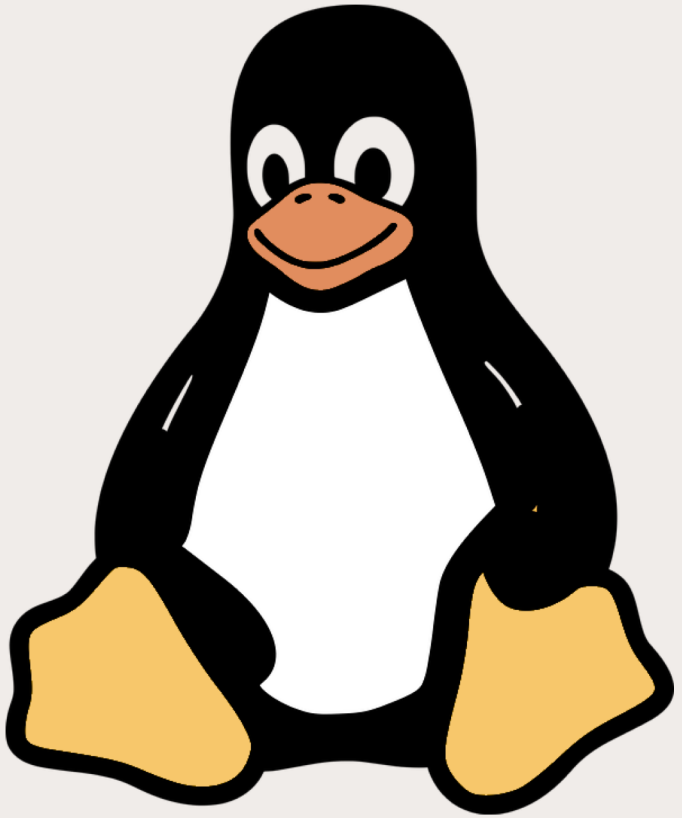
Using the Linux Servers

Code Camp Week 3

What are they?

- The Linux servers are a bunch of machines that are running the Linux operating system
- They have software that is useful and necessary for UCLA computer science courses
- Professors test student code using these servers
  - ***Make sure to test your code before submitting***



