



WELCOME TO CSE 11

aka what in the world is going on



UNATCO... HACKED
AREA 51... HACKED
STATUE OF LIBERTY... HACKED

Logistics

- WHO: Albert Tang and Andy Nguyen
- WHAT: Supplemental education and assignment assistance
- WHERE: Center Hall 212
- WHEN: Wednesday 5:00PM - 5:50PM
- WHY: To help you to understand and complete assignments, as well as explaining course topics that are difficult to understand
- HOW: **WITH YOUR HELP**

What is Programming

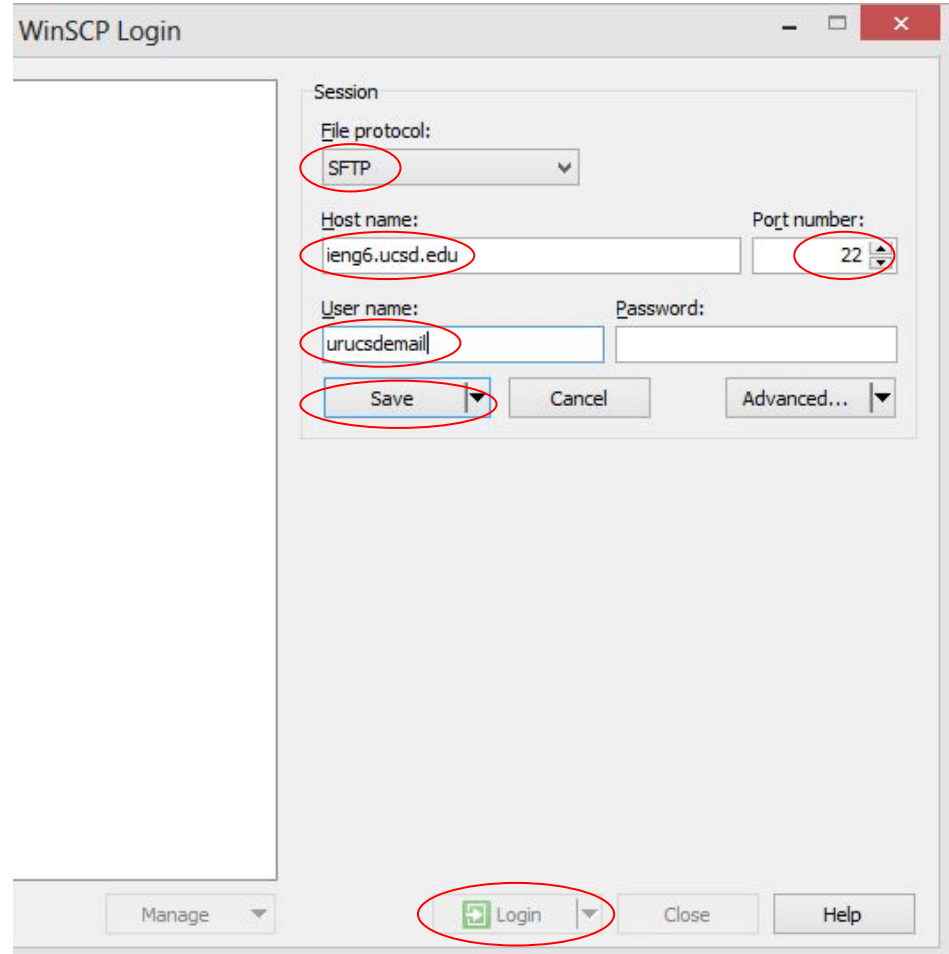
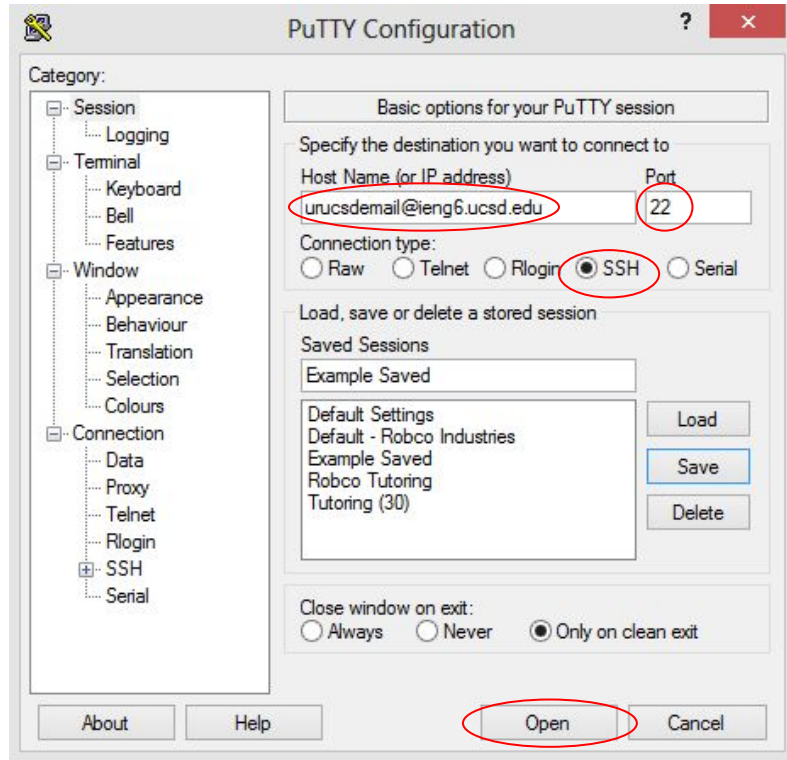
- Simple terms: Telling a computer what to do
- A computer is just a very complicated calculator
- Most of them show pretty pictures
- We give the computer a set of numbers, and what to do with those numbers
- The computer manipulates the numbers and gives a result

