Linux, vi, and Scala

8-29-2011

Opening Discussion

- What did we talk about last class?

- Reason for PoP II question.

- Minute Essays

  - Does command line interact with the internet?

Files and Directories

- What you call folders were originally directories.

- Commands:
    - pwd – See current directory.
    - ls – List the contents of a directory.
    - mkdir/rmdir – Make and remove directories.
    - cp/mv/rm – Copy, move, remove files.
    - less/more/cat – See contents of files.

Tips

- Tab completion for file/directory names.

- ! - for last matching command.

- Ctrl-r to search your history.

- The man command for manual entries. Use the -k option to search.

Permissions

- Do ls with -l option to see permissions.

- Sets of rwx for user, group, and others.

- Use whoami and groups to find identity.

- Use chmod and chown to change permissions or ownership.

Remote

- Use ssh to login into one machine from another.

- Use scp to copy files from one machine to another.

- The website has a link to Putty which will give you these abilities from Windows.

Other

- du – Lists disk usage

- grep – Searches for something inside of files.

- find – Find files.

- head – List the first several lines of a file.

- tail – List the last several lines of a file.

- top – Look at what is running on a machine.

- w – Look at who is logged into a machine.

I/O Redirection

- You can send a programs output to a file using > or >>.

- You can make a program use a file as input using <.

- You can do more interesting things by sending the output of one program to another with |.

Text Files/Editors

- Programs are typically written as plain text files and should be edited with a text editor.

- Notepad is a basic text editor on Windows.

- Word is NOT a text editor.

- Some text editors are better than others for programming.

- In this class we will use vi.

vi

- The vi editor is standard on Linux which is one reason we like to use it.

- It is also good for programming.

- Has modes. Start in command mode. You type in an edit mode.

  - i – insert

  - I – insert at beginning of line

  - a – append

  - A – append at end of line

  - R – replace characters

Other Commands

- x – delete characters

- dd – delete/cut lines

- yy – yank/copy lines

- p or P – paste before or after

- r – replace a single character

- J – join lines

- / and n – search for something and next

- cw – change a word

- . - repeat last command

- u and Crtl-r – Undo and redo

Scala Script/First Program

- Let's make a directory and use vi to write our first Scala program then run it.

- The standard first program is "Hello World" and I don't want to break with tradition.

Minute Essay

- Next class we really move into Scala. Any questions about command-line and vi?

- If you didn't answer this on Friday, let me know if you are considering taking PoP II in the Spring. (We are already in the process of building schedules.)

- The book contains a LOT more information than we can get through in class. Read and practice.