Alibaba Cloud CLI

User Guide

User Guide

See the Python SDKs of different Alibaba Cloud products and the commands for installing the SDKs in SDK document Python SDK.

Scripts usage samples

Alibaba Cloud CLI is a tool for the unified management and configuration of Alibaba Cloud assets. After you install and configure Alibaba Cloud CLI, you can use it to manage multiple Alibaba Cloud products and services simultaneously. However, to use Alibaba Cloud CLI, you must remember many API interfaces and parameters. To facilitate your use of Alibaba Cloud CLI, we have compiled a script integrating common operation modes, including executing a single task and executing tasks in a batch. The following describes how to use this script and taking the usage method on Linux system as an example.

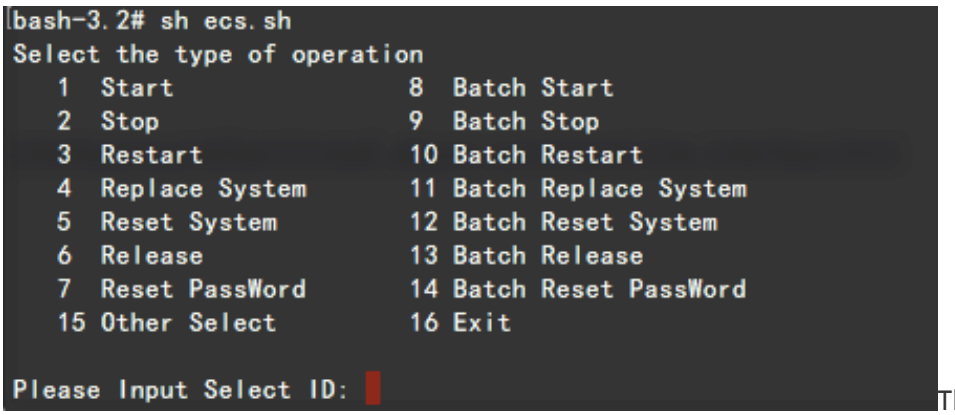
Install and configure Alibaba Cloud CLI. For more information about the installation and configuration procedures, see Alibaba Cloud CLI installation guide (Linux/UNIX/Mac OS) and Configuration of Alibaba Cloud CLI.

Click to download the package: ecs.tar.gz

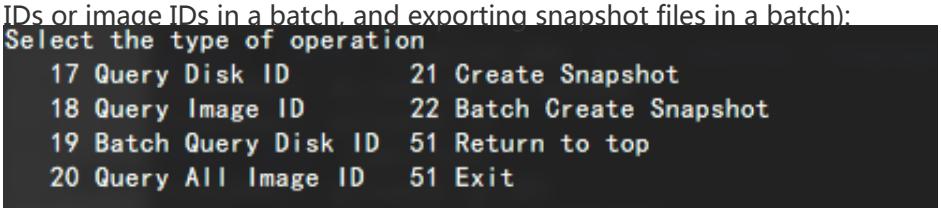
Run the following commands:

```
tar zxvf ecs.tar.gz
sh ecs.sh
```

The following figure shows the level-one directories (for executing a single task or executing tasks in a batch, including start, stop, restart, replacing the system, resetting the system, release, and resetting password):



The following figure shows level-two directories (for querying a single disk ID or image ID, querying disk IDs or image IDs in a batch, and exporting snapshot files in a batch):



You can run the following script in Alibaba Cloud CLI to query information (image IDs and names) of all subscribed image market images. You can download or edit the script.

Click to download the script: querySubscribedImageId.zip

The script is as follows:

```
`#!/bin/bash
tcount=`aliyuncli ecs DescribeImages --ImageOwnerAlias marketplace --output json --filter TotalCount`
pageNum=1
cat /dev/null >/tmp/imageids.txt
while ((tcount>0))
do
aliyuncli ecs DescribeImages --ImageOwnerAlias marketplace --filter Images.Image[*].ImageId --PageSize 100 --
PageNumber $pageNum --output json --filter Images.Image[*].ImageId | sed '1d' | sed '$d' | sed 's/ , //g' | sed
's/"//g'| sed 's/ //g'>>/tmp/imageids.txt
let pageNum++
let tcount-=100
done

cat /tmp/imageids.txt | while read line
do
isSubscribed=`aliyuncli ecs DescribeImages --ImageOwnerAlias marketplace --ImageId $line --filter
ImageIds.Image[*] --filter Images.Image[*].IsSubscribed --output json | sed '1d' | sed '$d' | sed 's/ //g'`
if [[ $isSubscribed = "true" ]];then
echo $line `aliyuncli ecs DescribeImages --ImageOwnerAlias marketplace --ImageId $line --filter ImageIds.Image[*]
--filter Images.Image[*].ImageName --output json | sed '1d' | sed '$d' | sed 's/ //g'` >>imagesInfo.txt
fi
done
native2ascii -encoding UTF-8 -reverse imagesInfo.txt imagesInfoCN.txt
rm -rf imagesInfo.txt
cat imagesInfoCN.txt`
```

