

Alibaba Cloud

Cloud Shell UserGuide

Document Version: 20220119

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. Use Cloud Shell	05
2. Tools supported by Cloud Shell	07
3. Visual code editor of Cloud Shell	09
4. Download files from Cloud Shell	10
5. Parameter formats in Alibaba Cloud CLI	12
6. Codes of Alibaba Cloud services	14
7. Authorize RAM users	16

1. Use Cloud Shell

You can directly call Alibaba Cloud Open APIs in the Cloud Shell to manage cloud resources.

Step 1: Start Cloud Shell

Choose one of the following method to start Cloud Shell


- Start from Alibaba Cloud console

Click the Cloud Shell icon in the top menu of the [Alibaba Cloud console](#) to start Cloud Shell.

- Start from web browser

Enter <https://shell.aliyun.com> in a web browser or open Cloud Shell from the [OpenAPI Explorer](#).

You can start multiple Cloud Shell windows as needed, but up to 5 Cloud Shell windows can be started at the same time.

 **Note** When you first connect to the Cloud Shell, a new VM will be created for you. This operation takes some time, but does not take longer than 40 seconds. When multiple Cloud Shell windows are opened, all windows are connected to the same virtual machine. The number of virtual machines does not increase when you open a new Cloud Shell window.

Step 2. Use CLI to manage cloud resources

You can use CLI commands to manage cloud resources in the Cloud Shell.

Use the following syntax to call an RPC API in the Cloud Shell:

```
aliyun <ProductCode> <ActionName> [--parameter1 value1 --parameter2 value2]
```

where:

- ProductCode: the code of the product to call. For example, the code of ECS is `ecs`, and the code of Server Load Balancer is `slb`. You can run the `aliyun --help` command to get product codes.
- ActionName: the API to call. For example, call the `DescribeInstanceAttribute` API to get the detailed configurations of an ECS instance.
- parameter: the required parameters. Refer to the API documentation of each product.

(Optional) Step 3: Get help

You can run the help command to get help information.

- Run the following command in the Cloud Shell to get the help information of a specific product.

```
aliyun <ProductCode> --help
```

Example

Run the following command in the Cloud Shell to get the list of APIs of ECS.

```
aliyun ecs --help
```

- Run the following command in the Cloud Shell to get the help information of a specific API:

```
aliyun <ProductCode> <ApiName> --help
```

Example

Run the following command to get the help information of the `DescribeInstanceAttribute` API:

```
aliyun ecs DescribeInstanceAttribute --help
```

2.Tools supported by Cloud Shell

Type	Tool
Linux utilities	bash ping telnet tmux ssh curl Standard Debian system utilities
Alibaba Cloud tools	Aliyun CLI fun fcli aliyunlog fastgpu
Text editors	vim nano emacs
Source control	git
Build and package tools	Make npm pip nvm maven
Orchestration tools	Terraform Ansible
Containers	kubectl helm2 helm3 Docker Machine

Type	Tool
Databases	MySQL client

3. Visual code editor of Cloud Shell

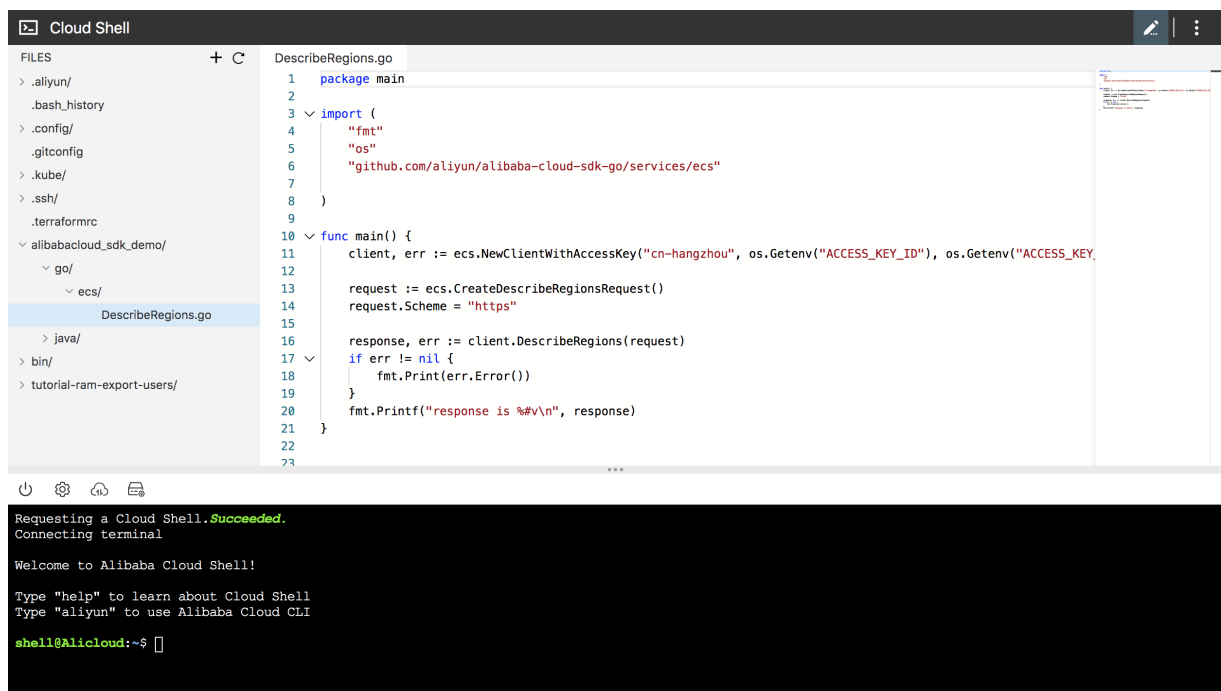
Cloud Shell provides a built-in visual code editor. The simplified code editor allows you to develop programs on one page and execute or deploy code through commands.

