
CSE 391

Editing and Moving Files

Tips for moving files around to/from attu

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<http://www.cs.washington.edu/391>

Remote Connections: **to a linux machine**

- You've seen remote connections **to a Linux machine** in action
 - *Departmental attu.cs.washington.edu Linux server*
 - Can use **ssh** (or **PuTTY**) from anywhere – independent of location *and OS*

Connecting with ssh

command	description
ssh	open a shell on a remote server

- Linux/Unix are built to be used in multi-user environments where several users are logged in to the same machine at the same time
 - users can be logged in either locally or via the network
- You can connect to other Linux/Unix servers with ssh
 - once connected, you can run commands on the remote server
 - other users might also be connected; you can interact with them
 - can connect even from other operating systems

The attu server

- attu : The UW CSE department's shared Linux server
- connect to attu by typing:
`ssh attu.cs.washington.edu`

(or `ssh username@attu.cs.washington.edu` if your Linux system's user name is different than your CSE user name)
- Note: There are several computers that respond as attu (to spread load), so if you want to be on the same machine as your friend, you may need to connect to attu2, attu3, etc.

Options for Moving Files

command	description
sftp or scp	transfer files to/from a remote server (after starting sftp, use get and put commands)
wget	download from a URL to a file
curl	download from a URL and output to console

scp – secure copy

- Basic format:

```
scp copyThisFileOrDir newLocation
```

- To copy myfile from here to my home dir on attu, and call it newfile:

```
scp myfile rea@attu.cs.washington.edu:newfile
```

- To copy myfile from my home dir on attu to here:

```
scp rea@attu.cs.washington.edu:myfile .
```

- To copy the contents of mydir from here to my home dir on attu:

```
scp -r mydir rea@attu.cs.washington.edu:
```

More info: <http://linux.die.net/man/1/scp>

sftp – secure file transfer program

- Basic format:

```
sftp [user@]hostname
```

- (e.g. `sftp rea@attu.cs.washington.edu`)

- The basic usage is as if you have transported yourself to a directory on the machine you are sftping to and then you use the **get** command to move files from the remote directory to your local directory. You use **put** to move files from your local directory to the remote directory. Other than get or put there are various commands to move around on both the local and the remote directory and see the contents of both directories (`cd` and `lcd`, `ls` and `lls`).

More info: <http://linux.die.net/man/1/sftp>

sftp vs. scp

- sftp is nice if you don't remember exactly where you want to put/get a file to/from on the remote machine. sftp allows you to move around between directories on both machines. It also only asks you for your password when you start sftp, not on each transfer.
- If you just want to move a single file or directory (use scp -r) and you know where you want to put it/where it is, then scp is easier as you just type one command.
- If you need to look around in remote directories to find the file you are looking for or even how many files or what the name of the file you are looking for, then sftp is useful.
- There are also graphical versions of sftp that basically operate as a drag and drop folder interface - you may have already used these.

Mounting remote files

command	description
sshfs	mount and interact with remote directories and files

- An alternate usage model to remotely connecting to servers is mounting remote directories and files and work on them locally
 - once mounted, use remote directories and files as if they were local
- To mount a remote directory
 - create a local directory to mount to
`mkdir csehomedir`
 - mount your remote files on your local system

```
sshfs username@attu.cs.washington.edu:/homes/iws/username csehomedir/
```

Text editors

command	description
<code>pico</code> or <code>nano</code>	simple but crappy text editors (recommended)
<code>emacs</code>	complicated text editor
<code>vi</code> or <code>vim</code>	complicated text editor

- you cannot run graphical programs when connected to `attu` (yet)
 - so if you want to edit documents, you need to use a text-only editor
- most advanced Unix/Linux users learn `emacs` or `vi`
 - these editors are powerful but complicated and hard to learn
 - we recommend the simpler `nano` (hotkeys are shown on screen)

Remote editing

- Gnome's file browser and gedit text editor are capable of opening files on a remote server and editing them from your computer
 - press Ctrl-L to type in a network location to open