Software Used

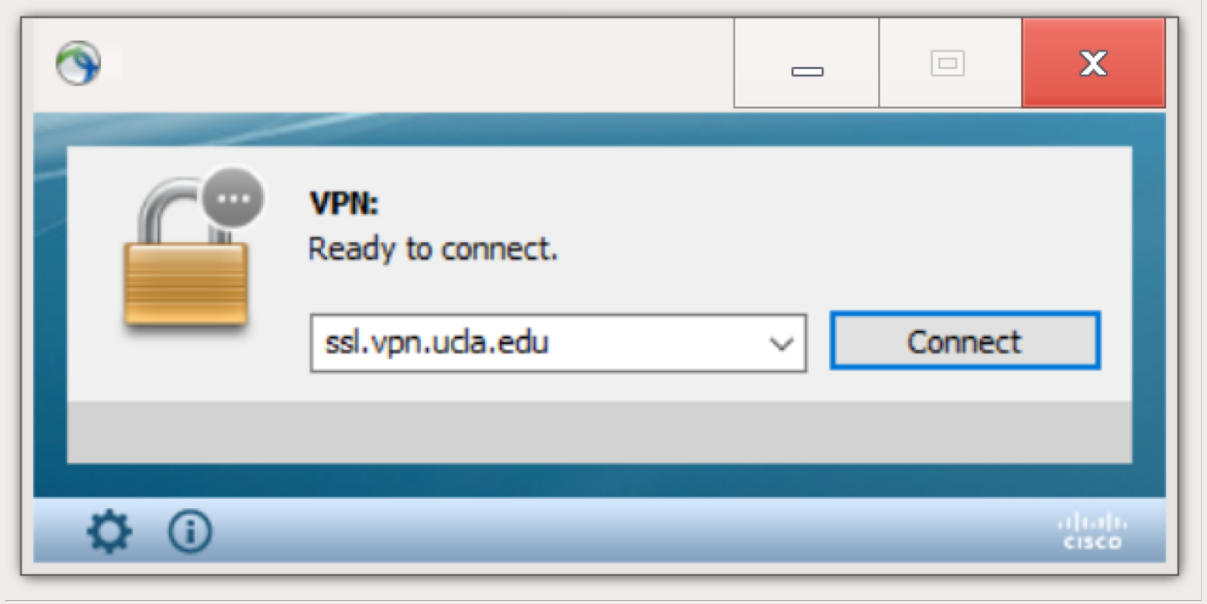
On Windows

- Cisco AnyConnect
  - Used to login to VPN
- Need to download Putty
  - Used to login to the server
- Optional download: WinSCP
  - Used to transfer files to/from the server

On Mac

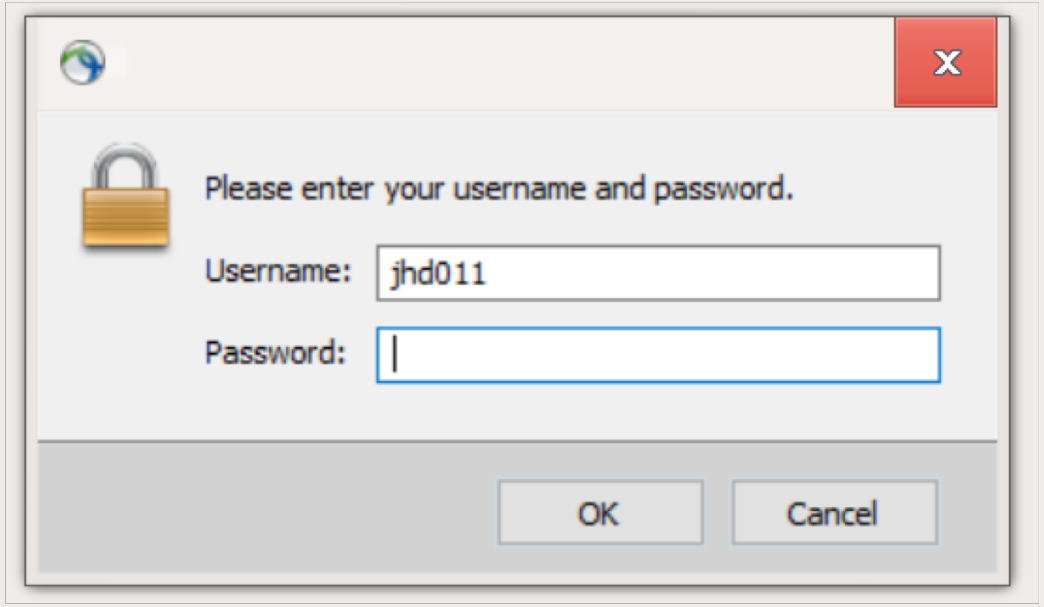
- Cisco AnyConnect
  - Used to login to VPN
- Use the Terminal app to login to the server

