# CS344 Operating Systems I

Blackboard

If you've not used Blackboard at OSU before, you can reach it through this URL.

https://my.oregonstate.edu

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Quizzes will be given through OSU's Blackboard site.  Additional material will also be available through Blackboard.

You are expected to keep track of the announcements and required class material in Blackboard.

I will track your grade in Blackboard.

I know the university plans to shift away from Blackboard, but it is what we will use this term.

You should check to make sure you can login to Blackboard as soon as possible.

**Blackboard**

The browser of choice for Blackboard is Firefox.

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Using Blackboard can definitely be a love/hate relationship, mostly hate.  But, find a way to do what you need to do and try and not focus on the hate.

The browser of  choice for Blackboard is Firefox.  That happens to also be my browser of choice.  So that makes it easy for me.

If your browser of choice is something other than Firefox, consider installing Firefox for your interaction with Blackboard, especially for quizzes.  I know there have been some Blackboard issues with Chrome.  I don't want a browser war, I just want this to be a non-issue for everyone

**Blackboard**

Make sure your devices or choice work with Blackboard

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If your device has trouble dealing with Blackboard (as some tablets do), make sure you have an alternative available for things like quizzes.

Telling me the day after a quiz has ended that the browser on your smartphone/phablet had issues with Blackboard is unlikely to get you what you want.

The os-class server was setup specifically for this class.  If you are on campus, you can access it directly using os-class or possibly os-class.engr.oregonstate.edu.

If you try to connect to os-class from off campus, you'll need to go through flip (flip.engr.oregonstate.edu).  The server is not directly exposed to the evils of the outside world.  You can also choose to first connect to OSU via VPN if you are off-campus.  While I found VPN worked fine on my Mac, I found use of VPN problematic on a Windows box.  In both cases, I just jump through flip to get onto the campus network.

The os-class server runs CentOS 6.6.  If you want to either build your own Linux system on which to do development for this class or you want to build a virtual machine on which to do development, I recommend Ubuntu.  I'd really like to recommend CentOS, but I've found working CentOS really awkward.  CentOS does not work very well with a number of wireless network cards.

I really encourage you to use os-class for your projects, especially the later ones in the class.  You'll be creating quite a few processes for some of the projects.  While it is certainly not a good idea to loose track of the processes you create on os-class, it is

a much worse idea to loose track of them on another server in EECS.
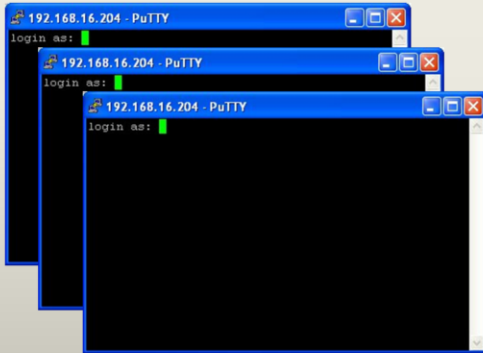
If you really feel you need to have a console to yourself, you'll need to build a system for yourself (virtual or physical).

I happen to really like having a console to myself and have a dedicated Linux (Ubuntu) system.

You can login to os-class more than once.

When I am using a Windows based system, I use PuTTY to connect to os-class.  If you don't have PuTTY already installed, you can find a link to is on the Blackboard site in the Resources folder.

If I'm using a Mac, I just user the terminal application on the Mac.  I actually happen to like the Mac interface a bit better.  I wish PuTTY provided a multi-tab interface.

