

CSE 374 Lecture 2

Computer model, bash commands, emacs



Notes

- ❖ HW0 due TOMORROW

(<https://courses.cs.washington.edu/courses/cse374/19sp/homework/hw0.html>)

- ❖ Communications:

- Canvas discussion board - great for general questions
- cse374-staff@cs.washington.edu - for klatu accounts and specific questions

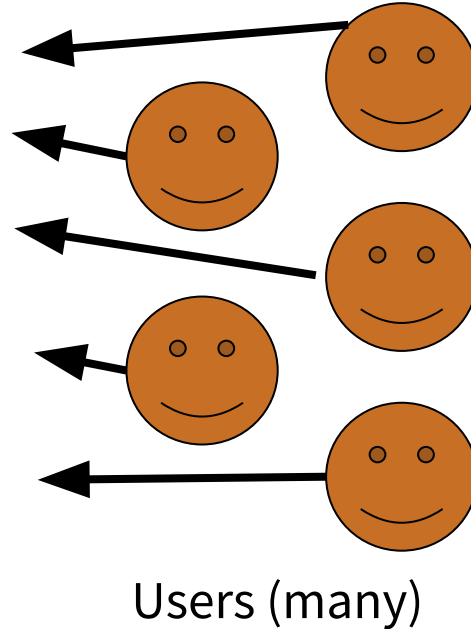
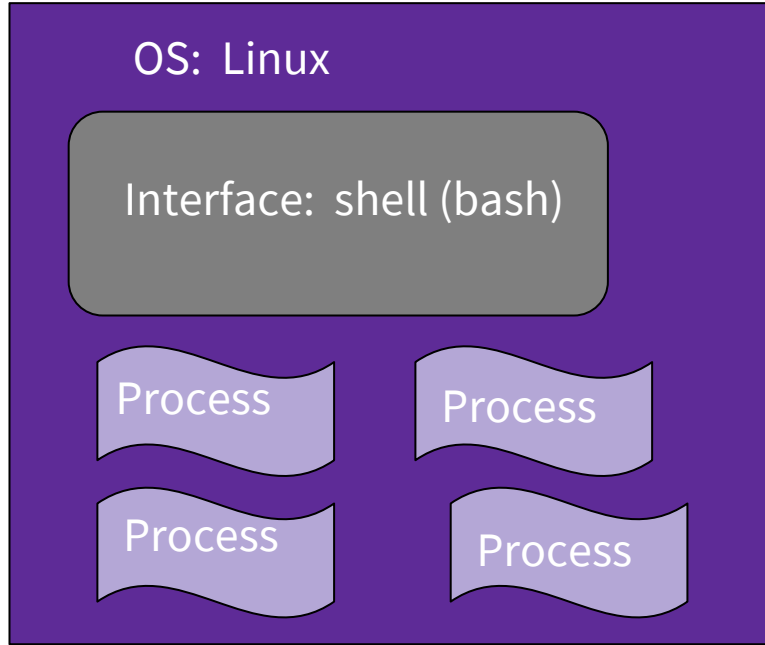
- ❖ If you are still hoping to add the course - discuss with your academic adviser

- ❖ Office hours after class today in CSE330

Today

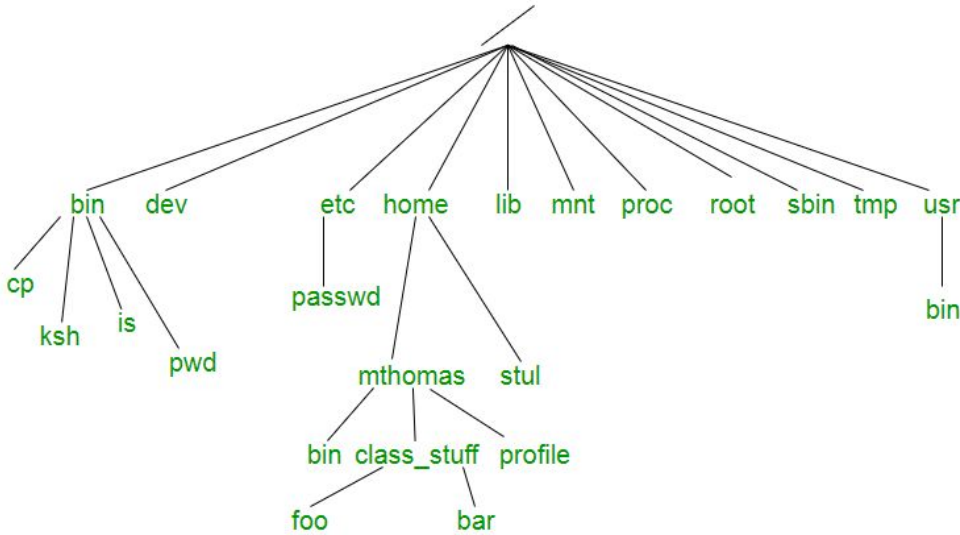
- ❖ Getting on to CentOS
- ❖ Computer structure (from the ground up)
- ❖ Shell commands
 - Special characters
 - Scripting
- ❖ Text Editors (emacs)

Computer Model



- ❖ One OS (CentOs) controls the computer.
- ❖ One filesystem stores data.
- ❖ Many processes are run. (A program runs one or many processes.)
- ❖ A shell is one process that allows for command line interface.
- ❖ Many users

File Systems



- ❑ File systems are trees
- ❑ (or directed acyclic graphs)
- ❑ A file (or directory) is specified by its path from the top ('/')
- ❑ Can be specified absolutely (entire path),
- ❑ Relatively (from current location)
 - ❑ This directory './'
 - ❑ One directory up '../'
- ❑ You have access to your 'home' directory ('~')

Processes & the Shell

Shell essentially runs programs, or processes

Usually launch a process, and return to shell when done.

Each process has own memory stream and I/O

Stdin (keyboard), stdout (console), stderr

Many processes have options

'&' runs process in the background

'fg', 'bg', top, kill

Control where processes run

Execute a script with builtin 'source'

Can redirect input and output ('<', '>')

Getting Help

Most commands: 'man ls'

Also "--help"

Special characters

❖ Directory shortcuts

- ~uname, ~
- ./ or ../

❖ Wildcards (globbing)

- 0 or more chars: *
- Exactly one char: ?
- Specified chars: [A-Z]

❖ History, or '!'

❖ Wildcards (globbing)

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Alias

Defines a shortcut or 'alias' to a command.

(Essentially a really easy script)

Also, 'alias'

.bashrc

Emacs (text editor)

C-x C-s #save

C-x C-c # quit

C-e # go to end of line

C-a # go to beginning of line

C-x C-f # find a file

C-g #exit menu

C-x C-k # kill a buffer

You can use any text editor you like. Emacs is amazingly powerful, and highly customizable with lisp scripts. It is probably worth learning.