Alibaba Cloud Object Storage Service

Tools

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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.	 Notice: 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]*

Style	Description	Example
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich {stand | slave}`

Contents

1 OSS tools

In addition to the OSS console, you can use the following common tools to use OSS more efficiently.

Tool	Description
ossbrowser	ossbrowser is a graphical object management tool. · Graphical interface and easy to use. · Provides features similar to those of Windows Explorer. · Supports browsing objects directly. · Supports folder (directory) uploading and downloading. · Supports concurrent upload and resumable upload. · Supports authorizing RAM users with policies in the graphical interface. · Supports Windows, Linux, and Mac. Limits: · ossbrower is a graphical tool. The transmission speed and performance is not as good as ossutil. · You can only upload or copy objects smaller than 5 GB by using ossbrowser.
ossutil	ossutil is a command-line tool used to manage objects and buckets. · Provides convenient, simple, and rich commands to manage objects and buckets with good operation performance. · Supports concurrent upload and resumable upload. · Supports folder (directory) uploading and downloading. · Supports common bucket management commands.

Tool	Description
osscmd	osscmd is a command-line tool used to manage objects and buckets. · Provides complete commands to manage objects and buckets · Supports Windows and Linux. Limits: · Applies to Python2.5 to Python 2.7 and does not apply to Python 3.x. · Does not support new features of OSS, such as the IA and Archive storage classes, cross-region replication, and mirroring back-to-origin.  Note: Osscmd will be replaced by ossutil in the future. Except for scenarios where bucket management functions that ossutil does not support are required, we recommend that you use ossutil.

Tool	Description
ossfs	ossfs is a tool used to mount a bucket to the local file system. Using ossfs, you can mount OSS buckets to the local file system of Linux. After a bucket is mounted, you can access or share the objects in the bucket by performing operations in the local file system. · Supports most functions of the POSIX file system, including file reading/writing, directories, link operations, permissions, UID/GID, and extended attributes. · Supports uploading large files using the multipart upload function. · Supports MD5 verification to ensure data integrity. Limits: · Buckets of the Archive storage class cannot be mounted. · If you edit an uploaded file, the file is uploaded again. · The performance of metadata-related operations, such as `list directory`, is poor because these operations must access the OSS server remotely. · An error may occur when you rename an object or a folder. Operation failures may cause inconsistent data. · Ossfs does not apply to scenarios where read and write operations are highly concurrent. · You must maintain data consistency when a OSS bucket is mounted to multiple clients. For example, you must schedule the usage of an object to prevent it from being written by multiple clients at the same time. · Hard links are not supported.
ossftp	ossftp is used to manage OSS objects. · By using ossftp, you can perform operations on OSS with FTP clients, such as FileZilla, WinSCP, and FlashFXP. · Ossftp acts as a FTP server that receives FTP requests and maps operations on files and folders to operations on OSS objects and buckets. · Ossftp is based on Python2.7 and later. · Supports Windows, Linux, and Mac.

Tool	Description
ossimport	ossimport is used to synchronize data to OSS. · By using ossimport, you can synchronize third-party data source files to OSS. · Supports distributed deployment mode. You can use multiple servers to migrate data in batches. · Supports the migration of TBs of data. · Supports Windows and Linux. · Applies to Java 1.7 and later.
Visual signing Tool	The third-party visual signing tool can be used. · This tool is used to generate the signed URL for OSS data. · You can debug the errors occurred when signing OSS data . If errors occurs when you sign OSS data, compare the signature with the signature generated by this tool to locate the cause of errors. · The browser edition of this tool supports the following browsers: Chrome, Firefox, and Safari.
RAM Policy Editor	RAM Policy Editor is used to automatically generate authorization policies. · This tool can automatically generates authorization policies based on your requirement. You can add the generated policies to the custom policy in the RAM console. · Supports the following browsers: Chrome, Firefox, and Safari. Note: We recommend you use this tool when you need to generate authorization policies automatically.
oss-emulator	Oss-emulator is a lightweight OSS service simulator. · Provides the same APIs as those of OSS and applies to the debugging and testing for OSS applications. · Oss-emulator is based on Ruby 2.2.8 and later. · Supports Windows and Linux.

2 ossbrowser

2.1 Quick start

Ossbrowser is a graphical management tool developed by Alibaba Cloud. It provides features similar to those of Windows Explorer. Using ossbrowser, you can view, upload, download, and manage objects with ease.

Note:

- You can only move or copy objects smaller than 5 GB by using ossbrowser. For objects larger than 5 GB, we recommend you use ossutil.
- Ossbrowser supports Linux, Mac, and Windows (Windows 7 and later). We recommend you do not use ossbrowser in Windows XP and Windows Server.

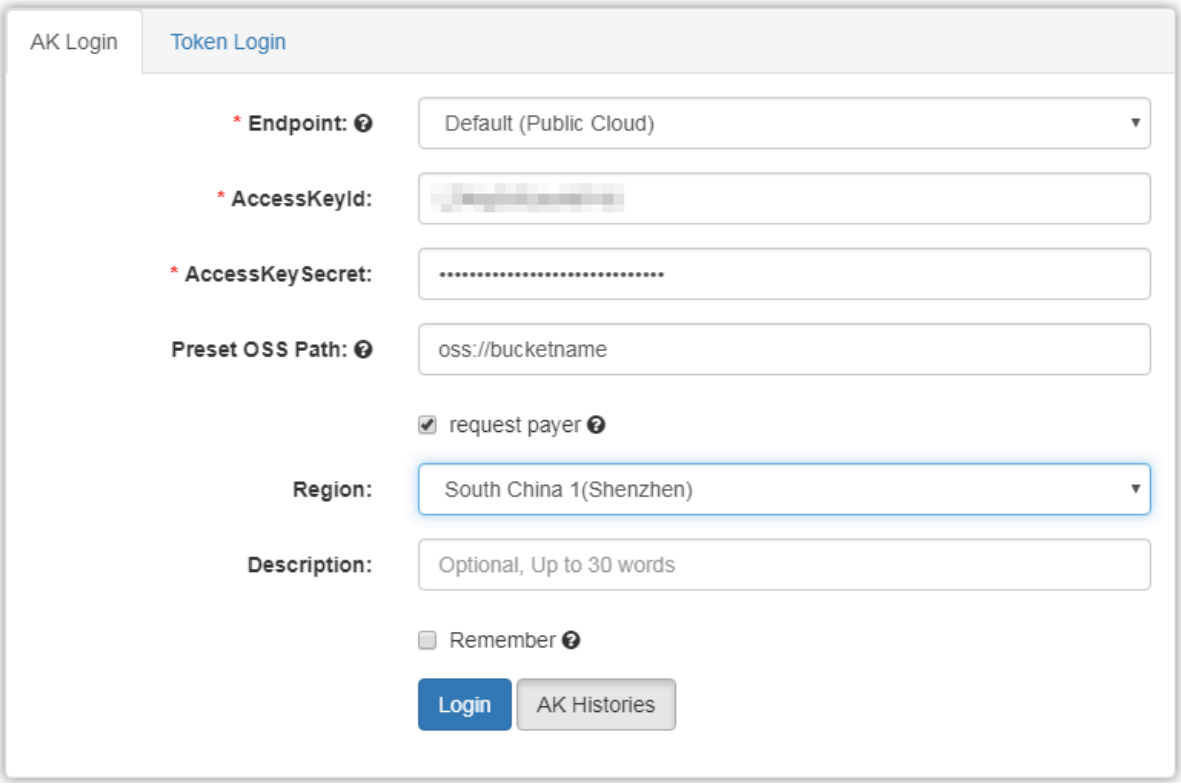
Installation

1. Download and install ossbrowser

Supported operating system	Download URL
Windows x32	Windows x32
Windows x64	Windows x64
MAC	MAC
Linux x64	Linux x64

Note:
For more download URLs, see GitHub.

2. Start ossbrowser.



Set the following parameters to log on to ossbrowser:

- Endpoint: Select the region (endpoint) that you want to log on.
  - Default: Log on to ossbrowser with the default endpoint.
  - Customize: Enter the endpoint you want to use to log on to ossbrowser. You can enter a URL starting with "http" or "https" to log on to ossbrowser through the HTTP or HTTPS method, for example, https://oss-cn-

beijing.aliyuncs.com. For more information about the regions and endpoints, see Regions and endpoints.

- cname: You can log on to ossbrowser with a custom domain name (CNAME) attached to your OSS resources. For more information about attaching a CNAME, see Attach a custom domain name.

· AccessKeyId/AccessKeySecret: Enter the Accesskey (AK) of your account. To ensure data security, we recommend that you use the AK of a RAM user to log on to ossbrowser. For more information about AK, see Create an AccessKey.

· Preset OSS Path:

- Administrator RAM users with administration permissions on all buckets: No configuration is required.
- Operator RAM users: Configurations are required. Enter the path of the OSS bucket or sub-directory that you want to access (the RAM user must have permission to access the OSS bucket or sub-directory). The path format is as follows: oss:// bucket name/sub-directory name/.

· Region: Select the region where the OSS resources belong to.

· Remember: Select to save the AK. When you log on to ossbrowser later, you can simply click AK Histories and select the saved AK instead of entering the AK repeatedly. Do not select this option if you use a shared computer.

Usage

Ossbrowser supports simple management operations on OSS resources.

- Manage a bucket
  - Create a bucket.
    1. On the main interface of ossbrowser, click Create Bucket.
    2. Set the following information about the bucket:
       - Name: The name of a bucket can be 63 characters in maximum and must be unique.
       - Region: Select the region where the bucket belongs to.
       - ACL: Select the ACL for the bucket. For more information about ACL, see ACL.
       - Type: Select the default storage class of the bucket. For more information about storage class, see Introduction to storage classes.
    3. Click OK.
  - Delete a bucket.

    Select the bucket that you want to delete, and then click More > Remove. A bucket cannot be deleted when objects or parts are stored in it.
- Manage objects/directories
  - Create a directory.
    1. On the main interface of ossbrowser, click the bucket in which you want to create a folder.
    2. Click Directory.
    3. Enter the name of the directory and click OK.

       Note:

       - Emoticons are not allowed in a directory name. Use compliant UTF-8 characters in directory names.
       - You can create only a single-level directory at a time. For example, you can create a single-level directory `abc` but not a multi-level directory `abc/123`.
       - A sub-directory named `..` is not allowed.

■ The length of a directory name must be in a range of 1 to 254 characters.

- Upload files/directories.

  In the specified bucket or directory, click Files/Folder, and then select the files or folders that you want to upload. You can upload multiple files or folders at the same time.

- Download objects/directories

  In the specified bucket or directory, select the objects or directories that you want to download, and then click Download. You can download multiple objects or folders at the same time.

- Copy objects/directories.

  1. In the specified bucket or directory, select the objects or directories that you want to copy, and then click Copy.
  2. Enter the bucket or directory where you want to copy the data to, and then click Paste. If the source address and target address of the copied object are the same, the original object is overwritten. If the storage class of the overwritten object is IA or Archive and the storage period of the object does not reach the required value, fees incur for the advanced deletion. For more information, see Billing items.

- Move objects/directories.

  1. In the specified bucket or directory, select the objects or directories that you want to move, and then click More > Move.
  2. Enter the bucket or directory where you want to move the data to, click Paste.

     Notice:
     When you move an object or a directory, the object or directory is copied from the source address to the target address, and the object or directory in the source address is deleted. If you move an object of the IA or Archive

storage class and the storage period of the object does not reach the required value, fees incur for the advanced deletion.

- Rename objects/directories

  In the specified bucket or directory, select the objects or directories that you want to rename, click More > Rename, and then enter the new name.

   Notice:

  ■ You can only rename objects smaller than 1 GB.

  ■ When you rename an object or a directory, the object or directory is copied , renamed, and then saved. The original object or directory is deleted. If you rename an object of the IA or Archive storage class and the storage period of the object does not reach the required value, fees incur for the advanced deletion.

- Delete objects/directories

  Select the object or directory that you want to delete, and then click More > Remove. If you delete an object of the IA or Archive storage class and the storage period of the object does not reach the required value, fees incur for the advanced deletion.

- Generate an access URL for an object.

  1. Select the specified object, and then click More > Address.
  2. Enter the valid period of the URL, and then click Generate.
  3. Click Copy or Mail it to send the URL to users who want to access the object. You can also scan the QR code to access the object.

- Preview an object.

  You can double-click an object to preview it. You can preview images and objects in the txt and pdf formats in ossbrowser.

- Manage parts.

  Select the specified bucket, and then click Multipart. You can delete unnecessary parts.

More operations

- **Upload/Download performance optimization**

  You can click Settings to configure the following parameters.

  - **Upload tasks concurrent number: Specify the maximum number of upload tasks that can be performed at the same time. If the number of upload tasks is larger than the value, the additional tasks are scheduled into a queue and wait for the current tasks to be complete. Setting this parameter properly based on your bandwidth can improve the upload speed.**
  - **Download tasks concurrent number: Specify the maximum number of download tasks that can be performed at the same time. If the number of download tasks is larger than the value, the additional tasks are scheduled into a queue and wait for the current tasks to be complete. Setting this parameter properly based on your bandwidth can improve the upload speed.**
  - **overtime: Specify the timeout period for tasks.**
  - **uploadpart size: Specify the part size in multipart upload tasks. When the file to be uploaded is too large or the network condition is poor, you can set an appropriate part size to upload the object in multiple parts.**
  - **retry times: Specify the allowed retry times in upload or download tasks.**

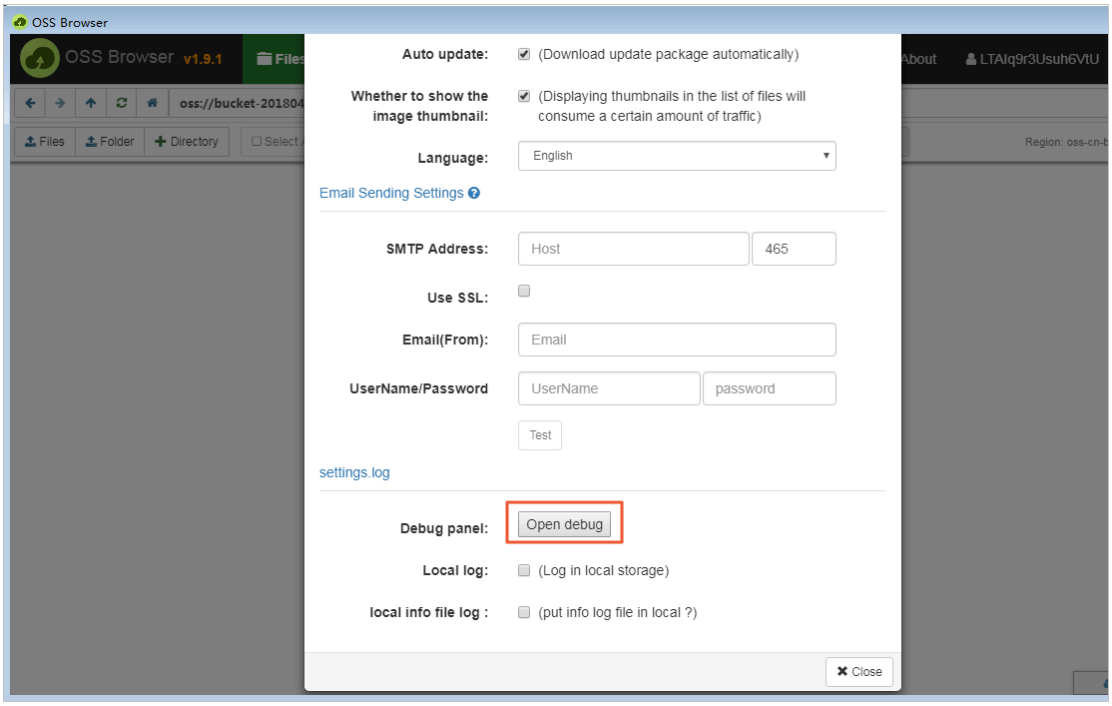
- **Mail settings**

  You can click Settings to set your E-mail account. All operations related to mails in ossbrowser are performed by the account.

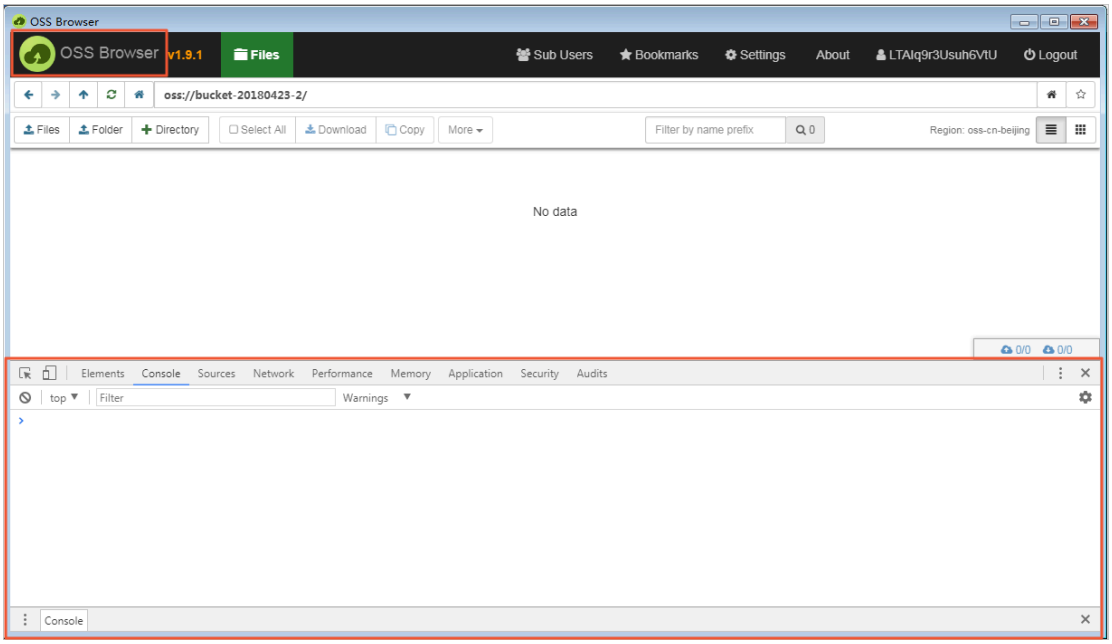
- Logging settings
  - Enable the debug mode.

    You can enable the debug mode in the following two methods to view the logs generated by upload, download, and other operations.

    ■ Method 1: Click Settings, and then click Open debug.



    ■ Method 2: Continually click the OSS Browser logo at the upper left corner for 10 times.



  - Enable logging.

You can select whether to enable the logging function in the Settings dialog box.

- Select Local log to enable the local logging function to collect error logs. Logs collected by ossbrowser are stored in the following paths by default:
  - Linux: ~/.config/oss-browser/log.log
  - Mac: ~/Library/Logs/oss-browser/log.log
  - Windows: %USERPROFILE%\AppData\Roaming\oss-browser\log.log
- Select local info file log to collect normal local file information.

2.2 Permission management

Log on to ossbrowser as a RAM user

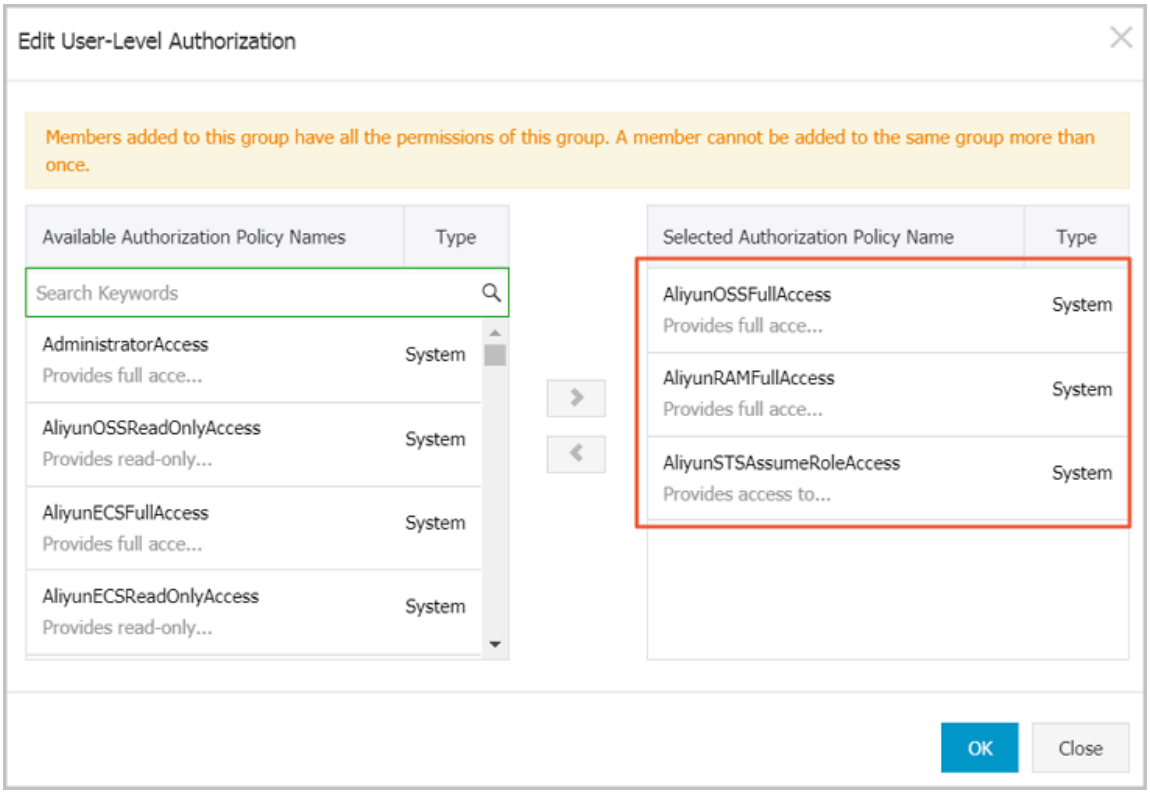
To ensure data security, we recommend that you log on to ossbrowser by using the AccessKey (AK) of a RAM user. To log on to ossbrowser, follow these steps:

1. Create a RAM user and an AK. For more information, see Create a RAM user.

   RAM users can be classified into two types based on their permissions:

   · Administrator RAM user: Indicates a RAM user with administration permissions. For example, a RAM user that can manage all buckets and authorize other RAM users is an administrator RAM user. You can log on to the RAM console with your Alibaba Cloud account to create an administrator RAM

user and grant permissions to the administrator RAM user, as shown in the following figure.