SSH

- “Secure Shell”: means of remotely accessing a server
- Simple terms: login to your UCSD account on any computer
- Using the power of the INTERNET

- <https://sites.google.com/a/eng.ucsd.edu/cse-11-winter-2015-mwf/remote-lab-access>
- TLDR: Install PuTTY and WinSCP for Windows. For Linux and Mac, use the terminal.

Logging In for Windows



Logging in for Mac

Open terminal and use this command:

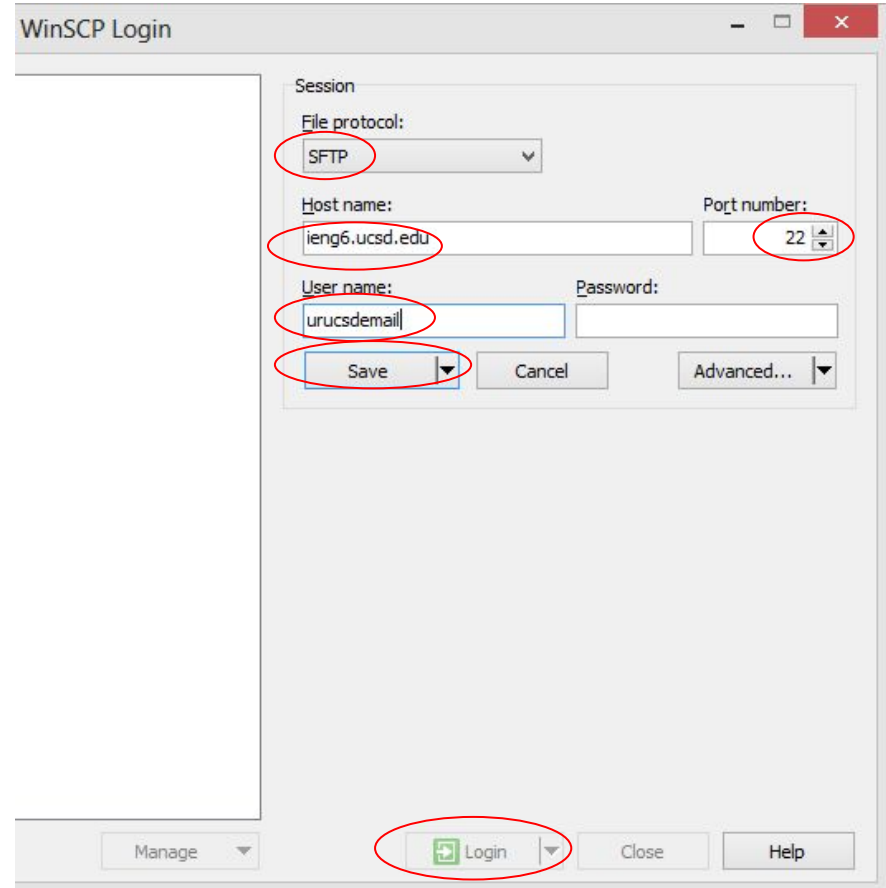
```
$ ssh -X cs11XX@ieng6.ucsd.edu
```

-X is a flag that enables X11 forwarding (aka lets you use GUI/makes things look pretty)

File Transfers (SCP)

- “Secure Copy”: Securely transfers files between hosts
- Simple terms: Copies stuff from another computer
- Uses the power of the INTERNET

File Transfers for Windows



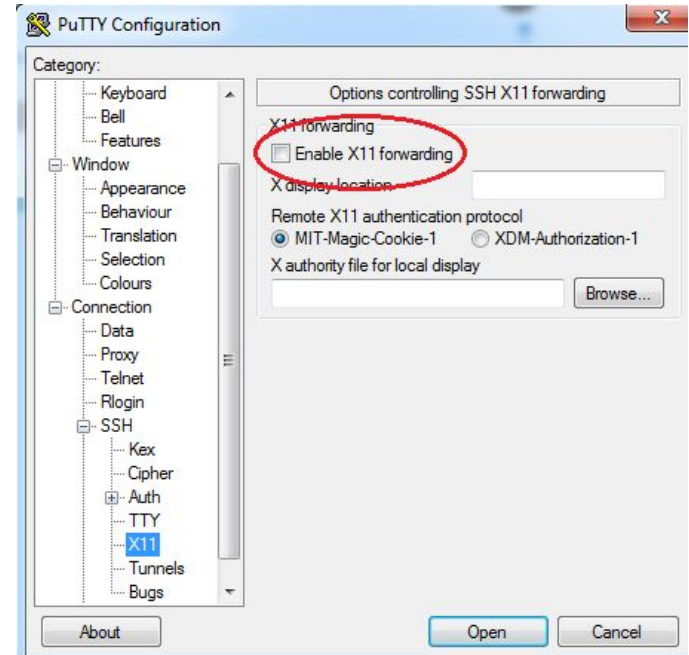
X11 Forwarding (All Systems)

- X11 Forwarding: Forwards Linux GUIs to the local system
- Simple terms: Let you click
- Using the power of the INTERNET

- <https://wiki.utdallas.edu/wiki/display/FAQ/X11+Forwarding+using+Xming+and+PuTTY>
- <https://support.apple.com/en-us/HT201341>
-

Setting Up X11 Forwarding on Windows

- If you do not have Xming on your Windows computer yet, download it at <http://www.straightrunning.com/XmingNotes/>
- In PuTTY, under Connection->SSH->Auth, click on X11. Check Enable X11 forwarding.



Setting up X11 Forwarding for Mac/Linux

- MAC:
 - If you don't have XQuartz on your Mac device, download and install it at <https://xquartz.macosforge.org/trac>
- LINUX:
 - Look up the proper X11 service for your distribution. It varies depending on your linux build.

