Alibaba Cloud
Object Storage Service

Utilities

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Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information 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.
	This warning information 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 restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	**Note:** Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	**Note:** You can use **Ctrl** + **A** to select all files.
>	Multi-level menu cascade.	**Settings** > **Network** > **Set network type**
Bold	It is used for buttons, menus, page names, and other UI elements.	Click **OK**.
`Courier font`	It is used for commands.	Run the `cd /d C:/windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae log list --instanceid` *`Instance_ID`*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *`[-all|-t]`*
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich` *`{stand	slave}`*

Contents

1 Ram Policy Editor

Address

[RAM Policy Editor](#)

Usage

RAM authorization policies are composed of several rules. Using the RAM policy editor, you can add or delete rules one by one in the interface, and then a JSON file is automatically generated for the policy. After adding all the policy rules, copy the JSON file and paste it in the created authorization policy content box on the Access Control console.

In the RAM policy editor, you must set these fields for each rule: Effect, Actions, Resources, and Conditions.

- Effect

  Specify whether access to this rule is allowed or denied.

- Actions

  Specify resource access actions. You can select one or more actions. Generally, it is sufficient to use the wildcard action provided for users:

  — `oss:*`: allows all actions

  — `oss:Get*` allows all read actions

  — `oss:Put*` allows all write actions

  For more information, see [RAM Policy Editor README](#).

- Resources

  Specify the resources of the OSS authorized to access. You can specify multiple ones, and each would be represented in the following format:

  — A bucket: `my-bucket` (with no permission on objects in the bucket)

  — All objects in a bucket: `my-bucket/*` (with no permission on the bucket itself, such as ListObjects)

  — A directory in a bucket: `my-bucket/dir` (with no permission on objects under dir/)

  — All objects under a directory in a bucket: `my-bucket/dir/*` (with no permission on dir, such as ListObjects)

  — Complete resource path: `acs:oss:*:1234:my-bucket/dir`, `1234` is the user ID (viewed in the console)

EnablePath

When you want to grant permissions to a directory, you usually need to grant the List permission on its upper level directory. For example, if you want to grant read and write permissions to `my-bucket/users/dir/*`, you also need to grant the following permissions so as to view this directory in the console (or in other tools):

```
ListObjects my-bucket
ListObjects my-bucket/users
ListObjects my-bucket/users/dir
```

When the EnablePath option is selected, the preceding permissions are automatically added.

- Conditions

Specify the conditions that must be met for authorized access. You can specify multiple ones.

For more information, see *RAM Policy Editor README*.

Example

To grant all permissions for `my-bucket` and its files:

For more examples, see *RAM Policy Editor README*.

2 ossprobe

Introduction

The ossprobe is an OSS access detection tool used to troubleshoot problems caused by network errors or incorrect settings of basic parameters during the upload and download processes. If an error occurs after you run a command to upload or download data, the ossprobe displays the possible cause to help you identify the error quickly.

Version

Version: 1.0.0

Main features

- Checking whether the network environment is normal

- Checking whether basic parameters are correct

- Testing the upload and download speeds

Platforms

- Linux

- Windows

- Mac

Download software

- *windows64 ossprobe*

- *linux64 ossprobe*

- *mac ossprobe*

Detect download problems

- Usage

```
ossprobe --download  [-i AccessKeyId] [-k AccessKeySecret] [-p
EndPoint] [-b BucketName] [-o ObjectName] [-t LocalPath]
      [-f Url] [-a Address]
   -f   --from      Object Url
   -i   --id        AccessKeyId
   -k   --key       AccessKeySecret
   -p   --endpoint  EndPoint
   -b   --bucket    BucketName
   -o   --object    ObjectName
   -t   --to        Save path for the downloaded content. By
default, it is the path to a temporary file in the current directory
   .
```

```
    -a   --addr      Network address for detection. The default
address is www.aliyun.com. If you are using private cloud, select an
 accessible address in the private cloud.
TIP: If the -f parameter is present, a URL is used for download.
If the -f parameter is not present, you must set the AccessKeyID,
AccessKeySecret, EndPoint, and BucketName parameters.
```

- Example

  To check whether URL-based download is normal (*How to obtain a URL*), run the following

  commands:

Method	Command
Download from a specified URL	`ossprobe --download -f Url`
Download from a specified URL and save the downloaded content to a specified file	`ossprobe --download -f Url -t tmp/ example.txt`
Download from a specified URL and detect the network condition of a specified address	`ossprobe --download -f Url -a Addr`

  To check whether download using specified parameters (AccessKeyID, AccessKeySecret,

  EndPoint, and BucketName) is normal, run the following commands:

Method	Command
Download a random file	`ossprobe --download -i AccessKeyId -k AccessKeySecret -p EndPoint -b Bucketname`
Download a specified file	`ossprobe --download -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -o ObjectName`
Download a specified file and save the downloaded content to a specified local file	`ossprobe --download -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -o ObjectName -t tmp/ example.txt`
Download a random file and detect the network condition of a specified address	`ossprobe --download -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -a Addr`

> 📋 **Note:**

- The file you downloaded is a binary executable program, and you must add the ossprobe

  executable permissions through `chmod +x ossprobe` in the Linux system.

- By default, the -t parameter indicates the path to a temporary file in the current directory (the file name format is ossfilestore20160315060101).

- If the -t parameter indicates a directory, a temporary file is generated in the directory to save data (the file name format is ossfilestore20160315060101).

