Alibaba Cloud
Object Storage Service

Utilities

Issue: 20181120

Legal disclaimer

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

1. You shall download and obtain this document from the Alibaba Cloud website or other Alibaba Cloud-authorized channels, and use this document for your own legal business activities only. The content of this document is considered confidential information of Alibaba Cloud. You shall strictly abide by the confidentiality obligations. No part of this document shall be disclosed or provided to any third party for use without the prior written consent of Alibaba Cloud.
2. No part of this document shall be excerpted, translated, reproduced, transmitted, or disseminated by any organization, company, or individual in any form or by any means without the prior written consent of Alibaba Cloud.
3. The content of this document may be changed due to product version upgrades, adjustments, or other reasons. Alibaba Cloud reserves the right to modify the content of this document without notice and the updated versions of this document will be occasionally released through Alibaba Cloud-authorized channels. You shall pay attention to the version changes of this document as they occur and download and obtain the most up-to-date version of this document from Alibaba Cloud-authorized channels.
4. This document serves only as a reference guide for your use of Alibaba Cloud products and services. Alibaba Cloud provides the document in the context that Alibaba Cloud products and services are provided on an "as is", "with all faults" and "as available" basis. Alibaba Cloud makes every effort to provide relevant operational guidance based on existing technologies. However, Alibaba Cloud hereby makes a clear statement that it in no way guarantees the accuracy, integrity, applicability, and reliability of the content of this document, either explicitly or implicitly. Alibaba Cloud shall not bear any liability for any errors or financial losses incurred by any organizations, companies, or individuals arising from their download, use, or trust in this document. Alibaba Cloud shall not, under any circumstances, bear responsibility for any indirect, consequential, exemplary, incidental, special, or punitive damages, including lost profits arising from the use or trust in this document, even if Alibaba Cloud has been notified of the possibility of such a loss.
5. By law, all the content of the Alibaba Cloud website, including but not limited to works, products, images, archives, information, materials, website architecture, website graphic layout, and webpage design, are intellectual property of Alibaba Cloud and/or its affiliates. This intellectual property includes, but is not limited to, trademark rights, patent rights, copyrights, and trade

secrets. No part of the Alibaba Cloud website, product programs, or content shall be used, modified, reproduced, publicly transmitted, changed, disseminated, distributed, or published without the prior written consent of Alibaba Cloud and/or its affiliates. The names owned by Alibaba Cloud shall not be used, published, or reproduced for marketing, advertising, promotion, or other purposes without the prior written consent of Alibaba Cloud. The names owned by Alibaba Cloud include, but are not limited to, "Alibaba Cloud", "Aliyun", "HiChina", and other brands of Alibaba Cloud and/or its affiliates, which appear separately or in combination, as well as the auxiliary signs and patterns of the preceding brands, or anything similar to the company names, trade names, trademarks, product or service names, domain names, patterns, logos, marks, signs, or special descriptions that third parties identify as Alibaba Cloud and/or its affiliates).

6. Please contact Alibaba Cloud directly if you discover any errors in this document.

Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 **Danger:** Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 **Warning:** Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 **Note:** Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 **Note:** You can use **Ctrl** + **A** to select all files.
>	Multi-level menu cascade.	**Settings** > **Network** > **Set network type**
Bold	It is used for buttons, menus, page names, and other UI elements.	Click **OK**.
`Courier font`	It is used for commands.	Run the `cd /d C:/windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *[-all|-t]*
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich` *{stand | slave}*

