Transferring files

We don't have a dedicated data transfer node. The login node should be used to transfer data in and out of the cluster.

You can use standard linux commands, like sftp, scp or rsync.

If you are off-campus, connect using the VPN first

Examples:

If you have Mac or Linux:

**SCP**:

For simple copies you could use the linux command scp (see >$ man scp for more information)

- To copy a file from your local system to the cluster use this command:

```bash
mylaptop>$ scp MyLocalFile myusername@hpc64.brandeis.edu:/home/myusername/SomeDestinationFolder
```

- If you want to copy a full folder and the content in it, you should use the option -r

```bash
mylaptop>$ scp -r MyLocalFolder myusername@hpc64.brandeis.edu:/home/myusername/SomeDestinationFolder
```

- Vice versa, from the cluster to my local system:

```bash
mylaptop>$ scp myusername@hpc64.brandeis.edu:/home/myusername/SomeOriginFolder/MyClusterFile /Users/myLaptopUsername/SomeDestinationFolder
```

- or similarly, for folders

```bash
mylaptop>$ scp -r myusername@hpc64.brandeis.edu:/home/myusername/SomeOriginFolder/MyClusterFolder /Users/myLaptopUsername/SomeDestinationFolder
```

**RSYNC**: 
Insert RSYNC content here.
rsync is a very useful tool, with syntax similar to scp, but that will allow you to keep synchronized local and remote copies of your files, transferring only the files and folders that have been modified since the last transfer:

For example, to transfer a folder from the cluster to a folder on your laptop, you can use this command:

```
mylaptop> $ rsync -auv
myusername@hpc64.brandeis.edu:/home/myusername/SomeOriginFolder/MyClusterFolder/Users/myLaptopUsername/SomeDestinationFolder
```

Please consult the man page, or use `rsync -h` for more options.

**Other options:**

You can use a graphical SFTP client.

Many SFTP packages exist. For example you can try https://filezilla-project.org.

This tool will present to you a window with two vertically split panes, showing your local folders and the remote folders, allowing you to copy/paste, or drag and drop files and folders from one side to the other.

**If you have a Windows computer:**

You can use any sftp or scp client for Windows, like for example FileZilla, https://filezilla-project.org, or winSCP https://winscp.net/eng/download.php. These tools will present to you a window with two vertically split panes, showing your local folders and the remote folders, allowing you to copy/paste, or drag and drop files and folders from one side to the other.

**NOTE:** If you are already using MobaXterm (http://mobaxterm.mobatek.net) for your ssh connection, than you don't need to install any additional software. You can open a SFTP session directly in MobaXterm.