATE_FAILED DELETE_FAILED DELETE_COMPLETE
ExecutionStatus.N	RepeatList	No	AVAILABLE	The execution status of change set N. Maximum value of N: 5. Valid values: <ul style="list-style-type: none"> UNAVAILABLE AVAILABLE EXECUTE_IN_PROGRESS EXECUTE_COMPLETE EXECUTE_FAILED OBSOLETE
PageNumber	Long	No	1	The number of the page to return. Pages start from page 1. Default value: 1.
PageSize	Long	No	10	The number of entries to return on each page. Valid values: 1 to 50. Default value: 10.

Parameter	Type	Required	Example	Description
ChangeSetId	String	No	1f6521a4-05af-4975-afe9-bc4b45ad****	The ID of the change set. If the detailed information about the change set is not needed, you can use this parameter to replace the GetChangeSet operation.

Sample requests

```
aliyun ros ListChangeSets --StackId 4a6c9851-3b0f-4f5f-b4ca-a14bf691****
```

Sample success responses

```
{
  "PageNumber":1,
  "TotalCount":1,
  "PageSize":10,
  "RequestId":"24AA105D-6AFB-4EBD-923A-DC3A5B10D62A",
  "ChangeSets":[
    {
      "ExecutionStatus":"AVAILABLE",
      "Status":"CREATE_COMPLETE",
      "Description":"It is a demo.",
      "ChangeSetId":"1f6521a4-05af-4975-afe9-bc4b45ad****",
      "StackId":"a6c9851-3b0f-4f5f-b4ca-a14bf691****",
      "RegionId":"cn-beijing",
      "CreateTime":"2019-09-05T14:39:31",
      "ChangeSetName":"MyChangeSet",
      "ChangeSetType":"UPDATE",
      "StackName":"MyStack"
    }
  ]
}
```

1.3.7. Other API operations

This topic describes how to use Alibaba Cloud CLI version 3.0.25 or later to call other API operations.

DescribeRegions

You can call this operation to query available regions.

Parameter	Type	Required	Example	Description
<code>--AcceptLanguage</code>	String	No	zh-CN	<p>The natural language that is used to filter responses. For more information, see RFC 7231.</p> <p>Default value: zh-CN. Valid values:</p> <ul style="list-style-type: none"> zh-CN en-US ja

Sample requests

```
aliyun ros DescribeRegions --AcceptLanguage zh-CN
```

Sample success responses

```
{
  "RequestId": "57B6379F-0446-4B09-A1A2-318F0E70010C",
  "Regions": [
    {
      "RegionId": "cn-qingdao",
      "RegionEndpoint": "ros.aliyuncs.com",
      "LocalName": "China (Qingdao)"
    },
    {
      "RegionId": "cn-beijing",
      "RegionEndpoint": "ros.aliyuncs.com",
      "LocalName": "China (Beijing)"
    },
    {
      "RegionId": "cn-zhangjiakou",
      "RegionEndpoint": "ros.aliyuncs.com",
      "LocalName": "China (Zhangjiakou-Beijing Winter Olympics)"
    },
    {
      "RegionId": "cn-huhehaote",
      "RegionEndpoint": "ros.aliyuncs.com",
      "LocalName": "China (Hohhot)"
    },
    {
      "RegionId": "cn-hangzhou",
```

```
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "China (Hangzhou)"
},
{
"RegionId": "cn-shanghai",
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "China (Shanghai)"
},
{
"RegionId": "cn-shenzhen",
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "China (Shenzhen)"
},
{
"RegionId": "cn-chengdu",
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "China (Chengdu)"
},
{
"RegionId": "cn-hongkong",
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "China (Hong Kong)"
},
{
"RegionId": "ap-northeast-1",
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "Japan (Tokyo)"
},
{
"RegionId": "ap-southeast-1",
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "Singapore"
},
{
"RegionId": "ap-southeast-2",
"RegionEndpoint": "ros.aliyuncs.com",
"LocalName": "Australia (Sydney)"
},
{
"RegionId": "ap-southeast-3",
"RegionEndpoint": "ros.aliyuncs.com",
```

```
"LocalName": "Malaysia (Kuala Lumpur)"
},
{
  "RegionId": "ap-southeast-5",
  "RegionEndpoint": "ros.aliyuncs.com",
  "LocalName": "Indonesia (Jakarta)"
},
{
  "RegionId": "ap-south-1",
  "RegionEndpoint": "ros.aliyuncs.com",
  "LocalName": "India (Mumbai)"
},
{
  "RegionId": "us-east-1",
  "RegionEndpoint": "ros.aliyuncs.com",
  "LocalName": "US (Virginia)"
},
{
  "RegionId": "us-west-1",
  "RegionEndpoint": "ros.aliyuncs.com",
  "LocalName": "US (Silicon Valley)"
},
{
  "RegionId": "eu-west-1",
  "RegionEndpoint": "ros.aliyuncs.com",
  "LocalName": "UK (London)"
},
{
  "RegionId": "me-east-1",
  "RegionEndpoint": "ros.aliyuncs.com",
  "LocalName": "UAE (Dubai)"
},
{
  "RegionId": "eu-central-1",
  "RegionEndpoint": "ros.aliyuncs.com",
  "LocalName": "Germany (Frankfurt)"
}
]
}
```