After editing or downloading the script and granting the permission (by running the chmod + x command), you can run the script in the following format to generate an imagesInfoCN.txt file containing information of subscribed image market images in the directory storing the script.

Example:

```
./querySubscribedImageId.sh
```

Sample output:

```
# ./querySubscribedImageId.sh
m-23917oqoi "ASP/.NET runtime environment (Windows 2008 64-bit|IIS7.0) V1.0"
m-23n2589vc "Java runtime environment (Centos 64-bit|OpenJDK1.7) V1.0"
m-23u9mjjtk "PW website construction system (Centos 64-bit) V1.0"
```

You can run the script below in Alibaba Cloud CLI to query all instance IDs in a specified region, and export them to a file. You can choose to download or edit the script.

Click to download the script: getVmList.zip

The script is as follows.

```
#!/bin/bash

tcount=`aliyuncli ecs DescribeInstances --RegionId $1 --output json --filter TotalCount`
pageNum=1
cat /dev/null >vmList.txt
while ((tcount>0))
do
aliyuncli ecs DescribeInstances --RegionId $1 --PageSize 100 --PageNumber $pageNum --output json --filter
Instances.Instance[*].InstanceId | sed '1d' | sed '$d' | sed 's/ , //g' | sed 's/"//g'| sed 's/ //g'>>vmList.txt
let pageNum++
let tcount-=100
done
cat vmList.txt
```

After you edit or download the script and grant the permission (by running the chmod + x command), you can run the script in the following format to generate a vmList.txt file containing required instance IDs in the directory storing the script.

Format:

```
./getVmList.sh <Region ID>
```

Note: You can obtain the Region ID through the DescribeRegions interface.

Example:

```
./getVmList.sh cn-hangzhou
```

Sample output:

```
#./getVmList.sh cn-hangzhou
cn-hangzhou sg-227f611ss
cn-hangzhou sg-22esa2s7s
```

You can run the following script in Alibaba Cloud CLI to query the VPC instance ID list with no VSwitch created in all regions. You can download or edit the script.

Click to download the script: getNoVSWitchVpcIds.zip.

The script is as follows:

```
#!/bin/bash
for RegionId in `aliyuncli ecs DescribeRegions --filter Regions.Region[*].RegionId --output json | sed '1d' | sed '$d' |
sed 's/ , //g' | sed 's/"//g'| sed 's/ //g'`
do
cat /dev/null >/tmp/vpcIDs.txt
pageNum=1
tcount=`aliyuncli ecs DescribeVpcs --RegionId $RegionId --output json --filter TotalCount`
while ((tcount>0))
do
aliyuncli ecs DescribeVpcs --RegionId $RegionId --filter Vpcs.Vpc[*].VpcId --PageSize 50 --PageNumber $pageNum
--output json | sed '1d' | sed '$d' | sed 's/ , //g' | sed 's/"//g'| sed 's/ //g'>>/tmp/vpcIDs.txt
let pageNum++
let tcount-=50
done

cat /tmp/vpcIDs.txt | while read line
do
vSwitchCount=`aliyuncli ecs DescribeVSwitches --VpcId $line --output json --filter TotalCount`
if [[ $vSwitchCount -eq 0 ]];then
echo $RegionId $line
fi
done
done
```

After editing or downloading the script and granting the permission (by running the chmod + x command), you can run the script in the following format to export the VPC instance IDs (in pairs) with no VSwitch created in all regions in the Region ID VpcId format by region.

Format:

```
./getNoVSWitchVpcIds.sh
```

Sample output:

```
[root@AliyunTest]# ./getNoVSWitchVpcIds.sh
cn-hangzhou vpc-23vyarrss
```

You can run the following script in Alibaba Cloud CLI to query security groups not associated with any instances in all regions and perform operations (such as DELETE) on the security groups. You can download or edit the script.

