

# SSHFS Unix Storage Access

SSHFS allows you mount remote SLAC Unix storage onto your local desktop or laptop. You can use SSHFS from anywhere (eg, home or remote network).

Authentication is done using your SLAC Unix username and password.

SSHFS uses the SFTP protocol and SSH authentication. See <https://github.com/libfuse/sshfs> for more information. Whilst it is fine for general access, it is not recommended for large data transfers or big files.

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You can use sshfs on Mac and Linux operating systems.

## Installation

### CentOS 7

```
sudo yum install sshfs
```

this will install the fuse-sshfs RPM which comes from the EPEL software repository (Extra Packages for Enterprise Linux). The fuse-sshfs dependencies, fuse and fuse-libs, come from the CentOS base software repository.

### Mac OS

You will need to first install [FUSE for macOS](#). There is also a link for sshfs on the same webpage.

## Usage

Generally, you define the remote server that has access to the filesystem that you are interested in, and 'mount' that to a local directory on your local desktop or laptop:

```
# Example: mount all SLAC NFS on your desktop/laptop

mkdir -p ~/sshfs/nfs
sshfs $USER@dt01.slac.stanford.edu:/nfs ~/sshfs/nfs

# Example: mount all SLAC AFS on your desktop/laptop

mkdir -p ~/sshfs/afs/slac
sshfs $USER@dt01.slac.stanford.edu:/afs/slac.stanford.edu ~/sshfs/afs/slac
```

Make sure \$USER is your SLAC Unix username. If your local desktop or laptop username is different, replace \$USER with your SLAC Unix username.

Then on your local desktop/laptop, you should be able to see your remote files on as if it's on your local filesystem.

```
cd ~/sshfs/nfs/slac
cd ~/sshfs/nfs/farm
cd ~/sshfs/afs/slac
```

To unmount when you are finished:

```
cd                                     # move outside the mount point
/bin/fusermount -u ~/sshfs/nfs        # CentOS 7
/sbin/umount ~/sshfs/nfs              # MacOS

cd                                     # move outside the mount point
/bin/fusermount -u ~/sshfs/afs/slac   # CentOS 7
/sbin/umount ~/sshfs/afs/slac         # MacOS
```

#### Additional Notes:

- For RHEL 6 and CentOS 6, you may need to add your username to the local fuse group in the /etc/group file, or else use sudo with the sshfs and fusermount commands.
- If you use SSHFS to mount remote SLAC AFS space, be aware that the AFS token you get during authentication lasts for 25 hours.

## See also

<https://confluence.slac.stanford.edu/display/SCSPub/Samba+Unix+Storage+Access>

<https://mountainduck.io/>

<https://cyberduck.io/>