SignalResource

You can call this operation to send signals.

Parameter	Type	Required	Example	Description
--RegionId	String	Yes	cn-hangzhou	The region ID of the stack. You can call the DescribeRegions operation to query the most recent region list.
--StackId	String	Yes	4a6c9851-3b0f-4f5f-b4ca-a14bf691****	The ID of the stack.
--LogicalResourceId	String	Yes	WebServer	The logical resource ID defined in the template.
--Status	String	Yes	SUCCESS	The status of the signal. Failure signals can cause stack creation or update to fail. If all signals are warnings, the stack cannot be created or updated. Valid values: <ul style="list-style-type: none"> • SUCCESS • FAILURE • WARNING
--UniqueId	String	Yes	27c7347b-352a-4377-accf-63d361c1****	The unique ID of the signal. The ID must be 1 to 64 characters in length. If multiple signals are sent to a single resource, each signal must have a unique ID.
--ClientToken	String	No	123e4567-e89b-12d3-a456-42665544****	The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests. It can be up to 64 characters in length and can contain letters, digits, hyphens (-), and underscores (_). For more information, see How to ensure idempotence .

Sample requests

```
aliyun ros SignalResource --StackId bd98e636-68e9-4632-82df-ce2aba56**** --LogicalResourceId WebServer --Status SUCCESS --UniqueId 36fd647b-g472-6426-accf-63d361c1****
```

Sample success responses

```
{  
  "RequestId": "36DE4C6C-1F85-425F-9083-FEB040B8BB21"  
}
```

2.Plug-in tools

2.1. Use Ansible to manage stacks

2.1.1. Overview

You can use Ansible to create, update, query, and delete a stack.

Concepts

Term	Description
Ansible playbook	The configuration, deployment, and orchestration language of Ansible. Playbooks are expressed in YAML format. They can describe a policy you want your remote systems to enforce, or a set of steps in a general IT process.
Ansible module	The discrete unit of code executed by Ansible. Ansible modules can be used from the command line or in a playbook task.

Scenario

Resource Orchestration Service (ROS) supports two Ansible modules: `ali_ros_stack` and `ali_ros_stack_info`. You can use the two modules in the following scenarios.

Module	Scenario	Reference
ali_ros_stack	Create a stack	Use ali_ros_stack to create a stack
	Update a stack	Use ali_ros_stack to update a stack
	Delete a stack	Use ali_ros_stack to delete a stack
ali_ros_stack_info	Query information about a stack	Use ali_ros_stack_info to query information about a stack

Parameters

ali_ros_stack

- Request parameters

Parameter	Type	Example	Description
-----------	------	---------	-------------

Parameter	Type	Example	Description
alicloud_access_key	String	None	The AccessKey ID provided to you by Alibaba Cloud. If this parameter is not specified, the values of the ALICLOUD_ACCESS_KEY and ALICLOUD_ACCESS_KEY_ID environment variables are used.
alicloud_region	String	cn-beijing	The ID of the region. If this parameter is not specified, the values of the ALICLOUD_REGION and ALICLOUD_REGION_ID environment variables are used.
alicloud_secret_key	String	None	The Alibaba Cloud AccessKey pair. If this parameter is not specified, the values of the ALICLOUD_SECRET_KEY and ALICLOUD_SECRET_ACCESS_KEY environment variables are used.
stack_name	String	vpc_2020-04-08_****	The name of the stack.
template_parameters	Dict	None	The parameters of the stack template.
state	String	absent	The operation that you want to perform on a stack. Default value: present. Valid values: <ul style="list-style-type: none"> ○ present: creates and updates a stack. ○ absent: deletes a stack.

Parameter	Type	Example	Description
template	String	/tmp/update_vpc.json	The file path of the stack template.
timeout_in_minutes	Integer	60	The timeout period that is specified for the stack creation request. Default value: 60. Unit: minutes.