Contents

1 OSS tools

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

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

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

2 ossbrowser

2.1 Permission management

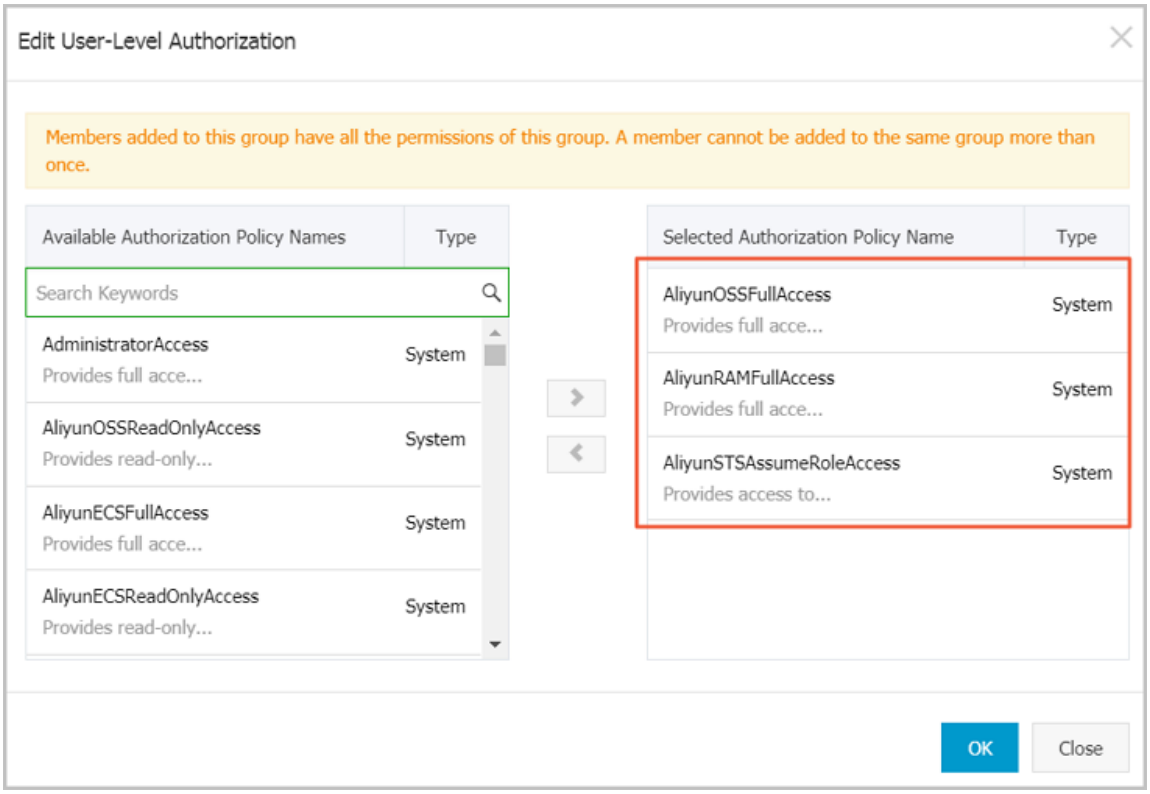
Log on to ossbrowser with a RAM user account

To ensure data security, we recommend that you log on to ossbrowser by using the AccessKey (AK) of a RAM user account (sub-account). To log on to ossbrowser, perform the following steps:

1. Create a RAM user account and an AccessKey. For more information, see *Create a RAM user*.

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

   - RAM user accounts with high-level permissions (can access all buckets and can manage the sub-accounts configured by RAM). For new users, we recommend that you use the following configurations:



   - RAM user accounts with limited permissions (can access only some buckets or sub-directories). For new users, we recommend that you *Grant permissions with a simple policy*.

> **Note:**
> You can authorize RAM user accounts with lower permissions. For details, see *Access control*.