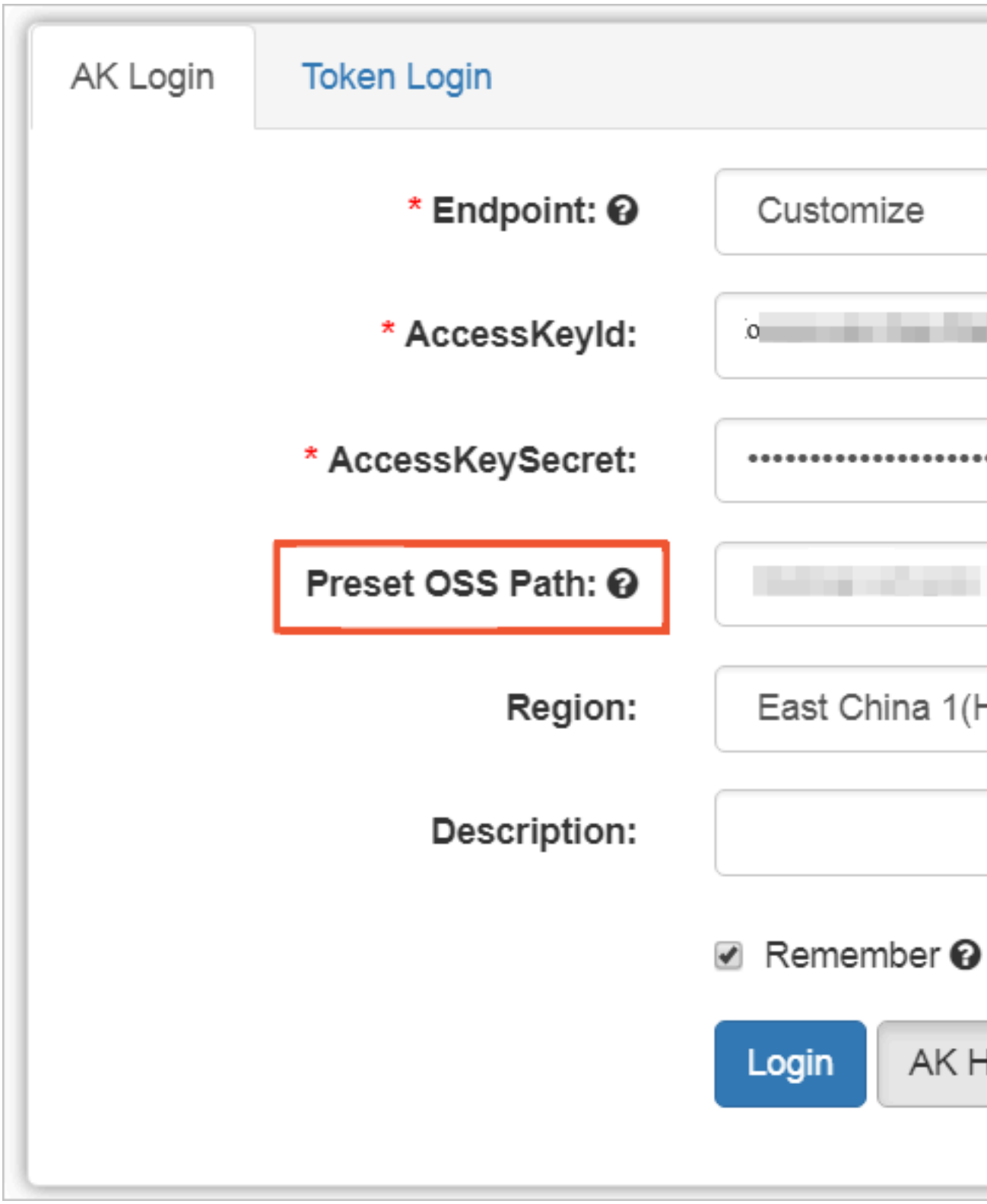
- Operator RAM user: Indicates a RAM user that only has the read-only permission on a bucket or a directory. The administrator can Grant permissions with a simple policy to authorize a RAM user.

> Note:
> You can grant lower-level permissions to RAM users. For details, see Access control.

2. Set the following parameters to log on to ossbrowser:
   - Endpoint: Use the default value.
   - AccessKeyId and AccessKeySecret: Enter the AK of the RAM user.
   - Preset OSS Path:
     - Administrator RAM users with administration permissions on all buckets: No configuration is required.
     - Operator RAM users: Configurations are required. Enter the path of the OSS bucket or sub-directory that you want to access (the RAM user must have

permission to access the OSS bucket or sub-directory). The path format is as follows: oss:// bucket name/sub-directory name/.

- Remember: Select to save the AK. When you log on to ossbrowser later, you can simply click AK Histories and select the saved AK instead of entering the AK repeatedly. Do not select this option if you use a shared computer.
-

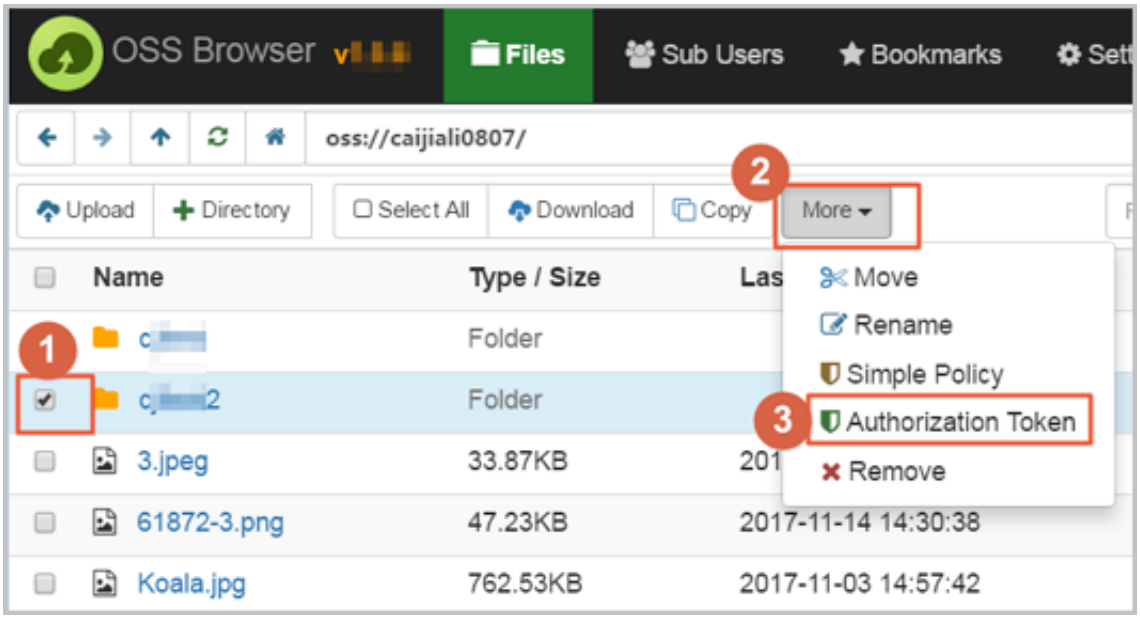


Log on to ossbrowser with a temporary authorization code

You can use a temporary authorization code to log on to ossbrowser. You can provide authorized users with a temporary authorization code to allow them to access a directory under your bucket temporarily before the authorization code expires. The temporary authorization code automatically becomes invalid after it expires.

1. Generate a temporary authorization code.

   Use the AK of an administrator RAM user to log on to ossbrowser. Select the object or directory to be accessed temporarily by the authorized users, and generate a temporary authorization code, as shown in the following figure.



2. Log on to ossbrowser with the authorization code.

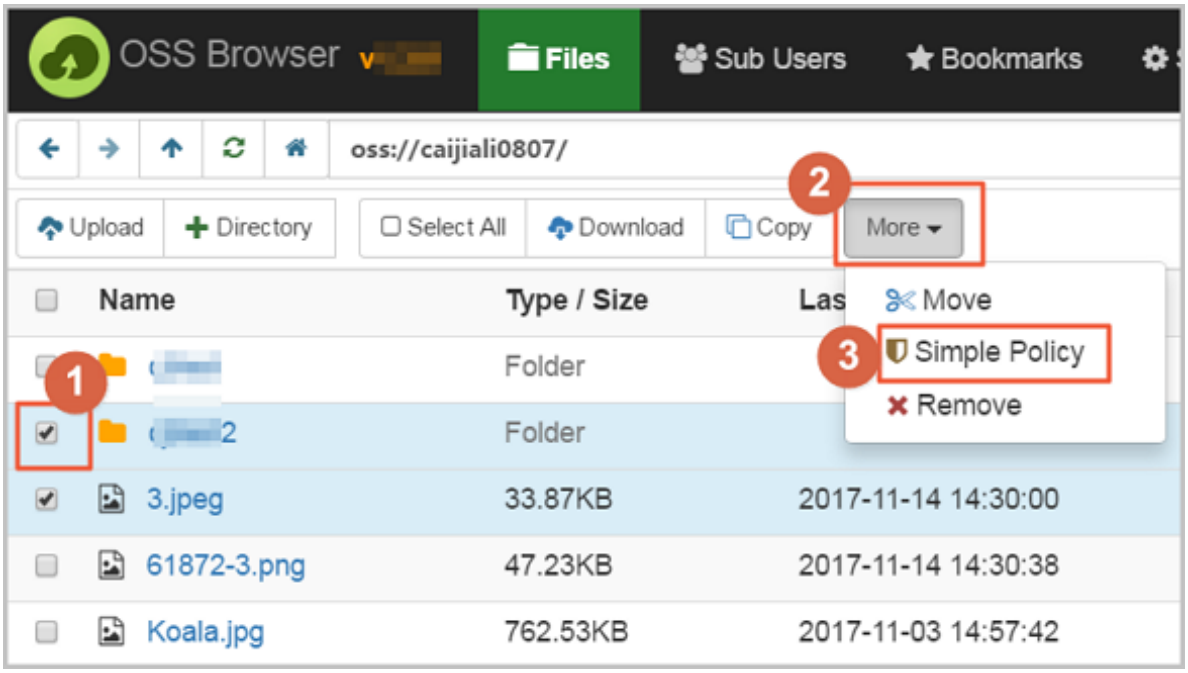
   The temporarily authorized users can use the authorization code to log on to ossbrowser before it expires, as shown in the following figure.

Grant permissions with a simple policy

After logging on to ossbrowser as an administrator RAM user, you can Grant permissions with a simple policy to create an operator RAM user, or grant an operator RAM user the read-only or read/write permission on a bucket or a directory.

> Note:
> Alibaba Cloud ossbrowser provides simple policy authorization, which is an access control feature based on the Alibaba Cloud RAM service. You can also log on to the RAM console through the official website of Alibaba Cloud to manage your RAM user more precisely.

1. Select one or more objects or directories to be accessed temporarily by the authorized users and then click Simple Policy, as shown in the following figure.



2. On the Simplify policy authorization dialog box, select Privileges.
3. You can also grant permissions to an existing operator RAM user or create a new operator RAM user in this dialog box.

> Notice:

To use simple policy authorization, you must log on to ossbrowser by using the AK of an RAM user that has the RAM configuration permission, for example, the AK of an administrator RAM user that has the RAM configuration permission.

The policy is generated in text. You can view, copy, and use the text as needed. For example, you can copy the policy text and use it to edit the authorization rules for RAM users and roles in the RAM console.

3 ossutil

3.1 Quick start

Ossutil allows you to manage OSS data easily by using command lines and provides simple and easy-to-use commands for bucket and object management. Ossutil supports the following operating systems: Windows, Linux, and Mac.

Download

- The latest version of ossutil is 1.6.1.
- Operating environment:
  - Windows/Linux/Mac
  - Supported architecture: x86 (32bit, 64bit)
- Download ossutil from the following URLs according to your operating system:
  - Linux x86 32bit
  - Linux x86 64bit

    Notice:
    When copying the preceding URLs into the `wget` command to download data, delete the *`? spm = xxxx`* part in the URLs.
  - Windows x86 32bit
  - Windows x86 64bit
  - mac x86 32bit
  - mac x86 64bit

Installation

Download a package according to your operating system and run the corresponding binary file.

- Install ossutil in Linux (Linux 64-bit system is used as an example).
  1. Download the ossutil installation file:

```
wget   http :// gosspublic . alicdn . com / ossutil / 1 . 6 . 1 /
ossutil64
```

2. Modify the permission of the file:

```
chmod 755 ossutil64
```

3. Generate a configuration file by inputting information in interactive command lines:

```
./ ossutil64 config
This command generates a configurat ion file which
  stores the configurat ion informatio n . Input the
  path of the configurat ion file . ( The default
path is / home / user /. ossutilcon fig . If you press
Enter , the file is generated in the default path
. If you want to generate the file in another
path , set the -- config - file option to the path
.)
The path is not specified , the following default
configurat ion file is used : / home / user /. ossutilcon
fig
The following parameters are ignored if you press
Enter when configurin g them . For more informatio n
  about the parameters , run " help config ".
Input the endpoint : http :// oss - cn - shenzhen . aliyuncs
. com
Input the accessKeyI D : yourAccess KeyID
Input the accessKeyS ecret : yourAccess KeySecret
Input the stsToken :
```

- endpoint: Indicates the endpoint of the region where the bucket belongs to. For more information, see Regions and endpoints.
- accessKeyID: For more information about how to view the AccessKeyID, see Create an AccessKey.
- accessKeySecret: For more information about how to view the AccessKeySecret, see Create an AccessKey.
- stsToken: This is option is required only when you use a temporary STS token to access the OSS bucket. Otherwise, you can leave the value unspecified. For more information about how to generate an STS token, see Temporary access credential.

Note:

For more information about the configuration file, see Modify the configuration file.

- Install ossutil in Windows (Windows 64-bit system is used as an example).
  1. Download the ossutil installation package.
  2. Decompress the package to the specified folder, and then double-click the *ossutil.bat* file.
  3. Generate the configuration file. For more information about the parameters, see the description in the installation process of Linux.

```
D:\ossutil>ossutil64.exe config
```

- Install ossutil in Mac (Mac 64-bit system is used as an example).
  1. Download the ossutil installation file:

```
curl -o ossutilmac64 http://gosspublic.alicdn.com/ossutil/1.6.1/ossutilmac64
```

  2. Modify the permission of the file:

```
chmod 755 ossutilmac64
```

  3. Generate the configuration file. For more information about the parameters, see the description in the installation process of Linux.

```
./ossutilmac64 config
```

Usage

You can run commands to perform the following operations in ossutil:

- View all commands.

```
./ossutil help
```

- View the help documentation of a specified command.

```
./ossutil help cmd
```

  For example:

```
./ossutil help config
```

- Output log files in ossutil.

  In ossutil 1.4.3 and later, you can enable the `--loglevel=${level}` option when running commands to output the log file `ossutil.log` in the current

working directory. The value of this option is null by default, which indicates that the log file is not output. You can set this option to two values: info or debug.

- Default value: Null, indicating that the log file is not generated.
- info: Indicates that operation records in ossutil are recorded in the log file.

```
./ ossutil  [ command ] -- loglevel = info
```

- debug: Indicates that all HTTP access information and the original signature string are recorded in the log file to locate problems.

```
./ ossutil  [ command ] -- loglevel = debug
```

- View the version of ossutil.

```
./ ossutil  -- version
```

- Set the language of ossutil.

  You can use the `- L` option to set the language when running commands. You can set the value of this optional to CH or EN, which indicates Chinese or English individually. The value is not case-sensitive and is CH by default. Make sure your operating system is UTF-8 encoded if you set the language of ossutil to CH. Otherwise, characters may not display properly.

  - Set the language of ossutil to Chinese:

    ```
    ./ ossutil   config  - L   ch
    ```

    
    Notice:
    If you have generated a configuration file, this operation modifies the parameter in the configuration file.

  - View the help information about the `ls` command in the default language:

    ```
    ./ ossutil   help   ls
    ```

  - View the help information about the `ls` command in Chinese:

    ```
    ./ ossutil   help   ls  - L   ch
    ```


Note:
Error messages in ossutil are displayed in English and cannot be changed.

- Modify the configuration file.

  You can modify the configuration file as follows when managing buckets in different regions:

  - Specify the configuration file.

    ```
    ./ ossutil   config  - c   your_confi  g_file_pat  h
    ```

    The configuration file is in the following format:

    ```
    [ Credential  s ]
         language  =  CH
         endpoint  =  oss - cn - xxx . aliyuncs . com
         accessKeyI  D  =  your_key_i  d
         accessKeyS  ecret  =  your_key_s  ecret
         stsToken  =  your_sts_t  oken
         outputDir  =  your_outpu  t_dir
    [ Bucket - Endpoint ]
         bucket1  =  endpoint1
         bucket2  =  endpoint2
        ...
    [ Bucket - Cname ]
         bucket1  =  cname1
         bucket2  =  cname2
        ...
    ```

    ■ Bucket-Endpoint: Specify an individual endpoint for each specified bucket. If you configure the Bucket-Endpoint option, ossutil searches for the endpoint specified for a bucket when you perform operations on the bucket. If the endpoint specified for the bucket exists, ossutil manages the bucket through the endpoint. Otherwise, ossutil manages the bucket through the endpoint specified in the basic configuration.

    Note:

    You can select the protocol used to access OSS by specifying different formats of endpoints.

    ■ If you specify an endpoint in the `oss - cn - xxx . aliyuncs . com` or `http :// oss - cn - xxx . aliyuncs . com` format for a bucket, ossutil accesses the bucket through the HTTP protocol.

■ If you specify an endpoint in the `https://oss-cn-xxx.aliyuncs.com` format for a bucket, ossutil accesses the bucket through the HTTPS protocol.

■ Bucket-Cname: Specify an individual CDN acceleration domain name for each specified bucket. If you configure the Bucket-Cname option, ossutil searches for the CDN acceleration domain name specified for a bucket when you perform operations on the bucket. If the CDN acceleration domain name specified for the bucket exists, ossutil replaces the endpoint specified in the Bucket-Endpoint option and basic configuration. For more information about CDN acceleration domain names, see #unique_25.

■ Priority of endpoint configurations: endpoint specified by the `--endpoint` parameter in commands > endpoint specified in Bucket-Cname > endpoint specified in Bucket-Endpoint > endpoint specified in the basic configuration > default endpoint.

- Generate a configuration file by inputting information in interactive command lines as follows:

```
./ossutil config
This command generates a configuration file which
stores the configuration information .
Input the path of the configuration file . ( The
  default path is / home / user /. ossutilconfig . If
you press Enter , the file is generated in the
default path . If you want to generate the file
in another path , set the -- config - file option to
  the path .)
The path is not specified , the following default
configuration file is used : / home / user /. ossutilcon
fig
The following parameters are ignored if you press
Enter when configurin g them . For more information
  about the parameters , run " help config ".
Input the stsToken :
Input the endpoint : http :// oss - cn - xxx . aliyuncs .
com
Input the accessKeyID : yourAccessKeyID
Input the accessKeySecret : yourAccessKeySecret ./
ossutil64 config
```

- Generate a configuration file by running a command as follows:

```
./ossutil config -e endpoint -i your_id -k
your_secret
```

- The parameters in the command are described as follows:

```
-c , --config-file
```

```
    Indicates the path of the configurat ion file
 of ossutil . Ossutil reads the configurat ion from
 the configurat ion file when starting and writes
 the configurat ion into the file when running the
   config command .

- e , -- endpoint
    Specifies the endpoint in the basic configurat
 ion of ossutil . It must be a second level
 domain name .

- i , -- access - key - id
    Specifies the AccessKeyI D used to access OSS .

- k , -- access - key - secret
    Specifies the AccessKeyS ecret used to access
 OSS .

- t , -- sts - token
    Specifies the STS token used to access OSS .

-- output - dir = ossutil_ou tput
    Specifies the folder that stores the output
 files , including the report files generated when
 you run the cp command to copy files in batches
 .

- L CH , -- language = CH
    Specifies the language of ossutil . You can set
   the language to EN or CH . The default value
 is CH . If you set the language to CH , make
 sure your operating system is UTF - 8 encoded .
```

Reference

For more information about the commands in ossutil, see the following topics:

- Bucket-related commands
- Object-related commands
- Multipart-related commands

3.2 Bucket-related commands

This topic describes how to use the Alibaba Cloud OSS open-source tool ossutil to run bucket-related commands. Specifically, you create, delete, or list a bucket, or change the ACL of a bucket. You can also use this tool to manage bucket-related items such as objects, uncompleted multipart upload tasks, to manage Cross-Origin Resource Sharing (CORS) rules, log rules, or anti-leech rules, or to troubleshoot the OSS network.