Procedure:

1. Click the code icon in the toolbar to open the code editor.



The editor is displayed as follows.



2. Use the code editor to browse the \$HOME directory, view and edit files, and use Cloud Shell in the lower-part of the page.

Note After you bind a storage space to a Cloud Shell instance, the edited files can be stored permanently.

4.Download files from Cloud Shell

Cloud Shell allows you to download files.

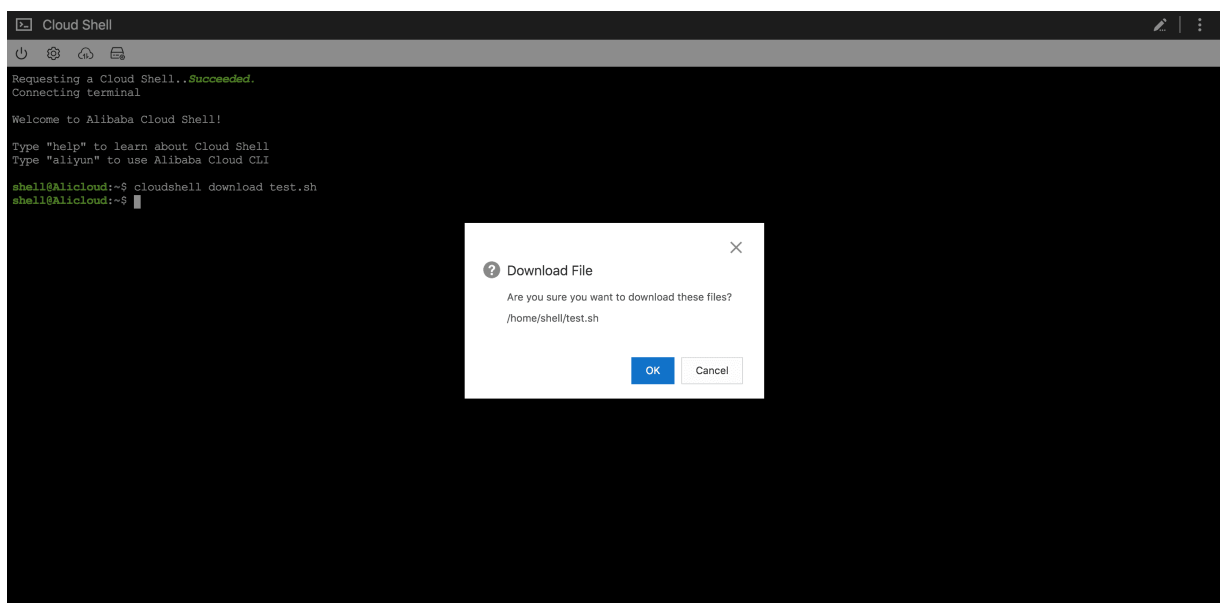
You can run the `cloudshell download` command to download the files in the `$HOME` directory of a Cloud Shell instance to your local computer.

```
cloudshell download <file name>
```