Connecting to the VPN



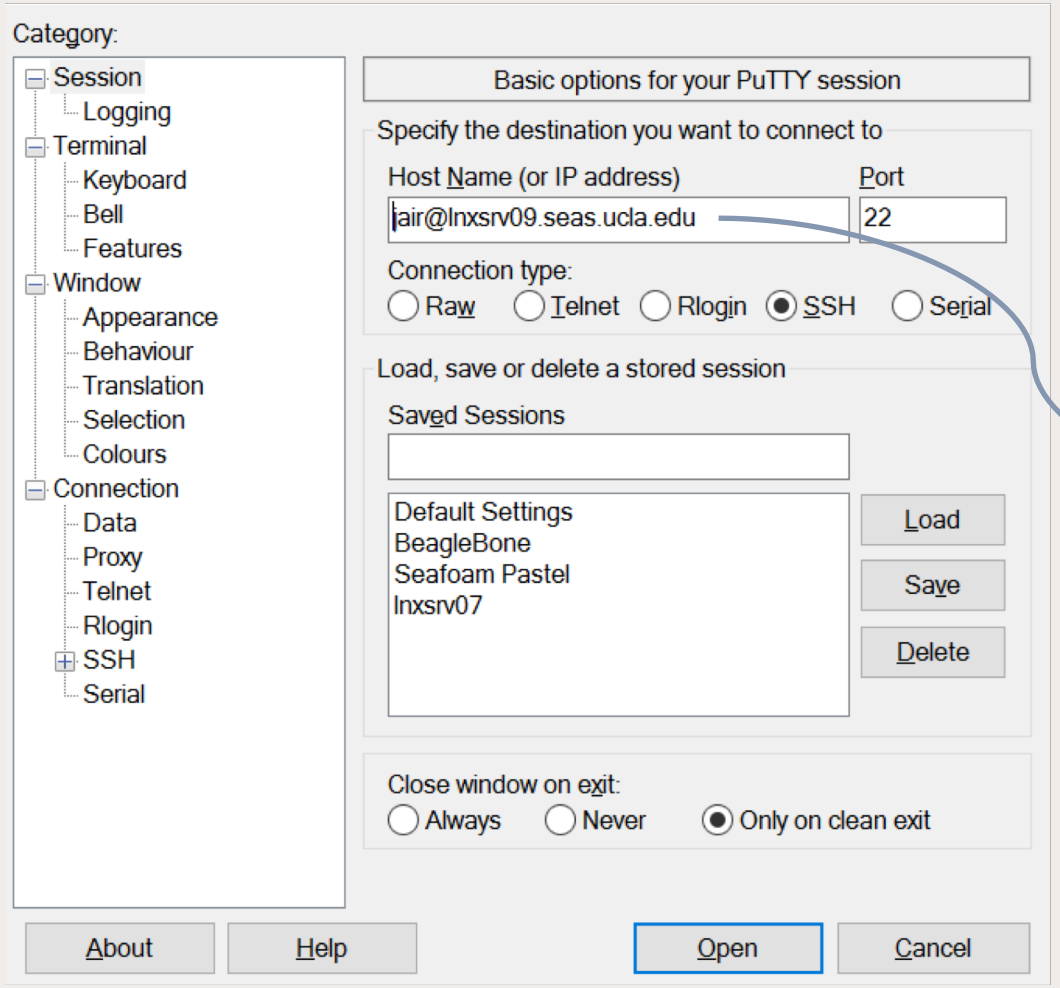
- Once installed, open the Cisco AnyConnect application
- The start screen should look like this
- Type ‘ssl.vpn.ucla.edu’ into the text box
- Press enter

Connecting to the VPN



- Sign-in using myUCLA credentials
- This is going to send a multi-factor authentication alert so approve that
- Once you sign-in you should be connected to the VPN