 Note:

- Before you can run bucket-related commands, you must first upgrade your ossutil to the latest version and run the `config` command to configure your AccessKey. For more information, see Quick start.
- Bucket management functions besides those described here are not supported by ossutil. If you require such functions, use the osscmd tool. For more information, see Quick installation.

Create a bucket

- Create a bucket

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

If the bucket is created, ossutil prints the interval of time needed to create the bucket and exits. If the bucket failed to be created, ossutil outputs the corresponding error information.

Note:

For information about how to use the `mb` command, run the `ossutil help mb` command.

- Create a bucket and set its ACL

You can use the `-- acl` parameter to set the ACL for a bucket. The default ACL is `private` . The following are available ACLs:

- `private` : Anonymous users are not allowed to read from or write to objects in the bucket. A signature is required for access.
- `public - read` : Anonymous users are allowed only to read from objects in the bucket.
- `public - read - write` : Anonymous users are allowed to read from and write to objects in the bucket.

Note:

For more information on access control, see Access control based on ACLs.

For example, run the following command to create a bucket and set its ACL to `public-read-write`:

```
./ossutil mb oss://bucket --acl=public-read-write
```

- Create a bucket and set its storage class

  You can use the `--storage-class` parameter to set the storage class of a bucket. The default storage class is `Standard`. The following are available storage classes:

  - `Standard`
  - `Infrequent Access`
  - `Archive`

  Note:

  For more information on storage classes, see Overview.

  For example, run the following command to create a bucket and set its storage class to `Infrequent Access`:

  ```
  ./ossutil mb oss://bucket --storage-class IA
  ```

Change the ACL for a bucket

You can run the `set-acl` command to change the ACL for a bucket. In this command, you must set the `-b` parameter.

For example, run the following command to change the ACL for a bucket to `private`:

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

Note:

For information about how to use the `set-acl` command, run the `ossutil help set-acl` command.

Delete a bucket

- Delete an empty bucket

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

> Notice:
> - You must set the `- b` parameter when you delete a bucket.
> - The bucket you delete may be re-created by another user. However, in such case, you will no longer own this bucket.
> - For information about how to use the `rm` command, run the `ossutil help rm` command.

- Clear and delete a bucket

  If a bucket contains object or multipart data, you must first delete the object or multipart data before you delete the bucket.

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

> Warning:
> If you run the preceding command, all the data in your bucket is deleted.

List buckets

- List all your buckets

  You can run one of the following two commands to list all your buckets:

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

> Note:
> The `- s` parameter is used to list your buckets in a simple structure. For information about how to use the `ls` command, run the `ossutil help ls` command.

Example:

```
./ ossutil  ls
 CreationTi  me                                  Region
 StorageCla  ss      BucketName
```

```
2016 - 10 - 2116 : 18 : 37  + 0800   CST         oss - cn -
hangzhou           Archive      oss :// go - sdk - test - bucket -
xyz - for - object
2016 - 12 - 0115 : 06 : 21  + 0800   CST         oss - cn -
hangzhou          Standard      oss :// ossutil - test
2016 - 07 - 1817 : 54 : 49  + 0800   CST         oss - cn -
hangzhou          Standard      oss :// ossutilcon  fig
2016 - 07 - 2010 : 36 : 24  + 0800   CST         oss - cn -
hangzhou                IA      oss :// ossutilupd  ate
2016 - 11 - 1413 : 08 : 36  + 0800   CST         oss - cn -
hangzhou                IA      oss :// yyyyy
2016 - 08 - 2509 : 06 : 10  + 0800   CST         oss - cn -
hangzhou           Archive      oss :// ztzt
2016 - 11 - 2121 : 18 : 39  + 0800   CST         oss - cn -
hangzhou           Archive      oss :// ztztzt
Bucket   Number   is : 7
0 . 252174 ( s )  elapsed
```

- **List your buckets by page**

```
./ ossutil   ls   oss :// -- limited - num =${ num } -- marker =${
 bucketname }
```

If you created a large number of buckets, you can use the `-- limited - num` and `-- marker` parameters to list your buckets by page.

- **`-- limited - num` : the number of buckets displayed on each page.**
- **`-- marker` : the name of the bucket from which ossutil starts to list your buckets. Your buckets are sorted alphabetically and displayed by page. In most cases, ossutil lists your buckets starting from the bucket queried and displayed on the previous page.**

For example, run the following command to list the first two buckets by page:

```
./ ossutil   ls   oss :// -- limited - num = 1  - s
 oss :// bucket1
 Bucket   Number   is : 1
 0 . 303869 ( s )  elapsed
$ ./ ossutil   ls   oss :// -- limited - num = 1  - s  -- marker =
 bucket1
 oss :// bucket2
 Bucket   Number   is : 1
 0 . 257636 ( s )  elapsed
```

List objects

- **List all the objects in a bucket**

```
./ ossutil   ls   oss :// bucketname
```

Example:

```
./ ossutil   ls   oss :// ossutil - test
```

```
LastModifi  edTime                          Size ( B )   StorageCla  ss
    ETAG                                          ObjectName
2016 - 12 - 0115 : 06 : 37  + 0800   CST         10363812
Standard     61DE142E5A  FF9A674870  7D4A77BFBC  FB          oss
:// ossutil - test / a1
2016 - 12 - 0115 : 06 : 42  + 0800   CST         10363812
Standard     61DE142E5A  FF9A674870  7D4A77BFBC  FB          oss
:// ossutil - test / a2
2016 - 12 - 0115 : 06 : 45  + 0800   CST         10363812
Standard     61DE142E5A  FF9A674870  7D4A77BFBC  FB          oss
:// ossutil - test / a3
Object   Number   is : 3
0 . 007379 ( s )  elapsed
```

- **List all your objects and uncompleted multipart upload tasks**

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

Example:

```
./ ossutil   ls   oss :// bucket1  - a
LastModifi  edTime                          Size ( B )   StorageCla  ss
    ETAG                                          ObjectName
2015 - 06 - 0514 : 06 : 29  + 0000   CST          201933
Standard     7E2F4A7F1A  C9D2F0996E  8332D5EA5B  41          oss
:// bucket1 / dir1 / obj11
2015 - 06 - 0514 : 36 : 21  + 0000   CST          201933
Standard     6185CA2E8E  B8510A61B3  A845EAFE41  74          oss
:// bucket1 / obj1
2016 - 04 - 0814 : 50 : 47  + 0000   CST         6476984
Standard     4F16FDAE7A  C404CEC8B7  27FCC67779  D6          oss
:// bucket1 / sample . txt
Object   Number   is : 3
InitiatedT  ime                        UploadID
       ObjectName
2017 - 01 - 1303 : 45 : 26  + 0000   CST       15754AF798
0C4DFB8193  F190837520  BB      oss :// bucket1 / obj1
2017 - 01 - 1303 : 43 : 13  + 0000   CST       2A1F9B4A95
E341BD9285  CC42BB950E  E0      oss :// bucket1 / obj1
2017 - 01 - 1303 : 45 : 25  + 0000   CST       3998971ACA
F94AD9AC48  EAC1988BE8  63      oss :// bucket1 / obj2
2017 - 01 - 2011 : 16 : 21  + 0800   CST       A20157A7B2
FEC4670626  DAE0F4C007  3C      oss :// bucket1 / tobj
UploadId   Number   is : 4
0 . 191289 ( s )  elapsed
```

- **List all your objects by page**

```
./ ossutil   ls   oss :// bucket  -- limited - num =${ num } --
 marker =${ obj }
```

You can use the `-- limited - num` and `-- marker` parameters to list your objects by page. This is similar to listing your buckets by page in Bucket-related commands.

```
./ ossutil   ls   oss :// ossutil - test  -- limited - num = 1
```

```
 LastModifi  edTime                          Size ( B )   StorageCla  ss
     ETAG                                        ObjectName
 2016 - 12 - 0115 : 06 : 37  + 0800   CST        10363812
 Standard     61DE142E5A  FF9A674870  7D4A77BFBC  FB          oss
 :// ossutil - test / a1
 Object   Number   is : 1
 0 . 007379 ( s )  elapsed
$./ ossutil   ls   oss :// ossutil - test  -- limited - num = 1  --
 marker = a1
 LastModifi  edTime                          Size ( B )   StorageCla  ss
     ETAG                                        ObjectName
 2016 - 12 - 0115 : 06 : 42  + 0800   CST        10363812
 Standard     61DE142E5A  FF9A674870  7D4A77BFBC  FB          oss
 :// ossutil - test / a2
 Object   Number   is : 1
 0 . 008392 ( s )  elapsed
```

- List your objects in a simple structure

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

Example:

```
./ ossutil   ls   oss :// ossutil - test
 oss :// ossutil - test / a1
 oss :// ossutil - test / a2
 oss :// ossutil - test / a3
 Object   Number   is : 3
 0 . 007379 ( s )  elapsed
```

- List your objects in a simulated directory structure

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

If you do not want to list all the objects recursively in the subdirectories of your current directory, you can use the `- d` parameter to list the objects and subdirectories.

Example:

```
./ ossutil   ls   oss :// bucket1  - s  - d
 oss :// bucket1 / obj1
 oss :// bucket1 / sample . txt
 oss :// bucket1 / dir1 /
 Object   and   Directory   Number   is : 3
 0 . 119884 ( s )  elapsed
```

- List all the objects in a bucket to which a domain name is attached

For more information, see Object-related commands.

List uncompleted multipart upload tasks and relevant information

- List your uncompleted multipart upload tasks

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

You can use the `- m` parameter to list the uncompleted multipart upload tasks in your current bucket.

Example:

```
./ ossutil  ls  oss :// bucket1  - m
 InitiatedT  ime                    UploadID
   ObjectName
 2017 - 01 - 1303 : 45 : 26  + 0000  CST   15754AF798  0C4DFB8193
 F190837520  BB   oss :// bucket1 / obj1
 2017 - 01 - 1303 : 45 : 25  + 0000  CST   3998971ACA  F94AD9AC48
 EAC1988BE8  63   oss :// bucket1 / obj2
 2017 - 01 - 2011 : 16 : 21  + 0800  CST   A20157A7B2  FEC4670626
 DAE0F4C007  3C   oss :// bucket1 / tobj
 UploadID  Number  is : 30 . 009424 ( s )  elapsed
```

- List the parts to be uploaded for all your objects

```
./ ossutil  getallpart  size  oss :// bucket
```

- List the parts to be uploaded for a specified object

```
./ ossutil  listpart  oss :// bucket / object  uploadid
```

The `uploadid` parameter specifies the upload task ID of an object whose parts are to be uploaded.

Note:

For more information about multipart upload, see Multipart-related commands.

Configure bucket tagging

By setting the value of `method` to `put` , `get` , or `delete` when running the `bucket - tagging` command, you can add tags to a bucket or modify, query, or delete the tags added to a bucket. For more information about bucket tagging, see Bucket tagging.

Note:

- Only the bucket owner and authorized RAM users can add tags to a bucket. Otherwise, the 403 Forbidden error is returned with the error code `AccessDenied`.
- The key and value of a tag must be separated by a number sign (#).
- You can add a maximum of 20 tags (key-value pairs) to a bucket. Tags must be separated by spaces.
- A tag can contain letters, numbers, spaces, and the following symbols:

  `+-=._:/`
- The maximum length of a key is 64 bytes. The key of a tag cannot be null or be prefixed with `http://`, `https://`, or `Aliyun`.
- The maximum length of a tag value is 128 bytes. The value of a tag can be null.
- The key and value of a tag must be UTF-8 encoded.
- We recommend that you run the `ossutil help bucket-tagging` command for more information before running the `bucket-tagging` command.

- You can run the following command to add tags to a bucket or modify the tags added to a bucket:

```
./ossutil bucket-tagging --method put oss://bucket
 tagkey1#tagvalue1 tagkey2#tagvalue2
```

  The preceding command adds specified tags to the bucket if no tag is added to the bucket and overwrites the existing tags if the bucket already has tags.
- You can run the following command to query the tags added to a bucket:

```
./ossutil bucket-tagging --method get oss://bucket
```

- You can run the following command to delete the tags added to a bucket:

```
./ossutil bucket-tagging --method delete oss://bucket
```

Configure bucket encryption

You can set the `method` parameter to `put`, `get`, or `delete` in the `bucket-encryption` command to add, modify, query, or delete the encryption settings of a bucket. For more information about bucket encryption, see Server-side encryption.

- You can run the following command to add the encryption settings for a bucket:

```
./ ossutil  bucket - encryption  -- method  put  oss :// bucket
 -- sse - algorithm  algorithmN  ame  [-- kms - masterkey - id
 keyid ]
```

  - `-- sse - algorithm` : Specifies the encryption method for the bucket, which can be set to KMS or AES256.
  - `-- kms - masterkey - id` : Specifies the CMK ID used for encryption. Set this parameter as required if the value of `-- sse - algorithm` is KMS. This parameter cannot be set if the value of `-- sse - algorithm` is AES256.

  The preceding command sets an encryption method for a bucket if the encryption method is not set for the bucket and modifies the encryption settings for the bucket if the encryption method is set for the bucket.

  Example:

```
./ ossutil  bucket - encryption  -- method  put  oss :// bucket
 -- sse - algorithm  KMS  -- kms - masterkey - id  9468da86 - 3509
 - 4f8d - a61e - 6eab1eac ****
```

- You can run the following code to obtain the encryption settings for a bucket:

```
./ ossutil  bucket - encryption  -- method  get  oss :// bucket
```

- You can run the following code to delete the encryption settings for a bucket:

```
./ ossuitl  bucket - encryption  -- method  delete  oss ://
 bucket
```

Manage Cross-Origin Resource Sharing rules

You can set the `method` parameter in the `cors` command to `put` , `get` , or `delete` to add, change, query, or delete the CORS rule of a bucket. For more information, see Set CORS rules.

Note:

For information about how to use the `cors` command, run the `ossutil help cors` command.

- Add or change the CORS rule of a bucket

```
./ ossutil  cors  -- method  put  oss :// bucket  local_xml_
 file
```

Ossutil reads CORS rules from the *local_xml_file* configuration file. If no CORS rule is set for your bucket, ossutil adds the corresponding CORS rule obtained from the configuration file to your bucket. If a CORS rule is set for your bucket, ossutil changes this CORS rule to the CORS rule that is obtained from the configuration file.

 Note:

The *local_xml_file* configuration file is in XML format as follows:

```
<? xml  version =" 1 . 0 "  encoding =" UTF - 8 "?>
   < CORSConfig  uration >
     < CORSRule >
         < AllowedOri  gin > www . aliyun . com </ AllowedOri  gin
 >
         < AllowedMet  hod > PUT </ AllowedMet  hod >
         < MaxAgeSeco  nds > 10000 </ MaxAgeSeco  nds >
     </ CORSRule >
 </ CORSConfig  uration >
```

- Obtain the CORS rule of a bucket

```
./ ossutil  cors  -- method  get  oss :// bucket  [ local_xml_
 file ]
```

If the *local_xml_file* parameter is set, ossutil saves the obtained CORS rule to the *local_xml_file* configuration file on your computer. If this parameter is null, ossutil displays the obtained CORS rule on your screen.

- Delete the CORS rule of a bucket

```
./ ossutil  cors  -- method  delete  oss :// bucket
```

Manage log rules

You can set the `method` parameter in the `logging` command to `put` , `get` , or `delete` to add, change, query, or delete the log rule of a bucket. For more information, see Set access logging.

 Note:

For information about how to use the `cors` command, run the `ossutil help logging` command.

- Add or change the log rule of a bucket

```
./ ossutil  logging  -- method  put  oss :// bucket  oss ://
 target - bucket /[ prefix ]
```

If log management is disabled, run this command to save your bucket access logs as objects to the bucket specified by the `target - bucket` parameter. However, if log management is enabled, you can run this command to change the directory for storing your bucket access logs.

The `prefix` parameter specifies the directory and prefix for storing your bucket access logs. If this parameter is set, ossutil saves your bucket access logs to the specified directory in the bucket specified by the `target - bucket` parameter. If this parameter is null, ossutil saves your bucket access logs to the root directory in the bucket specified by the `target - bucket` parameter. For log object naming conventions, see Set logging.

- Obtain the log rule of a bucket

```
./ ossutil  logging  -- method  get  oss :// bucket  [
 local_xml_  file ]
```

If the *local_xml_ file* parameter is set, ossutil saves the obtained log rule to the *local_xml_ file* configuration file on your computer. If this parameter is null, ossutil displays the obtained log rule on your screen.

- Delete the log rule of a bucket

```
./ ossutil  logging  -- method  delete  oss :// bucket
```

Manage anti-leech rules

You can set the `method` parameter in the `referer` command to `put` , `get` , or `delete` to add, change, query, or delete the anti-leech rule of a bucket. For more information, see Anti-leech settings.

> **Note:**
> For information about how to use the `referer` command, run the `ossutil help referer` command.

- Add or change the anti-leech rule of a bucket

```
./ ossutil   referer  -- method   put   oss :// bucket   referer -
 value  [-- disable - empty - referer ]
```

If no anti-leech rule is set for the bucket, ossutil adds the specified anti-leech rule. If an anti-leech rule already exists, ossutil changes this anti-leech rule to the specified anti-leech rule.

- `referer - value` : enables and specifies the Referer whitelist that includes a list of domain names separated by spaces. The whitelist can contain wildcard characters (*) and question marks (?). Only the OSS access requests from the domains included in the whitelist are permitted.
- `-- disable - empty - referer` : specifies whether the `Referer` field can be left unspecified. If the `-- disable - empty - referer` parameter is used in the `referer` command, the `Referer` field cannot be left unspecified and only the OSS access requests whose HTTP or HTTPS headers contain this field are permitted. If the `-- disable - empty - referer` parameter is not used, the `Referer` field can be left unspecified.

For example, run the following command to set the anti-leech rule for a bucket while disallowing the `Referer` field to be left unspecified:

```
./ ossutil   referer  -- method   put   oss :// ossutil - test   www
 . test1 . com   www . test2 . com  -- disable - empty - referer
```

- Obtain the anti-leech rule of a bucket

```
./ ossutil   referer  -- method   get   oss :// bucket   [
 local_xml_  file ]
```

If the *`local_xml_ file`* parameter is set, ossutil saves the obtained anti-leech rule to the *`local_xml_ file`* configuration file on your computer. If this parameter is null, ossutil displays the obtained anti-leech rule on your screen.

- Delete the anti-leech rule of a bucket

```
./ ossutil   referer  -- method   delete   oss :// bucket
```

Troubleshoot OSS network

After you run the `probe` command, ossutil prompts you with possible causes to upload and download failures. This may include OSS network faults or inappropriate settings to basic parameters.

Note:

For information about how to use the `probe` command, run the `ossutil help probe` command.

- Download an object from a bucket by using the object URL and output a troubleshooting report

```
./ ossutil  probe  -- download  -- url  http_url  [-- addr =
 domain_nam  e ] [ file_name ]
```

After downloading an object from a bucket to your computer by using the object URL, you can test your network transmission quality and output a troubleshooting report.

- `-- url` : the URL of an object in the bucket.
  - If the ACL of the object is `public - read` , the URL does not carry a signature, for example, `https :// bucketname . oss - cn - beijing . aliyuncs . com / myphoto . jpg` .
  - If the ACL of the object is `private` , the URL carries a signature and starts and ends with a double quotation mark ("), for example, `" https :// bucketname . oss - cn - beijing . aliyuncs . com / myphoto . jpg ? Expires = 1552015472 & OSSAccessK eyId = TMP . xxxxxxxx5r 9f1FV12y8_ Qis6LUVmvo SCUSs7aboC CHtydQ0axN 32Sn - UvyY3AAAwL AIUarYNLcO 87AKMEcE5O 3Axxxxxxo C FAQuRdZYyV FyqOW8QkGA N - bamUiQ & Signature = bIa4llbMbl drl7rwckr % 2FXXvTtxw % 3D "`.

Note:

For information about how to obtain the URL of an object, see How to get the link address of the object in OSS.

- `-- addr = domain_nam e` : the domain or IP address to which the `ping` command is initiated while the object is being downloaded. This parameter

is optional. If you do not use this parameter, ossutil does not probe another domain or IP address.

- If you use the default parameter value, ossutil runs the `ping` command to check whether communications between your OSS network and `www . aliyun . com` are normal.
- If you specify a domain name or IP address, ossutil runs the `ping` command to check whether communications between your OSS network and the domain or IP address are normal.

- `file_name`: the directory for storing the downloaded object. This parameter is optional. If you do not use this parameter, ossutil saves the downloaded object to the current directory and determines the object name. If you use this parameter to specify an object or directory name, ossutil names the downloaded object by using the specified object name or saves the downloaded object to the specified directory.