Click to download the script: getUnUsedSecurityGroupId.zip.

The script is as follows:

```
#!/bin/bash
for RegionId in `aliyuncli ecs DescribeRegions --filter Regions.Region[*].RegionId --output json | sed '1d' | sed '$d' |
sed 's/ , //g' | sed 's/"//g'| sed 's/ //g'`
do
cat /dev/null >/tmp/UnUsedSecurityGroupIds.txt
pageNum=1
tcount=`aliyuncli ecs DescribeSecurityGroups --RegionId $RegionId --output json --filter TotalCount`
while ((tcount>0))
do
aliyuncli ecs DescribeSecurityGroups --RegionId $RegionId --filter SecurityGroups.SecurityGroup[*].SecurityGroupId
--PageSize 100 --PageNumber $pageNum --output json | sed '1d' | sed '$d' | sed 's/ , //g' | sed 's/"//g'| sed 's/
//g'>>/tmp/UnUsedSecurityGroupIds.txt
let pageNum++
let tcount-=100
done

cat /tmp/UnUsedSecurityGroupIds.txt | while read line
do
usedVMCount=`aliyuncli ecs DescribeInstances --RegionId $RegionId --SecurityGroupId $line --output json --filter
TotalCount`
if [[ $usedVMCount -eq 0 ]];then
echo $RegionId " " $line
fi
done
done
```

After editing or downloading the script and granting the permission (by running the chmod + x command), you can run the script in the following format to export IDs of security groups (in pairs) not associated with any instances in all regions by region and security group.

Format:

```
./getUnUsedSGInfo.sh
```

Sample output:

```
[root@AliyunTest]# ./getUnUsedSGInfo.sh
cn-qingdao sg-227f61lts
cn-shenzhen sg-22esa0f7s
```

Structure and parameters of the command line

For ease of use, Alibaba Cloud CLI provides online help commands. You can use the help commands to query valid operations supported by Alibaba Cloud products.

For instance, if you want to query all the operations supported by ECS, run aliyuncli ecs help command and the query result is shown as follows.

```
-bash-4.1$ aliyuncli ecs help
usage: aliyuncli <command> <operation> [options and parameters]
[ecs] valid operations as follows:

AbsConfigService                          | AllocateEipAddress
AllocatePublicIpAddress                   | AssociateEipAddress
AttachDisk                                | AuthorizeSecurityGroup
BindIpRange                               | CreateDisk
CreateImage                               | CreateInstance
CreateRouteEntry                          | CreateSecurityGroup
CreateSnapshot                            | CreateVSwitch
CreateVpc                                 | DeleteDisk
DeleteImage                               | DeleteInstance
DeleteRouteEntry                          | DeleteSecurityGroup
DeleteSnapshot                            | DeleteVSwitch
DeleteVpc                                 | DescribeAutoSnapshotPolicy
DescribeDisks                             | DescribeEipAddresses
DescribeEipMonitorData                    | DescribeImages
DescribeInstanceAttribute                 | DescribeInstanceMonitorData
DescribeInstanceStatus                    | DescribeInstanceTypes
DescribeInstances                         | DescribeRegions
DescribeRouteTables                       | DescribeSecurityGroupAttribute
DescribeSecurityGroups                    | DescribeSnapshots
DescribeVRouters                          | DescribeVSwitches
DescribeVpcs                              | DescribeZones
DetachDisk                                | JoinSecurityGroup
LeaveSecurityGroup                        | ModifyAutoSnapshotPolicy
ModifyDiskAttribute                       | ModifyEipAddressAttribute
ModifyInstanceAttribute                   | ModifyInstanceNetworkSpec
ModifyInstanceVpcAttribute                | ModifySecurityGroupAttribute
ModifyVRouterAttribute                    | ModifyVSwitchAttribute
ModifyVpcAttribute                        | ReInitDisk
RebootInstance                            | ReleaseEipAddress
ReplaceSystemDisk                         | ResetDisk
RevokeSecurityGroup                       | StartInstance
StopInstance                              | UnassociateEipAddress
```

If you want to query the parameters of an ECS operation, run aliyuncli ecs <operation name> help. Taking the DescribeRegions operation as an example, the query result is shown as follows.

```
-bash-4.1$ aliyuncli ecs DescribeRegions help
usage: aliyuncli <command> <operation> [options and parameters]
[ecs.DescribeRegions]: current operation can uses parameters as follow :

--AccessKeyId                             | --AccessKeySecret
--Endpoint                                | --OwnerAccount
--OwnerId                                 | --ResourceOwnerAccount
--output
```