- If a file is downloaded from a URL, the file is named after the last string following the forward slash "/" in the URL. For example, if the URL is `http://aliyun.com/a.jpg`, then the file is saved as a.jpg.

Detect upload problems

- Usage

```
ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint  -b
BucketName [-m normal|append|multipart]
      [-s UploadFilePath] [-o ObjectName] [-a Addr]
   -i    --id       AccessKeyID
   -k    --key      AccessKeySecret
   -p    --endpoint EndPoint
   -b    --bucket   BucketName
   -s    --src      Path to the file you want to upload. By
default, it is the path to a local temporary file.
   -m    --mode     File upload mode. The default is normal upload
.
   -o    --object   Uploaded object name. By default, the object
 name is the name of the uploaded file if -s is not null. If -s is
null, by default, the object name is the name of the temporary file
starting with tem.
   -a    --addr     Network address for detection. The default
 address is the address of the Alibaba Cloud website. If you are
using private cloud, select an accessible address in the private
cloud.
```

- Example

Method	Command
Generate a temporary file and upload it in normal mode	`ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName`
Generate a temporary file and upload it in append mode	`ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -o ObjectName -m append`
Generate a temporary file and upload it in multipart mode	`ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -o ObjectName -m multipart`
Upload specified content in multipart mode	`ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint`

Method	Command
	` -b BucketName -o ObjectName -m multipart -s src`
Upload specified content in multipart mode and specify the object name	`ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -m multipart -s src -o example.txt`
Generate a temporary file, upload it in normal mode, and detect the network condition of a specified address	`ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -a Addr`

> **Note:**
>
> The name of a randomly generated file starts with ossuploadtmp.

Platform differences

- For Windows, press Win+R to bring up the "Run" dialog box, enter cmd, and press Enter.

  On the command-line interface (CLI), enter the path to the tool and enter related detection parameters to run the tool.

  ```
  D:\tw108174\workspace\1111\src>ossprobe --download -i xxxxxxxx -k xxxxxxxx -p xx
  xxxxxxx -b xxxxxxxxxxxx
  ```

- For Linux and Mac, open the terminal. On the displayed interface, enter the path to the tool and enter related detection parameters to run the tool.

  ```
  [admin@          /home/admin/tianwei/gofile]
  $./ossprobe --upload -i xxxxxxxxxxx -k xxxxxxxxxxxxxx -p xxxxxxxxxxxxxxxxx -b xxxxxxxxxx
  ```

View report data

After command execution, a report named logOssProbe20060102150405.txt is generated (the numbers following logOssProbe indicate the formatted date of report generation). The possible error cause is printed in command line mode. If you think the error message is not specific, you can view the report. If the problem persists, you can submit a ticket attached with the detection report.

- Console display

  The console displays the following main information:

- After execution, the steps marked with × fail, whereas the steps not marked with × are successful.

- The result indicates whether the upload or download operation is successful. If the upload or download operation is successful, the console displays the file size and upload/download time.

- The "Suggested Change" column shows the error cause or change suggestions.

- If you are familiar with OSS error codes, you can perform troubleshooting based on the error message returned by OSS.

- The "Log Info" columns shows the log name and address, allowing you to find the log.

> **Note:**

- Log files

  Different from console display, log files contain network detection details. Ping is used to detect a specified network or the network of a specified EndPoint, tracert is used to detect the route for EndPoint access, and nslookup is used for DNS detection.

References

- *How to obtain a URL*

3 OSS tools

Apart from the console, OSS also has the following frequently-used tools that can help you use OSS efficiently.

Tool	Description	Note
ossbrowser	A graphical object management tool which supports Windows, Linux, and Mac platforms.	An official tool providing features similar to what Windows Explorer has to offer. You can easily browse , upload, and download files, and perform resumable upload .
ossutil	A command line management tool which provides convenient , concise, and rich object management commands.	An official tool which supports Linux, Windows, and Mac platforms. It is not dependent on any third-party components and requires no installation.
osscmd	A command line management tool which provides complete bucket and object management commands.	An official tool based on Python 2.5 to 2.7 versions, which supports multiple platforms. OSSutil is expected to become a future substitution of OSScmd. We strongly recommend *ossutil* unless you require the bucket management feature which is not provided in OSSutil.
ossfs	Mount buckets to local file systems. You can operate on the objects in OSS through the local file system to achieve data access and sharing.	An official tool which supports Linux.
ossftp	An FTP tool. It manages objects in OSS through the FTP protocol. You can operate on OSS through FileZilla, WinSCP, FlashFXP, and other FTP clients. OSSFTP is essentially an FTP server. It receives FTP requests and	An official tool based on Python2.7 and later versions , which supports Windows, Linux, and Mac.

Tool	Description	Note
	maps operations on files and folders to operations on OSS.	
ossimport	A data synchronization tool which can synchronize files stored locally or in a third-party cloud to the OSS.	An official tool. It is dependent on JRE7 or later versions and supports Windows and Linux platforms.
Ram Policy Editor	OSS Authorization Policy automation production tool. This tool is strongly recommended when you need to generate your own Authorization Policy.	Official tools. Web page edition. Browser chrome, Firefox, Safari are supported.
ossprobe	A tool for checking network issues. It provides suggestions for common errors. When an error occurs during your environment's access to OSS, we recommend you use this tool to check the issue first.	An official tool which supports Windows, Linux, and Mac.
oss-emulator	Lightweight OSS service simulator for debugging and performance testing based on OSS applications.	An official tool which supports Windows, Linux, and Mac.

