Lecture 3

Basic Unix Commands

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The slides are mainly from Sharanya Jayaraman

Unix Commands - `clear`

"`clear`"

- The `clear` command clears the current screen and displays the prompt at the top of the screen.

Unix Commands - `who` and `whoami`

"`who`"

- The `who` command lists the other accessible users - users who are currently logged in. It shows the user's name, the terminal and process ID, the time they logged in and their remote host ID, if applicable.

"`whoami`"

- The `whoami` commandtells you your username

Unix Commands - pwd

pwd

- A **Directory** is the unix term for a folder.
- Once you log in to your unix account, you will have a specifichome directory, usually identified by your username.
- Usually, the command line prompt, where you start typing commands, includes the current directory.
- When you log in, the command line prompt will show that youare in your home directory.
- You can create sub-directories in your home directory, and those can each contain several levels of sub-directories. You can organize your work into directories and move through them as needed.

Unix Commands - `pwd`

- At any point in time, you can ask unix to show you which directory you are currently working in, using the `pwd` command.
- `pwd` - shows the absolute path (from the root) to the present working directory (i.e. the directory you are currently in).
- When you log in, you should be located in your own home directory. For example, my user name is "shiboli", and my home directory is `/home/faculty/shiboli`

Unix Commands - `ls`

`ls`

- The `ls` command lists the contents of a directory.
- The listing you see is just a plain and simple listing of the contents of the current working directory.
- This is like opening a folder in Windows and looking inside it.

Unix Commands - `ls`

- Some commands have more options, specified as flags afterthe command.
- For example, the ls command has the -l option for more information besides filenames.

Unix Commands - `ls`

- Each line represents one directory or file. The first character of the line indicates what it is. If the first character is a “d”, the item is a directory. If the first character is a dash “-”, then the item is simply a file.
- The next set of characters indicate file permission bits (which will be discussed later).
- Other information includes the owner of the file, any group that the file belongs to, the file size, the most recent modification date and time (last time it was changed), and the file or directory name itself.

Unix Commands - cd

`cd`

- To move between directories, we use the `cd` (change directory) command
- If you're moving to a directory in the current directory, you can use cd dirname, where "dirname" is the name of the directory (case sensitive)

Unix Commands - cd

- `cd` by itself, it will take you to your home directory.
- You can specify where you want to go by using an entire path name. For example, "`cd /usr/include`" takes you to where the C library files are.
- You can also specify where to go from a starting point in your own home directory by using the $\sim$ as the first directory entry
- The $\sim$ is a special symbol that can substitute as your home directory.
- "`cd ..`" will take you back one directory level.
- You can also mix and match, separating directory names. "`cd ../next/level`" will take you one level back and then to the directory level, in the next directory.

Introduction to *Vim*

- *Vim* is a very versatile text editor. A text editor is a program that lets you create, open, edit and save text files, among other things.
- To create a file, type "`vim filename`" on the prompt. This will open the empty file "`filename`" on the vim editor.
- This will edit the file in command mode. To add text/edit thefile, press "`i`". The file will now enter `INSERT` mode.
- Once you're done typing, you can save the file by doing the following
  - Hit `Esc` to exit the insert mode
  - Type "`:w`" to save
  - Now type "`:q`" to quit
- You can also combine the two. "`:wq`"

Compiling with g++

- Once you have saved the file and exited, compile the programby typing "g++ `filename`" at the prompt.
- If there are no errors, you will get the prompt again. If thereare errors, g++ will list them.
- Once you have compiled the program, and it compiles without errors, you can run the executable.
- By default, the executable is called "`a.out`". We can give it another name by using the "-o" flag when we compile.