The Alibaba Cloud CLI command structure is as follows.

```
aliyuncli <command> <subcommand> [options and parameters]
```

aliyuncli: Alibaba Coud CLI, the tool name of Alibaba Cloud.

command: a top-layer command which represents an Alibaba Cloud basic service supported by Alibaba Cloud CLI (such as ECS/RDS/SLB/OSS), or a command of Alibaba Cloud CLI (such as “help” and “configure”).

subcommand: a subcommand that specifies an operation to be executed, that is, a specific operation.

options and parameters: the parameter list corresponding to the operation specified in subcommand. The ordering of the parameters has no impact on the use of commands. Various types of input values can be used, such as numbers, strings, lists, mappings, and JSON structures.

Examples:

```
aliyuncli rds DescribeDBInstances --PageSize 50

aliyuncli ecs DescribeRegions

aliyuncli rds DescribeDBInstanceAttribute --DBInstanceId xxxxxx
```

When you are calling Alibaba Cloud CLI, you must input the required values according to the following instructions to avoid errors.

In most cases, you are required to input a string or numeric value to Alibaba Cloud CLI.

Example:

```
$ aliyuncli ecs DescribeInstanceAttribute --InstanceId myInstanceId
```

If your inputs contain spaces, use single quotation mark (‘) to include the value. This manner is applicable to Windows PowerShell, Mac OS, and Linux.

Example:

```
$ aliyuncli ecs DescribeInstanceAttribute --InstanceId 'my instance id'
```

For Windows Command Processer, use double quotation marks (“) to include the value.

Example:

```
> aliyuncli ecs DescribeInstanceAttribute --InstanceId "my instance id"
```

Use JSON format to input parameters. JSON format is allowed in Alibaba Cloud CLI. Especially, when you query information of multiple instances or multiple disks, you can input multiple ID values in JsonArray format. It requires that you strictly edit data in JSON format and perform special processing on double quotation marks (“) in JSON format.

To query information of multiple instances, you can input values with double quotation marks (“), like [“my-intances-id1” , “my-instances-id2”]. However, in Python, the double quotation marks (“) are filtered out by default, so special processing is required.

On Linux and Mac OS systems, use single quotation mark (‘) to include the entire JSON value.

Example:

```
$ aliyuncli ecs DescribeInstances --InstanceIds '["my-intances-id1" , "my-instances-id2"]'
```

In Windows Command Processer, use a backslash (\ ) to represent the double quotation mark (“), and use double quotation marks (“) to include the entire JSON value.

Example:

```
> aliyuncli ecs DescribeInstances --InstanceIds "[\"my-intances-id1\" , \"my-instances-id2\"]"
```

In Windows PowerShell, use a backslash (\ ) to represent the double quotation mark (“), and then use single quotation mark (‘) to include the entire JSON value.

Example:

```
> aliyuncli ecs DescribeInstances --InstanceIds '[\"my-intances-id1\" , \"my-instances-id2\"]'
```

Output format

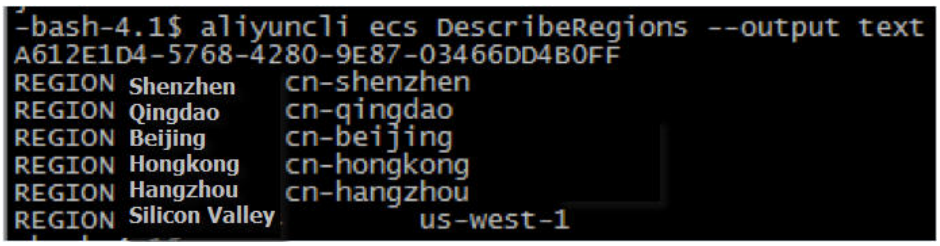
To meet different output format requirements of different users, Alibaba Cloud CLI supports three output formats.

JSON (json)

JSON format is the default output format of Alibaba Cloud CLI. Most languages have the internal function or open JSON parser library to parse JSON strings easily. JSON format is mainly used with other scripts or any programming language to facilitate developers' parsing and use. An example is shown as follows.