Basic Linux Commands

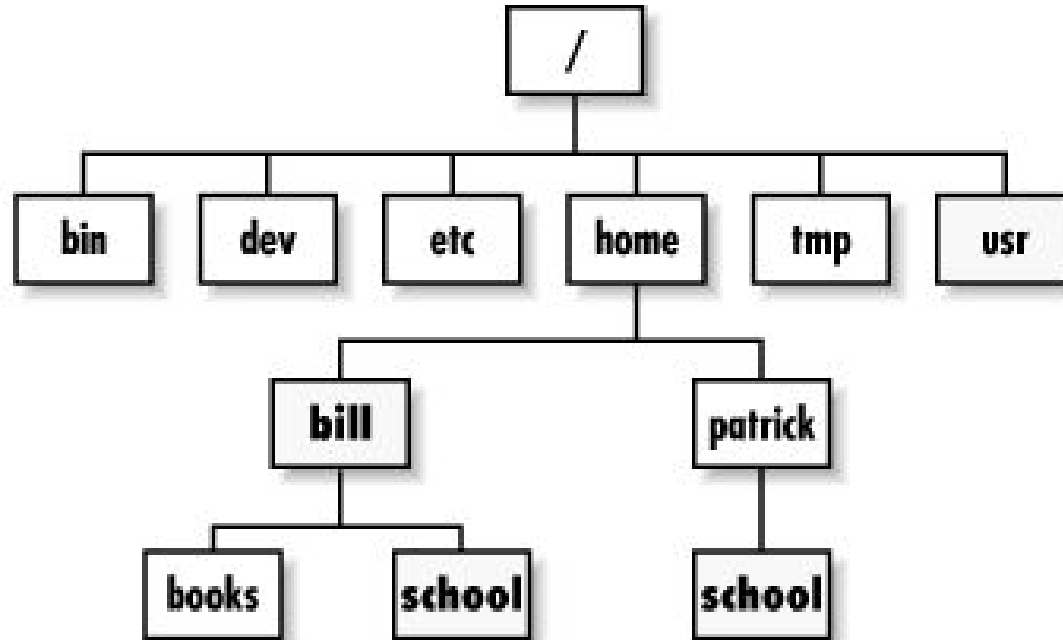
- pwd - print working directory
- ls - list segments
- cd - change directory
- mv - move
- cp - copy
- rm - remove
- rmdir - remove directory
- mkdir - make directory

Absolute vs Relative File Path

- ABSOLUTE file path is the complete path starting from the first directory
- The first directory is known as the “root” directory, and is simply a slash: “/”

- RELATIVE file path is the file path in relation to the current working directory
- ~ refers to the home directory
- . refers to the current directory
- .. refers to the parent directory

Linux Filepath Example



Text Editors

- Vim vs Emacs: The Holy War
- Terminal command: *gvim example.txt* or *emacs example.txt*
- CREATES new text file called *example.txt* if it does not exist
- OPENS *example.txt* if it exists already

Vim Basics

- gvim is recommended over vim
 - vim has two modes: COMMAND and INSERT
 - Command mode runs vim commands, including SAVE and EXIT
 - Insert mode is where you type text
 - If currently in command mode, hit “i” to enter insert mode
 - If currently in insert mode, hit “Esc” to enter command mode
-
- SAVE command is :w
 - EXIT command is :q
 - Go here for more info: <http://www.lagmonster.org/docs/vi.html>

Emacs Basics

- SAVE command is *Ctrl-x Ctrl-s*
- EXIT command is *Ctrl-x Ctrl-c*

Java Basics

- To have a runnable Java class, a class must have a main method

```
public class Example {  
    public static void main(String[] args) {  
        // leedle leedle leedle  
    }  
}
```

- DO NOT worry if you don't understand anything - this is normal

What is Compilation

https://en.wikibooks.org/wiki/Java_Programming/Compilation

Summary: Java programs are compiled into bytecode which is saved as a .class file. When the program is ran, it converts the bytecode to machine code that will be executed in runtime.

You will be using the “javac” command in order to compile your source files (.java files).

Questions