Signing In: Windows



SEASnet username

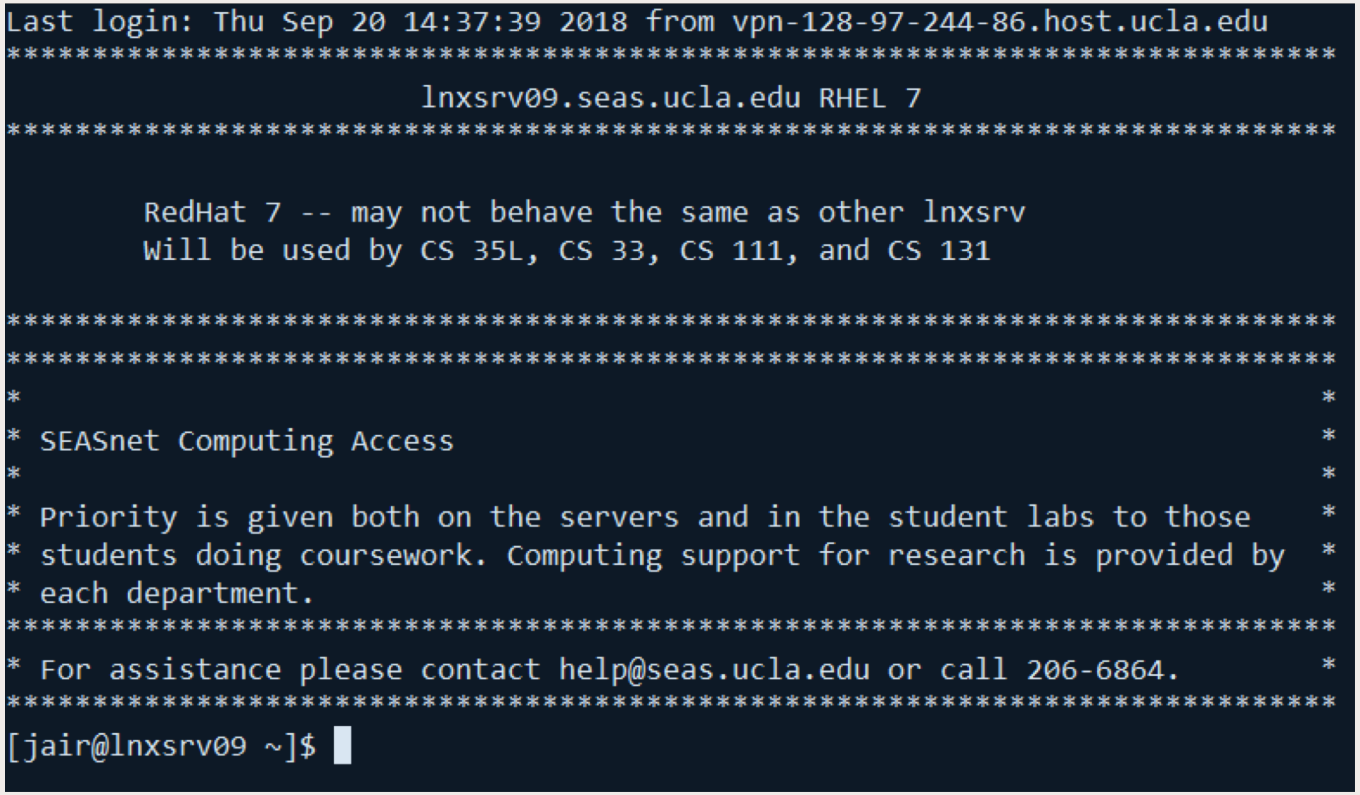
jair@lnxsrv09.seas.ucla.edu

Name of the server

Signing In: Windows

- Type in your SEASnet password
- If no characters appear, don’t worry, that is normal
- Hit enter when you are done

Signing In: Windows



If you see a page similar to this, you are done!