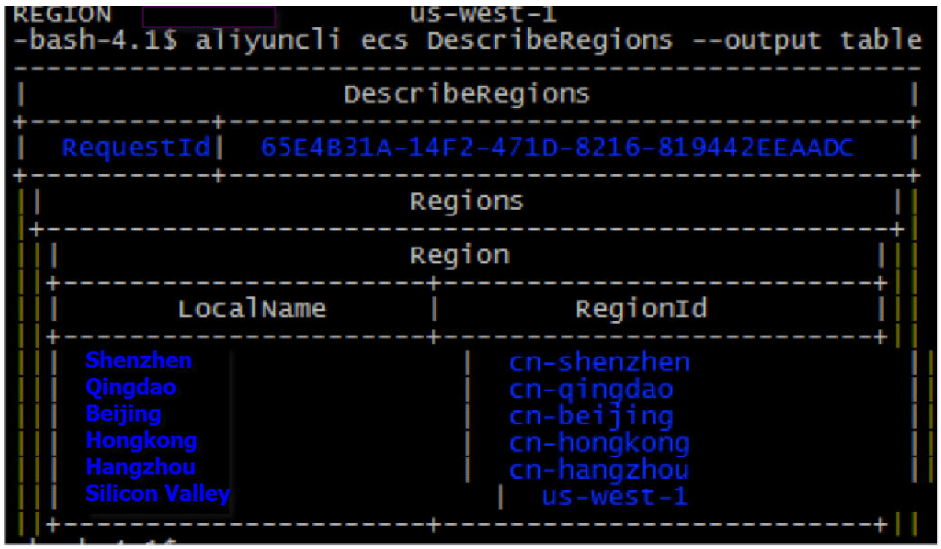
Text separated by Tab (text)

In text format, outputs of Alibaba Cloud CLI are arranged into lines separated by **Tab**. This format is appropriate for traditional UNIX text tools (such as sed, grep, and awk) and Windows PowerShell. The text output format complies with the basic structure shown in the following example. The columns are sorted alphabetically by key names of bottom-layer JSON objects.



ASCII table (table)

In table format, data is arranged in an easy-to-read manner. An example is shown as follows.



Set the output format

The output format can be specified in two ways.

Method 1: Modify the config file.

Use the output option in the config file. The following example shows how to set the output format to text.

```
[default]    output=text
```

Method 2: Use command line.

Use the output option in Alibaba Cloud CLI. The following example shows how to set the output format to table.

```
$ aliyuncli ecs DescribeInstanceAttribute --InstanceId i-23rjh06vf --output table
```

When you are using Alibaba Cloud CLI, you can set temporary settings for global parameters. You can adjust the parameters as needed. Currently, the supported global parameters are as follows:

AccessKeyId: Specifies the AccessKeyId in the API request for executing the current command. If no value is specified or the value is null, the default global AccessKeyId is applied.

AccessKeySecret: Specifies the AccessKeySecret in the API request for executing the current command. If no value is specified or the value is null, the default global AccessKeySecret is applied.

RegionId: Specifies the region corresponding to the API request for executing the current command. If no value is specified, the global RegionId is applied.

output: Specifies the display format for executing the current command.

profile: Specifies the account used for executing the current command. If the specified account does not exist, the default account is used. In addition, if profile appears together with other global parameters, its priority is lower. For example, if profile appears together with AccessKeyId, AccessKeyId is selected as the AccessKey preferentially.

version: Specifies the open API version used for executing the current command. If no value is specified, the latest version installed in the system is used.

Note: If the parameter directly follows Alibaba Cloud CLI, the current version of Alibaba Cloud CLI is displayed.

Multi-account use

Notices: This feature is useful for users who need to manage many accoutns and many devices. If you only need to manage an accout, ignore this feature.

Alibaba Cloud CLI supports multi-account systems. You can configure multiple access keys and secret values, region and output as needed, to meet your different requirements more flexibly. For the information about how to configure accouts in Alibaba Cloud CLI, refer to Configuration of Alibaba Cloud CLI (for Alibaba Cloud users).

Basic command structure

The basic command structure of multi-accout management is shown as follows:

```
aliyuncli configure [set/get/list] --profile profilename --key value --key1 value1
```

configure: Manage configurations.

set: Set a configuration value. Optional.

get: Display a configuration value. Optional.

list: List all values of a profile. Optional.

profile: Profile used in the current operation, which is a global parameter. For details, refer to the description of profile in Global parameter description. If this option is not included, a default account is used.

key: Specific key for configuring a profile.

Value: Value being configured, which is behind key.

Accout type

There are two kinds of accounts in the config file: [default] account and [profile profilename] account. In Alibaba Cloud CLI, if the option profile is not included, the [default] account is used; if the option profile profilename is included, [profile profilename] is used.