4 ossutil

4.1 Download and installation

Ossutil allows you to manage OSS data easily using the command line. The current version does not provide complete bucket management and multipart management functions. These functions are available in subsequent versions. If you need these functions, you can use the osscmd command line tool instead.

Download the tool

- Current version

  Current version: 1.4.1

- Runtime environment

  ▬ Windows/Linux/Mac

  ▬ Supporting architecture

    ▪ x86 (32bit, 64bit)

- Download the binary program

  ▬ [Linux x86 32bit] *ossutil32*

  ▬ [Linux x86 64bit] *ossutil64*

  ▬ [Windows x86 32bit] *ossutil32.zip*

  ▬ [Windows x86 64bit] *ossutil64.zip*

  ▬ [mac x86 64bit] *ossutilmac64*

- Install and use the binary program

  Download the binary program or corresponding compressed package for your operating system and run the binary program. (If the binary program is not an executable file, run `chmod 755 ossutil` to make it executable.) That is:

  ▬ For a Linux system: `./ossutil`

  ▬ For a Window system, either of the following two methods can be used (64-bit operating system as an example):

    ▪ Decompress the package, double-click the bat file, and enter `ossutil64.exe`.

    ▪ Decompress the package, run cmd to enter the directory where the binary program resides, and enter `ossutil64.exe`.

— For a MAC system: `./ossutilmac64`

Quick start

- Set ossutil language

When running commands of ossutil, you can use the -L option to set the language. The value can be CH or EN, that is, Chinese or English. The value is case insensitive. The default value is CH (Chinese).The default language CH (Chinese), if CH (Chinese), you need to make sure that your system is UTF-8 encoded, otherwise it may display chaotic code.

For example:

`./ossutil help ls` is used to display the ls help in the default language.

`./ossutil help ls -L ch` is used to display the ls help in Chinese.

`./ossutil help ls -L en` is used to display the ls help in English.

`./ossutil config -L ch` is used to run an interactive configuration command of ossutil config. The prompt language is Chinese.

`./ossutil config -L en` is used to run an interactive configuration command of ossutil config. The prompt language is English.

> **Note:**
>
> Errors output by ossutil are in English by default, which are not affected by the preceding options.

- Obtain the command list

`./ossutil` or `./ossutil help`

```
$./ossutil
Usage: ossutil [command] [args...] [options...]
Run ossutil help to display the command help.
Commands:
  mb              cloud_url [options]
        Creates a bucket.
  ls              [cloud_url] [options]
        Lists buckets or objects.
  rm              cloud_url [options]
        Deletes a bucket or object.
  stat            cloud_url [options]
        Displays the description of a bucket or object.
  set-acl         cloud_url [acl] [options]
        Sets the ACL for a bucket or object.
  set-meta        cloud_url [meta] [options]
        Sets the meta information of the uploaded objects.
  cp              src_url dest_url [options]
        Uploads, downloads, or copies objects.
```

```
   restore          cloud_url [options]
       Restores an object from the frozen state to the readable
state.
   create-symlink  cloud_url target_url [options]
       Creates a symbolic link.
   read-symlink    cloud_url [options]
       Reads the description of a symbolic link file.
Additional Commands:
   help            [command]
       Obtains the help document of a command.
   config          [options]
       Creates a configuration file to store configuration items.
   hash            file_url [options]
       Computes the crc64 or MD5 of a local file.
   update          [options]
       Updates ossutil.
```

```
$./ossutil  -L en
Usage: ossutil [command] [args...] [options...]
Please use 'ossutil help command' to show help of command
Commands:
   mb              cloud_url [options]
       Make Bucket
   ls              [cloud_url] [options]
       List Buckets or Objects
   rm              cloud_url [options]
       Remove Bucket or Objects
   stat            cloud_url [options]
       Display meta information of bucket or objects
   set-acl         cloud_url [acl] [options]
       Set acl on bucket or objects
   set-meta        cloud_url [meta] [options]
       set metadata on already uploaded objects
   cp              src_url dest_url [options]
       Upload, Download, or Copy Objects
   restore         cloud_url [options]
       Restore Frozen State Object to Read Ready Status
   create-symlink  cloud_url target_url [options]
       Create symlink of object
   read-symlink    cloud_url [options]
       Display meta information of symlink object
Additional Commands:
   help            [command]
       Get help about commands
   config          [options]
       Create configuration file to store credentials
   hash            file_url [options]
       Get crc64 or md5 of local file
   update          [options]
       Update ossutil
```

