

Alibaba Cloud

Mount OSS as Local Filesystem Using OSSFS



01 Introduction

'OSSFS' is a plugin developed by Alibaba Cloud that allows the mounting of Alibaba Cloud OSS buckets on the Linux server and appear as a local file system. The aim of this document is to demonstrate the steps of mounting OSS as a local file system using OSSFS.

02 Download and Install OSSFS

- The first step involves downloading the latest OSSFS package. The link for downloading the package is: <https://github.com/aliyun/ossfs/releases>. You will need the package so that the target Linux server can identify where you want to mount the OSS bucket.
- Execute the following command for server running CentOS >=6.5:
`$ sudo yum localinstall your_ossfs_package`
- Execute the following commands for server running Ubuntu:
`$ sudo apt-get update`
`$ sudo apt-get install gdebi-core`
`$ sudo gdebi ossfs_1.79.9_ubuntu14.04_amd64.deb`

03 Connect and Mount OSS bucket

Once the installation process is complete, you will need to connect and then mount the OSS bucket. Below are the steps that you need to implement:

- Prepare the relevant information as below:
OSS Bucket name
Access Key ID
Access Key Secret
- Specify the bucket name, the AccessID and AccessKeySecret into a config file, following the format:
`$ echo bucket-name:AccessID:AccessSecret > /etc/passwd-ossfs`

For example, my bucket name is ken-oss-sg-1 in Singapore region:
`$ echo ken-oss-sg-1:8r2ISBw2kQ****:WgYSzhMmalozKcmc*** > ~/etc/passwd-ossfs`
`$ chmod 600 /etc/passwd-ossfs`
- Create a directory to mount the bucket
`$ mkdir /root/ossdir`
- Mount the bucket on to the target directory by appending the following to the /etc/fstab file (Please note the link in the URL parameter is the intranet endpoint in that region, and excludes the bucket name itself):
`ossfs#bucket-name mountpoint fuse _netdev,url=OSS_regional_intranet_url,allow_other 0 0`

For example, my bucket name is ken-oss-sg-1 in Singapore region:
`ossfs#ken-oss-sg-1 /root/ossdir fuse _netdev,url=http://oss-ap-southeast-1-internal.aliyuncs.com,allow_other 0 0`

Note: If the OSS bucket is mounted by an instance in Alibaba Cloud VPC, the URL has to be the VPC intranet endpoint: `ossfs#ken-oss-sg-1 /root/ossdir fuse _netdev,url=http://vpc100-oss-ap-southeast-1.aliyuncs.com,allow_other 0 0`

Region Name	Endpoint of the VPC Network
East China 1 (Hangzhou)	vpc100-oss-cn-hangzhou.aliyuncs.com
East China 2 (Shanghai)	vpc100-oss-cn-shanghai.aliyuncs.com
North China 1 (Qingdao)	vpc100-oss-cn-qingdao.aliyuncs.com
North China 2 (Beijing)	vpc100-oss-cn-beijing.aliyuncs.com
South China 1 (Shenzhen)	vpc100-oss-cn-shenzhen.aliyuncs.com
Hong Kong	oss-cn-hongkong-internal.aliyuncs.com
US West (Silicon Valley)	vpc100-oss-us-west-1.aliyuncs.com
US East (Virginia)	oss-us-east-1-internal.aliyuncs.com
Singapore	vpc100-oss-ap-southeast-1.aliyuncs.com

Note: To specify a specific user and group for the folder, first identify the uid and gid of that user:

```
$ id www-data
uid=33(www-data) gid=33(www-data) groups=33(www-data)
```

Then in the /etc/fstab file:

```
ossfs#ken-intl-oss-hk-1 /root/ossdir fuse _netdev,url=http://vpc100-oss-ap-southeast-1.aliyuncs.com,uid=33,gid=33,umask=022,allow_other 0 0
```

- Execute the mount command:
\$ mount -a
- We can start using the mount point as local file system
\$ ls -l ossdir
\$ cp temp.txt ossdir
\$...

/etc/fstab

```
ossfs#ken-surbana-oss-sg-1 /var/www/html/wp-content fuse _netdev,url=http://vpc100-oss-ap-southeast-1.aliyuncs.com,allow_other 0 0
```

```
ossfs# ken-test-singapore /root/share_nas fuse _netdev,url=http://oss-ap-southeast-1-internal.aliyuncs.com,allow_other 0 0
```

>> chkconfig netfs on

```
ossfs#your_bucket your_mount_point fuse _netdev,url=your_endpoint,uid=your_apache_user_id,gid=your_apache_group_id,umask=007,allow_other 0 0
```

Write

```
dd if=/dev/zero of=./localdir/
dd if=/dev/zero of=./ossdir/big_file bs=512M count=1 conv=fsync
```

```
dd if=/dev/zero of=./localdir/small_file bs=54 count=1000 conv=fsync  
dd if=/dev/zero of=./osssdir/small_file bs=54 count=1000 conv=fsync
```

Read

```
sh -c "sync && echo 3 > /proc/sys/vm/drop_caches"
```

```
dd if=./largefile of=/dev/null bs=4k
```

04 Conclusion

One can mount OSS using OSSFS by downloading the OSSFS package and connecting the OSS bucket.



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