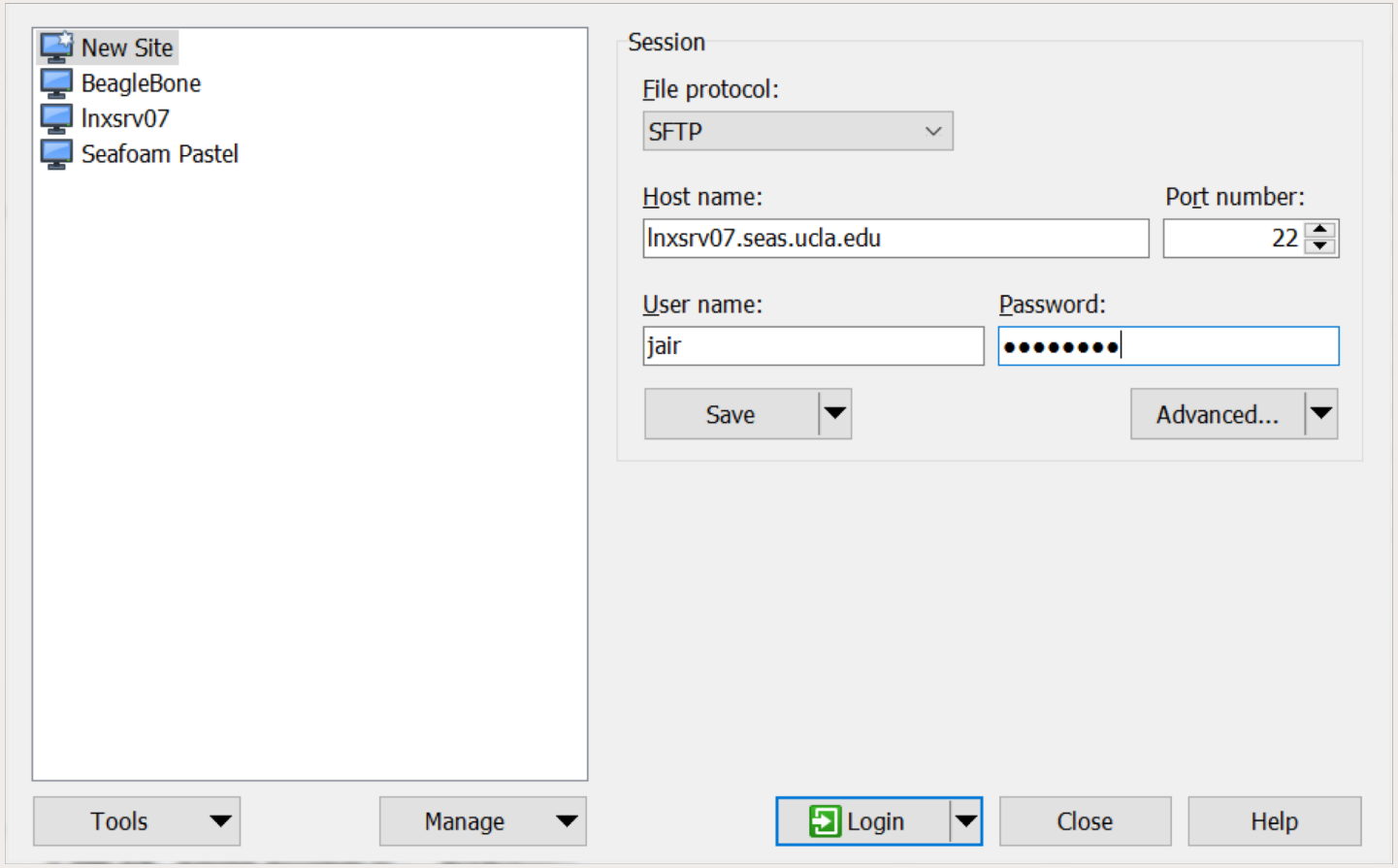
Signing In: MacOS

- Type in your SEASnet password
- If no characters appear, don’t worry, that is normal
- Hit enter when you are done

Signing In: MacOS

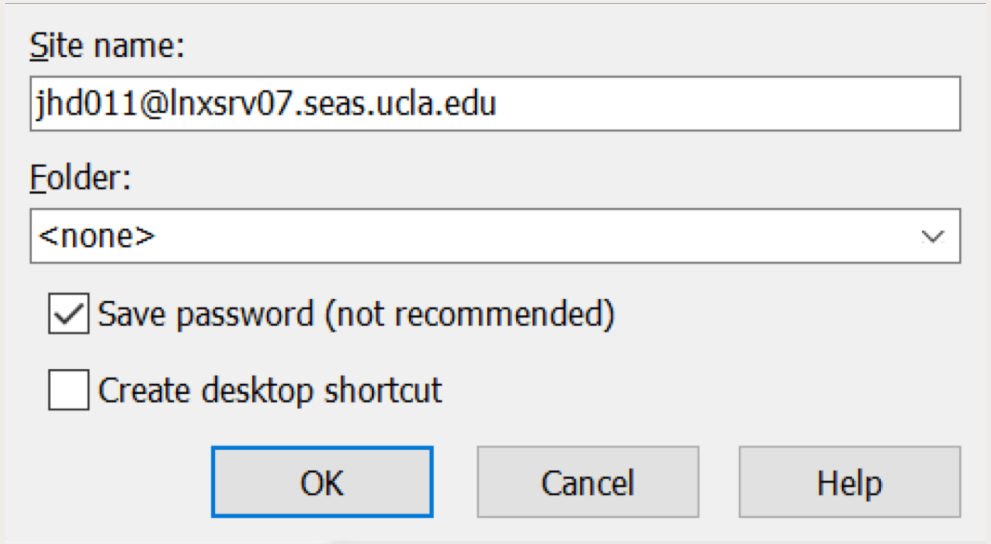
If you see a page similar to this, you are done!