- Response parameters

Parameter	Type	Example	Description
stack	Dict	None	The stack information.
stack: stack_id	String	ac3159b9-XXXX-4605-97a5-5fd12792****	The ID of the stack.
stack: create_time	String	2020-04-27T08:36:43	The time when the stack was created.
stack: disable_rollback	Boolean	false	Indicates whether rollback is disabled on stack creation failure. Default value: false. Valid values: <ul style="list-style-type: none"> ◦ true: disables rollback on stack creation failure. ◦ false: enables rollback on stack creation failure.
stack: region_id	String	cn-beijing	The ID of the region to which the stack belongs.
stack: stack_name	String	stack_2020-04-27****	The name of the stack.
			The status of the stack. Valid values: <ul style="list-style-type: none"> ◦ CREATE_IN_PROGRESS: The stack is being created.

Parameter	Type	Example	Description
stack: status	String	CREATE_IN_PROGRESS	<ul style="list-style-type: none"> ◦ CREATE_FAILED: The stack fails to be created. ◦ CREATE_COMPLETE: The stack is created. ◦ UPDATE_IN_PROGRESS: The stack is being updated. ◦ UPDATE_FAILED: The stack fails to be updated. ◦ UPDATE_COMPLETE: The stack is updated. ◦ DELETE_IN_PROGRESS: The stack is being deleted. ◦ DELETE_FAILED: The stack fails to be deleted. ◦ DELETE_COMPLETE: The stack is deleted. ◦ CREATE_ROLLBACK_IN_PROGRESS: The stack creation is being rolled back. ◦ CREATE_ROLLBACK_FAILED: The stack creation fails to be rolled back. ◦ CREATE_ROLLBACK_COMPLETE: The stack creation is rolled back. ◦ ROLLBACK_IN_PROGRESS: The stack is being rolled back. ◦ ROLLBACK_FAILED: The stack fails to be rolled back. ◦ ROLLBACK_COMPLETE: The stack is rolled back. ◦ CHECK_IN_PROGRESS: The stack is being verified. ◦ CHECK_FAILED: The stack fails to be verified.

Parameter	Type	Example	Description
			<ul style="list-style-type: none"> ◦ CHECK_COMPLETE: The stack is verified.
stack: status_reason	String	Stack CREATE started	<ul style="list-style-type: none"> ◦ REVIEW_IN_PROGRESS: The reason that the stack is in its current status.
stack: timeout_in_minutes	Integer	60	<p>The timeout period that is specified for the stack creation request.</p> <p>Default value: 60.</p> <p>Unit: minutes.</p>

ali_ros_stack_info

- Request parameters

Parameter	Type	Example	Description
alicloud_access_key	String	None	The AccessKey ID provided to you by Alibaba Cloud. If this parameter is not specified, the values of the ALICLOUD_ACCESS_KEY and ALICLOUD_ACCESS_KEY_ID environment variables are used.
alicloud_region	String	cn-beijing	The ID of the region. If this parameter is not specified, the values of the ALICLOUD_REGION and ALICLOUD_REGION_ID environment variables are used.

Parameter	Type	Example	Description
alicloud_secret_key	String	None	The Alibaba Cloud AccessKey pair. If this parameter is not specified, the values of the ALICLOUD_SECRET_KEY and ALICLOUD_SECRET_ACCESS_KEY environment variables are used.
stack_ids	List	["f83226ec-b0f2-4c78-8139-99fe24f3****", "0d87e1b4-c54f-4f3e-abad-2678e661****"]	The collection of stack IDs.
name_prefix	String	stack_name	The prefix of the stack name.
filters	Dict	None	The filtering parameters supported by ROS. Format: {'key': 'value'}.

- Response parameters

Parameter	Type	Example	Description
ids	List	None	The collection of stack IDs.
stacks	Dict	None	The collection of stack information.
stacks: stack_id	String	0f9c682d-xxxx-41cf-838b-308f6fa6****	The ID of the stack.
stacks: create_time	String	2020-04-27T08:54:32	The time when the stack was created.

Parameter	Type	Example	Description
stacks: disable_rollback	Boolean	false	Indicates whether rollback is disabled on stack creation failure. Default value: false. Valid values: <ul style="list-style-type: none"> ◦ true: disables rollback on stack creation failure. ◦ false: enables rollback on stack creation failure.
stacks: region_id	String	cn-beijing	The ID of the region to which the stack belongs.
stacks: stack_name	String	create_vpc_****	The name of the stack.
			The status of the stack. Valid values: <ul style="list-style-type: none"> ◦ CREATE_IN_PROGRESS: The stack is being created. ◦ CREATE_FAILED: The stack fails to be created. ◦ CREATE_COMPLETE: The stack is created. ◦ UPDATE_IN_PROGRESS: The stack is being updated. ◦ UPDATE_FAILED: The stack fails to be updated. ◦ UPDATE_COMPLETE: The stack is updated. ◦ DELETE_IN_PROGRESS: The stack is being deleted. ◦ DELETE_FAILED: The stack fails to be deleted. ◦ DELETE_COMPLETE: The stack is deleted.