- View the help document of a command

`./ossutil help cmd`You are strongly advised to run the help command to view the help document before running a command.

```
./ossutil  help config -L ch
SYNOPSIS
    Creates a configuration file to store configuration items.
SYNTAX
```

```
    ossutil config [-e endpoint] [-i id] [-k key] [-t token] [-L
language] [--output-dir outdir] [-c file]
```
DETAIL DESCRIPTION
    This command is used to create a configuration file, store
 customized configuration items in the configuration file, and
 provide access information when the OSS is accessed using the
configuration items. (Whether a command requires configuration items
 depends on whether it supports the --config-file option. For more
information, see the command help.)
    You can specify the path for storing the configuration file. The
 default path is /home/admin/.ossutilconfig. If the configuration
file (for example, a) exists, ossutil stores "a" in a.bak, creates
 file a again, and writes file a to the configuration. If a.bak
already exists, it is overwritten by file "a".
    NOTE:
    (1) If the specified path of the configuration file is not the
 default path, set the --config-file option to your specified path
 of the configuration file. (If the --config-file option is not
specified, the /home/admin/.ossutilconfig path is read by default
when the command is run.)
    (2) Some configuration items can be set using options, such
as the --endpoint and --access-key-id options, when a command is
run (for more information about the options, see the help for each
 command). If you specify the options when running a command and
configure the information in the configuration file, the priority is
 options > configuration file.
    (3) If you specify the --endpoint, --access-key-id, --access-
key-secret, and --sts-token options when running a command, ossutil
does not forcibly require a configuration file.
Usage:
    This command can be used in 1) interactive mode or 2) non-
interactive mode. The interactive mode is recommended because it
guarantees higher security.
    1) ossutil config [-c file]
        This mode supports interactive information configuration.
Ossutil interactively asks you about the following information:
        (1) config file
            Specifies the path of a configuration file. If you press
 Enter, ossutil uses the default configuration file in
        /home/admin/.ossutilconfig.
            If you specify a configuration file, set the --config-
file option to the path of your configuration file when running the
 command. For more information about commands that support the --
config-file option, see the help of each command.
        (2) language
            During first configuration (the configuration file does
 not exist), ossutil requires you to set the language. The value
can be CH (Chinese) or EN (English). If you press Enter, ossutil
configures the language based on the value of the --language option
. If you do not set the --language option, ossutil sets the language
 to CH by default.
            If a configuration file exists, ossutil configures
the language based on the specified language option and language
information in the configuration file.
            Ossutil reads the language option from the configuration
 file during operating. If this option does not exist or is invalid
, the ossutil sets the language to CH by default.
            NOTE: This configuration item takes effect after the
 config command is successfully run. When the config command is
executed, the displayed language is not affected by your configurat
ion.
        (3) endpoint, accessKeyID, accessKeySecret

                    Enter indicates that a configuration item is skipped.
NOTE: The endpoint must be a second-level domain (SLD), for example
, oss.aliyuncs.com.
             The preceding options are required.
         (4) stsToken
             To access the OSS using a temporary token, specify this
option. Otherwise, press Enter to skip this option.
         (5) outputDir
             This option is used to configure the path of the
directory where the output files reside. In interactive mode,
configuration of this option is not supported. However, this option
is valid in the configuration file.
             The default directory of the outputDir option is
ossutil_output of the current directory. Ossutil generates all
output files in this folder during operating. Currently, the output
 files include the report files that record operation errors of each
 file when exceptions occur for batch operations by running the cp
command.
             For more information about the outputDir option and
report files, see the cp command help.
             NOTE: If the outputDir option does not exist, ossutil
automatically creates the directory when generating output files.
If the outputDir option exists but is not a directory, an error is
reported.
         The following interactive Bucket-Endpoint and Bucket-Cname
options are removed, but they are still valid in the configuration
file.
         (6) Bucket-Endpoint
             The Bucket-Endpoint option is used to independently
configure the endpoint for each specified bucket. This option is
before the default endpoint configuration in the configuration file.
             In this version, ossutil removes the Bucket-Endpoint
pair configuration in interactive mode. However, this configuration
 item is still valid in the configuration file. Therefore, if you
want to independently specify the endpoint for each bucket, you can
 make configuration in the configuration file. NOTE: The endpoint
must be an SLD, for example, oss.aliyuncs.com.
             If the Bucket-Endpoint option is specified, ossutil
searches for the endpoint corresponding to a bucket in the option
 when performing operations on the bucket. If being found, the
endpoint overwrites the endpoint in the basic configuration. However
, if the --endpoint option is specified when the command is run, the
 --endpoint option has the highest priority.
         (7) Bucket-Cname
             The Bucket-Cname option is used to independently
configure the CNAME domain name (CDN domain) for each specified
 bucket. This option is before the configurations of the Bucket-
Endpoint option and endpoint in the configuration file.
             In this version, ossutil removes the Bucket-Cname pair
configuration in interactive mode. However, this configuration item
is still valid in the configuration file. Therefore, if you want to
independently specify the CNAME domain name for each bucket, you can
 make configuration in the configuration file.
             If the Bucket-Cname option is specified, ossutil
searches for the CNAME domain name corresponding to a bucket in the
option when performing operations on the bucket. If being found, the
 CNAME domain name overwrites the endpoints in the Bucket-Endpoint
 option and basic configuration. However, if the --endpoint option
is specified when the command is run, the --endpoint option has the
highest priority.
         Priority: --endpoint > Bucket-Cname > Bucket-Endpoint >
endpoint > default endpoint

```
    2) ossutil config options
        If you specify any options except the --language and --
config-file options when running the command, the command enters the
 non-interactive mode. All configuration items are specified using
options.
Configuration file format:
    [Credentials]
        language = CH
        endpoint = oss.aliyuncs.com
        accessKeyID = your_key_id
        accessKeySecret = your_key_secret
        stsToken = your_sts_token
        outputDir = your_output_dir
    [Bucket-Endpoint]
        bucket1 = endpoint1
        bucket2 = endpoint2
        ...
    [Bucket-Cname]
        bucket1 = cname1
        bucket2 = cname2
        ...
SAMPLE
    ossutil config
    ossutil config -e oss-cn-hangzhou.aliyuncs.com -c ~/.myconfig
OPTIONS
    -c, --config-file
        Specifies the configuration file path of ossutil. Ossutil
reads configuration from the configuration file during startup and
writes configuration to the file using the config command.
    -e, --endpoint
        Specifies the basic endpoint configuration of ossutil (the
option value overwrites the corresponding settings in the configurat
ion file). It must be an SLD.
    -i, --access-key-id
        Specifies the AccessKeyID used to access the OSS (the option
 value overwrites the corresponding settings in the configuration
file).
    -k, --access-key-secret
        Specifies the AccessKeySecret used to access the OSS (the
option value overwrites the corresponding settings in the configurat
ion file).
    -t, --sts-token
        Specifies the STSToken used to access the OSS (the option
 value overwrites the corresponding settings in the configuration
file). It is optional.
    --output-dir=ossutil_output
        Specifies the directory in which output files are located
. The output files include the report files generated when errors
occur for copying files in batches using the cp command. (For more
 information about the report files, see the cp command help.) The
 default value is the ossutil_output sub-directory in the current
directory.
    -L CH, --language=CH
        Specifies the language of ossutil. The value can be CH or EN
, and the default value is CH. If the value is CH, make sure that
your system is UTF-8 encoded.
```