· Download an object from a bucket and output a troubleshooting report

```
./ ossutil   probe  -- download  -- bucketname   bucket - name  [--
 object = object_nam  e ]
[-- addr = domain_nam  e ] [ file_name ]
```

- `-- bucketname`: the name of the bucket from which the object is downloaded.
- `-- object =`: the directory where the downloaded object is stored. This parameter is optional. If you do not use this parameter, ossutil generates a temporary object, uploads it to the bucket specified by the `bucket - name` parameter, and then downloads this object. After this object is downloaded, ossutil deletes it from your local computer and bucket.

· Check the upload result and output a troubleshooting report

```
./ ossutil   probe  -- upload  [ file_name ] -- bucketname   bucket
 - name  [-- object = obj
 ect_name ] [-- addr = domain_nam  e ] [-- upmode ]
```

- `file_name`: the name of the object that you want to upload to the bucket specified by the `bucket - name` parameter. The `file_name` parameter is optional. If you do not use this parameter, ossutil generates a temporary object

and uploads it to the specified bucket. After the probing is completed, ossutil deletes this temporary object.

- `--object=`: the name of an object or directory. This parameter is optional. An example parameter value is *path/myphoto.jpg*, which specifies the object name after the object is uploaded. If you do not use this parameter, ossutil generates a name for the uploaded object. After the probing is completed, ossutil deletes this object.
- `--upmode`: the upload method. This parameter is optional. The default parameter value is `normal`. The following are available upload methods:
  - `normal`
  - `append`
  - `multipart`

· Obtain a troubleshooting report

After running the `probe` command, you can view each task execution step and the overall upload or download result.

- If a multiplication sign (×) appears following a step, then this step failed. If a multiplication sign (×) does not appear, this step succeeded.
- If the upload or download succeeded, ossutil outputs the object size and the time at which the object was uploaded or downloaded. If the upload or download failed, ossutil outputs the failure cause or troubleshooting advice.

> Note:
> Ossutil may not output troubleshooting advice for some errors. In this case, you can troubleshoot the problems based on the error codes by following the instructions provided in Exception handling.

After running the `probe` command, ossutil generates an object whose name starts with `probe` in your current directory. This object contains details about the commands that you have run to troubleshoot problems.

3.3 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.

  When running the `cp` command to upload/download/copy a file, use the -r option to copy a folder. Ossutil implements multipart upload by default for large files and supports resumable data transfers (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. For more information, see ossutil help cp.

  > Note:
  > Ossutil does not continue to copy other files if the bucket does not exist, or if the permission verification result is invalid due to an incorrect AccessKeyID or AccessKeySecret.

  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.

  - 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
    ```

  - Upload a folder:

    ```
    $./ ossutil cp - r dir oss :// ossutil - test
     Succeed : Total num : 35 , size : 464 , 606 . OK num :
     35 ( upload 34 files , 1 directorie s ).
    ```

```
0 . 896320 ( s )  elapsed
```

- **Modify the storage class of an object**

Notice:

To modify the storage class of an object that is less than or equal to 5 GB, run the `set - meta` command. To modify the storage class of an object that is greater than 5 GB, run the `cp` command.

- You can run the `set - meta` command to modify the storage class of an object.
  - Run the following command to set the storage class of a single object to IA:

```
./ ossutil   set - meta   oss :// hello - hangzws / 0104_6 .
 jpg   X - Oss - Storage - Class : IA  - u
```

  - Run the following command to set the storage class of all objects in a folder to Standard:

```
./ ossutil   set - meta   oss :// hello - hangzws / abc /  X -
 Oss - Storage - Class : Standard  - r  - u
```

- You can run the `cp` command to upload an object while using the `-- meta` option to modify the storage class of the object.
  - Run the following command to upload a single file and set the storage class of the file to IA:

```
 ossutil   cp  ~/ Downloads / sys . log    oss :// hello -
 hangzws / test / -- meta   X - oss - Storage - Class : IA
```

  - Run the following command to upload a folder and set the storage class of all files in the folder to IA:

```
./ ossutil   cp  ~/ libs3 /  oss :// hello - hangzws / test /
 -- meta   X - oss - Storage - Class : IA  - r
```

  - Run the following command to modify the storage class of an existing object to Archive:

```
./ ossutil   cp   oss :// hello - hangzws / 0104_6 . jpg
 oss :// hello - hangzws / 0104_6 . jpg  -- meta   X - oss -
 Storage - Class : Archive
```

  - Run the following command to modify the storage class of all objects in an existing folder to Standard:

```
./ ossutil   cp   oss :// hello - hangzws / test /  oss ://
 hello - hangzws / test / -- meta   X - oss - Storage - Class :
 Standard  - r
```

 Notice:

■ The storage class of an object cannot be changed from Archive to other classes by running the `set - meta` or cp command. You must run the `restore` command first to change the storage class of the object to IA, and then run the `set - meta` or `cp` command to change the storage class of the object to other classes.

■ An object is considered as overwritten and may be charged when you run the `cp` command to overwrite the object. An object of the IA or Archive class will be charged if it is overwritten within 30 and 60 days separately after it is created. For example, if you change the storage class of an object from IA to Archive or Standard by running the `cp` command 10 days after the object is created, early deletion fees for 20 days will be charged.

· Performance tuning for uploading, downloading, or copying a file

In the `cp` command, the `-- jobs` and `-- parallel` options are used to control the number of concurrent operations. If the default number of concurrent operations set by ossutil cannot meet the performance requirement, you can modify the values of the two options to adjust the performance.

- The `-- jobs` option controls the number of concurrent operations enabled among files when multiple files are uploaded, downloaded, or copied.
- The `-- parallel` option controls the number of concurrent operations enabled for a large file when the large file is uploaded/downloaded/copied in the multipart method.

By default, ossutil calculates the number of concurrent operations based on the file size (this option does not work for small files, and the threshold for large files to be uploaded/downloaded/copied in the multipart method 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.

 Warning:

- We recommend that you adjust the number of concurrent operations to a value smaller than 100 if the resources of your ECS instance or server (such as network bandwidth, memory, and CPU) are limited. If the resources are not fully occupied, you can try to set the concurrent operations to a larger value.

- If there are too many concurrent operations, the uploading, downloading, and copying performance of ossutil may degrade, or an EOF error may occur due to inter-thread resource switching and snatching. To resolve this issue, you must adjust the values of `-- jobs` and `-- parallel` based on the actual conditions. To perform pressure testing, set the two options to small values first, and slowly adjust them to the optimal values.

· 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   recursivll  y   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 / MSQK0xXSiy  KBZog ==
 Content - Type                 :  applicatio  n / octet - stream
 Etag                         :  FB9BDB402F  CC4902B4C5  74A2C8A059
 A2
 Last - Modified                :  2017 - 01 - 13   15 : 14 : 22  +
 0800   CST
 Owner                        :  aliyun
 X - Oss - Hash - Crc64ecma         :  1248880804  6134286088
```

```
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                    :  D7257B62AA  6A26D66686  391037B7D6  1A
 Last - Modified           :  2017 - 04 - 26   15 : 34 : 27  + 0800
   CST
 X - Oss - Symlink - Target     :  a
 0 . 112494 ( s )  elapsed
```

3.4 Multipart-related commands

By using ossutil, you can list the IDs of unfinished multipart upload tasks (UploadID), delete files uploaded to a specified object, and delete the UploadIDs of unfinished multipart upload tasks.

For more information about multipart upload, see Multipart upload.

 **Note:**

- Before running the following commands, update your ossutil to the latest version and run the `config` command to configure the AK. For more information, see Quick start.
- Ossutil automatically uses the multipart upload method but not the UploadPart command when uploading or copying large objects.

- List UploadIDs.

  Run the `ls` command with the `-m` parameter to list the UploadIDs of all unfinished multipart upload tasks initiated to objects with the specified prefix.

```
$ ossutil ls oss://bucket1/obj1 -m
InitiatedTime UploadID
ObjectName
2017-01-13 03:45:26 +0000 CST 15754AF798
0C4DFB8193 F190837520 BB oss://bucket1/obj1
2017-01-13 03:43:13 +0000 CST 2A1F9B4A95
E341BD9285 CC42BB950E E0 oss://bucket1/obj1
UploadId Number is: 2
0.070070 (s) elapsed
```

  Run the `ls` command with the `-a` parameter to list the UploadIDs of all unfinished multipart upload tasks initiated to objects with the specified prefix and the uploaded objects with the prefix.

```
$ ossutil ls oss://bucket1/obj1 -a
LastModifiedTime Size(B) StorageClass
ETAG ObjectName
2015-06-05 14:36:21 +0000 CST 241561
Standard 6185CA2E8E B8510A61B3 A845EAFE41 74 oss
://bucket1/obj1/test.txt
2016-04-08 14:50:47 +0000 CST 6476984
Standard 4F16FDAE7A C404CEC8B7 27FCC67779 D6 oss
://bucket1/obj1/sample.txt
Object Number is: 2
InitiatedTime UploadID
ObjectName
2017-01-13 03:45:26 +0000 CST 15754AF798
0C4DFB8193 F190837520 BB oss://bucket1/obj1
2017-01-13 03:43:13 +0000 CST 2A1F9B4A95
E341BD9285 CC42BB950E E0 oss://bucket1/obj1
UploadId Number is: 2
```

```
0 . 091229 ( s )  elapsed
```

- **Delete data in a specified object.**

  Run the `rm` command to delete the UploadIDs of all unfinished multiple upload tasks initiated to the specified object.

  For example, run the `ls` command to list the UploadIDs of all unfinished multipart upload tasks initiated to objects in bucket1 and all objects uploaded to bucket1.

```
$ ossutil ls oss :// bucket1 - a
LastModifi edTime Size ( B ) StorageCla ss
    ETAG ObjectName
2015 - 06 - 05 14 : 06 : 29 + 0000 CST 201933
Standard 7E2F4A7F1A C9D2F0996E 8332D5EA5B 41 oss
:// bucket1 / dir1 / obj11
2015 - 06 - 05 14 : 36 : 21 + 0000 CST 241561
Standard 6185CA2E8E B8510A61B3 A845EAFE41 74 oss
:// bucket1 / obj1 / test . txt
2016 - 04 - 08 14 : 50 : 47 + 0000 CST 6476984
Standard 4F16FDAE7A C404CEC8B7 27FCC67779 D6 oss
:// bucket1 / sample . txt
Object Number is : 3
InitiatedT ime UploadID
          ObjectName
2017 - 01 - 13 03 : 45 : 26 + 0000 CST 15754AF798
0C4DFB8193 F190837520 BB oss :// bucket1 / obj1
2017 - 01 - 13 03 : 43 : 13 + 0000 CST 2A1F9B4A95
E341BD9285 CC42BB950E E0 oss :// bucket1 / obj1
2017 - 01 - 13 03 : 45 : 25 + 0000 CST 3998971ACA
F94AD9AC48 EAC1988BE8 63 oss :// bucket1 / obj2
2017 - 01 - 20 11 : 16 : 21 + 0800 CST A20157A7B2
FEC4670626 DAE0F4C007 3C oss :// bucket1 / tobj
UploadId Number is : 4
0 . 191289 ( s )  elapsed
```

Run the `rm` command with the `- m` parameter to delete the UploadID of the specified unfinished multipart upload task.

```
$./ ossutil rm - m oss :// bucket1 / obj1 / test . txt
Succeed : Total 1 uploadIds . Removed 1 uploadIds .
0 . 900715 ( s )  elapsed
```

Run the `rm` command with the `- m` and `- r` parameters to delete the UploadIDs of all unfinished multipart upload tasks initiated to objects with the specified prefix.

```
$./ ossutil rm - m oss :// bucket1 / ob - r
Do you really mean to remove recursivel y multipart
  uploadIds of oss : bucket1 / ob ( y or N )? y
Succeed : Total 4 uploadIds . Removed 4 uploadIds .
```

```
1 . 922915 ( s )  elapsed
```

Run the `rm` command with the `-a` and `-r` parameters to delete the UploadIDs of all unfinished multipart upload tasks initiated to objects with the specified prefix and all uploaded objects with the specified prefix.

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

4 ossimport

4.1 Architecture and configuration

Overview

The OssImport tool allows you to migrate data stored locally or in other cloud storage systems to the OSS. It has the following features:

- Supports a rich variety of data sources including local drives, Qiniu, Baidu BOS, AWS S3, Azure Blob, Youpai Cloud, Tencent Cloud COS, Kingsoft KS3, HTTP, and OSS, and can be expanded as needed.
- Supports resumable data transfers.
- Supports throttling.
- Supports migrating objects after a specified time point or with a specified prefix.
- Supports parallel data uploads and downloads.
- Supports standalone and distributed modes. The standalone mode is easy to deploy and use, and the distributed mode is suitable for large-scale data migration.

Environment

- Java 1.7 and later

Architecture

The OssImport has two deployment modes available: standalone mode and distribute d mode.

- The standalone mode is sufficient for small-scale data migration which smaller than 30 TB. Download
- Distributed mode is recommended for larger data migrations. Download
- Standalone

  The master, worker, tracker, and console run on the same machine. There is only one worker in the system. We have encapsulated and optimized the deployment and execution of the standalone mode and the standalone deployment and

execution are both easy. In standalone mode, the master, worker, tasktracker, and console modules are packaged into `ossimport2 . jar` .

The file structure in standalone mode is as follows:

```
ossimport
├── bin
│ └── ossimport2 . jar # The JAR including master ,
worker , tracker , and console modules
├── conf
│ ├── local_job . cfg # Standalone job configurat ion
file
│ └── sys . properties # Configurat ion file for the
system running
├── console . bat # Windows command line , which
can run distribute d call - in tasks
├── console . sh # Linux command line , which can
run distribute d call - in tasks
├── import . bat # The configurat ion file for
one - click import and execution in Windows is the
data migration job configured in conf / local_job . cfg
, including start , migration , validation , and retry
├── import . sh # The configurat ion file of
one - click import and execution in Linux is the
data migration job configured in conf / local_job . cfg
, including start , migration , validation , and retry
├── logs # Log directory
└── README . md # Descriptio n documentat ion . We
recommend that you carefully read the documentat ion
before using this feature
```

Note:

- The import.bat or import.sh file is a one-click import script and can be run directly after you complete modification to `local_job . cfg` .
- The console.bat or console.sh is the command line tool and can be used for distributed execution of commands.
- Run scripts or commands in the `ossimport` directory, that is, the directory at the same level as the `*. bat /*. sh` file.

· Distributed

The OssImport is based on the master-worker distributed architecture, as shown in the following figure:

```
Master --------- Job --------- Console
   |
   |
   TaskTracke r
   | ---------- ---------- _
   | Task | Task | Task
   | | |
```

```
Worker        Worker        Worker
```

In the figure:

- Job: The data migration jobs submitted by users. For users, one job corresponds to one configuration file `job . cfg` .
- Task: A job can be divided into multiple tasks by data size and number of files . Each task migrates a portion of files. The minimal unit for dividing a job into tasks is a file. One file cannot be split into multiple tasks.

The OssImport tool modules are listed in the following table:

Role	Description
Master	The master is responsible for splitting a job into multiple tasks by data size and number of files. The data size and number of files can be configured in sys.properties. The detailed process for splitting a job into multiple tasks is as follows: 1. The master node scans the full list of files to be migrated from the local/ other cloud storage devices. 2. The master splits the full file list into tasks by data size and the number of files and each task is responsible for the migration or validation for a part of files.
Worker	- The worker is responsible for file migration and data validation of tasks. It pulls the specific file from the data source and uploads the file to the specified directory to the OSS. You can specify the data source to be migrated and the OSS configuration in job.cfg or local_job.cfg. - Worker data migration supports limiting traffic and specifying the number of concurrent tasks. You can configure the settings in sys. properties.

Role	Description
TaskTracker	TaskTracker is abbreviated to Tracker. It is responsible for distributing tasks and tracking task statuses.
Console	The console is responsible for interacting with users and receiving command display results. It supports system management commands such as deploy, start, and stop, and job management commands such as submit, retry, and clean.

In distributed mode, you can start multiple worker nodes for data migration. Tasks are evenly allocated to the worker nodes and one worker node can run multiple tasks. One machine can only start one worker node. The master is started at the same time as the first worker node configured in `workers`, and the tasktracker and console also run on the machine.

The file structure in distributed mode is as follows:

```
ossimport
Miss -- Bin
| ├── console . jar      # The JAR package of the
console module
| ├── master . jar       # The JAR package of the master
 module
| ├── tracker . jar      # The JAR package of the
tracker module
| └── worker . jar       # The JAR package of the worker
 module
├── conf
| ├── job . cfg          # The template of the job
configurat ion file
| ├── sys . properties   # Configurat ion file for the
system running parameters
| └── workers          # Worker list
├── console . sh          # The command line tool .
Currently it only supports Linux
├── logs                # Log directory
└── README . md           # Descriptio n documentat ion . We
  recommend that you carefully read the documentat ion
  before using the feature
```

Note:

- The distributed command line tool console.sh currently only supports Linux and does not support Windows.

Configuration files

In standalone mode, two configuration files are used: `sys.properties` and `local_job.cfg`. In distributed mode, three configuration files are used: `sys.properties`, `local_job.cfg`, and `workers`. Specifically, `local_job.cfg` and `job.cfg` are identical, except in name. The `workers` file is exclusive to the distributed environment.

- sys.properties

  System running parameters.

Field	Meaning	Description
workingDir	Working directory.	- The directory after the tool kit is extracted. - Do not modify this option in standalone mode. - The working directory for each machine in distributed mode must be the same.
workerUser	The worker machine SSH user name.	- If you have configured privateKeyFile, the privateKeyFile is used in priority. - If privateKeyFile is not configured, the workerUser/workerPassword combination is used. - Do not modify this option in standalone mode.
workerPassword	The worker machine SSH user password.	Do not modify this option in standalone mode.

Field	Meaning	Description
privateKeyFile	The file path of the private key.	- If you have established an SSH channel, you can specify the public key file path. Otherwise, leave it empty. - If you have configured privateKeyFile, the privateKeyFile is given priority. - If privateKeyFile is not configured, the workerUser/workerPassword is used. - Do not modify this option in the standalone mode.
sshPort	The SSH port.	The default value is 22. It does not usually need to be changed. Do not modify this option in standalone mode.

Field	Meaning	Description
workerTaskThreadNum	The maximum number of threads for the worker to run tasks.	- This parameter is related to the machine memory and network. Recommended value is 60. - The value can be increased, for example to 150 for physical machines. If the network bandwidth is already full, do not increase the value further. - If the network is poor, lower the value as appropriate to, for example, 30. This way, you can avoid the time-out of a large number of requests from request competition.
workerMaxThroughput(KB/s)	The data migration traffic ceiling on the worker node.	This value limits the traffic. The default value 0 indicates that no traffic limitations are imposed.
dispatcherThreadNum	The number of threads for task distribution and status confirmation of the tracker.	The default value must be enough. You don't need to change the default value if you have no special requirements.
workerAbortWhenUncatchedException	Whether to skip or cancel in case of an unknown error.	Unknown errors are skipped by default.
workerRecordMd5	Whether to use metadata x-oss-meta-md5 to log the MD5 value of the migrated file in the OSS. The default setting is no.	It is mainly used for file data validation using MD5.

- job.cfg

  Data migration job configuration. The local_job.cfg and job.cfg options are identical except in name.

Field	Meaning	Description
jobName	The job name, a string.	- The unique identifier of the job. The naming rule is [a-zA-Z0-9_-]{4,128}. It supports the submission of multiple jobs of different names. - If you submit a job with the same name as another job, the system prompts that the job already exists. You are not allowed to submit a job of the same name before you clean the original job with the name.
jobType	The job type, a string.	There are two types: import and audit. The default value is import. - import: Run the data migration and validate the migrated data for consistency. - audit: Only validate data consistency.
isIncremental	Whether to enable incremental migration mode, a Boolean value.	- Default value: False. - If it is set to true, incremental data is rescanned at the interval specified by incrementalModeInterval (unit: second) and synchronized to the OSS.

Field	Meaning	Description
incrementalModeInterval	Synchronization interval in incremental mode, an integer value. Unit: second.	Valid when isIncremental=true. The minimum configurable interval is 900 seconds. We do not recommend you configure it to a value smaller than 3,600 seconds as that wastes a large number of requests and lead to additional system overhead.
importSince	Migrate data later than this time value, an integer value. Unit: second.	- This time value is a Unix timestamp, that is, the number of seconds since UTC 00:00 on January 1, 1970. You can get the value through the date +%s command. - The default value is 0, indicating to migrate all the data.

Field	Meaning	Description
srcType	The synchronization source type, a string. Case sensitive.	Currently this parameter supports 10 types including local, oss, qiniu, bos, ks3, s3, youpai, HTTP, cos, and azure. - local: Migrate data from a local file to the OSS. You only need to enter the srcPrefix for this option and do not need to enter srcAccessKey, srcSecretKey, srcDomain, and srcBucket. - Migrate data from one bucket to another. - qiniu: Migrate data from Qiniu cloud storage to the OSS. - bos: Migrate data from Baidu cloud storage to the OSS. - ks3: Migrate data from Kingsoft cloud storage to the OSS. - s3: Migrate data from AWS S3 to the OSS. - youpai: Migrate data from Youpai Cloud to the OSS. - HTTP: Migrate data to the OSS through the provided HTTP link list. - cos: Migrate data from the Tencent cloud storage COS to the OSS. - azure: Migrate data from Azure Blob to the OSS.

Field	Meaning	Description
srcAccessKey	The source AccessKey, a string.	Enter the AccessKey of the data source if srcType is set to oss, qiniu, baidu, ks3, or s3. - or the local and HTTP types, this option can be left empty. - For youpai and azure types, enter the AccountName.
srcSecretKey	The source SecretKey, a string.	Enter the SecretKey of the data source if srcType is set to oss, qiniu, baidu, ks3, or s3. - For the local and HTTP types, this option can be left empty. - youpai: Enter the operator password. - azure: Enter the AccountKey.

Field	Meaning	Description
srcDomain	Source endpoint.	This configuration item is not required if the srcType is set to local or HTTP. - oss: The domain name obtained from the console. It is a second-level domain name without the bucket prefix. A full list can be found at domain name list. - qiniu: The domain name of the corresponding bucket obtained from the Qiniu console. - bos: The Baidu BOS domain name, such as `http://bj.bcebos.com` or `http://gz.bcebos.com`. - ks3: Kingsoft KS3 domain name, such as `http://kss.ksyun.com`, `http://ks3-cn-beijing.ksyun.com` or `http://ks3-us-west-1.ksyun.coms`. - The S3 and AWS S3 domain names of various regions can be found at S3 Endpoint. - youpai: The domain name of the Youpai Cloud, such as automatic identification of the optimal channel of `http://v0.api.upyun.com`, or telecommunication

Field	Meaning	Description
srcBucket	The name of the source bucket or the container.	This configuration item is not required if the srcType is set to local or HTTP. azure: Enter the container name in Azure Blob, and enter the bucket name for others.
srcPrefix	The source prefix, a string. The default value is empty.	If the srcType is set to local, enter the local directory in full, separated, and ended by /, such as c:/example/ or /data/example/. If the srcType is oss, qiniu, bos, ks3, youpai, or s3, the value is the prefix of the object to be synchronized, without the bucket name, such as data/to/oss/. If you want to synchronize all the objects, leave the srcPrefix empty.
destAccessKey	The destination AccessKey, a string.	To view the OSS AccessKeyID, log on to the console. .
destSecretKey	The destination SecretKey, a string.	To view the OSS AccessKeySecret, log on to the console. .

Field	Meaning	Description
destDomain	Destination endpoint, a string.	Obtained from the console. It is a second-level domain name without the bucket prefix. A full list can be found at domain name list. .
destBucket	The destination bucket, a string.	The OSS bucket name. It does not need to end with /.

Field	Meaning	Description
destPrefix	The destination prefix, a string. The default value is empty.	- The destination prefix . The default value is empty in which case the objects are placed in the destination bucket. - If you want to synchronize data to a specific directory on the OSS, end the prefix with /, such as data/in/oss/. - Note that the OSS does not support / as the object prefix, so do not set destPrefix to start with /. - A local file in the path srcPrefix+relativePath is migrated to destDomain/destBucket/destPrefix + relativePath on the OSS. - An object on the cloud in the path srcDomain/srcBucket/srcPrefix+relativePath is migrated to destDomain/destBucket/destPrefix + relativePath on the OSS.

Field	Meaning	Description
taskObjectCountLimit	The maximum number of files in a task, an integer. The default value is 10,000.	This configuration option affects the concurrency of the executed jobs. Generally the configuration is set to the total number of files/total number of workers/ number of migration threads (workerTaskThreadNum) and the maximum number is 50,000. If the total number of files is unknown, use the default value.
taskObjectSizeLimit	The maximum data size in a task, an integer. Unit: bytes. The default value is 1 GB.	This configuration option affects the concurrency of the executed jobs. Generally the configuration is set to the total data size/total number of workers/number of migration threads (workerTaskThreadNum). If the total data size is unknown, use the default value.
isSkipExistFile	Whether to skip the existing objects during data migration, a Boolean value.	If it is set to true, the objects are skipped according to the size and LastModifiedTime. If it is set to false, the existing objects are overwritten. The default value is false. This option is invalid when jobType is set to audit.

Field	Meaning	Description
scanThreadCount	The number of threads for parallel file scanning , an integer. The default value is 1.	This configuration option is related to file scanning efficiency. Do not modify the configuration if you have no special requirements.
maxMultiThreadScanDepth	The maximum allowable depth of directories for the parallel scan, an integer. The default value is 1.	- The default value of 1 indicates parallel scan on top-level directories. - Do not modify this configuration if you have no special requirements. If the value is configured too large, the job may fail to run normally.
appId	The appId of the Tencent COS, an integer.	Valid when srcType is set to cos.

Field	Meaning	Description
httpListFilePath	The absolute path of the HTTP list file, a string.	- Valid when srcType is set to HTTP. When the source is an HTTP link address, you are required to provide the absolute path of the file with the HTTP link address as the content , such as c:/example/ http.list. - The HTTP link in the file must be divided into two columns separated by spaces, representing the prefix and the relative path on the OSS after the upload respectively, such as c:/example/ http.list which contains the following content: `http :// mingdi - hz . oss - cn - hangzhou . aliyuncs . com / aa / bb . jpg http :// mingdi - hz . oss - cn - hangzhou . aliyuncs . com / cc / dd . jpg` . The object names for the two rows after they are migrated to the OSS are destPrefix + bb.jpg and destPrefix + cc/dd.jpg respectively.

· Workers

The workers is exclusive to the distributed mode and every IP address is a row, such as:

```
192 . 168 . 1 . 6
```

```
192 . 168 . 1 . 7
192 . 168 . 1 . 8
```

Note:

- In the preceding configuration, the `192 . 168 . 1 . 6` in the first line must be master, that is, the master, worker, and TaskTracker are started on `192 . 168 . 1 . 6` and the console also needs to be executed on the machine.
- Make sure that the user name, logon mode, and working directory of multiple worker modes are the same.

Configuration file example

The data migration task profile for a distributed deployment is shown in the following table, and the configuration file name for a stand-alone machine is `local_job . cfg` , there is no difference between a configuration item and a distributed deployment.

Migration type	Configuration File	Description:
Migrate locally to OSS	job.cfg	Srcprefix is an absolute path at the end of/, such `D :/ work / oss / data /`, `/ home / user / work / oss / data /`
Migrating from seven bull cloud storage to OSS	job.cfg	Srcprefix and DESTIN prefix can be configured to be empty; if not empty, end with `/` such as `destPrefix = docs /`
Transfer from Baidu Bos to OSS	job.cfg	Srcprefix and DESTIN prefix can be configured to be empty; if not empty, end with `/`, such as `destPrefix = docs /`
Migrating from AWS S3 to OSS	job.cfg	domain names for S3
Move from cloud storage to OSS again	job.cfg	Srcaccesskey/Scanner enters the operator account number and password

Migration type	Configuration File	Description:
Migrating from Tencent COs to OSS	job.cfg	Srcdomain please follow V4 version, such as `srcDomain = sh` . Srcprefix can be empty, when not empty, start and end with `/`, such as `srcPrefix =/ docs /`
Migrating from azure blob to OSS	job.cfg	Srcaccesskey/srcsecretkey fill storage cun chu and key; srcdomain enters connection string Endpointsuffix, such as `core . chinacloud api . cn` .
Migrating from OSS to OSS	job.cfg	It is suitable for data migration between different regions, between Different Storage types , and between different prefixes; it is recommended to deploy on ECS and use domain names with internal to save on traffic.

4.2 Standalone deployment

Standalone deployment supports Linux and Windows.

Download

Download the tool for standalone deployment: ossimport-2.3.4.zip. Download the tool to a local directory and use a tool or run the `unzip` command to unzip the files. The file structure after unzipping is as follows:

```
ossimport
├── bin
│   └── ossimport2 . jar    #  The   JAR   including   master ,
worker ,  tracker ,  and   console   modules
├── conf
│   ├── local_job . cfg     #  The   job   configurat  ion   file
│   └── sys . properties    #  Configurat  ion   file   of   the
system   running   parameters
├── console . bat           #  Windows   command   line ,  which   can
   run   distribute  d   call - in   tasks
```

```
├── console.sh              # Linux command line, which can run distributed call-in tasks
├── import.bat              # The configuration file for one-click import and execution in Windows is the data migration job configured in conf/local_job.cfg, including start, migration, validation, and retry
├── import.sh               # The configuration file for one-click import and execution in Linux is the data migration job configured in conf/local_job.cfg, including start, migration, validation, and retry
├── logs                    # Log directory
└── README.md               # Description documentation. We recommend that you carefully read the documentation before using the feature
```

Configuration

The standalone version has two configuration files: `conf/sys.properties` and `conf/local_job.cfg`.

- Do not change the configuration items in `conf/sys.properties`: `workingDir`, `workerUserName`, `workerPassword`, and `privateKeyFile`.
- Do not change the name and location of `conf/local_job.cfg` and the `jobName` configuration item in it.

Configure other items appropriately.

> **Note:**
> Confirm the parameters in `sys.properties` and `local_job.cfg` before submitting the job. The parameters in the job are not allowed to be changed after the job is submitted.

Running

In standalone mode, a data migration job has two execution modes: one-click import and step-by-step execution.

One-click import encapsulates all the steps and data migration can then be completed following the prompts of the script.

> **Note:**
> We recommend you use one-click import if you use ossimport for the first time.

Step-by-step execution includes executing the starting service, submitting the job and retrying failed tasks.

- One-click import
  1. To run one-click import, run `import . bat` in cmd.exe in Windows, and run `bash import . sh` in Linux.
  2. If you previously run this job, you are asked if you want to continue the job from the last breakpoint or if you want to run a new synchronization job. If you initiate a new data migration job, or have modified the synchronized source end/ destination end, run the synchronization job again.
  3. After a job starts in Windows, a new cmd window appears showing the synchronization job in progress and the log. The job status in the old window is refreshed every 10 seconds. Do not close these two windows during the data migration process. In Linux, the preceding process is run in the background.
  4. When the job is complete, if a task failed, you are asked if you want to retry. Enter `y` to retry or `n` to skip this step and exit.
  5. To see why the upload failed, open the file `master / jobs / local_test / failed_tas ks /< tasktaskid >/ audit . log` and check the cause of the failure.
- Step-by-step execution
  1. Clear jobs with the same name. If you have run job with the same name before and want to run the job again, first clear the job with the same name. If you have never run the job or you want to retry a failed job, do not run the clear command. In Windows, run `console . bat clean` in cmd.exe. In Linux, run `bash console . sh clean` .
  2. Submit the data migration job. OssImport does not support submitting jobs of the same name. If jobs with the same name exist, clear the job with the same name first. The configuration file for the submitted job is `conf / local_job . cfg` , and the default job name is `local_test` . To submit a job, run `console`

`console.bat submit` in cmd.exe in Windows, and run `bash console.sh submit` in Linux.

3. Start the service. Run `console.bat start` in cmd.exe in Windows, and run `bash console.sh start` in Linux.
4. View the job status. Run `console.bat start` in cmd.exe in Windows, and run `bash console.sh start` in Linux.
5. Retry a failed task. Tasks may fail due to network issues or other causes. Only failed tasks are retried. Run `console.bat retry` in cmd.exe in Windows, and run `bash console.sh retry`.
6. Stop the service. Close the %JAVA_HOME%/bin/java.exe window in Windows, and run `bash console.sh stop` in Linux.

 Note:
We recommend that you use one-click import for data migration if you have no special requirements.

- Common causes of failure
  - A file in the source directory was modified during the upload process. This cause is indicated by a `SIZE_NOT_MATCH` error in *log/audit.log*. In this case, the old file has been uploaded successfully, but the changes have not been synchronized to the OSS.
  - A source file was deleted during the upload process, leading to download failure.
  - A source file name does not conform to naming rules of the OSS (file name cannot start with / or be empty), leading to upload failure.
  - The data source file failed to be downloaded.
  - The program exited unexpectedly and the job status is Abort. If this happens, contact after-sales technical support.
- Job statuses and logs

  After a job is submitted, the master splits the job into tasks, the workers run the tasks and the tracker collects the task statuses. After a job is completed, the ossimport directory contains the following:

```
ossimport
├── bin
│   └── ossimport2.jar     # The standalone version JAR
```

```
├── conf
│   ├── local_job . cfg      #  The   job   configurat  ion   file
│   └── sys . properties     #  Configurat  ion   file   of   the
system   running   parameters
├── console . sh             #  The   command   line   tool
├── import . sh              #  One - click   import   script
├── logs
│   ├── import . log         #  Migration   logs
│   ├── job_stat . log       #  Job   status   record
│   ├── ossimport2 . log     #  Running   log   of   the
standalone   version
│   └── submit . log         #  Job   submission   record
├── master
│   ├── jobqueue              #  Store   jobs   that   have
not   been   fully   split
│   └── jobs                  #  Store   the   job   running
status
│       └── local_test        #  Job   name
│           ├── checkpoint  s      #  The   checkpoint   record
of   the   master   splitting   the   job   to   tasks
│           │   └── 0
│           │       └── 034DC9DD28  60B0CFE884  242BC6FF92  E7 .
cpt
│           ├── dispatched       #  Tasks   that   have   been
assigned   to   the   workers   but   haven ' t   been   fully
run
│           │   └── localhost
│           ├── failed_tas  ks     #  Tasks   that   failed   to
run
│           ├── pending_ta  sks    #  Tasks   that   have   not
been   assigned
│           └── succeed_ta  sks    #  Tasks   that   run
successful  ly
│               └── A41506C07B  F1DF2A3EDB  4CE31756B9  3F_1499744
514501 @ localhost
│                   ├── audit . log    #  The   task   running
log .  You   can   view   the   error   causes   in   the   log
│                   ├── DONE         #  Mark   of   successful
tasks
│                   ├── error . list   #  The   task   error   list
.  You   can   view   the   error   file   list
│                   ├── STATUS       #  The   task   status
marker   file .  The   content   is   Failed   or   Completed
│                   └── TASK         #  The   task   descriptio  n
  informatio  n
└── worker       #  Status   of   the   task   being   run   by
 the   worker .  After   running ,  tasks   are   managed   by   the
  master
    └── jobs
        └── local_test
            └── tasks
```

Note:

- **For job running information, view** *logs / ossimport2 . log* **or** *logs / import . log .*
- **For the task failure cause, view** *master / jobs /${ JobName }/ failed_tas ks /${ TaskName }/ audit . log .*

- For failed task files, view `master / jobs /${ JobName }/ failed_tas ks / ${ TaskName }/ error . list .`
- The preceding log files are for reference only. Do not deploy your services and applications entirely based on them.

FAQ

See FAQ.

4.3 Distributed deployment

Download

Distributed deployment currently only supports Linux, and does not support Windows.

Download the tool for distributed deployment: ossimport-2.3.4.tar.gz.

Download the tool to a local directory and use the command `tar - zxvf ossimport - 2 . 3 . 4 . tar . gz - C $ HOME / ossimport` to unzip the files. The file structure after the unzipping is as follows:

```
ossimport
├── bin
│   ├── console . jar      # The JAR package of the
console module
│   ├── master . jar       # The JAR package of the master
module
│   ├── tracker . jar      # The JAR package of the
tracker module
│   └── worker . jar       # The JAR package of the worker
module
├── conf
│   ├── job . cfg          # The template of the job
configurat ion file
│   ├── sys . properties   # Configurat ion file of the
system running parameters
│   └── workers          # Worker list
├── console . sh           # The command line tool .
Currently it only supports Linux
├── logs                 # Log directory
└── README . md            # Descriptio n documentat ion . Read
it carefully before use
```

Note:

- OSS_IMPORT_HOME: The root directory of ossImport. By default the directory is the $HOME/ossimport in the unzip command. You can also run the `export`

`OSS_IMPORT _HOME =< dir >` command or modify the system configuration file `$ HOME /. bashrc` to set the directory.

- OSS_IMPORT_WORK_DIR: The ossImport working directory. You can specify the directory through the configuration item `workingDir` in `conf / sys . properties` . The recommended values is `$ HOME / ossimport / workdir` .
- Use absolute paths for OSS_IMPORT_HOME or OSS_IMPORT_WORK_DIR, such as `/ home /< user >/ ossimport` or `/ home /< user >/ ossimport / workdir` .

Configuration

The distributed version has three configuration files: `conf / sys . properties` , `conf / job . cfg` , and `conf / workers` . For descriptions of the configuration items, see the Introduction chapter.

- `conf / job . cfg` : The configuration file template for the job in distributed mode. Modify the values according to the actual parameters before data migration.
- `conf / sys . properties` : The configuration file for the system run parameters, such as the working directory and the worker running parameters.
- `conf / workers` : The worker list.

> **Note:**
>
> - Confirm the parameters in `sys . properties` and `job . cfg` before submitting the job. The parameters in the job are not allowed to be changed after the job is submitted.
> - Determine the worker list `workers` before starting the service. After the service is started, workers are not allowed to be added or deleted.

Running

- Run commands.

  In distributed deployment, the general steps for job execution are as follows:

  - Modify the job configuration file.
  - Deploy the service.

    Run `bash console . sh deploy` in Linux.

    > **Note:**

Make sure the configuration files *Conf / job . cfg* and *CONF / workers* have been modified before deployment.

- Clear jobs of the same name.

  If you ran a job of the same name before and want to run the job again, clear the job with the same name first. If you have never run the job or you want to retry the tasks of a failed job, do not run the clear command. Run `bash console . sh clean job_name` in Linux.

- Submit the data migration job.

  OssImport does not support submitting jobs of the same name. If jobs with the same name exist, use the `clean` command to clean the job with the same name first. To submit a job, you must specify the job configuration file. The job's configuration file template is *conf / job . cfg* . We recommend that you modify the settings based on the template. Run `bash console . sh submit [ job_cfg_fi le ]` in Linux and submit the job with the configuration file job_cfg_file. The `job_cfg_fi le` is an optional parameter. If not specified, the parameter is `$ OSS_IMPORT _HOME / conf / job . cfg` by default. The `$ OSS_IMPORT _HOME` is by default the directory where the *console . sh* file is located.

- Start the migration service.

  Run `bash console . sh start` in Linux.

- View the job state.

  Run `bash console . sh stat` in Linux.

- Retry failed tasks.

  Tasks may fail to run because of network issues or other causes. Only failed tasks are retried. Run `bash console . sh retry [ job_name ]` in Linux. The `job_name` parameter is optional. If it is specified, tasks of failed jobs are retried. If it is not specified, tasks of all jobs are retried.

- Stop the migration job.

  Run `bash console . sh stop` in Linux.

 Note:

- When the `bash console.sh` parameter has an error, `console.sh` automatically prompts the command format.
- We recommend that you use absolute paths for directories of the configuration file and submitted jobs.
- The configuration for jobs (that is, the configuration items in *job.cfg*) cannot be modified after submitted.

- Common causes of job failure
  - A file in the source directory was modified during the upload process. This cause is indicated by a `SIZE_NOT_MATCH` error in `log/audit.log`. In this case, the old file has been uploaded successfully, but the changes have not been synchronized to the OSS.
  - A source file was deleted during the upload process, leading to the download failure.
  - A source file name does not conform to naming rules of the OSS (file name cannot start with / or be empty), leading to the upload failure to the OSS.
  - The data source file fails to be downloaded.
  - The program exits unexpectedly and the job state is Abort. If this happens, contact after-sales technical support.
- Job states and logs

  After a job is submitted, the master splits the job into tasks, the workers run the tasks and the tracker collects the task states. After a job is completed, the workdir directory contains the following:

```
workdir
├── bin
│   ├── console.jar      # The JAR package of the console module
│   ├── master.jar       # The JAR package of the master module
│   ├── tracker.jar      # The JAR package of the tracker module
│   └── worker.jar       # The JAR package of the worker module
├── conf
│   ├── job.cfg          # The template of the job configurat ion file
│   ├── sys.properties   # Configurat ion file of the system running parameters
│   └── workers          # Worker list
├── logs
│   ├── import.log       # Migration logs
│   ├── master.log       # Master logs
│   ├── tracker.log      # Tracker logs
```