If I'm using my Linux Box, I can also use a multi-tab terminal application.
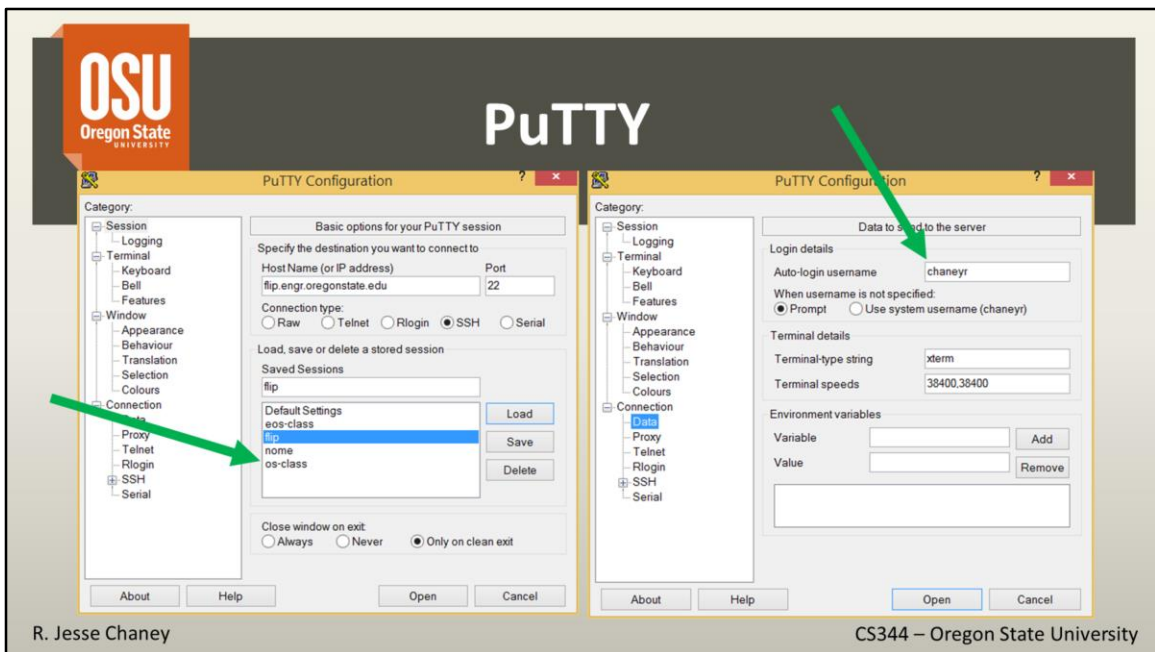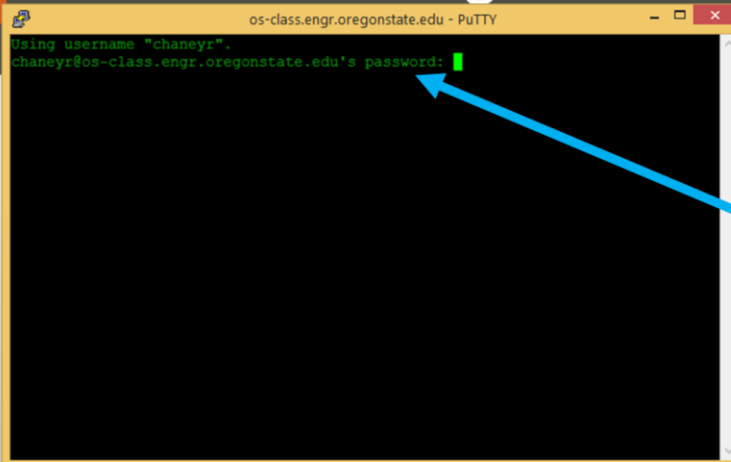
I like to create basic configurations for the systems to which often connect. You can see that I have saved configurations for os-class and flip (as well a as couple others).

You can ignore most of the othes configuration for PuTTY. I do like to put my Unix log name in the Connection/Data/Auto-login username area for each saved session through. This should be your **engineering** user name.

If you really want to go wild with PuTTY, you can configure your ssh keys into it.

The first time you use PuTTY to connect to any of the Oregon State servers, including os-class, you are probably going to get a popup security window tell you that a new ssh key is arriving from the system. So long as you know you are connecting to the correct machine, you should click yes/save.

Once you open the connection, you'll see your username (if you've entered that into PuTTY) and a prompt for your password. As you type your password, nothing will be echoed to the screen. No *** or letters of any kind. If you mistype something, you'll need to backspace a bunch of times to delete it.

Once you enter your correct password, you see something like this. The message of the day (which is just the contents of the file /etc/motd).

The important things to notice there are that unauthorized use is prohibited, quotas are used, and the email address to use if you are experiencing problems with the server (support@engr.orst.edu). That is an IT email address, not an email address to be used for questions about the class.

Your choice of login shell is important because it is through the login shell that you'll most often interact with the os-class server.

Long long ago in a galaxy far far way, I used csh as my login shell. I started using tcsh (T-csh or sometimes teesh) before you could actually make it your default shell. I had to compile and install it myself. I used tcsh for a few years. For a while, I even used the Korn Shell, ksh.

For various reasons, I switched to bash and have never looked back and have not regretted it. One of the reasons I like to use bash as my shell is that when I write shell scripts, it has the same syntax. When I use csh or tcsh and wanted to write a loop on the command line, I had to use different syntax than when I wrote shell scripts.

I've written a lot of shell scripts over the years. Though I wrote a few in csh syntax, the vast majority are in Bourne shell or bash syntax. Bash just stands for Bourne Again Shell. It is a rewrite and extension of the original shell written by Stephen Bourne at Bell Labs.

People who do like and use tcsh like its command line editing and command completion and search capabilities.

I'm not going to spend a lot of time taking about which shell you may use as your login shell of choice.  I will talk a little about shell script programming though.  If you are writing a shell script, for this class, it needs to be a bash script.  I encourage you to use bash or even just sh as your shell script language.

# A Couple Basic Commands

| Command | Meaning |
| --- | --- |
| ls | List the contents of the directory |
| man | Display the online manual pages for the given command or function. |
| mkdir | Create a new directory. |
| cd | Change the current directory. |
| exit | Exits the shell in the terminal and will close your PuTTY window. |

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When you log into os-class, there are a couple of commands I want to make you aware of.  We'll be talking about more commands (including the actual `more` command), but I want to make sure you know the first couple.

ls – the `ls` command lists the contents of the directory.  Typically, it will be for the current directory.

man – the `man` command allows you to do something that was quite amazing for its time.  It is not quite so amazing now, but still pretty good.  When you issue the command 'man man` it shows you the online documentation for the man command. The man stands for manual.  If you type `man ls` it shows you the online docs for the ls command.  When you do the `man ls`, you'll see that it has a LOT of options.  To exit from a man page, just type 'q'.

mkdir – make a new directory.

cd – change to a directory.

exit – to logout of os-class, type `exit` into your terminal window.  The `logout`

command will also work.

As the term goes by, we'll have a few Unix/Linux commands each week.