- Configure ossutil

  When using a command to access the OSS, configure the AccessKey pair first. For more

  information about the AccessKey pair, see *RAM and STS introduction*.

ossutil can be configured to interactive mode or non-interactive mode.

To view the help document of the configuration command, run `ossutil help config`.

— Configure ossutil in interactive mode

```
./ossutil config
```

```
$./ossutil config -L ch
This command is used to create a configuration file and store
configuration information in it.
You can specify the path for storing the configuration file. The
default path is /home/admin/.ossutilconfig. If you press Enter,
the default path is used. If you specify another path, set the --
config-file option to this path when running the command.
```

— Configure ossutil in non-interactive mode

```
./ossutil config -e oss.aliyuncs.com -i your_id -k your_key
```

4.2 View all supported options

You can use the -h option to view all options supported by ossutil.

```
$./ossutil -h
Usage of ossutil:
Options:
  -s   --short-format        Used to display the short format. If this
 option is not specified, the long format is displayed by default.
       --snapshot-path=      Used to accelerate incremental uploading
 of files in batches in some scenarios. (File downloading and copying
 do not support this option currently.) This option is used when
ossutil uses the cp command to upload files. Ossutil takes a snapshot
 of file uploads and stores it in the specified directory. It will
 read the snapshot from the specified directory for incremental
upload when this option is used the next time. The specified snapshot
 directory must be a writable directory in the local file system.
 If the directory does not exist, ossutil creates a file to record
the snapshot information. If the directory already exists, ossutil
reads the snapshot information in the directory, performs incremental
 uploading accordingly, and updates the snapshot information. (Ossutil
 only uploads files that fail to be uploaded last time and have been
 locally modified.) NOTE: By using this option, the local lastModifi
edTime of files that have been successfully uploaded is recorded and
 compared with that of files to be uploaded next time to determine
 whether to skip uploading of same files. When using this option,
ensure that the corresponding objects on the OSS are not modified
during the two uploading periods. In other scenarios than this one,
use the --update option to incrementally upload files in batches. In
 addition, ossutil does not actively delete the snapshot information
 under snapshot-path. To avoid too much snapshot information, clear
snapshot-path when confirming that the snapshot information is useless
.
  -j   --jobs=               Specifies the number of concurrent tasks
 when multiple files are operated. The value ranges from 1 to 10000,
and the default value is 5.
```

```
  -v   --version              Used to display ossutil version (1.0.0.
Beta2) and exit.
       --output-dir=          Specifies the directory in which output
files are located. The output files include the report file generated
when an error occurs for copying files in batches using the cp command
. (For details about the report file, refer to the cp command help.)
The default value is the ossutil_output sub-directory in the current
directory.
       --parallel=            Specifies the number of concurrent tasks
 operated in a single file. The value ranges from 1 to 10000. The
default value is determined by ossutil based on the operation type and
 file size.
  -L   --language=            Specifies the language of ossutil. The
value can be CH or EN, and the default value is CH.
  -t   --sts-token=           Specifies the STSToken used to access the
 OSS (the option value will overwrite the corresponding settings in
the configuration file). It is optional.
  -m   --multipart            Indicates that the operation objects are
the incomplete Multipart events in the bucket, rather than the default
 objects.
  -b   --bucket               Used to operate a bucket, confirming that
 an operation is for the bucket.
       --delete               Used to delete an operation.
  -e   --endpoint=            Specifies the basic endpoint configurat
ion of ossutil (the option value will overwrite the corresponding
settings in the configuration file). It must be a second-level domain.
  -k   --access-key-secret=   Specifies the AccessKeySecret used to
 access the OSS (the option value will overwrite the corresponding
settings in the configuration file).
       --bigfile-threshold=   Specifies the threshold for enabling the
resumable data transfer for large files. The value ranges from 0 B to
9223372036854775807 B, and the default value is 100 MB.
       --retry-times=         Specifies the number of retries when an
error occurs. The value ranges from 1 to 500, and the default value is
 3.
  -a   --all-type             Indicates that the operation objects are
the objects and incomplete Multipart events in the bucket.
  -r   --recursive            Indicates a recursive operation. If this
 option is specified, commands supporting this option will operate
 on all objects meeting the criteria in the bucket. Otherwise, the
commands operate only on a single object specified in the URL.
  -f   --force                Indicates a forcible operation without
asking.
  -u   --update               Indicates an update operation.
  -c   --config-file=         Specifies the configuration file path
of ossutil. Ossutil reads configuration from the configuration file
during startup and writes configuration to the file using the config
command.
  -i   --access-key-id=       Specifies the AccessKeyID used to access
the OSS (the option value will overwrite the corresponding settings in
 the configuration file).
       --acl=                 Used to configure the ACL.
  -d   --directory            Used to return files and sub-directorie
s in the current directory, rather than recursively displaying all
objects in all sub-directories.
       --checkpoint-dir=      Specifies the checkpoint directory path
 (the default value is .ossutil_checkpoint). If a resumable data
transfer fails, ossutil automatically creates this directory and
records the checkpoint information in the directory. If a resumable
data transfer succeeds, ossutil deletes this directory. If this option
 is specified, ensure that the specified directory can be deleted.
```

```
      --type=                 Specifies the calculation type. The value
 can be crc64 or md5, and the default value is crc64.
  -h  --help                  Show usage message
```