```
|   └── worker . log       #  Worker   logs
├── master
|   ├── jobqueue                  #  Store   jobs   that   have
not   been   fully   split
|   └── jobs                      #  Store   the   job   running
state
|       └── xxtooss               #  Job   name
|           ├── checkpoint  s       #  The   checkpoint   record
that   the   master   splits   the   job   to   tasks
|           |   └── 0
|           |       └── ED09636A6E  A24A292460  866AFDD7A8  9A .
cpt
|           ├── dispatched        #  Tasks   that   have   been
assigned   to   the   workers   but   haven ' t   been   fully
run
|           |   └── 192 . 168 . 1 . 6
|           ├── failed_tas  ks      #  Tasks   that   failed   to
run
|           |   └── A41506C07B  F1DF2A3EDB  4CE31756B9  3F_1499348
973217 @ 192 . 168 . 1 . 6
|           |       ├── audit . log      #  The   task   running
log .  You   can   view   the   error   causes   in   the   log
|           |       ├── DONE           #  Mark   of   successful
tasks .  If   the   task   fails ,  the   mark   is   empty
|           |       ├── error . list     #  The   task   error
list .  You   can   view   the   error   file   list
|           |       ├── STATUS         #  The   task   state
mark   file .  The   content   is   Failed   or   Completed ,
indicating   that   the   task   failed   or   succeeded
|           |       └── TASK           #  The   task   descriptio
n   informatio  n
|           ├── pending_ta  sks     #  Tasks   that   have   not
been   assigned
|           └── succeed_ta  sks     #  Tasks   that   run
successful  ly
|               └── A41506C07B  F1DF2A3EDB  4CE31756B9  3F_1499668
462358 @ 192 . 168 . 1 . 6
|                   ├── audit . log     #  The   task   running
log .  You   can   view   the   error   causes   in   the   log
|                   ├── DONE          #  Mark   of   successful
tasks
|                   ├── error . list    #  Task   error   list .
If   the   task   is   successful ,  the   list   is   empty
|                   ├── STATUS        #  The   task   state
mark   file .  The   content   is   Failed   or   Completed ,
indicating   that   the   task   failed   or   succeeded
|                   └── TASK          #  The   task   descriptio  n
  informatio  n
└── worker   #  state   of   the   task   being   run   by   the
  worker .  After   running ,  tasks   are   managed   by   the
master
    └── jobs
        ├── local_test  2
        |   └── tasks
        └── local_test  _4
            └── tasks
```

Note:

- **For job running information, view** *logs / import . log .*

- For the task failure cause, view *master / jobs /${ JobName }/ failed_tas ks /${ TaskName }/ audit . log .*
- For failed task files, view *master / jobs /${ JobName }/ failed_tas ks / ${ TaskName }/ error . list .*
- The preceding log files are for reference only. Do not deploy your services and application entirely based on them.

FAQ

See FAQ.

4.4 Data migration

This article mainly introduces the general application of OssImport and implementation of typical requirements.

Introduction to OssImport

Deployment mode

The OssImport has two deployment modes available: standalone mode and distributed mode.

- For small-scale data migration with the data size smaller than 30 TB, the standalone mode is enough.
- Distributed mode is recommended for migration of a large data size.

Time-specific traffic limits

OssImport is based on master-worker distributed architecture. The worker offers a traffic limit feature. You can implement traffic limits through modifying the `workerMaxT hroughput ( KB / s )` item in the configuration file `sys . properties`. This configuration item does not take effect. Restart the service after the modification for the item to take effect.

In distributed deployment mode, modify the sys.properties in $OSS_IMPORT _WORK_DIR/conf for each worker and then restart the service.

You can use `crontab` to implement timed modification of `sys . properties`, and then restart the service to implement time-specific traffic limits.

Add a worker

Determine the worker list before submitting the job. Currently OSS does not support adding workers dynamically.

Data validation without migration

The OssImport supports data validation without migration. In the job configuration file `job . cfg` or `local_job . cfg` , the configuration item `jobType` is `audit` instead of `import` . Other configuration items are the same as data migration.

Incremental mode of data migration

The incremental mode of data migration refers to the process of performing a full migration first after a data migration job is started and then performing incrementa l migration operations at set intervals automatically. The first data migration job is a full migration. The job is started immediately after it is submitted. The subsequent data migration jobs are initiated once every set interval. The incremental mode of data migration applies to data backup and data synchronization.

The incremental mode has two configuration items:

- In job. cfg, `isIncremen tal` indicates whether incremental migration mode is turned on. `true` means that the incremental mode is enabled; `false` means that the incremental mode is disabled. The default value is false.
- In job. cfg, `incrementa lModeInter val` specifies the synchronization interval in seconds for the incremental mode. `The setting is used` when isIncremental is set to true. The minimum value configurable is `900 seconds` . We do not recommend that you configure it to a value smaller than `3600 seconds` , because it wastes a large number of requests and lead to additional system overhead.

Specify filtering conditions for object migration

Only objects that meet the specified filtering conditions are migrated. The OssImport supports specifying the `prefix` and `last modified time` :

- The `srcPrefix` setting in job.cfg specifies the prefix of the objects to be migrated. It is empty by default.
  - If the `srcType = local`, enter the local directory in full path, and separate the input values with `/` and end the input values with `/`, such as `c :/ example /` or `/ data / example /`.
  - If the `srcType` is `oss`, `qiniu`, `bos`, `ks3`, `youpai`, or `s3`, enter the prefix of the objects to be synchronized, excluding the bucket name, such as `data / to / oss /`. The `srcPrefix` of all objects must be set to empty.
- In job.cfg, the `importSinc e` option specifies the last modified time of the migration objects. It is an integer and expressed in seconds. `The importSinc e setting` is in the Unix timestamp format, that is, the number of seconds since 00:00 UTC on January 1, 1970. You can get the value through the `date +% s` command. The default value is 0, indicating to migrate all the data. The incremental mode of data migration is only valid for the first full migration. The non-incremental mode is valid for the entire migration job.
  - If an object's `LastModifi ed Time` is at or before `importSinc e`, it is migrated.
  - If an object's `LastModifi ed Time` is after `importSinc e`, it is not migrated.

Typical scenarios

Seamlessly switch from a third-party storage service to the OSS

Follow these steps, you can switch from other storage services to the OSS seamlessly:

1. Full migration. At this point, the business is still running on the third-party storage service. Mark down the start time of the data migration T1. Note that the time must be in the Unix timestamp format, that is, the number of seconds since 00:00 UTC on January 1, 1970. You can get the value through the `date +% s` command.
2. Open the OSS image origin retrieval feature. After the data migration is complete, set the image origin retrieval feature for the bucket in the OSS console, and the origin retrieval address is the third-party storage.
3. Switch reading/writing to the OSS. At this point, the data earlier than T1 is read from the OSS, while the data later than T1 is read from the third-party service using the image origin retrieval, and new data is fully written to the OSS.

4. Incremental data migration. In the configuration file (`job . cfg` or `local_job . cfg`), the configuration item for an incremental migration job is `importSince = T1` . The incremental migration is completed at T2.

    Note:
   Incremental data migration is not an incremental mode of data migration.

5. Delete the third-party storage. After T2, all your business reads and writes occur on the OSS, and the third-party storage is only a copy of historical data. You can decide to keep it or remove it at your own discretion. The OssImport is responsible for data migration and validation. It does not delete any data.

Migrate local data to the OSS

oools fols for migrating local data to the OSS:

- If you want to migrate less than 30 TB of local data files, or want to mount the storage service to a local file system, we recommend that you use ossutil. The tool is easy and convenient to use. OssUtil supports incremental uploads at the object level and implements the feature through the `-u /--update` and `--snapshot-path` options. For detailed descriptions, run the `ossutil help cp` command to see details.
- The distributed version of OssImport is recommended for migration of large scale data.

   Note:
  During incremental migration of local data, some operations of the file system won’t modify the last modified time of objects, such as cp and mv in Windows, and mv and rsync with `-t` or `-a` options in Linux. Data changes from these operations are not detected or synchronized to the OSS.

Data migration between OSS

- When to use OssImport:
  - If you want to add the *Cross-Region Replication* feature for data migration between OSS in different regions, you can configure the feature in the console.
  - If a region does not support *Cross-Region Replication* yet for security reasons, you can use OssImport to migrate or back up data.
  - Data migration between different accounts and buckets within the same region.
  - We recommend Alibaba Cloud intranet for direct data migration within OSS, that is, using the ECS or OSS domain name with `internal`.
- Charges for direct data migration within OSS:
  - If you use a domain name with `internal`, no traffic charges incur, but must pay for the request and storage charges.
  - If you did not use a domain name with `internal`, traffic charges may be incurred.
- Not recommended use cases:
  - Data migration between regions with the Cross-Region Replication service activated.
  - When you synchronize modifications to objects between OSS in incremental mode, the OssImport only supports synchronization of object modifications (put/append/multipart) and does not support synchronizing reading and deleting operations. The data synchronization is not guaranteed to be timely by a specific SLA. Exert caution when selecting this option. We recommend that you use Upload callback.

Migration instructions

ECS and traffic

If you want to migrate data from the cloud (non-local) to the OSS and have insufficient bandwidth resources, we recommend that you buy Pay-As-You-Go ECS instances for the migration. ECS configuration:

- Select Pay-As-You-Go for the billing method.
- Select the corresponding region for the OSS.
- Select 100 MB for the bandwidth peak.

In migration job configuration, set the `targetDoma in` to an intranet domain name containing `internal`. If the source end is also OSS, also set the `srcDomain`

to an intranet domain name containing `internal`. This saves money for downloads from the OSS source domain name, and only charges for OSS access.

Migrate HTTP data to OSS

Parameters to be configured for an HTTP data migration job:

- In job.cfg, set `srcType` to `srcType = http`. It is case-sensitive.
- In `httpListFi lePath` of job.cfg, use absolute paths to specify the HTTP address list file, such as `c :/ example / http . list` ,`/ root / example / http . list`. A full HTTP link is `127 . 0 . 0 . 1 / aa / bb . jpg`. Different splitting methods may lead to different object paths on the OSS after the upload:

```
http :// 127 . 0 . 0 . 1 / aa /    bb . jpg       #   The   first
line
  http :// 127 . 0 . 0 . 1 /       aa / bb . jpg    #  The   second
  line
```

  The object name after the first line is imported to the OSS is `destPrefix + bb . jpg` and the object name of the second line is `destPrefix + aa / bb . jpg`. The httpPrefixColumn parameter specifies the domain name column. The first column applies by default, such as the aforementioned `127 . 0 . 0 . 1 / aa /` or `127 . 0 . 0 . 1 /`. The relativePathColumn specifies the object name in the OSS, such as the aforementioned `bb . jpg` or `aa / bb . jpg`. If the object has multiple columns, as follows:

```
http :// 127 . 0 . 0 . 1 / aa /    bb / cc   dd / ee    ff . jpg
```

  The configuration must be: httpPrefixColumn=1 , relativePathColumn=4
- The `destAccess Key` , `destSecret Key` , `destDomain` , and `destBucket` configuration items among others in job.cfg.

Splitting parameters for HTTP data migration tasks:

- `taskObject CountLimit` : The maximum number of objects for each task. The default value is 10,000.
- `taskObject SizeLimit` : The maximum data size of each task. This parameter is invalid for HTTP data migration, because when the master is splitting tasks, if every HTTP object is the size of the object obtained from the source, each object has one HTTP request overhead, which negatively impacts the task allocation

efficiency, thereby compromising concurrent execution of tasks and migration efficiency.

- `Domain name`: The first column in the object specified by `httpListFile Path`. Continuous jobs with the same domain name are split according to the `taskObject CountLimit` parameter, and continuous jobs with different domain names are split into different tasks to make better reuse of connections. For example:

```
http :// mingdi - hz . oss - cn - hangzhou . aliyuncs . com /
import / test1 . txt
  http :// mingdi - hz . oss - cn - hangzhou . aliyuncs . com /
import / test2 . txt
  http :// mingdi - bj . oss - cn - beijing . aliyuncs . com /
import / test3 . txt
  http :// mingdi - bj . oss - cn - beijing . aliyuncs . com /
import / test4 . txt
```

`taskObject CountLimit` When the taskObjectCountLimit value is greater than 2, the job is split into two tasks, while in the following conditions, the job is split into four tasks.

```
http :// mingdi - hz . oss - cn - hangzhou . aliyuncs . com /
import / test1 . txt
  http :// mingdi - bj . oss - cn - beijing . aliyuncs . com /
import / test3 . txt
  http :// mingdi - hz . oss - cn - hangzhou . aliyuncs . com /
import / test2 . txt
  http :// mingdi - bj . oss - cn - beijing . aliyuncs . com /
import / test4 . txt
```

That is why `httpListFi lePath` specified HTTP address list objects are first sorted by domain name.

Network traffic and parameter configuration

The configuration of the following parameters is related to network traffic:

- In sys.properties, the `workerTask ThreadNum` parameter indicates the number of jobs for concurrent execution by the worker. If the network quality is poor or the concurrency is high, there may be a large number of time-out errors. At this point, we recommend that you reduce the concurrency, modify the configuration item and restart the service.
- In sys.properties, the `workerMaxT hroughput ( KB / s )` parameter indicates the traffic ceiling of the worker. If you want to limit the traffic, such as for throttling on the source end, or out of network restrictions, the value of this

parameter must be smaller than the maximum network traffic allowed for the machine and evaluated based on business requirements.

- In job.cfg, the `taskObject CountLimit` parameter indicates the maximum number of objects of each task. The default value is 10,000. This parameter influences the number of tasks. If the number of tasks is too small, the concurrent tasks may be less efficient.
- In job.cfg, the `taskObject SizeLimit` indicates the maximum data size of each task. The default value is 1 GB. This parameter influences the number of tasks. If the number of tasks is too small, the concurrent tasks may be less efficient.

 Note:

- We recommend that you determine the configuration file parameters before starting the migration.
- Modifications to parameters in sys.properties take effect after you restart the migration server.
- After the job.cfg job is submitted, the configuration parameters of the job cannot be changed.

4.5 FAQ

- 1. UnsupportedClassVersionError

  Exception Executing command:

```
Exception in thread " main " java . lang . Unsupporte
dClassVers ionError : com / aliyun / ossimport2 / OSSImport2 :
Unsupporte d major . minor version 51 . 0
        at java . lang . ClassLoade r . defineClas s1 ( Native
  Method )
        at java . lang . ClassLoade r . defineClas sCond (
ClassLoade r . java : 631 )
        at java . lang . ClassLoade r . defineClas s (
ClassLoade r . java : 615 )
        at com . simontuffs . onejar . JarClassLo ader .
defineClas s ( JarClassLo ader . java : 693 )
        at com . simontuffs . onejar . JarClassLo ader .
findClass ( JarClassLo ader . java : 599 )
        at java . lang . ClassLoade r . loadClass ( ClassLoade
r . java : 306 )
        at java . lang . ClassLoade r . loadClass ( ClassLoade
r . java : 247 )
        at com . simontuffs . onejar . Boot . run ( Boot . java :
300 )
```

```
        at   com . simontuffs . onejar . Boot . main ( Boot . java
: 159 )
```

Cause: the Java version is too low to be updated to 1.7 or later.

- 2. InvocationTargetException

  Submit task reporting exceptions using the `submit` command:

```
Exception   in   thread  " main "  java . lang . reflect .
Invocation  TargetExce  ption
        at   sun . reflect . NativeMeth  odAccessor  Impl . invoke0
( Native   Method )
        at   sun . reflect . NativeMeth  odAccessor  Impl . invoke
( NativeMeth  odAccessor  Impl . java : 62 )
        at   sun . reflect . Delegating  MethodAcce  ssorImpl .
invoke ( Delegating  MethodAcce  ssorImpl . java : 43 )
        at   java . lang . reflect . Method . invoke ( Method .
java : 497 )
        at   com . simontuffs . onejar . Boot . run ( Boot . java :
306 )
        at   com . simontuffs . onejar . Boot . main ( Boot . java
: 159 )
Caused   by :  java . lang . NullPointe  rException
        at   com . aliyun . ossimport2 . config . JobConfig . load
( JobConfig . java : 44 )
        at   com . aliyun . ossimport2 .  OSSImport2 . doSubmitJo
b ( OSSImport2 . java : 289 )
        at   com . aliyun . ossimport2 .  OSSImport2 . main (
OSSImport2 . java : 120 )
       ...  6   more
```

Reason: Check to see if the items in the configuration file are deleted or commented out, please enter items that do not need to be configured after the equal sign and do not need to be deleted.

- 3. too many open files

  Reason: `ulimit  - n` view system handle.

  - If the value is less than 10 thousand, you can restart the process through `ulimit  - n   65536` ;
  - If it was already set up relatively large, then use `sudo   losf  - n` to troubleshoot which processes have opened the handle.

- 4 Windows return seconds after Windows starts

  Cause: Most cases are caused by Java not installed or version less than 1.7, or by configuration file errors.

- 5. No jobs is running or finished

  When the `submit` command completes the task, use stat. View task status always displays:

```
 bash   console . sh   stat
[ WARN ]  List   files   dir   not   exist  : / home /< user >/
 ossimport / workdir / master / jobs /
 no   jobs   is   running   or   finished .
```

  Reason:

  - The job was just submitted, and the master needs to scan the list of files first , when the task is not actually generated and distributed, printing the log is normal;
  - After a long period of time, the error is still printed, usually without `start` .Command to start the process or to exit unexpectedly after the process has started. If you do not start the service, you only need to use start; otherwise, take a look `logs / ossimport . log` , find the cause of the exception and resolve it before you start the service process.

- 6. The STAT command always displays scanfinished: false

  Observe whether the total number of tasks is increasing:

  - If there is more in the process, it is that the file list of the job is not complete, there are also new files in the list;
  - Always unchanged, scanfinished will never be true if the job is configured with incremental Mode To scan the list of files regularly, depending on the interval configured by the user, check for new or modified documents;
  - If it is not an incremental mode, the number of tasks does not increase, and the log is checked for exceptions.

- 7. The service process was dropped, but the log did not output the exception

  Reason: if the machine's available memory is less than 2 GB, the big probability is that there's not enough memory to be killed. Check the dmsg. Log whether there is a record of insufficient memory to be killed.

- 8. What needs to be done to restart the service after the process has been hung or killed?

  Call `start directly` The command starts the service, and the job that has been submitted does not need to be resubmitted, as long as it does not call the

`clean` command, all submitted jobs have breakpoint records that do not redo the work that has been done.

- 9. Complete the task the OSS console displays a smaller amount of data than the source

  There is no change in the size of the bucket in the OSS console after the job has all been successfully uploaded or used locally. The size of `du` statistics varies greatly. Cause: the amount of Bucket data in the OSS console is delayed for 1 hour to update. `du` The command counts the block size, which is larger than the actual file, you can count the true size of the local directory by referring to the following command: `ls -lR <directory absolute path> | grep "\-rw " | awk '{sum+=$5} END {print sum}'`.

- 10. How do I handle the failed tasks shown by stat?

  Generally, you can use the `retry` command to try again.

- 11. After some failed tasks, repeated retry won't succeed.

  Reason: view the file `$work_dir/master/jobs/$jobName/failed_tasks/$taskName/error.list` Get the relative path of the failed file, check if the file has permission to access, whether it is deleted, is flexible, whether garbled file name, etc.

- 12. How do I upload a file with a bad file name to OSS?

  Need to first use `export LANG="<your file name encode>"`, `ls` use encode>", ls after checking the file name. Command to clear the original job and resubmit the job again with the `submit` command.

- 13. java.nio.file.AccessDeniedException

  Exception reported: ava.nio.file.AccessDeniedException. Cause: There is no permission to access the configuration file directory.

- 14. Task status displays 0, but job display completes

  The task status displays 0, but the job display completes as follows:

```
[2015-12-28 16:12:35] [INFO] JobName: dir_data
[2015-12-28 16:12:35] [INFO] Pending Task Count: 0
[2015-12-28 16:12:35] [INFO] Dispatched Task Count: 0
[2015-12-28 16:12:35] [INFO] Succeed Task Count: 0
[2015-12-28 16:12:35] [INFO] Failed Task Count: 0
```

```
[ 2015 - 12 - 28   16 : 12 : 35 ] [ INFO ]  Is   Scan   Finished :
 true
[ 2015 - 12 - 28   16 : 12 : 35 ] [ INFO ]  JobState : SUCCEED
```

Reason:

- The `srcPrefix` fills in the error, resulting in the *List* not coming out of the file;
- There are only directories and no files under `srcPrefix` , because the concept of directories is simulated by OSS, will not be truly uploaded.

· 15. The bucket you are attempting to access must be addressed using the specified endpoint

Log reporting exception:

```
 Exception : com . aliyun . oss . OSSExcepti  on :  The   bucket
   you   are   attempting   to   access   must   be   addressed
 using   the   specified   endpoint .  Please   send   all   future
   requests   to   this   endpoint .
< Error >
  < Code > AccessDeni  ed </ Code >
  < Message > The   bucket   you   are   attempting   to   access
   must   be   addressed   using   the   specified   endpoint .
 Please   send   all   future   requests   to   this   endpoint .</
 Message >
  < RequestId > 56EA98DE81  5804 ** 21B23EE6 </ RequestId >
  < HostId > my - oss - bucket . oss - cn - qingdao . aliyuncs . com
 </ HostId >
  < Bucket > my - oss - bucket </ Bucket >
  < Endpoint > oss - cn - hangzhou . aliyuncs . com </ Endpoint >
</ Error >
```

Reason: `srcDomain` of Bucket Or `destDomain` fill in the error, please follow the list of domain names Fill in the correct domain name.

· 16. The request signature we calculated does not match the signature you provided

Log reporting exception:

```
 Exception : com . aliyun . oss . OSSExcepti  on :  The   request
 signature   we   calculated   does   not   match   the   signature
   you   provided .  Check   your   key   and   signing   method .
[ ErrorCode ]:  SignatureD  oesNotMatc  h
[ RequestId ]:  xxxxxxx
[ HostId ]:  xxx . oss - cn - shanghai . aliyuncs . com
```

Reason: Check whether the `destAccess  Key` , `destSecret  Key` and the scanner are wrong. Please refer Access control.

· 17. InvocationTargetException

`submit` command submit task times exception:

```
 submit   job :/ disk2 / ossimport2 / local_job . cfg
```

```
Exception in thread " main " java . lang . reflect .
Invocation TargetExce ption
        at sun . reflect . NativeMeth odAccessor Impl . invoke0
( Native Method )
        at sun . reflect . NativeMeth odAccessor Impl . invoke
( NativeMeth odAccessor Impl . java : 57 )
        at sun . reflect . Delegating MethodAcce ssorImpl .
invoke ( Delegating MethodAcce ssorImpl . java : 43 )
        at java . lang . reflect . Method . invoke ( Method .
java : 606 )
        at com . simontuffs . onejar . Boot . run ( Boot . java :
306 )
        at com . simontuffs . onejar . Boot . main ( Boot . java
: 159 )
Caused by : java . lang . NullPointe rException
        at com . aliyun . ossimport2 . OSSImport2 . doSubmitJo
b ( OSSImport2 . java : 289 )
        at com . aliyun . ossimport2 . OSSImport2 . main (
OSSImport2 . java : 120 )
       ... 6 more
```

Reason: Check Configuration item workingdir in `conf / sys . properties` Whether to configure, configure correctly, and verify that the configuration file path is the correct path.

- 18. Do you support setting up agents?

  This feature is not supported.

- 19. Why is it expensive for OSS to migrate to OSS?

  Refer to endpoint The domain name in the help, After configuring the internal network domain name, will not charge the traffic fee, but the cost of the number of visits is still charging.

- 20. The synchronization process shows that the source file does not exist

  Reason: The Master first lists the list of files, and then moves the data according to the list of files. When list When you finish, certain files on the source end are deleted, you will find that the source file does not exist. This type of file is skipped and output to the error list.

- 21. Turn on incremental mode, will the OSS be deleted after locally deleted?

  Turns on incremental mode, if the OSSS is deleted after local deletion, the delete operation is not synchronized.

- 22. Turn on incremental mode, some new documents are not synchronized

  The incremental mode uses the last modification of the contrast file to determine whether the file is incremental. Some operations of the file system won’ t modify the last modified time of objects, such as cp and mv in Windows, and mv and rsync

with `-t` or `-a` options in Linux. Data changes from these operations are not detected or synchronized to the OSS.

- 23. The number of tasks shooting the migration has always shown 0

  Reasons: again, the more complex, mainly divided into two situations:

  - ```
    [2016-07-21 10:21:46] [INFO] [name=YoupaiList, totalRequest=1729925, avgLatency=38, recentLatency=300000]
    ```

    This log, if the `recentLatency=30000`, is generally normal. List, beat list is slow, usually run up to 30 seconds of timeout, 30 seconds to list out a few files to return a few files, such as the case slowly list tasks It is normal to come out;
  - The `recentLatency` is very small, and the general case is that the account password is wrong, and so on, because another error in the SDK returns only null), Does not return the error result, so you can only get another error code that is returned by catching the package.
- 24. What do `srcAccessKey`, `srcSecretKey` and fig fill in again during the migration

  Fill in the operator's account number and password. .
- 25. HTTP is always displayed during another shot migration Error 429

  Also shot to limit the SDK access interval, if the access is a little faster, it will limit the speed, please contact us again for Customer Service Release restrictions. Ossimport itself will try this situation again.
- 26. The execution of Unknown command "Java", Unknown command "nohup" and so on.