The following shows the examples of profile:

```
aliyuncli configure ←Configure [default] account quickly

aliyuncli configure --profile test ←Configure [profile test] account quickly
```

The following shows the examples of set:

```
aliyuncli configure set --output table --region cn-qingdao ←Set [default] account, output=table, region=cn-qingdao

aliyuncli configure set --output json --region cn-hangzhou --profile test1 ←Set [profile test1] account, output = json, region = cn-hangzhou
```

The following shows the examples of get:

```
aliyuncli configure get region ←Get the region of [default] account
```

Output: region = cn-hangzhou

```
aliyuncli configure get output region ←Get the output and region values of [default] account
```

Output:

output = json

region = cn-hangzhou

```
aliyuncli configure get region --profile profile1 ←Get the region under [profile profile1] account
```

The following shows the examples of list:

```
aliyuncli configure list ←List information under [default] account

aliyuncli configure list --profile profile1 ←List information under [profile profile1] account
```

The output is as follows:

```
-bash-4.1$ aliyuncli configure list
      Name                Value            Type              Location
      ----                -----            ----              --------
   Profile                 None            None                  None
Access_Key ***************wQ7v     credentials    /home/xixi.xxx/.aliyuncli/credentials
Secret_Key ***************fxGu     credentials    /home/xixi.xxx/.aliyuncli/credentials
    Region           cn-qingdao       configure    /home/xixi.xxx/.aliyuncli/configure
    Output                 json       configure    /home/xixi.xxx/.aliyuncli/configure
-bash-4.1$
```

Note: This feature is used for users who have many instances. If you have only one instance, ignore this feature.

Data returned upon Alibaba Cloud API calls can be presented in different formats, but it is also complex. Alibaba Cloud CLI further provides the data filter function, allowing you to filter data using filters. The filter function can help you obtain the expected value from the result, and can be used to handle results easily and quickly in use or secondary development.

Data returned upon API calls is in JSON format by default. Therefore, when using Alibaba Cloud CLI, you can use the filter function according to JSON characteristics to obtain your expected results.

Taking ECS DecribeRegions for example, run the following command, and the original JSON format output is shown as follows.

```
aliyuncli ecs DescribeRegions --output json
```

Filter 1

You can enter a key value for filtering. Run the following command, and the filter output is shown as follows.

```
aliyuncli ecs DescribeRegions –output json –filter Regions
```

```
}
-bash-4.1$ aliyuncli ecs DescribeRegions --output json --filter Regions
{
    "Region": [
        {
            "LocalName": "\u6df1\u5733",
            "RegionId": "cn-shenzhen"
        },
        {
            "LocalName": "\u9752\u5c9b",
            "RegionId": "cn-qingdao"
        },
        {
            "LocalName": "\u5317\u4eac",
            "RegionId": "cn-beijing"
        },
        {
            "LocalName": "\u9999\u6e2f",
            "RegionId": "cn-hongkong"
        },
        {
            "LocalName": "\u676d\u5dde",
            "RegionId": "cn-hangzhou"
        },
        {
            "LocalName": "\u7f8e\u56fd\u897f\u90e8",
            "RegionId": "us-west-1"
        }
    ]
}
```

Filter 2

If the JSON value is an array, the array subscript format is supported. Run the following command, and the filter output is shown as follows.

```
aliyuncli ecs DescribeRegions –output json –filter Regions.Region[0]
```

```
}
-bash-4.1$ aliyuncli ecs DescribeRegions --output json --filter Regions.Region[0]
{
    "LocalName": "\u6df1\u5733",
    "RegionId": "cn-shenzhen"
}
```

Especially, Alibaba Cloud CLI also supports ‘*’, representing the set of all results. Multiple filter results are returned as an array. Run the following command, and the filter output is shown as follows.

```
aliyuncli ecs DescribeRegions –output json –filter Regions.Region[*].RegionId
```

```
-bash-4.1$ aliyuncli ecs DescribeRegions --output json --filter Regions.Region[*].RegionId
[
    "cn-shenzhen",
    "cn-qingdao",
    "cn-beijing",
    "cn-hongkong",
    "cn-hangzhou",
    "us-west-1"
]
```

Filter 3

Filter one value from the returned data. Run the following command, and the filter output is shown as

follows.

```
aliyuncli ecs DescribeRegions –output json –filter Regions.Region[3].RegionId
```