All commands of ossutil supports part of the preceding options. Use the ossutil help command to check options supported by each command.

4.3 Bucket-related commands

Related commands for Bucket

Ossutil allows you to create, delete, and list buckets, and set the ACL for a bucket. Other management functions related to the bucket are not supported currently. If you want to use these functions, see *osscmd*.

Before running these commands, run the `config` command to configure the AccessKey pair.

- Create a bucket

```
ossutil mb oss://bucket [--acl=acl] [--storage-class sc] [-c file]
```

If the ACL is not specified, the bucket has the private permission by default. After a bucket is created, ossutil prints the consumed time and exits. Otherwise, ossutil outputs error information. You can use the `--storage-class` option to specify the storage mode.

Run `ossutil help mb` to view help information about creating a bucket.

```
$./ossutil mb oss://test
0.220478(s) elapsed
```

- Delete a bucket

Run `ossutil help rm` to view help information about deleting a bucket.

> **Note:**
>
> - The -b option must be specified for deleting a bucket.
> - The deleted bucket may have been re-created by another user and does not belong to you anymore.
> - Once deleted, data in the bucket cannot be recovered.

— If you bucket does not contain any data:

```
ossutil rm oss://bucket -b
```

```
$./ossutil rm oss://test -b
Do you really mean to remove the Bucket: test(y or N)? y
```

```
0.220478(s) elapsed
```

— If your bucket contains the object, multipart, or other data, delete all data before deleting the bucket. You can run the following command to delete all data and your bucket:

```
ossutil rm oss://bucket -bar
```

Run `ossutil help rm` to view help information about deleting a bucket.

- List buckets

`./ossutil ls` or `./ossutil ls oss://`

You can use the `-s` option to display the short format. Run `ossutil help ls` to view more help information.

```
$./ossutil ls
CreationTime                              Region     StorageClass
   BucketName
2016-10-21 16:18:37 +0800 CST        oss-cn-hangzhou          Archive
   oss://go-sdk-test-bucket-xyz-for-object
2016-12-01 15:06:21 +0800 CST        oss-cn-hangzhou          Standard
   oss://ossutil-test
2016-07-18 17:54:49 +0800 CST        oss-cn-hangzhou          Standard
   oss://ossutilconfig
2016-07-20 10:36:24 +0800 CST        oss-cn-hangzhou               IA
   oss://ossutilupdate
2016-11-14 13:08:36 +0800 CST        oss-cn-hangzhou               IA
   oss://yyyyy
2016-08-25 09:06:10 +0800 CST        oss-cn-hangzhou          Archive
   oss://ztzt
2016-11-21 21:18:39 +0800 CST        oss-cn-hangzhou          Archive
   oss://ztztzt
Bucket Number is: 7
0.252174(s) elapsed
```

- List files in a bucket

Ossutil can list objects and UploadIDs in a bucket. The objects are displayed by default. You can use the `-m` option to display UploadIDs and use the `-a` option to display the objects and UploadIDs simultaneously.

— List objects

```
./ossutil ls oss://bucket
```

```
$./ossutil ls oss://ossutil-test
LastModifiedTime                    Size(B)  StorageClass    ETAG
                               ObjectName
2016-12-01 15:06:37 +0800 CST     10363812       Standard
61DE142E5AFF9A6748707D4A77BFBCFB        oss://ossutil-test/a1
2016-12-01 15:06:42 +0800 CST     10363812       Standard
61DE142E5AFF9A6748707D4A77BFBCFB        oss://ossutil-test/a2
2016-12-01 15:06:45 +0800 CST     10363812       Standard
61DE142E5AFF9A6748707D4A77BFBCFB        oss://ossutil-test/a3
```

```
Object Number is: 3
0.007379(s) elapsed
```

━ List objects and multiparts

```
./ossutil ls oss://bucket -a
```

```
$ ossutil ls oss://bucket1 -a
LastModifiedTime                      Size(B)  StorageClass    ETAG
                                 ObjectName
2015-06-05 14:06:29 +0000 CST      201933      Standard
7E2F4A7F1AC9D2F0996E8332D5EA5B41       oss://bucket1/dir1/obj11
2015-06-05 14:36:21 +0000 CST      201933      Standard
6185CA2E8EB8510A61B3A845EAFE4174       oss://bucket1/obj1
2016-04-08 14:50:47 +0000 CST     6476984      Standard
4F16FDAE7AC404CEC8B727FCC67779D6       oss://bucket1/sample.txt
Object Number is: 3
InitiatedTime                   UploadID
    ObjectName
2017-01-13 03:45:26 +0000 CST   15754AF7980C4DFB8193F190837520BB
     oss://bucket1/obj1
2017-01-13 03:43:13 +0000 CST   2A1F9B4A95E341BD9285CC42BB950EE0
     oss://bucket1/obj1
2017-01-13 03:45:25 +0000 CST   3998971ACAF94AD9AC48EAC1988BE863
     oss://bucket1/obj2
2017-01-20 11:16:21 +0800 CST   A20157A7B2FEC4670626DAE0F4C0073C
     oss://bucket1/tobj
UploadId Number is: 4
0.191289(s) elapsed
```

You can use the `-s` option to display the short format.

