SCP and SFTP

Secure Copy Protocol (SCP) and Secure FTP (SFTP) are two utilities for transferring files between remote systems and the NCAR systems that CISL manages.

They are best suited for transferring small numbers of small files (for example, fewer than 1,000 files totaling less than 200 MB). For larger-scale transfers, we recommend using Globus.

You can make SCP and SFTP transfers between the GLADE storage system and a remote machine if the remote machine accepts incoming SSH sessions. If it doesn't, the transfer will hang or you will receive a message such as "connection refused," depending on the system's firewall settings.

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To make SCP and SFTP transfers from your GLADE file space to a remote system, log in to **data-access.ucar.edu** and execute the commands shown below.

Use SCP if you need to transfer a single file or if you want to transfer multiple files with a single command by using a wildcard or recursive option.

SCP example

To transfer multiple files with similar names or extensions, follow this example, in which **supersystem.univ.edu** is a fictitious remote system.

```
scp /glade/u/home/pparker/mydata/*.dat pparker@supersystem.univ.edu:/home/pparker
```

SFTP example

If you need to transfer many files from multiple directories to a remote machine, doing so in an SFTP session is likely to be more efficient for you than SCP.

Log in to **data-access.ucar.edu**, then start your transfer session with the **sftp** command followed by your login information for the remote system.

```
sftp pparker@supersystem.univ.edu
```

You will be asked to authenticate at this point.

Then, within the session, you can change between directories as needed and execute **put** commands to copy files to the remote machine. Use **lcd** to change local directories, and use **cd** to change directories on the remote system, as shown in this example.

```
sftp> lcd /glade/u/home/pparker/mydata
sftp> put filename1
sftp> lcd /glade/scratch/pparker
sftp> cd /home/mydata
sftp> put filename2
sftp> quit
```

You can also transfer files from batch jobs running on an NCAR machine.

To an NCAR system

To transfer files from a remote system to your GLADE file space, log in to the remote system and reverse the procedures shown above.

For example:

```
scp /remotedir/*.dat pparker@data-access.ucar.edu:/glade/u/home/pparker/mydata
```

You will be asked to authenticate for each individual SCP command that you execute to transfer files to the NCAR system.