

0.1 File Upload / Download

0.1.1 scp

https://en.wikipedia.org/wiki/Secure_copy

<https://linuxacademy.com/blog/linux/ssh-and-scp-howto-tips-tricks/>

Upload to the Host (Cluster)

```
scp SourceFile user@host:directory/TargetFile
```

E.g. upload the file `test.R` from the folder `Documents` to cluster into the folder `exercises`.

```
scp test.R hpc_user_001@clusterwu.wu.ac.at:~/exercises/test.R
```

Download from the Host (Cluster)

```
scp user@host:directory/SourceFile TargetFile
```

E.g. download the file `test.R` from the folder `examples` to your local home directory.

```
scp hpc_user_001@clusterwu.wu.ac.at:~/test.R ~/test.R
```

NOTE: `~/` is a shortcut to your home folder, you can try it out by typing `cd ~/exerc` into the terminal, then press TAB and you will see `cd ~/exerc` expands to the full path (e.g. `cd /gpfs/home/home/hpc_user_001/exercises/`).

0.1.2 rsync

<https://download.samba.org/pub/rsync/rsync.html>

<https://en.wikipedia.org/wiki/Rsync>

<http://linux.die.net/man/1/rsync>

`rsync` can be used to synchronize files and folders from different locations. It is very powerful and allows the user to set many different options.

Upload to the Host (Cluster)

The following command synchronizes the local folder `~/HPC` with the cluster folder `/gpfs/home/home/hpc_user_001/HPC`. Changes in the local folder `~/HPC` are promoted to the cluster folder `/gpfs/home/home/hpc_user_001/HPC`. Thereby the time of change plays an important role, cluster files older as their local counterpart are replaced with the new version, the others are left unchanged.

Changes in the cluster folder `/gpfs/home/home/hpc_user_001/HPC` are not promoted to the local folder `~/HPC`.

```
rsync --progress -avuz -e ssh ~/HPC hpc_user_001@cluster.wu.ac.at:~/
```

Download from the Host (Cluster)

The following command synchronizes the cluster folder `/gpfs/home/home/hpc_user_001/HPC` with the local folder `~/HPC`. Changes in the cluster folder `/gpfs/home/home/hpc_user_001/HPC` are promoted to the local folder `~/HPC`. If the local file is newer than the cluster file, the local file is left unchanged. Changes in the local folder `~/HPC` are not promoted to the cluster.

```
rsync --progress -avuz -e ssh hpc_user_001@clusterwu.wu.ac.at:~/HPC ~/
```

0.2 Mount Folder

<https://en.wikipedia.org/wiki/SSHFS>

SSHFS can be used to mount folders on the cluster locally.

First you have to create an empty folder where you want to mount the cluster folder (e.g. `~/mount/cluster`).

Afterwards the following command can be used to mount your home folder from the cluster in the local directory `~/mount/cluster`.

```
sshfs hpc_user_001@clusterwu.wu.ac.at:/gpfs/home/home/hpc_user_001 ~/mount/cluster
```

NOTE: If you mount your home folder, you will see many files like `.bashrc`, `.profile`, ... **DO NOT DELETE THESE FILES** these are hidden system files and necessary for your account to work correctly.