Getting Files on the Server: Windows



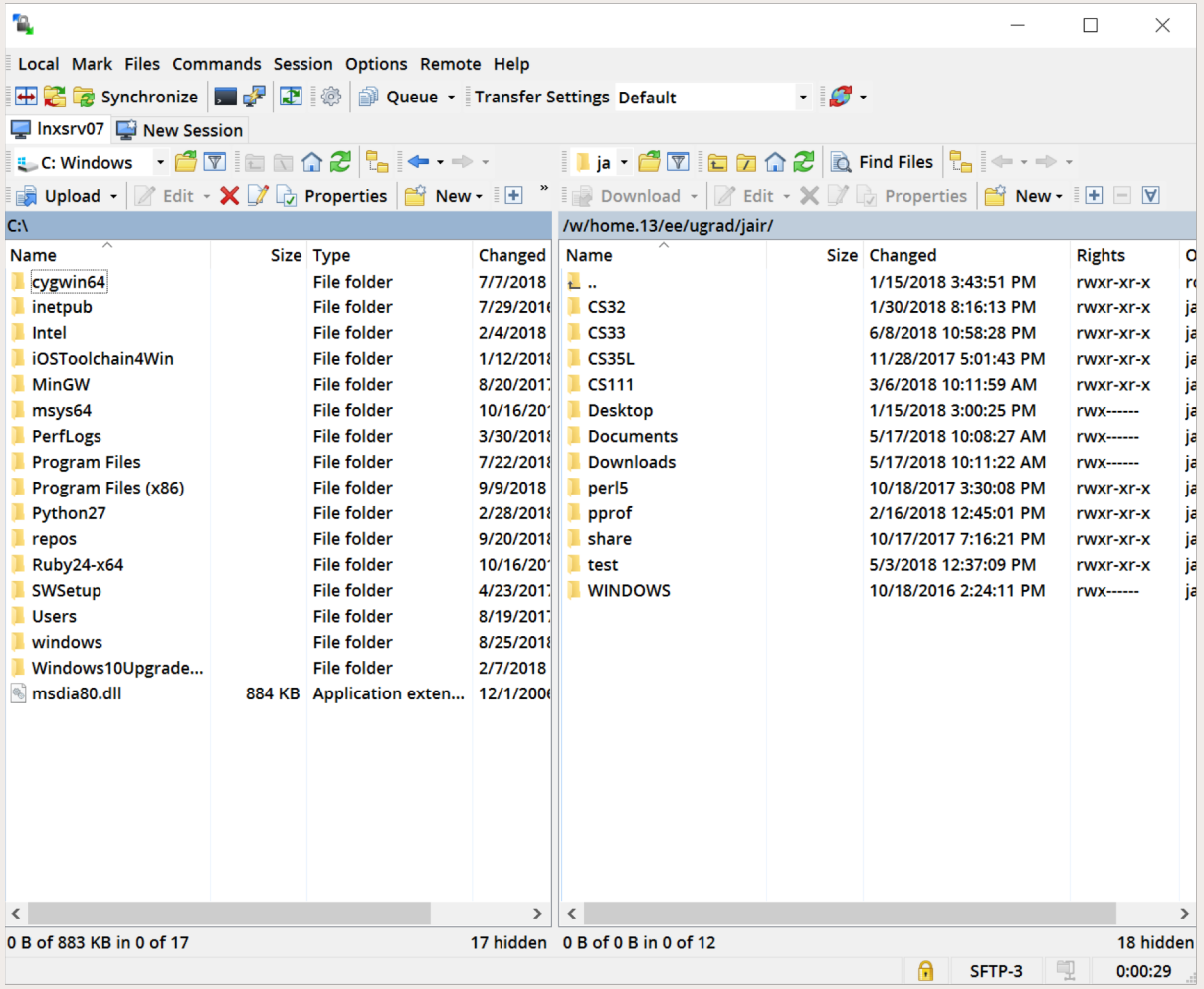
- **Host name** is the name of the server we used earlier
- User name and password are the SEASnet credentials