You can use the `-d` option to display content in the level 1 directory.

```
$ ossutil ls oss://bucket1 -d
oss://bucket1/obj1
oss://bucket1/sample.txt
oss://bucket1/dir1/
Object and Directory Number is: 3
UploadID                          ObjectName
15754AF7980C4DFB8193F190837520BB  oss://bucket1/obj1
2A1F9B4A95E341BD9285CC42BB950EE0  oss://bucket1/obj1
3998971ACAF94AD9AC48EAC1988BE863  oss://bucket1/obj2
A20157A7B2FEC4670626DAE0F4C0073C  oss://bucket1/tobj
UploadId Number is: 4
0.119884(s) elapsed
```

• Set the ACL for a bucket

   When a bucket is created, the default ACL for the bucket is private. You can run the `set-acl`

    command to modify the ACL for a bucket. You must specify the `-b` option when setting the

   ACL for a bucket.

Grant the private permission for bucket1:

```
./ossutil set-acl oss://bucket1 private -b
```

Run the help set `set-acl` command to view more information about setting the ACL.

4.4 Object-related commands

Ossutil allows you to upload/download/copy a file, set the ACL and meta of an object, and view the meta information of an object.

Run the config command to configure the AccessKey pair before running these commands.

- Upload/Download/Copy a file

  You are strongly advised to use ossutil help cp to view the help information before running the cp command.

  You can run the cp command to upload/download/copy a file, and use the -r option to copy a folder. Ossutil implements multipart upload by default for large files and supports the resumable data transfer (the threshold of large files for which multipart upload is enabled can be set using the `--bigfile-threshold` option.)

  Use the -f option to forcibly upload a file by default. If a file exists with the same name on the target end, the file is overwritten directly.

  If an error occurs to a file during file uploading/downloading/copying in batches, ossutil logs the error information in the report file by default, skips this file, and performs operations on other files. (Ossutil does not continue to copy other files if the bucket does not exist, or permission verification is invalid due to incorrect accessKeyID/accessKeySecret.). For more information, see ossutil help cp.

  Ossutil supports the incremental uploading policies `--update` and `--snapshot-path` in specific scenarios. For more information, see ossutil help cp.

  From ossutil 1.0.0. Beta1, crc64 is enabled by default during file uploading.

  (1) Upload a single file:

```
$./ossutil cp a oss://ossutil-test
Succeed: Total num: 1, size: 230. OK num: 1(upload 1 files).
0.699795(s) elapsed
```

  (2) Upload a folder:

```
$./ossutil cp -r dir oss://ossutil-test
```

```
Succeed: Total num: 35, size: 464,606. OK num: 35(upload 34 files, 1
 directories).
0.896320(s) elapsed
```

— Performance tuning for uploading/downloading/copying a file

In the cp command, the `jobs` and `-parallel`options are used to control the number of concurrent operations. The `-jobs` option controls the number of concurrent operations enabled between files when multiple files are uploaded/downloaded/copied. The`-parallel` option controls the number of concurrent operations enabled for a large file when the large file is uploaded/downloaded/copied in multiparts.

Ossutil calculates the number of parallel operations based on the file size by default (this option does not work for small files, and the threshold for large files to be uploaded/ downloaded/copied in multiparts can be controlled by the —bigfile-threshold option). When large files are uploaded/downloaded/copied in batches, the actual number of concurrent operations is calculated by multiplying the number of jobs by the number of parallel operations. If the default number of concurrent operations set by ossutil cannot meet your performance requirements, you can adjust these two options to improve or reduce the performance.

> **Note:**
>
> - We recommend that you adjust the concurrent operations to a value smaller than100 . If the network bandwidth, memory, and CPU are not fully occupied, you can set the concurrent operations to a bigger value.
> - If the number of concurrent operations is too large, the uploading/downloading/copying performance of ossutil may be reduced, or even an EOF error may occur due to inter-thread resource switching and snatching. Therefore, adjust the values of `-jobs`和`-parallel` based on the actual machine conditions.
>
> To perform pressure testing, set the two options to small values first, and slowly adjust them to the optimal values. If the values of the —jobs and —parallel options are too large, an EOF error may occur due to the slow network transfer speed if machine resources are limited. In this case, appropriately reduce the values of the —jobs and —parallel options.

- Configure the ACL of an object

Ossutil uses the set-acl command to configure the ACL of an object. You can use the -r option to configure the ACLs of objects in batches.

