

Useful details: `ssh` and `sftp`

ssh - secure shell - how to connect to nrs-projects

`ssh` (secure shell) is used to connect to computers across a network. It allows you to log onto a remote Unix computer and use it from wherever you are on the Internet.

...from Windows

HSU's campus labs (including `vlab.humboldt.edu`) include a "graphical" implementations of `ssh` called PuTTY.

For PuTTY, use `nrs-projects.humboldt.edu` as the host, and use your campus username, and your campus password. Some of these `ssh` programs may also want a port number -- if so, use a port number of 22.

Once you see the prompt:

```
[your_hsu_username@nrs-projects ~]$
```

...you are now logged into `nrs-projects`, and can type Unix commands at this prompt. (Type the enter key to end a Unix command, and note that Unix is case-sensitive.)

It is good practice to logout (type the command `logout` or type the `ctrl` and `d` keys at the same time) when you are done.

...from Mac OS X or Linux (or Windows 10 running bash?)

There are graphical `ssh` clients for these, too, but I tend to just use their command-line versions (which should already be installed on your computer).

For the command-line version already installed in Mac OS X, you'll want to open a terminal using the Terminal application (under Applications -> Utilities); if you use Linux, you probably already know how to open a terminal window under whatever version you are running.

Once you have a terminal window open, just type:

```
ssh your_hsu_username@nrs-projects.humboldt.edu
```

substituting your HSU username where indicated. Answer `y` for yes to agree if it asks you if its really okay to proceed, and type in your HSU campus password when indicated. (NOTE: your password will not show on the screen when you type it, for security reasons! It IS still being read in.)

Once you see the prompt:

```
[your_hsu_username@nrs-projects ~]$
```

...you are now logged into `nrs-projects`, and can type Unix commands at this prompt. (Type the enter key to end a Unix command, and note that Unix is case-sensitive.)

It is good practice to logout (type the command `logout` or type the `ctrl` and `d` keys at the same time)

when you are done.

sftp - secure file transfer program - how to transfer files to and from nrs-projects

`sftp` (secure file transfer program) is used to transfer files between computers across a network. It allows you to connect to a remote computer and transfer files between it and the computer you connect to from wherever you are on the Internet.

You can use this to save backup copies of your `nrs-projects` files onto your own computer.

And -- if you prefer to type your `bash` scripts on your own computer -- you can use this to transfer those scripts to `nrs-projects` to execute them there if you'd like.

...from Windows

WinSCP, installed in HSU campus labs, is a "graphical" implementations of `sftp`.

And, there is an open source version, FileZilla, which has versions for Windows and Mac OS X, available from:

<https://filezilla-project.org/>

For any of these choices of software, use `nrs-projects.humboldt.edu` as the host, and use your campus username, and your campus password. If WinSCP or FileZilla require a port number, enter a port number of 22.

Once you have connected, you can drag files from the left side to the right side to move files from your computer to `nrs-projects`, and from the right side to the left side to move files from `nrs-projects` to your computer.

...from Mac OS X or Linux (or Windows 10 running bash?)

There are graphical `sftp` clients for these, too -- for example, FileZilla, which has versions for Windows and Mac OS X, is available from:

<https://filezilla-project.org/>

-- but I tend to just use their command-line versions (which should already be installed on your computer).

For the command-line approach, on Mac OS X, you'll want to open a terminal using the Terminal application (under Applications -> Utilities); if you use Linux, you probably already know how to open a terminal window under whatever version you are running.

Once you have a terminal window open, life is easier if you go to the directory (using the `cd` command) where the files are that you want to transfer. Then, type:

```
sftp your_hsu_username@nrs-projects.humboldt.edu
```

substituting your HSU username where indicated. Answer `y` for yes to agree if it asks you if its really okay to proceed, and type in your HSU campus password when indicated. (NOTE: your password will

not show on the screen when you type it, for security reasons! It IS still being read in.)

Once you see the prompt:

```
sftp>
```

...you are now connected to nrs-projects using `sftp`, and can type `sftp` commands at this prompt. (Type the enter key to end an `sftp` command, and note that Unix is case-sensitive.)

Here are a few very useful `sftp` commands:

<code>cd <i>directory_name</i></code>	change to directory <i>directory_name</i> on nrs-projects
<code>lcd <i>directory_name</i></code>	(local <code>cd</code>) change to directory <i>directory_name</i> on your (local) computer
<code>pwd</code>	see the name of the current directory on nrs-projects
<code>lpwd</code>	(local <code>pwd</code>) see the name of the current directory on your (local) computer
<code>ls</code>	list the files in the current directory on nrs-projects
<code>lls</code>	(local <code>ls</code>) list the files in the current directory on your (local) computer
<code>put <i>file_name</i></code>	transfer a copy of the file <i>file_name</i> from your computer to nrs-projects
<code>get <i>file_name</i></code>	transfer a copy of the file <i>file_name</i> from nrs-projects to your computer
<code>?</code>	gives a list of <code>sftp</code> commands, each with a 1-line description
<code>quit</code>	exit <code>sftp</code>

It is good practice to quit (type the command `quit` or type the `ctrl` and `d` keys at the same time) when you are done.