  Reason: The command used is not installed, please use yum or `apt-get` or `zypper` Wait for the command to install the corresponding command.
- 27. Task does not match configuration file

  The job configuration file appears to be correct, but running looks pretty different from the job profile configuration. Only `sys.properties` properties Changes and then reboots to take effect, and once the job's configuration file is submitted, the modification does not take effect and is required Clean drops the original job, and then resubmits the new configuration file.
    ```

- 28. The bucket name “xxx/xx” is invalid

  Log reporting exception:

```
java . lang . IllegalArg umentExcep tion : The bucket name
 " xxx / xx " is invalid . A bucket name must : 1 ) be
  comprised of lower - case characters , numbers or dash
(-); 2 ) start with lower case or numbers ; 3 ) be
between 3 - 63 characters long .
```

  Reason: check if the `destBucket` configuration item (s) are filling correctly, and the bucket is not carrying / and other paths.

- 29. com.aliyun.oss.ClientException: Unknown

  Log reporting exception:

```
com . aliyun . oss . ClientExce ption : Unknown
[ ErrorCode ]: NonRepeata bleRequest
[ RequestId ]: Cannot retry request with a non -
repeatable request entity . The cause lists the
reason the original request failed .
```

  As well as, usually when the network is full, ossimport will try again, if you still fail after retrying, you can call after the task is complete The `retry` command retries again.

- 30. Connect to xxx.oss-cn-beijing-internal.aliyuncs.com:80 timed out

  Log reporting exception:

```
Unable to execute HTTP request : Connect to xxx . oss
- cn - beijing - internal . aliyuncs . com : 80 timed out
[ ErrorCode ]: Connection Timeout
[ RequestId ]: Unknown
```

  Reason: Non-ECS machines cannot use the internal domain name.

- 31. The specified bucket is not valid

  Log reporting exception:

```
com . aliyun . oss . OSSExcepti on : The specified bucket
is not valid .
[ ErrorCode ]: InvalidBuc ketName
[ RequestId ]: 57906B4DD0 EBAB0FF553 D661
[ HostId ]: you - bucket . you - bucketoss - cn - hangzhou -
internal . aliyuncs . com
```

  Reason: From the configuration file The `destDomian` configured domain name cannot have a bucket name.

- 32. Can the srcPrefix in the configuration file specify a file individually?

  No, `srcPrefix` only supports directories or prefix levels, A single file upload can be done with other, simpler tools.

- 33. Unable to execute HTTP request: The Difference between … is too large.

  Log reporting exception:

```
Unable to execute HTTP request : The Difference
between the request time and the current time is
too large .
[ ErrorCode ]: RequestTim eTooSkewed
[ RequestId ]: xxxxxxx
```

  Reason:

  - The Local Machine Time is not good, with a difference of more than 15 minutes from the server time, which is mostly the case.
  - It may be that the concurrency is too high, especially for high CPU usage, leading to slow upload during concurrency.

- 34. No route to host

  An error is shown in the logs: `No route to host`. This is probably caused by network interruptions due to a local firewall or iptables.

- 35. Unknown http list file format

  The error is displayed using the http mode log because the specified HTTP list file is not in the right format:

  - One reason is that the files may be copied from another system. You can use the `mac2unix` or `doc2unix` command to convert the file formats.
  - There are some rows in the file that do not meet the rules, such as a row with fewer than two columns.

- 36. The boject key “/xxxxx.jpg” is invalid

  Log reporting exception:

```
Exception : java . lang . IllegalArg umentExcep tion : The
  boject key "/ xxxxx . jpg " is invalid . An object
name should be between 1 - 1023 bytes long when
encoded as UTF - 8 and cannot contain LF or CR os
```

```
  unsupporte d  chars  in  XML1 . 0 ,  and  cannot  begin
with  "/"  or  "\".
```

Reason:

- **Checks whether the `srcPrefix` is as a directory but does not end in;**
- **Check that the `destPrefix` starts with/or.**

5 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.

For detailed operation, see Create an authorization policy.

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.

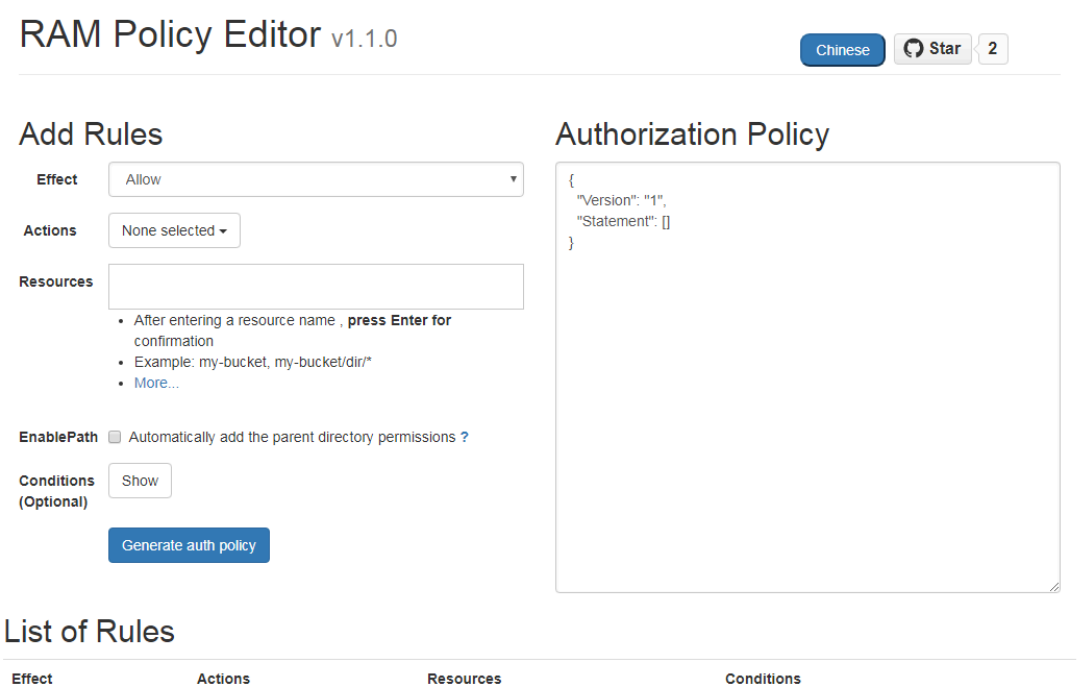
- Conditions

  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.

6 ossftp

6.1 Quick installation for OSS FTP

Introduction

The OSS FTP is a special FTP server that maps the operations on files and folders into your OSS instance upon receiving a common FTP request. This utility allows you to use the FTP protocol to manage files stored on your OSS instance.

 Note:
OSS SDK is designed for the production environment, and OSS FTP is mainly for individual users.

- Key features
  - Cross-Platform: This utility can run on Windows, Linux, and Mac operating systems, either 32 or 64 bit, either on a graphic or command-line interface.
  - Free of Installation: You can run this utility directly after extraction.
  - Free of Configuration: You can run the utility without any further configurations.
  - Transparent: The FTP utility was written in Python, so you can see the complete source code. We will soon make the open source available on GitHub.
- Key functions
  - Supports file/folder upload, download, delete, and other operations
  - Supports multipart upload of large files
  - Supports most FTP commands and can satisfy daily needs

 Note:

- Currently, for the ease of installation and deployment, OSS FTP V1.0 does not support TLS encryption. The FTP protocol implements plaintext transmission. To prevent password leaks, we recommend that you run the FTP server and client on the same machine and access using 127.0.0.1:port.
- The utility does not support rename and move operations.

- Do not include any Chinese characters in the extract-to path of the installation package.
- The FTP server’ s management control page may fail to be opened on early IE browsers.
- Supported Python versions: Python 2.6 and Python 2.7

Downloads

- Windows: ossftp-1.0.3-win.zip

  Now that Python 2.7 is not installed on Windows by default, it is contained in the installation package and is ready for use after extraction, without the hassle of installation and configuration.
- Linux/Mac: ossftp-1.0.3-linux-mac.zip

  Because Python 2.7 or Python 2.6 is installed on Linux and Mac systems by default , the installation packages for Linux and Mac do not contain an executable Python program, but only relevant dependent libraries.

Running

First, extract the downloaded file. Then, select an appropriate running mode based on environmental conditions.

- Windows: Double-click start.vbs to run it.
- Linux: Start the terminal and run it.

```
$ bash start . sh
```

- Mac: Double-click start.command or run it on a terminal.

```
$ bash start . command
```

The preceding process starts an FTP server, which listens to port 2048 at 127.0.0.1 by default. In addition, for ease of control over the status of the FTP server, the program also activates a web server, which listens to port 8192 at 127.0.0.1. If your system has a graphic interface, the control page is automatically opened.

 Note:
In most situations, you do not need to configure any settings before running the FTP server. If you make any configuration, remember to restart it to make the changes take effect.

Connecting to the FTP Server

We recommend using the FileZilla Client to connect to the FTP server. After download and installation, connect to the FTP server as follows:

- Host: 127.0.0.1
- Logon type: normal
- User: access_key_id/bucket_name
- Password: access_key_secret

Note:

- The slash sign (/) means that both, not either items are required. For example, the user could be `tSxyixxxxx xwPMEp / test - hz - jh - 002` .
- For more information about access_key_id and access_key_secret, see OSS Access Control.

Advanced use

- Manage the ftpserver from the console page
  - Modify the Listener Address

    If you want to access the ftpserver over a network, you must modify the listener address because the default address, 127.0.0.1, only allows local access. You can change it to an intranet IP or Internet IP.
  - Modify the Listening Port

    Modify the ftpserver’s listening port. We suggest using a port over 1024 because ports below 1024 require administrator permissions.
  - Modify the Log Level

    Set the ftpserver’s log level. The FTP server’s log is output to the `data / ossftp /` directory. You can view it only by pressing the Log button on the console page. The default log level is INFO and little information is printed in the log. If you need more detailed log information, you can change the level to

DEBUG. If you want to reduce log output, you can set the log level to WARNING or ERROR.

- Set Bucket Endpoints

  By default, the ftpserver searches for the bucket's location information, so it can send subsequent requests to the corresponding (such as `oss-cn-hangzhou.aliyuncs.com` or `oss-cn-beijing.aliyuncs.com`). The ftpserver first tries to access the OSS instance over the intranet. If you set bucket endpoints, for example, `test-bucket-a.oss-cn-hangzhou.aliyuncs.com`, when you access test-bucket-a, you go to the `oss-cn-hangzhou.aliyuncs.com` domain name.

- Set Display Language

  By setting cn/en, the display language of the FTP control page can be modified to Chinese/English.

Note:

- The system must be restarted for modifications to take effect.
- All the preceding modifications are actually changes to the ftp directory's config.json file. Thus, you can also modify this file directly.

· Directly start ftpserver (Linux/Mac)

You can only run the ftpserver.py file in the ossftp directory to avoid web_server overhead.

```
$ python ossftp/ftpserver.py &
```

The configuration modification method is the same to the preceding method.

Potential problems

- If you encounter an error when connecting to the FTP server.

  The error may be caused by two possible causes:

  - There may be an error in the entered access_key_id or access_key_secret.

    Solution: Enter the correct information and try again.
  - The used access_key information may be a RAM sub-account access_key for a sub-account without list buckets permission.

    Solution: When using a sub-account, specify bucket endpoints on the console page to tell the ftpserver which endpoint must be used to access a certain bucket. Also, the sub-account must have the required permissions. For information on implementing access control by using RAM to access OSS, see RAM. The details about permissions are as follow:

    ■ Read-only:

    The OSS-FTP must have these permissions: [‘ListObjects’, ‘GetObject’, ‘HeadObject’]. For information on creating a RAM sub-account with Read-only permission, see the graphic tutorial How to Integrate RAM for File Sharing.

    ■ Upload files:

    If you want to allow a RAM sub-account to upload files, assign [‘PutObject’] permission.

    ■ Delete files

    If you want to allow a RAM sub-account to delete files, assign [‘DeleteObject’] permission.

- If you are running the FTP server on Linux, you may encounter the following error when using FileZilla to connect to the server:

```
501 can ' t decode path ( server filesystem encoding
is ANSI_X3 . 4 - 1968 )
```

This is usually generated when errors occur in local Chinese code. Input the following command in the terminal where you want to run start.sh. Then, restart the program.

```
$ export LC_ALL = en_US . UTF - 8 ; export LANG =" en_US . UTF
- 8 "; locale
```

6.2 FAQ

- Permissions issue:
  - Can't list bucket can't log in

    The reason is usually the accesskeyid that is used And the accesskeysecret belong to the sub-account, and the sub-account does not have a list Bucket permissions.

    If it wasn't in the bucket The Enpoint column configures the bucket's access domain name, And when you access the bucket via ossftp, ftpserver tries to get through Service to get the region of the bucket. At this point if User Account No list The bucket permission causes the login to fail.

    The solution is in the bucket. The three-level access domain name that is configured in the endpoints, such.
  - List file is reported wrong after login is successful

    This is typically the accesskeyid used. And accesskeysecret belong to the sub -account, and the sub-account does not have List objects (equivalent to get Bucket) permissions.
- Other questions:
  - List file timeout causes the connection to be disconnected after the login is successful

    The reason is generally that there are too many files or folders in the bucket root directory. After logging in to FTP, ftpserver tries to list all the files/folders in the bucket root directory, you can list 1000 files/folders at a time. If there are more

than 1 million files/folders in the root directory, this will result in more than 1000 HTTP requests, which can easily lead to a timeout.

- A machine running ftpserver failed data transfer due to a port Restriction

  Because the control port of the FTP Protocol differs from the data port, when the ftpserver is working in passive mode, whenever you need to transfer data , ftpserver opens 1 random port, waiting for the client to connect. So when the ftpserver machine has a port limit, it may cause the data to fail to transfer properly.

  The workaround is when running ftpserver. py, by specifying -- Passive_po rts_start and -- Passive_ports_end parameter to set the start and end ranges of the local port, and then open the ports for that range.

- The connection between the client and the ftpserver is often disconnected

  Each FTP client typically has a timeout setting, which can be set to not time out . Take the filezilla tool for example, in the settings-> connection, you can set the timeout to 0.

7 ossfs

7.1 Quick installation

Ossfs allows you to mount Alibaba Cloud OSS buckets to local files in Linux systems. In the system, you can quickly use the local file system to perform operations on OSS objects, achieving data sharing.

 Notice:

Note the following limits when using ossfs:

- If you edit a uploaded file, the file is uploaded again.
- The performance of metadata-related operations, such as `list directory`, is poor because these operations need to access the OSS server remotely.
- An error may occur if you rename an object or a folder. Operation failures may cause inconsistent data.
- ossfs does not apply to scenarios where read and write operations are highly concurrent.
- You must maintain data consistency when a OSS bucket is mounted to multiple clients. For example, you must schedule the usage of an object to prevent it from being written by multiple clients at the same time.
- Hard links are not supported.

 Note:

You can use Cloud Storage Gateway (CSG) to access OSS. In this way, OSS buckets are mapped to local directories or disks.

- CSG supports the NFS and SMB (CIFS) protocols so that it can allow you to access shared directories based on OSS.
- CSG also supports the iSCSI protocol. Therefore, it can map massive OSS buckets to local disks and provides efficient elastic storage solution.

Features

Ossfs is constructed based on S3FS and incorporates all S3FS functions, including:

- Supports most functions of the POSIX file system, including file reading/writing, directories, link operations, permissions, UID/GID, and extended attributes.
- Uploads large files using the OSS multipart function.
- Supports MD5 verification which ensures data integrity.

Installation and use

- Installation package download

Released Linux	Download
Ubuntu 16.04 (x64)	ossfs_1.80.5_ubuntu16.04_amd64.deb
Ubuntu 14.04 (x64)	ossfs_1.80.5_ubuntu14.04_amd64.deb
CentOS 7.0 (x64)	ossfs_1.80.5_centos7.0_x86_64.rpm
CentOS 6.5 (x64)	ossfs_1.80.5_centos6.5_x86_64.rpm

  Due to the lower version of the Linux distribution, the kernel version is relatively lower. The ossfs is prone to disconnection or other problems during the running process. Therefore, users are advised to upgrade the operating system to CentOS 7. 0 or Ubuntu 14.04 or later.

- Installation method
  - Run the following commands to install ossfs for Ubuntu:

```
sudo apt-get update
sudo apt-get install gdebi-core
sudo gdebi your_ossfs_package
```

  - Run the following command to install ossfs for CentOS 6.5 or later:

```
sudo yum localinstall your_ossfs_package
```

  - Run the following command to install ossfs for CentOS 5:

```
sudo yum localinstall your_ossfs_package --nogpgcheck
```

- Usage

  Set bucket name and AccessKeyId/Secret and save it to the /etc/passwd-ossfs file. Note that the permissions for this file must be set correctly. We suggest setting it to 640.

```
echo my-bucket:my-access-key-id:my-access-key-secret > /etc/passwd-ossfs
```

```
chmod 640 /etc/passwd-ossfs
```

Mount the OSS bucket to the specified directory.

```
ossfs my-bucket my-mount-point -ourl=my-oss-endpoint
```

Example:

Mount the bucket `my-bucket` to the `/tmp/ossfs` directory. The AccessKeyId is `faint`, the AccessKeySecret is `123`, and the OSS endpoint is `http://oss-cn-hangzhou.aliyuncs.com`.

```
echo my-bucket:faint:123 > /etc/passwd-ossfs
chmod 640 /etc/passwd-ossfs
mkdir /tmp/ossfs
ossfs my-bucket /tmp/ossfs -ourl=http://oss-cn-hangzhou.aliyuncs.com
```

Notice:

If you use an Alibaba Cloud ECS instance to provide ossfs services, you can use the intranet endpoints. In this example, you can replace the OSS endpoint with `oss-cn-hangzhou-internal.aliyuncs.com` to save bandwidth costs. For more information about intranet endpoints, see Regions and endpoints.

Unmount the bucket:

```
fusermount -u /tmp/ossfs
```

For more information, see GitHub ossfs.

Release log

For more information, see GitHub ChangeLog.

7.2 FAQ

- Q: For what programs is ossfs suitable?
  - ossfs mounts OSS buckets locally. If you want a program that does not support OSS to automatically sync the data to the OSS, ossfs is a great option.
- Q: What are the limitations of ossfs?
  - Because data must be synced to the cloud over the network, the performance and functions of ossfs may differ from those of local file systems. If you want to run a database or other applications with frequent I/O operations on a mounted

ossfs disk, you must consider this carefully. ossfs differs from local file systems in the following ways:

- Random write and append operations overwrite the entire file.
- The performance of metadata operations, such as list directory, is poor because the system has to remotely access the OSS server.
- The file/folder rename operation is not atomic.
- When multiple clients are attached to a single OSS bucket, you must coordinate the actions of each client manually. For example, you must avoid multiple clients writing the same file.
- Hard link is not supported.