For more information, see ossutil help set-acl.

```
$./ossutil set-acl oss://dest/a private
0.074507(s) elapsed
```

Configure the ACLs of objects in batches:

```
$./ossutil set-acl oss://dest/a private -r
Do you really mean to recursivlly set acl on objects of oss://dest/a
(y or N)? y
Succeed: Total 3 objects. Setted acl on 3 objects.
0.963934(s) elapsed
```

- Configure the meta of an object

  Ossutil uses the set-meta command to configure the meta information of an object. You can
  use the -r option to configure the metas of objects in batches.

  For more information, see ossutil help set-meta.

  ```
  ./ossutil set-meta oss://dest/a x-oss-object-acl:private -u
  ```

- View the object description (meta)

  Ossutil uses the stat command to view the object description (meta).

  For more information, see ossutil help stat.

  ```
  $./ossutil stat oss://dest/a
  ACL                      : default
  Accept-Ranges            : bytes
  Content-Length           : 230
  Content-Md5              : +5vbQC/MSQK0xXSiyKBZog==
  Content-Type             : application/octet-stream
  Etag                     : FB9BDB402FCC4902B4C574A2C8A059A2
  Last-Modified            : 2017-01-13 15:14:22 +0800 CST
  Owner                    : aliyun
  X-Oss-Hash-Crc64ecma     : 12488808046134286088
  X-Oss-Object-Type        : Normal
  0.125417(s) elapsed
  ```

- Restore an object from the frozen state to the readable state

  Ossutil uses the restore command to restore an object from the frozen state to the readable
  state. You can use the `-r` option to restore objects from the frozen state to the readable state
  in batches.

  For more information, see ossutil help restore.

  ```
  $./ossutil restore oss://utiltest/a
  0.037729(s) elapsed
  ```

- Create a symbolic link

Ossutil uses the create-symlink command to create a symbolic link.

For more information, see ossutil help create-symlink.

```
$./ossutil create-symlink oss://utiltest/b a
0.037729(s) elapsed
```

- Read the description of a symbolic link file

Ossutil uses the read-symlink command to read the description of a symbolic link file.

For more information, see ossutil help read-symlink.

```
$./ossutil read-symlink oss://utiltest/b
Etag                      : D7257B62AA6A26D66686391037B7D61A
Last-Modified             : 2017-04-26 15:34:27 +0800 CST
X-Oss-Symlink-Target      : a
0.112494(s) elapsed
```

4.5 Multipart-related

commands

Ossutil allows you to list an UploadID and delete all UploadIDs of the specified object.

For more information about the multipart, see *Multipart upload*.

> **Note:**
>
> When uploading/copying a large file, ossutil automatically implements multipart upload and
>
> resumable data transfer, without running the UploadPart command.

- List an UploadID

Use the -m option to list all incomplete UploadIDs of the specified object, and use the -a option

to list objects and UploadIDs.

```
$ ossutil ls oss://bucket1/obj1 -m
InitiatedTime                     UploadID
     ObjectName
2017-01-13 03:45:26 +0000 CST     15754AF7980C4DFB8193F190837520BB
  oss://bucket1/obj1
2017-01-13 03:43:13 +0000 CST     2A1F9B4A95E341BD9285CC42BB950EE0
  oss://bucket1/obj1
UploadId Number is: 2
0.070070(s) elapsed
```

- Delete all UploadIDs of the specified object

Use the -m option to delete all incomplete UploadIDs of the specified object. If the -r option is specified simultaneously, incomplete UploadIDs of all objects that use the specified object as the prefix are deleted.

Assume that bucket1 contains the following objects:

```
$ ossutil ls oss://bucket1 -a
LastModifiedTime                   Size(B)  StorageClass    ETAG
                                ObjectName
2015-06-05 14:06:29 +0000 CST       201933      Standard
7E2F4A7F1AC9D2F0996E8332D5EA5B41       oss://bucket1/dir1/obj11
2015-06-05 14:36:21 +0000 CST       241561      Standard
6185CA2E8EB8510A61B3A845EAFE4174       oss://bucket1/obj1
2016-04-08 14:50:47 +0000 CST      6476984      Standard
4F16FDAE7AC404CEC8B727FCC67779D6       oss://bucket1/sample.txt
Object Number is: 3
InitiatedTime                  UploadID
     ObjectName
2017-01-13 03:45:26 +0000 CST     15754AF7980C4DFB8193F190837520BB
  oss://bucket1/obj1
2017-01-13 03:43:13 +0000 CST     2A1F9B4A95E341BD9285CC42BB950EE0
  oss://bucket1/obj1
2017-01-13 03:45:25 +0000 CST     3998971ACAF94AD9AC48EAC1988BE863
  oss://bucket1/obj2
2017-01-20 11:16:21 +0800 CST     A20157A7B2FEC4670626DAE0F4C0073C
  oss://bucket1/tobj
UploadId Number is: 4
0.191289(s) elapsed
```

Delete the two UploadIDs of obj1:

```
$./ossutil rm -m oss://bucket1/obj1
Succeed: Total 2 uploadIds. Removed 2 uploadIds.
1.922915(s) elapsed
```

Delete the four UploadIDs of obj1 and obj2:

```
$./ossutil rm -m oss://bucket1/ob
Succeed: Total 4 uploadIds. Removed 4 uploadIds.
1.922915(s) elapsed
```

Delete obj1 and the three UploadIDs of obj1 and obj2 simultaneously:

```
$./ossutil rm  oss://dest1/.a  -a -r -f
Do you really mean to remove recursively objects and multipart
uploadIds of oss://dest1/.a(y or N)? y
Succeed: Total 1 objects, 3 uploadIds. Removed 1 objects, 3
uploadIds.
```