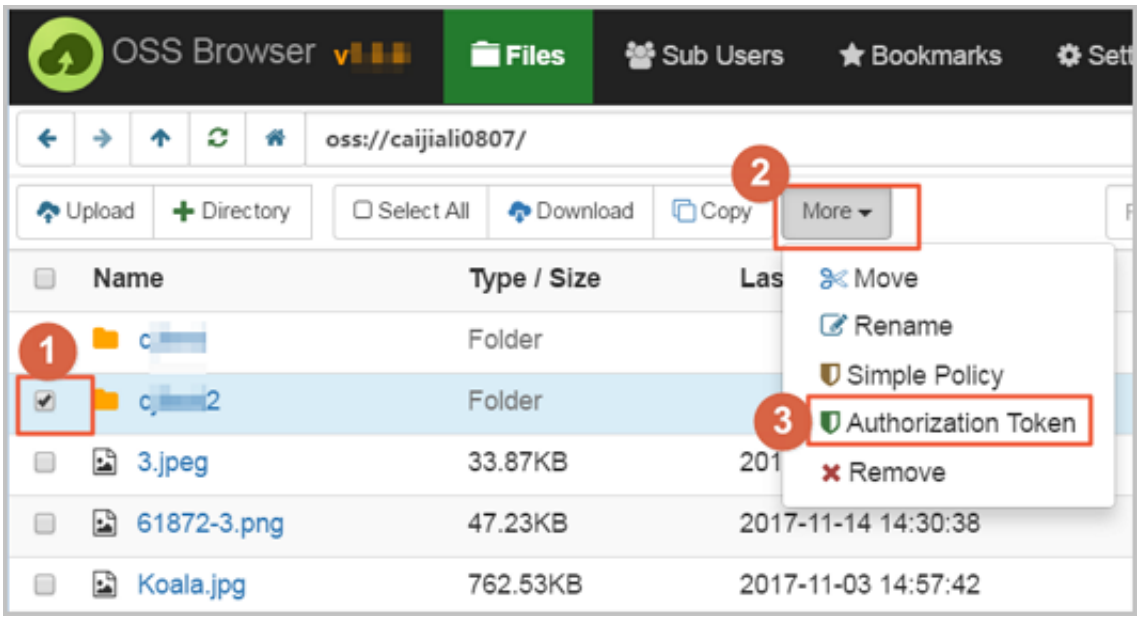
2. Configure the following options to log on to ossbrowser:
   - **Endpoint**: Use the default value.
   - **AccessKeyId** and **AccessKey Secret**: Enter the AccessKey of the RAM account.
   - **Preset OSS Path**:
     - RAM accounts with high permissions: No configuration is required.
     - RAM accounts with limited permissions: Configuration is required. Enter the name of the OSS bucket or sub-directory that you want to access (the RAM account must have the permission on the path). The format of the path is as follows: **oss:// bucket name/sub-directory name/**.
   - **Remember**: Select to save the AccessKey. When you log on the ossbrowser later, you can simply click **AK Histories** and select the saved AccesKey instead of entering the AccessKey repeatedly. Do not select this option if you are using a computer temporarily.

Log on to ossbrowser with a temporary authorization code

You can use a temporary authorization code to log on to ossbrowser. You can provide a temporary authorization code to authorized users, allowing 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 AccessKey of the primary account to log on to ossbrowser as the administrator. 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:

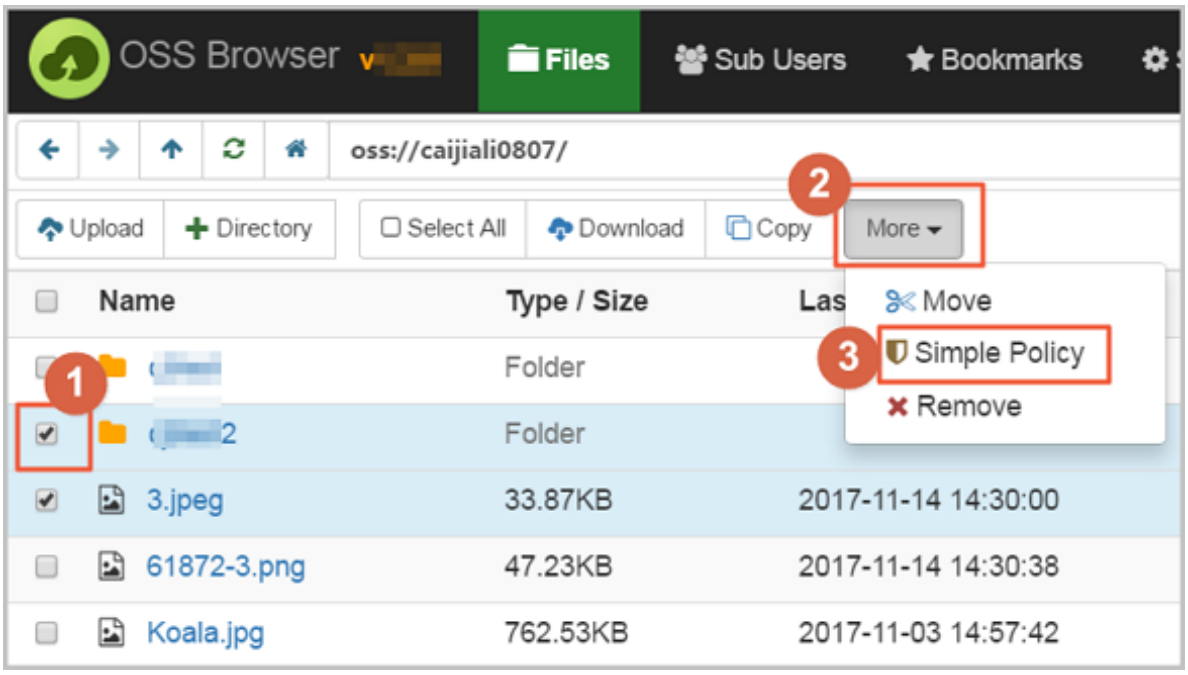


2. Log on to ossbrowser with the authorization code

   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

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. View and copy the policy text. You can use the policy text to edit the policy of RAM accounts and RAM roles.