Parameter name	Type	Example	Description
		CREATE_IN_PROGRESS	<ul style="list-style-type: none"> ◦ CREATE_ROLLBACK_IN_PROGRESS: The stack creation is being rolled back. ◦ CREATE_ROLLBACK_FAILED: The stack creation fails to be rolled back. ◦ CREATE_ROLLBACK_COMPLETE: The stack creation is rolled back. ◦ ROLLBACK_IN_PROGRESS: The stack is being rolled back. ◦ ROLLBACK_FAILED: The stack fails to be rolled back. ◦ ROLLBACK_COMPLETE: The stack is rolled back. ◦ CHECK_IN_PROGRESS: The stack is being verified. ◦ CHECK_FAILED: The stack fails to be verified. ◦ CHECK_COMPLETE: The stack is verified. ◦ REVIEW_IN_PROGRESS: The stack is being reviewed.
stacks: status_reason	String	Stack CREATE started	The reason that the stack is in its current status.
stacks: timeout_in_minutes	Integer	60	<p>The timeout period that is specified for the stack creation request.</p> <p>Default value: 60.</p> <p>Unit: minutes.</p>

2.1.2. Use ali_ros_stack to create a stack

This topic describes how to use the ali_ros_stack module to create a stack by writing Ansible playbook code. A VPC is used in the example.

Prerequisites


Ansible is installed on Linux with pip3 and configured.

Procedure

1. Create a file named `create_vpc.yml` and open it in the visual editor.

```
vi create_vpc.yml
```

2. In edit mode, copy the following playbook code to the `create_vpc.yml` file:

 **Note** For more information about the `ali_ros_stack` module parameters, see [Parameters](#).

```
- hosts: localhost
remote_user: root
tasks:
- name: Changed. Create Ros Stack
  ali_ros_stack:
  state: present
  stack_name: vpc_2020-04-08_test
  template: create_vpc.json
  timeout_in_minutes: 60
  template_parameters:
  CidrBlock: 192.168.XX.XX/16
  VpcName: CreateVpc
```

3. Save the file and exit the edit mode.
4. Create a file named `create_vpc.json` and open it in the visual editor.

```
vi create_vpc.json
```

5. In edit mode, copy the following playbook code to the `create_vpc.json` file:

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcName": {
      "Type": "String",
      "Description": "Vpc Name",
      "Label": "Vpc Name"
    },
    "CidrBlock": {
      "Type": "String",
      "Description": "Vpc CidrBlock",
      "Label": "Vpc CidrBlock"
    }
  },
  "Resources": {
    "Vpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": {
          "Ref": "CidrBlock"
        },
        "VpcName": {
          "Ref": "VpcName"
        }
      }
    }
  }
}
```

6. Save the file and exit the edit mode.
7. Run the Ansible playbook to create a VPC.

```
ansible-playbook create_vpc.yml
```

2.1.3. Use `ali_ros_stack` to update a stack

This topic describes how to use the `ali_ros_stack` module to update a stack by writing Ansible playbook code. A VPC is used in the example.

Prerequisites


Ansible is installed on Linux with `pip3` and configured.

Procedure

1. Create a file named *update_vpc.yml* and open it in the visual editor.

```
vi update_vpc.yml
```

2. In edit mode, copy the following playbook code to the *update_vpc.yml* file:

 **Note** For more information about the `ali_ros_stack` module parameters, see [Parameters](#).

```
- hosts: localhost
remote_user: root
tasks:
- name: Changed. Update Ros Stack
  ali_ros_stack:
  state: present
  stack_name: vpc_2020-04-08_test
  template: update_vpc.json
  timeout_in_minutes: 60
  template_parameters:
  CidrBlock: 192.168.XX.XX/16
  VpcName: UpdateVpc
```

3. Save the file and exit the edit mode.
4. Create a file named *update_vpc.json* and open it in the visual editor.

```
vi update_vpc.json
```

5. In edit mode, copy the following playbook code to the *update_vpc.json* file:


```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcName": {
      "Type": "String",
      "Description": "Vpc Name",
      "Label": "Vpc Name"
    },
    "CidrBlock": {
      "Type": "String",
      "Description": "Vpc CidrBlock",
      "Label": "Vpc CidrBlock"
    }
  },
  "Resources": {
    "Vpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": {
          "Ref": "CidrBlock"
        },
        "VpcName": {
          "Ref": "VpcName"
        }
      }
    }
  }
}
```

6. Save the file and exit the edit mode.
7. Run the Ansible playbook to update a VPC.