· Q: Do I need to use Alibaba Cloud hosts for ossfs?

  - ossfs does not need to be used with Alibaba Cloud intranet. It can be used on external Internet hosts.

· Q: Can ossfs simultaneously mount multiple OSS buckets?

  - Yes, write multiple OSS configuration information entries in the passwd-ossfs file. Buckets from different OSS accounts are supported.

· Q: I installed ossfs at yum/apt-get and has an error: conflicts with file from package fuse-devel.

  - There is an earlier version of fuse on your system. Please use the relevant package manager to uninstall and then reinstall ossfs.

· Q: ossfs is not working properly, how do I debug?

  - You can use the `-d -o f2` parameter when mounting. ossfs will write log content into the system logs. On the centos system, in/var/log/messages.
  - You can also use the `-f -d -o f2` parameter when mounting, and ossfs prints the logs to the screen.

· Q: When trying to mount a bucket, why do I receive the error "ossfs: unable to access MOUNTPOINT /tmp/ossfs: Transport endpoint is not connected"?

  - First, run the `umount` command for the corresponding directory.
  - When mounting with ossfs, check that the entered URL parameter is correct and the bucket, AccessKey ID, and AccessKey secret match.
  - DO NOT include the bucket name in the URL. For example, if the bucket domain name is `ossfs-test-1.oss-cn-hangzhou.aliyuncs.com` on

the OSS console, set the URL to `http :// oss - cn - hangzhou . aliyuncs . com` .

- Q: Why does ossfs display “ossfs: unable to access MOUNTPOINT /tmp/odat: No such file or directory” ?
  - This error occurs if the directory is not yet created. You must create the directory before mounting.
- Q: Why does the “operation not permitted” error occur after I mount the bucket locally and run the ls command for the directory?
  - In your bucket, check if the directory name contains any OSS objects with invisible characters. The file system has strict restrictions for file/directory names. If the directory name fails to meet the restrictions, this error occurs. Use another tool to rename these objects and run the ls command, the directory content can be correctly displayed.
- Q: There are a lot of files in one of my directories. Why is ls so slow?
  - Assuming that there are n files in a directory, then the ls of this directory requires at least a minimum of n oss http requests. When there are many files, this can cause serious performance problems.
  - You can optimize in two ways:
    - Increase stat cache size with the -omax_stat_cache_size=xxx parameter, so that the first time ls will be slow, but the subsequent ls will be fast, because the metadata of the file is in the local cache. The default is 1000, which costs about 4 MB of memory, please adjust to the appropriate value according to the size of your machine's memory.
    - Use the ls -f command, which eliminates n HTTP requests with OSS.
    - For more information.
- Q: How do I set permissions during ossfs mounting?
  - If you want to allow other users to access mounted folders, specify the `allow_othe r` parameter as follows when running ossfs:
    - ```
      ossfs  your_bucke  t  your_mount  _point  - ourl =
      your_endpo  int  - o
      ```
      ```

```
allow_othe  r
```

- Why does the allow_other parameter still have no access to the file?
  - Note: allow_other is the permission granted to other users in the Mount directory, not the file inside! If you want to change the files in the folder, use the chmod command.
- allow_other gives the Mount directory 777 permission by default, and I want to have the Mount directory permission 770, what should I do?
  - You can set by umask.

· Q: If you want to allow the mounting of folders (/tmp/ossfs) that belong to another user,

- Method 1: If you want to allow the mounting of folders (/tmp/ossfs) that belong to another user, you need to create the mount folder as user and use ossfs:
  - `sudo - u user mkdir / tmp / ossfs`
  - `sudo - u user ossfs bucket - name / tmp / ossfs`
- Method 2: first get the uid/gid information for the specified user by the id command. For example, to get uid/gid information for a www user: id www; then specify the uid/gid parameter when you mount:
  - ```
    ossfs  your_bucke  t  your_mount  point  - ourl = your_url
    - ouid = your_uid
                      - ogid = your_gid
    ```

  Note: uid/gid are numbers.

· Q: I am not the root user, how does umount ossfs mount the directory?

- fusermount -u your_mountpoint

· Q: How can I mount ossfs automatically when the device starts up?

- Step 1: Write the bucket name, AccessKeyId/Secret, and other information into /etc/passwd-ossfs, and change the permissions for this file to 640.
  - ```
    echo  your_bucke  t_name : your_acces  s_key_id : your_acces
    s_key_secr  et  >
                      / etc / passwd - ossfs
    ```
  - `chmod 640 / etc / passwd - ossfs`

- Step 2: Make the appropriate settings (the setting methods differ for different system versions).
  - Step 2A: Use the fstab method to automatically mount the ossfs (applies to Ubuntu 14.04 and CentOS 6.5).
    - Add the following command in /etc/fstab:
    - ```
      ossfs # your_bucke t_name your_mount _point fuse
      _netdev , url = your_url , allow_othe r 0
                          0
      ```
    - In the preceding command, replace ‘your_xxx’ with your actual bucket name and other information.
    - Save the /etc/fstab file. Run the `mount - a` command. If no error is reported, the settings are correct.
    - Now, Ubuntu 14.04 can automatically mount the ossfs. For CentOS 6.5, also run the following command:
    - `chkconfig netfs on`
  - Step 2B: Mount ossfs using a boot script (applies to CentOS 7.0 and later).
    - Create the file ossfs in the /etc/init.d/ directory. Copy the content in the Template File to the new file. Here, replace ‘your_xxx’ with your own information.
    - Run the command: `chmod a + x / etc / init . d / ossfs` .
    - The preceding command grants execution permission to the new ossfs script . You can now run this script. If no errors occur in the script content, the OSS bucket has been mounted to the specified directory.
    - Run the command: `chkconfig ossfs on` .
    - The preceding command sets the ossfs boot script as another service, so it is automatically started when the device starts up.
    - ossfs can now automatically mount upon startup. To sum up, if you use Ubuntu 14.04 or CentOS 6.5, perform Steps 1 and 2A; if you use CentOS 7.0, perform Steps 1 and 2B.
- Q: How do I solve the fusermount: failed to open current directory: Permission denied error?
  - This is a fuse bug. It requires the current user to have read permission for the current directory (unmounted directory). To solve this problem, run the cd
      ```

command to change to a directory with read permission and then run the ossfs command again.

- Q: I need to use a www user to mount ossfs. In this case, how do I set up automatic mounting?
  - See the answer to the preceding question. Perform Step 1 as stated. Perform Step 2B with the command in the /etc/init.d/ossfs file changed to:

    ```
    sudo -u www ossfs your_bucke t your_mount point -ourl=your_url
    ```

  - Set the boot script to allow the use of sudo to edit /etc/sudoers. Change the `Defaults requiretty` line to `# Defaults requiretty` (comment out this line).
- Q: How do I solve the `fusermount: failed to open current directory: Permission denied` error?
  - This is a fuse bug. It requires the current user to have read permission for the current directory (unmounted directory). To solve this problem, run the cd command to change to a directory with read permission and then run the ossfs command again.
- Q: How do I avoid the cost of scanning files by using ECS to mount ossfs?
  - The program scans a directory mounted by ossfs to convert to a request to OSS, if the number of requests is high, costs will be incurred (1 cent/10 thousand times). If it is updatedb, you can skip it by modifying /etc/updatedb.conf. The specific practice is:
    1. Add `fuse.ossfs` to `PRUNEFS=`.
    2. Add the mounted directory to the `PRUNEPATHS=`.
  - How do I determine which process swept my catalog?
    1. First install auditd: sudo apt-get install auditd.
    2. Start auditd: sudo service auditd start.
    3. Set the monitor mount directory : auditctl -w /mnt/ossfs
    4. In the auditorium log, you can see which processes have accessed this directory: ausearch -i | grep /mnt/ossfs

- Q: what is the content-type file that uses ossfs to upload to OSS all "application/ocdet-stream? what happened?
  - ossfs queries /etc/mime.types content to determine the Content-Type of the file, please check that the file exists, if it does not exist, you need to add:
    1. For Ubuntu, you can add it with udo apt-get install mime-support.
    2. For Centos, you can add it with sudo Yum install mailcap
    3. You can also manually add one row per format, each in the form of: Application/JavaScript JS
- Q: How do I start ossfs using the supervisor?

1. To install the supervisor, run the sudo apt-Get install supervisor in Ubuntu
2. Create a directory and edit the ossfs STARTUP script:

```
mkdir / root / ossfs_scri pts
vi / root / ossfs_scri pts / start_ossf s . sh
```

   Write the following data:

```
# Unload
fusermount - u / mnt / ossfs
# Re - mounted , you must add - F parameter to run
ossfs , let ossfs run at the front desk
exec ossfs my - bucket my - mount - point - ourl = my - oss
- endpoint - f
```

3. Edit/etc/Supervisor/supervisord. conf to add the following paragraph at the end:

```
[ program : ossfs ]
command = bash / root / ossfs_scri pts / start_ossf s . sh
logfile =/ var / log / ossfs . log
log_stdout = true
log_stderr = true
logfile_ma xbytes = 1MB
logfile_ba ckups = 10
```

4. Run Supervisor:

```
supervisor d
```

   supervisord

5. Confirm that everything is fine:

```
ps aux | grep supervisor # should be able to see
the supervisor Process
ps aux | grep ossfs # should be able to see
ossfs Process
kill - 9 ossfs # Kill ossfs process , the supervisor
must restart it , do not use killall , because
killall sends sigterm , the process Exits normally ,
and the Supervisor no longer reruns ossfs .
```

```
ps aux | grep ossfs # should be able to see ossfs Process
```

If an error occurs, check /var/log/supervisor/supervisord.log and /var/log/ossfs.log.

- Q: encounter "fuse: Warning: Library too old, some operations may not work?

  This occurs because of the libfuse version that ossfs uses at compile time Higher than the libfuse version linked to at run time. This is often due to the user's own installation of libfuse. Install ossfs with the RPM package we provide, without having to install libfuse again.

  The RPM bag that we provide on the box and the box contains the box, if there is a chain in the running environment and ossfs is linked to an earlier version of fuse, the preceding warning will appear.

1. How do I confirm the fuse version of The ossfs runtime link?
   - Run LDD $ (which ossfs) | grep Fuse
   - For example, the result is "/lib64/libfuse. So. 2 ", then you can see the version of fuse through LS-L/lib64/libfuse.
2. How do I link ossfs to the correct version?
   - First find the directory of libfuse with rpm-QL ossfs | grep fuse.
   - For example, the result is "/usr/lib/libfuse. So. 2 ", use fig =/usr/lib ossfs... Run ossfs
3. Can I ignore this warning?
   - You better not see this bug.

- Q: Why do I see file information with ossfs (for example, size) not consistent with what other tools see?

Because ossfs, by default, caches the file's meta-information (including size/permissions, etc), this does not require every time ls requests are sent to OSS to speed up. If the user passes other programs (such as SDK/website console/osscmd, etc) the file has been modified so that it is possible to see the file information in ossfs, not updated in a timely manner.

If you want to disable ossfs caching, you can add the following paramete -

```
omax_stat_ cache_size = 0
```

8 osscmd

8.1 Quick installation

Overview

osscmd is a command line tool based on Python 2.x, supporting Bucket management and file management.

Note:

We recommend that you use ossutil instead of osscmd unless necessary.

- Application scenarios
  - API development and debugging, for example, sending a request with a specific format and performing multipart upload step by step.
  - Bucket configuration if the console is unavailable, for example, logging/website/lifecycle.
- Restrictions
  - osscmd supports Python 2.5/2.6/2.7, but does not support Python 3.x.
  - osscmd is developed based on Python SDK V0.x, which is no longer maintained. Currently, Python SDK V2.x.x is maintained.
  - osscmd does not support new functions, such as low-frequency storage/archive storage, cross-region replication, and image origin retrieval. It only supports debugging.

  We recommend that you use ossutil instead of osscmd. ossutil has the following advantages:
  - Supports Windows/Linux/Mac.
  - Implemented based on the Go SDK, which features simple installation and superior performance.
  - Provides easy commands and rich help information, and supports Chinese/English.

Environment requirement

osscmd is released with the python SDK 0. X, and is available for download here. Note that the python SDK 2.x does not yet provide a corresponding version of osscmd.

Python SDK requires a Python-ready environment. Python versions: Version 2.5 to Version 2.7. SDK is applicable to Windows and Linux, but as Python3.0 is not fully compatible with SDK Version 2.x, SDK does not support Python3.0 or later.

After Python is installed:

- Input python in Linux shell and press Enter to view the Python version as follows:

```
Python 2.5.4 (r254:67916, Mar 10 2010, 22:43:
17)
[GCC 4.1.2 20080704 (Red Hat 4.1.2-46)] on
linux2
Type "help", "copyright", "credits" or "license" for
more informatio n.
```

- Input python in Windows cmd and press Enter to view the Python version, as follows:

```
C:\Documents and Settings\Administra tor>python
Python 2.7.5 (default, May 15 2013, 22:43:36)
[MSC v.1500 32 bit (Intel)] on win
32
Type "help", "copyright", "credits" or "license" for
more informatio n.
```

  The preceding code shows the Python has been installed successfully.

- Exception: After entering python in Windows cmd and pressing Enter, the system prompts Not an internal or external command. In such a case, check the configuration Environment variables Path and add the Python installation path.

  If the Python is not installed, you can get its installer from Python official website . The website provides detailed instructions and guidance for installing and using Python.

Installation and usage

Unzip the downloaded Python SDK to the directory of the osscmd and then run `python osscmd + operation`. For example, upload an object to the bucket:

```
python osscmd put myfile . txt oss :// mybucket
```

Please note that in osscmd, oss://bucket or oss://bucket/object is used to indicate a bucket or an object. oss:// is merely a way to indicate the resource with no other meanings.

If you need the detailed command list, enter `python osscmd`.

If you need the detailed parameter list instructions, enter `python osscmd help`.

8.2 Example

Install and configure osscmd

After you download SDK installer in Linux or Windows, unzip the downloaded packet to start using osscmd.

You can directly run python osscmd to get instructions for use. Every command has two modes for execution. Take querying the user-created bucket for example. The `gs` command (short for "get service") is run.

- Method 1: No ID or Key is specified, and osscmd reads the ID and Key from default files.

```
$ python osscmd gs
can ' t get accessid / accesskey , setup use : config --
id = accessid -- key = accesskey
```

Note:

In the case of such prompts, it indicates that the ID and Key are not properly configured. See the configuration command in Step 2.

Once the ID and Key are properly configured and valid, run the command

```
$ python osscmd gs
2013 - 07 - 19 08 : 11 test - oss - sample
```

```
 Bucket   Number   is :  1
```

- Method 2: Specify the ID and Key in the command and osscmd reads ID and Key from the command line. If the ID and Key are valid, run the command and the following result is shown.

```
$  python   osscmd   gs  -- id = your_id  -- key = your_key  -- host
 = your_endpo  int
 2013 - 07 - 19   08 : 11   test - oss - sample
 Bucket   Number   is :  1
```

To configure users' ID and Key to the default files, run the following commands. The default oss host is oss.aliyuncs.com.

```
$ python   osscmd   config  -- id = your_id  -- key = your_key  --
 host = your_endpo  int
```

If you see a prompt saying "Your configuration is saved into" or similar, it indicates the ID and Key have been saved successfully.

Basic operations

- List created buckets

```
$ python   osscmd   getallbuck  et
```

The output is empty if the OSS user didn't create any buckets.

- Create a bucket

Create a bucket named mybucketname.

```
$ python   osscmd   createbuck  et   mybucketna  me
```

Creating a bucket named "mybucketname" may fail because the name of the bucket in OSS is globally unique and someone may have created this bucket. In this case, you must change the name. For example, you can add a specific date to the bucket name.

- Check whether the bucket has been created successfully

```
$ python   osscmd   getallbuck  et
```

If it fails, check the error message returned.

- View objects

  After a bucket is successfully created, check the objects in the bucket.

```
$ python   osscmd   list   oss :// mybucketna  me /
```

  No objects is contained in the bucket, so the output is empty.

- Upload an object

  Upload an object to the bucket. If the local file is named local_existed_file, its MD5 value is shown as follows.

```
$  md5sum   local_exis  ted_file   7625e1adc3  a4b129763d
 580ca0a78e  44   local_exis  ted_file
$  python   osscmd   put   local_exis  ted_file   oss ://
 mybucketna  me / test_objec  t
```

  Note:
  The `md5sum` command is used on Linux instead of Windows.

- View object again

  If it is successfully created, check the object again in bucket.

```
$ python   osscmd   list   oss :// mybucketna  me /
```

- Download an object

  Download an object from the bucket to local and compare the md5 value of the file downloaded.

```
$  python   osscmd   get   oss :// mybucketna  me / test_objec  t
 download_f  ile
$  md5sum   download_f  ile
 7625e1adc3  a4b129763d  580ca0a78e  44   download_f  ile
```

  Note:
  The `md5sum` command is used on Linux instead of Windows.

- Delete an object

  $ python osscmd delete oss://mybucketname/test_object

- Delete a bucket

  Note:

If a bucket contains objects, the bucket cannot be deleted.

```
$ python osscmd deletebuck et mybucketna me
```

Use lifecycle

- Configure an XML text file for lifecycle

```
< LifecycleC onfigurati on >
    < Rule >
        < ID > 1125 </ ID >
        < Prefix > log_backup /</ Prefix >
        < Status > Enabled </ Status >
        < Expiration >
            < Days > 2 </ Days >
        </ Expiration >
    </ Rule >
</ LifecycleC onfigurati on >
```

This indicates deleting the objects of more than two days old to the current time and with the prefix of log_backup/ in the bucket. For detailed rule configuration, see API Reference.

- Write lifecycle

```
python osscmd putlifecyc le oss :// mybucket lifecycle .
xml
0 . 150 ( s ) elapsed
```

- Read lifecycle

```
python osscmd getlifecyc le oss :// mybucket
<? xml version =" 1 . 0 " encoding =" UTF - 8 "? >
< LifecycleC onfigurati on >
  < Rule >
    < ID > 1125 </ ID >
    < Prefix > log_backup /</ Prefix >
    < Status > Enabled </ Status >
    < Expiration >
      < Days > 2 </ Days >
    </ Expiration >
  </ Rule >
</ LifecycleC onfigurati on >
0 . 027 ( s ) elapsed
```

- Delete lifecycle

```
python osscmd deletelife cycle oss :// mybucket
0 . 139 ( s ) elapsed
```

- Read lifecyle

```
python osscmd getlifecyc le oss :// mybucket
Error Headers :
[(' content - length ', ' 288 '), (' server ', ' AliyunOSS '),
 (' connection ', ' close '), (' x - oss - request - id ', '
 54C74FEE5D 7F6B24E504 2630 '), (' date ', ' Tue , 27 Jan
```

```
 2015   08 : 44 : 30   GMT '), (' content - type ', ' applicatio  n
 / xml ')]
 Error   Body :
<?  xml   version =" 1 . 0 "  encoding =" UTF - 8 "? >
< Error >
  < BucketName > mybucket </ BucketName >
  < Code > NoSuchLife  cycle </ Code >
  < Message > No   Row   found   in   Lifecycle   Table .</ Message
 >
  < RequestId > 54C74FEE5D  7F6B24E504  2630 </ RequestId >
  < HostId > mybucket . oss - maque - hz - a . alibaba . net </
 HostId >
</ Error >
 Error   Status :
 404
 getlifecyc  le   Failed !
```

Anti-leech settings

- **Allow access of blank referer**

```
$ osscmd   putreferer   oss :// test  -- allow_empt  y_referer =
 true
 0 . 004 ( s )  elapsed
```

- **Get configured referer**

```
$ osscmd   getreferer   oss :// test
<?  xml   version =" 1 . 0 "  encoding =" UTF - 8 "? >
< RefererCon  figuration >
  < AllowEmpty  Referer > true </ AllowEmpty  Referer >
  < RefererLis  t  />
</ RefererCon  figuration >
```

- **Do not allow blank referer. Only allow test referer requests**

```
$ osscmd   putreferer   oss :// test  -- allow_empt  y_referer =
 false  -- referer =' www . test . com '
 0 . 092 ( s )  elapsed
```

- **Get configured referer**

```
$ osscmd   getreferer   oss :// test
<?  xml   version =" 1 . 0 "  encoding =" UTF - 8 "? >
< RefererCon  figuration >
  < AllowEmpty  Referer > false </ AllowEmpty  Referer >
  < RefererLis  t >
    < Referer > www . test . com </ Referer >
  </ RefererLis  t >
</ RefererCon  figuration >
```

- **Do not allow blank referer. Only allow test and test1 referer requests**

```
$ osscmd   putreferer   oss :// test  -- allow_empt  y_referer =
 false  -- referer =' www . test . com , www . test1 . com '
```

- **Get configured referer**

```
$ osscmd   getreferer   oss :// test
<?  xml   version =" 1 . 0 "  encoding =" UTF - 8 "? >
```

```
< RefererCon  figuration >
  < AllowEmpty  Referer > false </ AllowEmpty  Referer >
  < RefererLis  t >
    < Referer > www . test . com </ Referer >
    < Referer > www . test1 . com </ Referer >
  </ RefererLis  t >
</ RefererCon  figuration >
```

Use logging

- **Set logging**

```
$ osscmd   putlogging   oss :// mybucket   oss :// myloggingb  ucket
 / mb
```

- **Get logging**

```
$ osscmd   getlogging   oss :// mybucket
```