You can also grant permissions to sub-accounts on this page. The current AccessKey used to log on must have the permission to configure RAM.

2.2 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.

Procedure

1. Download and install ossbrowser.

Supported platform	Download link
Window x32	*Window x32*
Window x64	*Window x64*
MAC	*MAC*
Linux x64	*Linux x64*

2. Start and log on to ossbrowser.
3. Manage buckets. You can create a bucket, delete a bucket, modify the ACL for a bucket, and manage the fragments in a bucket.
4. Manage objects. You can upload (resumable), download (resumable), delete, copy, move, rename, search for, and preview an object, and modify the ACL or set an HTTP header for an object.

3 ossftp

3.1 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 configurat ion.

- 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 environmen tal 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 `tSxyiUM3NKswPMEp/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
```

4 ossfs

4.1 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.

Main features

The ossfs is constructed based on S3FS and incorporates all S3FS functions. The main features include:

- 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.
- Guarantees data integrity with MD5 checksum.

Limitations

Compared with a local file system, the functions and performance provided by ossfs have certain limitations. These include:

- Random write or any appended operations causes rewrite of 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.
- This system is not suitable for highly-concurrent read/write scenarios, as this greatly increases the system load.

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*

Released Linux	Download
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
```

Note:
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*

4.2 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, see *issue 13*.

- Q: How do I set permissions during ossfs mounting?
  - If you want to allow other users to access mounted folders, specify the **`allow_other`** parameter as follows when running ossfs:
    - ```
      ossfs your_bucket your_mount_point -ourl=your_endpoint -o
                      allow_other
      ```
  - 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, see *here*.

- 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_bucket your_mountpoint -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_bucket_name:your_access_key_id:your_access_key_secret
   >
                      /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_bucket_name your_mount_point fuse _netdev,url=
  your_url,allow_other 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 automatica lly 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_bucket your_mountpoint -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 can be added via 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_scripts
vi /root/ossfs_scripts/start_ossfs.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_scripts/start_ossfs.sh
logfile=/var/log/ossfs.log
log_stdout=true
log_stderr=true
logfile_maxbytes=1MB
logfile_backups=10
```

4. Run Supervisor:

```
supervisord
```

   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`

5 osscmd

5.1 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_endpoint
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 getallbucket
  ```

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

- Create a bucket

  Create a bucket named mybucketname.

  ```
  $python osscmd createbucket mybucketname
  ```

  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 getallbucket
  ```

  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://mybucketname/
  ```

  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_existed_file 7625e1adc3a4b129763d580ca0a78e44
  local_existed_file
  $ python osscmd put local_existed_file oss://mybucketname/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://mybucketname/
```

- Download an object

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

```
$ python osscmd get oss://mybucketname/test_object download_file
$ md5sum download_file
7625e1adc3a4b129763d580ca0a78e44 download_file
```

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 deletebucket mybucketname
```

Use lifecycle

- Configure an XML text file for lifecycle

```
<LifecycleConfiguration>
    <Rule>
        <ID>1125</ID>
        <Prefix>log_backup/</Prefix>
        <Status>Enabled</Status>
        <Expiration>
            <Days>2</Days>
        </Expiration>
    </Rule>
</LifecycleConfiguration>
```

  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 putlifecycle oss://mybucket lifecycle.xml
```

```
0.150(s) elapsed
```

- Read lifecycle

```
python osscmd getlifecycle oss://mybucket
<? xml version="1.0" encoding="UTF-8"? >
<LifecycleConfiguration>
  <Rule>
    <ID>1125</ID>
    <Prefix>log_backup/</Prefix>
    <Status>Enabled</Status>
    <Expiration>
      <Days>2</Days>
    </Expiration>
  </Rule>
</LifecycleConfiguration>
0.027(s) elapsed
```

- Delete lifecycle

```
python osscmd deletelifecycle oss://mybucket
0.139(s) elapsed
```

- Read lifecyle

