

CS 131 - 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-labs
2. **sftp** - how to transfer files to and from nrs-labs
3. **~st10/131submit** - how to submit course assignments

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

`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

You'll probably want to use the graphical version of `ssh` (and `sftp`) installed in BSS 313 and available for download from:

<https://experts.humboldt.edu/ditss/download/>

or

<http://www.humboldt.edu/its/software>

or

http://www.colorado.edu/its/docs/authenticate/printouts/win_ssh.html

To use it to connect to the host `nrs-labs.humboldt.edu`, see the illustrated tutorial included at the third link above -- it shows how quite nicely. Use `nrs-labs.humboldt.edu` as the host, your campus username, and your campus password.

Once you see the prompt:

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

...you are now logged into nrs-labs, 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.

Note: from an Academic Computing lab on campus, look for Putty -- this software includes the `ssh` protocol, and you can use it to connect to nrs-labs, too.

...from Mac OS X or Linux

There are likely 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 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-labs.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:

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

...you are now logged into nrs-labs, 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-labs

`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.

...from Windows

You'll probably want to use the graphical version of `sftp` (and `ssh`) installed in campus labs and available for download from:

<https://experts.humboldt.edu/ditss/download/>

or

<http://www.humboldt.edu/its/software>

or

http://www.colorado.edu/its/docs/authenticate/printouts/win_ssh.html

To use it to connect to the host `nrs-labs.humboldt.edu`, see the illustrated tutorial included at the third link above -- it shows how quite nicely. Use `nrs-labs.humboldt.edu` as the host, your campus username, and your campus password.

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

Note that the little icon that looks like a tiny computer screen on one of the toolbars will open up an `ssh` window and log you into nrs-labs if you double-click it while connected to nrs-labs.

...from Mac OS X or Linux

There are likely graphical `sftp/ssh` clients for these, too, 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-labs.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-labs 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 directory_name</code>	change to directory <i>directory_name</i> on nrs-labs
<code>lcd directory_name</code>	change to directory <i>directory_name</i> on your (local) computer
<code>pwd</code>	see the name of the current directory on nrs-labs
<code>lpwd</code>	see the name of the current directory on your (local) computer
<code>put file_name</code>	transfer a copy of the file <i>file_name</i> <u>from your</u> computer <u>to</u> nrs-labs
<code>get file_name</code>	transfer a copy of the file <i>file_name</i> <u>from</u> nrs-labs <u>to your</u> computer
<code>?</code>	gives a list of sftp commands, each with a 1-line description
<code>quit</code>	exit sftp

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.

~st10/131submit - how to submit course assignments

`~st10/131submit` is a small program (a Perl script) in my directory on nrs-labs 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-labs. From a campus lab, you can copy them to the U: drive; from elsewhere, 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-labs, 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-labs (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-labs` 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:

```
~st10/131submit
```

...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.