Getting Files on the Server: Windows



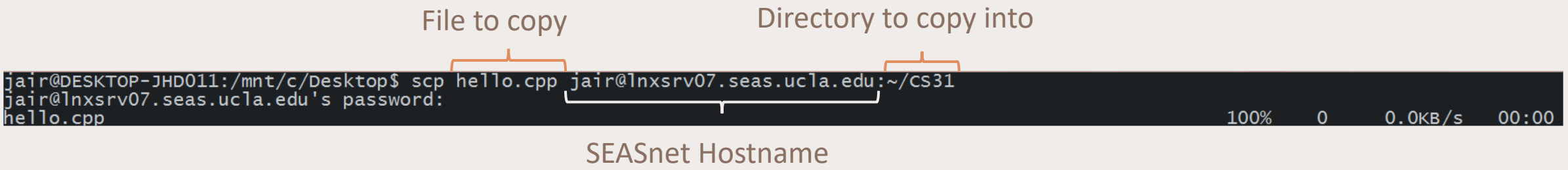
- Before logging in, press save to avoid having to enter all the information next time
- Click save password

Getting Files on the Server: Windows



- The left is your local computer file system
- The right is the Linux server file system
- You could easily drag and drop across both

Getting Files on The Server: MacOS



- SCP is the name of the command we will be using
- The file to copy is the first parameter
- The second parameter follows the format:
  - <hostname>:<dir>
    - <dir> most often starts with '~'
    - This indicated your account's home directory

Getting Files on The Server: MacOS

```
[jair@lnxsrv07 ~]$ cd cs31
[jair@lnxsrv07 ~/cs31]$ ls
hello.cpp
[jair@lnxsrv07 ~/cs31]$
```

And now we have the file on the Linux server ☺

Using the System

- The servers run on a command line interface
  - The system provides a set of commands to navigate and use the system
  - The alternative is providing a graphical interface like Windows or MacOS
- Navigating the file system:
  - ls: Print the contents of the current directory
  - mkdir <dir>: Create a directory with the name “dir”
  - cd <dir>: Go into the directory with the name “dir”
  - emacs <file>: Modify or create a file with name “file”
    - This is a text editor used to write files
    - Has lots of integrated commands

Compiling and Running Code

- Run the following command while on the server

```
curl -s -L http://cs.ucla.edu/classes/fall18/cs31/Utilities/setupg31 | bash
```

- To compile code you use the following command
  - `g31 -o <name of executable> <name of cpp file>`
    - `eg: g31 -o test test.cpp`
- To run the executable and test your code you use
  - `./<name of executable>`
    - `eg: ./test`

Software Links

- Cisco AnyConnect
  - Mac OS: https://ftp.bol.ucla.edu/pub/bol/vpn/software/anyconnect-macos-4.6.00362.dmg
  - Windows: https://ftp.bol.ucla.edu/pub/bol/vpn/software/anyconnect-win-4.6.00362.msi
- Putty:

  https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html