```
python osscmd getlifecycle oss://mybucket
Error Headers:
[('content-length', '288'), ('server', 'AliyunOSS'), ('connection',
 'close'), ('x-oss-request-id', '54C74FEE5D7F6B24E5042630'), ('date
', 'Tue, 27 Jan 2015 08:44:30 GMT'), ('content-type', 'application/
xml')]
Error Body:
<? xml version="1.0" encoding="UTF-8"? >
<Error>
  <BucketName>mybucket</BucketName>
  <Code>NoSuchLifecycle</Code>
  <Message>No Row found in Lifecycle Table.</Message>
  <RequestId>54C74FEE5D7F6B24E5042630</RequestId>
  <HostId>mybucket.oss-maque-hz-a.alibaba.net</HostId>
</Error>
Error Status:
404
getlifecycle Failed!
```

Anti-leech settings

- Allow access of blank referer

```
$osscmd putreferer oss://test --allow_empty_referer=true
0.004(s) elapsed
```

- Get configured referer

```
$osscmd getreferer oss://test
<? xml version="1.0" encoding="UTF-8"? >
<RefererConfiguration>
  <AllowEmptyReferer>true</AllowEmptyReferer>
  <RefererList />
```

```
</RefererConfiguration>
```

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

```
$osscmd putreferer oss://test --allow_empty_referer=false --referer
='www.test.com'
0.092(s) elapsed
```

- Get configured referer

```
$osscmd getreferer oss://test
<? xml version="1.0" encoding="UTF-8"? >
<RefererConfiguration>
  <AllowEmptyReferer>false</AllowEmptyReferer>
  <RefererList>
    <Referer>www.test.com</Referer>
  </RefererList>
</RefererConfiguration>
```

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

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

- Get configured referer

```
$osscmd getreferer oss://test
<? xml version="1.0" encoding="UTF-8"? >
<RefererConfiguration>
  <AllowEmptyReferer>false</AllowEmptyReferer>
  <RefererList>
    <Referer>www.test.com</Referer>
    <Referer>www.test1.com</Referer>
  </RefererList>
</RefererConfiguration>
```

Use logging

- Set logging

```
$osscmd putlogging oss://mybucket oss://myloggingbucket/mb
```

- Get logging

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

6 ossprobe

Introduction

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

Version

Version: 1.0.0

Main features

- Checking whether the network environment is normal
- Checking whether basic parameters are correct
- Testing the upload and download speeds

Platforms

- Linux
- Windows
- Mac

Download software

- *windows64 ossprobe*
- *linux64 ossprobe*
- *mac ossprobe*

Detect download problems

- Usage

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

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

- Example

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

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

  To check whether download using specified parameters (AccessKeyID, AccessKeySecret, EndPoint, and BucketName) is normal, run the following commands:

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

  Note:

  - The file you downloaded is a binary executable program, and you must add the ossprobe executable permissions through `chmod +x ossprobe` in the Linux system.

- By default, the -t parameter indicates the path to a temporary file in the current directory (the file name format is ossfilestore20160315060101).
- If the -t parameter indicates a directory, a temporary file is generated in the directory to save data (the file name format is ossfilestore20160315060101).
- If a file is downloaded from a URL, the file is named after the last string following the forward slash "/" in the URL. For example, if the URL is `http://aliyun.com/a.jpg`, then the file is saved as a.jpg.

Detect upload problems

- Usage

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

- Example

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

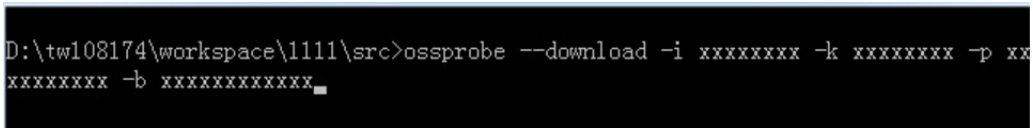
Method	Command
	`-b BucketName -o ObjectName -m multipart -s src`
Upload specified content in multipart mode and specify the object name	`ossprobe --upload -i AccessKeyId -k AccessKeySecret -p EndPoint -b BucketName -m multipart -s src -o example.txt`
Generate a temporary file, upload it in normal mode,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

Note:

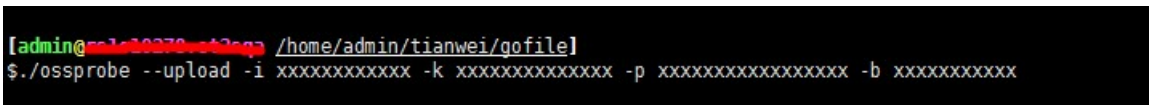
The name of a randomly generated file starts with ossuploadtmp.

Platform differences

- For Windows, press Win+R to bring up the “Run” dialog box, enter cmd, and press Enter. On the command-line interface (CLI), enter the path to the tool and enter related detection parameters to run the tool.



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



View report data

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

- Console display

  The console displays the following main information:

- After execution, the steps marked with × fail, whereas the steps not marked with × are successful.
- The result indicates whether the upload or download operation is successful. If the upload or download operation is successful, the console displays the file size and upload/download time.
- The “Suggested Change” column shows the error cause or change suggestions.
- If you are familiar with OSS error codes, you can perform troubleshooting based on the error message returned by OSS.
- The “Log Info” columns shows the log name and address, allowing you to find the log.

Note:

No change suggestions may be given when an error is detected. When this happens, perform troubleshooting based on the returned error code by referring to *OSS error code*.

- Log files

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

References

- *OSS error codes*
- *How to obtain a URL*

7 ossutil

7.1 Download and installation

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

Download the tool

- Current version

  Current version: 1.4.2

- Runtime environment
  - Windows/Linux/Mac
  - Supporting architecture
    - x86 (32bit, 64bit)
- Download the binary program
  - [Linux x86 32bit] *ossutil32*
  - [Linux x86 64bit] *ossutil64*
  - [Windows x86 32bit] *ossutil32.zip*
  - [Windows x86 64bit] *ossutil64.zip*
  - [mac x86 64bit] *ossutilmac64*
- Install and use the binary program

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

  - For a Linux system: `./ossutil`
  - For a Window system, either of the following two methods can be used (64-bit operating system as an example):
    - Decompress the package, double-click the bat file, and enter `ossutil64.exe`.
    - Decompress the package, run cmd to enter the directory where the binary program resides, and enter `ossutil64.exe`.

— For a MAC system: `./ossutilmac64`

Quick start

- Set ossutil language

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

  For example:

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

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

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

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

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

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

- Obtain the command list

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

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

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

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

- View the help document of a command

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

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

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

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

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

- Configure ossutil

  When using a command to access the OSS, configure the AccessKey pair first. For more information about the AccessKey pair, see *RAM and STS introduction*.

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

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

— Configure ossutil in interactive mode

`./ossutil config`

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

— Configure ossutil in non-interactive mode

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

7.2 Object-related commands

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

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

- Upload/Download/Copy a file

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

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

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

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

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

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

(1) Upload a single file:

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

(2) Upload a folder:

```
$./ossutil cp -r dir oss://ossutil-test
Succeed: Total num: 35, size: 464,606. OK num: 35(upload 34 files, 1
 directories).
0.896320(s) elapsed
```

- Performance tuning for uploading/downloading/copying a file

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

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

  Note:

  - We recommend that you adjust the concurrent operations to a value smaller than100 . If the network bandwidth, memory, and CPU are not fully occupied, you can set the concurrent operations to a bigger value.
  - If the number of concurrent operations is too large, the uploading/downloading/copying performance of ossutil may be reduced, or even an EOF error may occur due to inter-

thread resource switching and snatching. Therefore, adjust the values of `--jobs` and `--parallel` based on the actual machine conditions.

To perform pressure testing, set the two options to small values first, and slowly adjust them to the optimal values. If the values of the --jobs and --parallel options are too large, an EOF error may occur due to the slow network transfer speed if machine resources are limited. In this case, appropriately reduce the values of the --jobs and --parallel options.

- Configure the ACL of an object

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

  For more information, see ossutil help set-acl.

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

  Configure the ACLs of objects in batches:

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

- Configure the meta of an object

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

  For more information, see ossutil help set-meta.

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

- View the object description (meta)

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

  For more information, see ossutil help stat.

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

```
0.125417(s) elapsed
```

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

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

  For more information, see ossutil help restore.

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

- Create a symbolic link

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

  For more information, see ossutil help create-symlink.

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

- Read the description of a symbolic link file

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

  For more information, see ossutil help read-symlink.

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

7.3 Multipart-related commands

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

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

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

- List an UploadID

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

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

- Delete all UploadIDs of the specified object

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

  Assume that bucket1 contains the following objects:

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

  Delete the two UploadIDs of obj1:

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

  Delete the four UploadIDs of obj1 and obj2:

```
$./ossutil rm -m oss://bucket1/ob
Succeed: Total 4 uploadIds. Removed 4 uploadIds.
```

```
1.922915(s) elapsed
```

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

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