

## CS 235 - useful details

The purpose of this handout is to summarize several details you will need for this course:

1. **ssh** - how to connect to nrs-projects
2. **sftp** - how to transfer files to and from nrs-projects
3. **~st10/235submit** - how to submit course assignments

### 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 Windows labs include a "graphical" implementation of ssh called **PuTTY**. (This should be free software that you can download as well.)

Use `nrs-projects.humboldt.edu` as the host, and use your campus username, and your campus password. The port number should be pre-set as 22, which indeed is the value you need to use.

**Important note:** in the world of UNIX/Linux on the command line, for security reasons, when you type in your password, NOTHING is shown, not even bullets or asterisks! BUT it is still reading the password you enter. (You DO still need to type the enter/return key after typing in your password).

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*

There are graphical ssh/sftp 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.

**Important note:** in the world of UNIX/Linux on the command line, for security reasons, when you type in your password, NOTHING is shown, not even bullets or asterisks! BUT it is still reading the password you enter. (You DO still need to type the enter/return key after typing in your password).

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.

Note that **FileZilla** is a free graphical implementation of `sftp` that has versions for Windows, Mac OS X, and Linux -- it is available from:

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

Using it should be relatively similar to using the Windows program **WinSCP** (described below), except you may have to enter the port number, for which you should enter **22**.

### *...from Windows*

HSU's Windows labs include a "graphical" implementation of `ssh` called **WinSCP**. (This should be free software that you can download as well.)

Use `nrs-projects.humboldt.edu` as the host, and use your campus username, and your campus password. The port number should be pre-set as 22, which indeed is the value you need to use.

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*

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

For 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.

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> <b>on nrs-projects</b>
<code>lcd <i>directory_name</i></code>	change to directory <i>directory_name</i> <b>on your (local) computer</b>
<code>pwd</code>	see the name of the current directory <b>on nrs-projects</b>
<code>lpwd</code>	see the name of the current directory <b>on your (local) computer</b>
<code>put <i>file_name</i></code>	transfer a copy of the file <i>file_name</i> <u>from <b>your</b></u> computer <u>to</u> nrs-projects
<code>get <i>file_name</i></code>	transfer a copy of the file <i>file_name</i> <u>from</u> nrs-projects <u>to <b>your</b></u> computer
<code>ls</code>	list the files in the current directory <b>on nrs-projects</b>
<code>lls</code>	list the files in the current directory <b>on your (local) computer</b>
<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.

## ~st10/235submit - how to submit course assignments

`~st10/235submit` is a small program (a Perl script) in my directory on nrs-projects that I wrote for students to use to submit homework files.

Whether you are using Windows, Mac OS X, or Linux:

1. FIRST, you need to transfer the files you wish to submit to nrs-projects. You will need to use `sftp` to do so (as discussed above).

It will be easier in the long run if you put them in their own directory on nrs-projects, but in a pinch your home directory will do.

It will also be easier if you **avoid** using blanks in file and directory/folder names -- you'll have to quote such names in Unix commands otherwise.

2. Now, you need to use `ssh` to log onto `nrs-projects` (as discussed above).
3. Use the `cd` command to change to the directory where your files are -- for example, if those files are in your `nrs-projects` directory/folder `this-homework`, then:

```
cd this-homework
```

...will change to that directory. The command `pwd` will tell you the name of the present directory, if you have forgotten, and `cd` all by itself will take you back to your main, home directory.

4. Make sure that your files are in this directory -- `ls` will list all of the files in your current directory.
5. Now that you are in the directory where the files to submit, are, type:

```
~st10/235submit
```

...to run the submission program. Give the homework number when asked (in lab, I'll try to remember to tell you what number to use), and when asked if you want to submit all of the appropriate-type files in the current directory, answer `y` for yes.

**Make sure** that you see the files you hoped to submit listed as having been submitted; don't worry if others were submitted, also, as long as the ones you wanted to submit made it.

6. A copy of what you submitted is stored in a directory named `submitted` in your current directory. Keep this copy until this work's grade is posted on Moodle.

And, remember to `logout` of your `ssh` session when you are done.