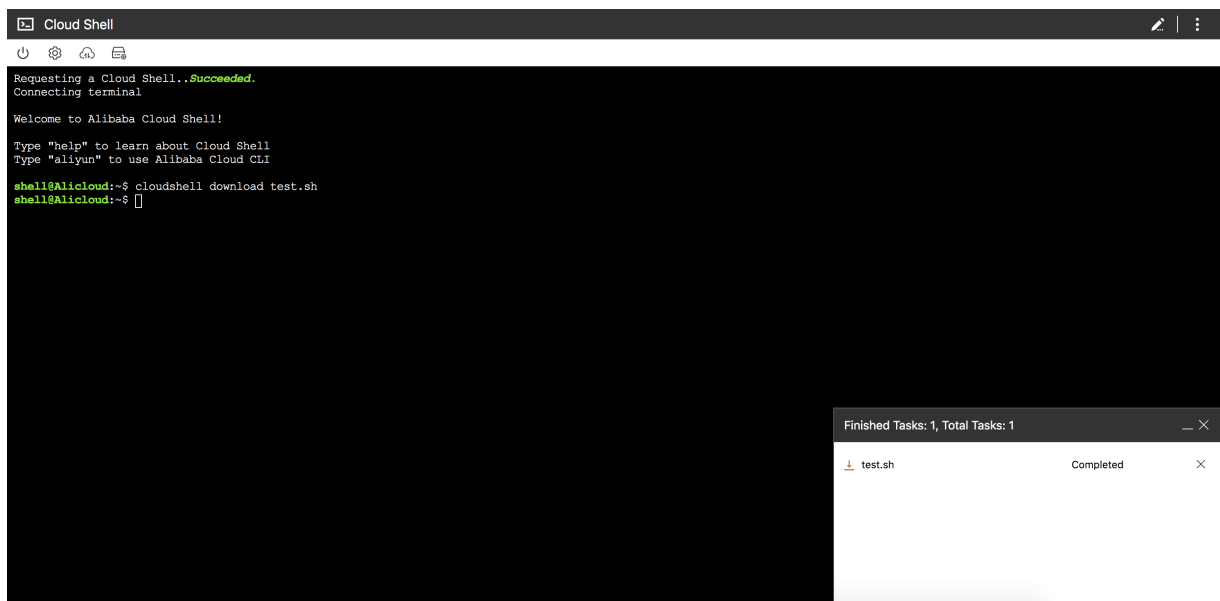
Example:

1. Enter the command.

```
cloudshell download test.sh
```



2. Click OK.



For more information about built-in commands of Cloud Shell, see `cloudshell help` .

5. Parameter formats in Alibaba Cloud CLI

When you use Alibaba Cloud Command Line Interface (CLI) to call API operations, you must meet the following requirements on the names and values of request parameters:

- **Case sensitivity of parameter names:** Parameter names in API operations are case-sensitive. When you enter parameter names in Alibaba Cloud CLI, you must follow the capitalization conventions of parameter names.
- **Case sensitivity of parameter values:** The values of some request parameters in API operations are not case-sensitive. However, to ensure uniform writing, we recommend that you follow the capitalization conventions of parameter values when you enter parameter values.
- **Parameter values written as STRING type in API references:** For STRING type values that contain no special characters, directly enter the values. For STRING type values that contain special characters, enclose the values in single quotation marks (') or double quotation marks (") when you enter the values.

Examples:

```
# aliyun ecs DescribeImages --ImageName "Custom image_1-10.11.161.1"
# aliyun ecs DescribeImages --ImageName 'Blue screen on Windows-Database business-10.173.161.26'
# aliyun ecs DescribeImages --ImageName WindowsTest
```

- **Parameter values written as INTEGER type in API references:** For parameter values of the INTEGER type, directly enter the values.

Examples:

```
# aliyun ecs DescribeImages --ImageName WindowsTest --PageSize 10
```

- **Parameter values written as lists of the STRING type in API references:** For STRING type parameters that support multiple values, such as ImageId, separate parameter values with commas (,) and enclose the values in single quotation marks (') or double quotation marks (") when you enter the values.

Examples:

```
# aliyun ecs DescribeImages --ImageId "m-23e0oxmbv,m-23waejuy9"
# aliyun ecs DescribeImages --ImageId 'm-23e0oxmbv,m-23waeju'
```

- **Parameter values written as JSON arrays of the STRING type in API references:** For STRING type parameters that are set to a formatted JSON array, enclose the array in brackets [] and enclose the brackets [] in single quotation marks ('). Inside the brackets [], separate values in the array with commas (,) and enclose each value in double quotation marks ("). You can also enclose each value in single quotation marks (') and enclose the entire array with brackets [] in double quotation marks (").