```
ansible-playbook update_vpc.yml -v
```

2.1.4. Use ali_ros_stack to delete a stack

This topic describes how to use the ali_ros_stack module to delete a stack by writing Ansible playbook code. A VPC is used in the example.

Prerequisites


Ansible is installed on Linux with pip3 and configured.

Procedure

1. Create a file named `delete_vpc.yml` and open it in the visual editor.

```
vi delete_vpc.yml
```

2. In edit mode, copy the following playbook code to the `delete_vpc.yml` file:

 **Note** For more information about the `ali_ros_stack` module parameters, see [Parameters](#).

```
- hosts: localhost
remote_user: root
tasks:
- name: Changed. Delete Ros Stack
  ali_ros_stack:
  state: absent
  stack_name: vpc_2020-04-08_test
```

3. Save the file and exit the edit mode.
4. Run the Ansible playbook to delete a VPC.

```
ansible-playbook delete_vpc.yml -v
```

2.1.5. Use `ali_ros_stack_info` to query information about a stack

This topic describes how to use the `ali_ros_stack_info` module to query information about a stack by writing Ansible playbook code. A VPC is used in the example.

Prerequisites


Ansible is installed on Linux with pip3 and configured.

Procedure

1. Create a file named `get_vpc.yml` and open it in the visual editor.

```
vi get_vpc.yml
```

2. In edit mode, copy the following playbook code to the `get_vpc.yml` file:

 **Note** For more information about the `ali_ros_stack_info` module parameters, see [Parameters](#).

```
- hosts: localhost
remote_user: root
tasks:
- name: Get ROS Stack Info By ids
  ali_ros_stack_info:
  stack_ids:
  - f83226ec-b0f2-4c78-8139-99fe24f3****
  - 0d87e1b4-c54f-4f3e-abed-2678e661****

- name: Get ROS Stack Info By name_prefix
  ali_ros_stack_info:
  name_prefix: kong_stack
```

3. Save the file and exit the edit mode.
4. Run the Ansible playbook to query information about a VPC.

```
ansible-playbook get_vpc.yml -v
```

2.2. Use Aliyun Serverless VSCode Extension to create a template

This topic describes how to use Aliyun Serverless VSCode Extension to create a template.

Context

Aliyun Serverless VSCode Extension provides syntax prompts for ROS template files. It also allows you to develop and debug Function Compute functions on your local PC. For more information, see [serverless-vscode](#). You must install [Visual Studio Code](#) to use Aliyun Serverless VSCode Extension.

Syntax prompts:

- **Automatic completion:** Resource property configurations in a template file are completed automatically according to prompts provided based on the indentation level.
- **Schema validation:** All resource configurations in a template file are validated based on the specifications in [Serverless Application Model](#).
- **Hovering prompts:** Context-sensitive help is provided for all resource configurations in a template file. When you move the pointer over a resource key, property information such as the property name, type, and document URL is displayed.

Step 1: Install the extension

1. Open VS Code and press `Ctrl+Shift+X` to go to the extension marketplace.
2. Search for Aliyun Serverless and install it.
3. Restart VS Code.

When the **ALIYUN:FUNCTION COMPUTE** icon is displayed in the left-side activity bar, the extension is installed.

Step 2: Bind an Alibaba Cloud account


1. Start **ALIYUN:FUNCTION COMPUTE**.
2. Click **Bind New Account** under the **REMOTE RESOURCES** option. In the text box that appears, enter the account ID, AccessKey ID, AccessKey secret, and local name of the account in sequence.

After you enter the information, the name and region appear in the lower-left corner, which indicates that the account is bound.

Step 3: Create a template

1. Open a folder in VS Code, and Aliyun Serverless VSCode Extension is still in the inactive state. Click the `ALIYUN:FUNCTION COMPUTE` icon to activate it.
2. Create a `template.yml` file.
3. Enter `ros` in the first line, and press the Enter key twice. The system prompts you for the required parameters.
4. Enter keywords of a resource type under `Resources`, and then a list of related resources is provided.

For example, if you enter `ECS`, all resources related to ECS appear. After you select a resource type, a schema is generated. When you move the pointer over `Properties`, all properties and data types of the resource type appear.

 **Note** You can search for the names of properties by fuzzy match. When required properties are missing, alerts are triggered for `Properties`, and prompts appear in the console.