Examples:

```
# aliyun ecs DescribeDisks --DiskIds '["d-23rssg24f","d-23vsih26x","d-23sfqfbfa"]'
# aliyun ecs DescribeDisks --DiskIds "['d-23rssg24f','d-23vsih26x','d-23sfqfbfa']"
```

- **Parameter values written as JSON array lists of the STRING type in API references:** For STRING type parameters that are set to a JSON array list, enclose the list in brackets [] and enclose the brackets [] in double quotation marks ("). Inside the brackets [], separate arrays with commas (,) and enclose each array in braces {}. Inside each pair of braces, separate the key and value of an array with a colon (:) and respectively enclose the key and the value of the array in single quotation marks ('). You can also respectively enclose the key and the value of an array in double quotation marks (") and enclose the entire list with brackets [] in single quotation marks (').

Examples:

```
# aliyun slb AddBackendServers --LoadBalancerId 15157b19f18-cn-hangzhou-dg-a01 --BackendServers "[{'ServerId':'i-23g8aact0'},{'ServerId':'i-23bb03yh9'}]"
# aliyun slb AddBackendServers --LoadBalancerId 15157b19f18-cn-hangzhou-dg-a01 --BackendServers '[{"ServerId":"i-23g8aact0"}, {"ServerId":"i-23bb03yh9"}]'
```

- **Parameter values written as DateTime values of the STRING type in API references:** For STRING type parameters that are set to a UTC timestamp in the ISO 8601 standard, enter the parameter values in the YYYY-MM-DDThh:mm:ssZ format.

Examples:

```
# aliyun ecs DescribeInstanceMonitorData --InstanceId i-94ola4btX --StartTime 2015-11-28T15:00:00Z --EndTime 2015-11-28T18:00:00Z
```

6.Codes of Alibaba Cloud services

Code	Alibaba Cloud service
aegis	Server Guard
alidns	Alibaba Cloud DNS
arms	Application Real-Time Monitoring Service
batchcompute	BatchCompute
ccc	Cloud Call Center
cdn	Alibaba Cloud CDN
cds	CodePipeline
chatbot	AlimeBot
cloudapi	API Gateway
cloudauth	ID Verification
cloudphoto	Cloud Photos
cloudwf	CloudAP
cms	Cloud Monitor
cr	Container Registry
cs	Container Service
csb	Cloud Service Bus
dds	ApsaraDB for MongoDB
dm	Direct Mail
domain	Domains
drds	Distributed Relational Database Service
eci	Elastic Container Instance
ecs	Elastic Compute Service
edas	Enterprise Distributed Application Service
elasticsearch	Elasticsearch
emr	E-MapReduce

Code	Alibaba Cloud service
ess	Auto Scaling
green	Content Moderation
hpc	Elastic High Performance Computing
httpdns	HTTPDNS
iot	IoT Platform
itaas	Cloud Display
kms	Key Management Service
live	ApsaraVideo Live
mts	ApsaraVideo Media Processing
nas	Apsara File Storage NAS
ons	Message Queue
ots	Tablestore
polardb	PolarDB
push	Alibaba Cloud Mobile Push
qualitycheck	Smart Conversation Analysis
r-kvstore	ApsaraDB for Redis
ram	Resource Access Management
rds	ApsaraDB for RDS
ros	Resource Orchestration Service
sas-api	Security Center
slb	Server Load Balancer
vod	ApsaraVideo VOD
vpc	Virtual Private Cloud
waf	Web Application Firewall

7. Authorize RAM users

By default, only Alibaba Cloud accounts can use Cloud Shell. If a Resource Access Management (RAM) user needs to use Cloud Shell, you must authorize the RAM user.

Procedure

1. Log on to the [Alibaba Cloud RAM console](#).
2. Choose **Identities > Users** and find the RAM user to be authorized.
3. Click **Add Permissions** in the Actions column.
4. In the **Add Permissions** panel, select the system policy for Cloud Shell. After you select the policy, the policy appears in the Selected section on the right. Then, click **OK**.
 - i. To grant the full read and write permissions on Cloud Shell, select the `AliyunCloudShellFullAccess` policy.

Custom policies

The system policy provided by Cloud Shell is a coarse-grained policy. To achieve fine-grained access control, you can create custom policies.

Before you create custom policies, you must familiarize yourself with the basic structure and syntax of the policies. For more information, see [Policy structure and syntax](#).

Actions of custom policies

Action	Description
cloudshell:CreateEnvironment	Creates a CloudShell instance environment.
cloudshell:CreateSession	Connect to a CloudShell environment.
cloudshell:DownloadFile	Download files from CloudShell to a local machine.
cloudshell:UploadFile	Upload file from a local machine to CloudShell.
cloudshell:AttachStorage	Attach a storage for CloudShell.
cloudshell:DetachStorage	Detach a storage for CloudShell.