Parallel programming Seminars: Linux commands

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DATE: 16 MAY 2016

What Do We Want To Know?

- What Is The Shell And Why It Is Important?

- Essential Terminal Commands

- Vi Editor

- An Introduction To Bash Script

What Is The Shell?

- **Shell** Is An Command Language Interpreter That Executes Commands Read From The Standard Input Device (Keyboard) Or From A File. **Shell** Is Not Part Of System Kernel, But Uses The System Kernel To Execute Programs, Create Files Etc

- Shell Is What We Deal With.

- Shells Might Be GUI(graphical user interface) or CLI(command line interface)

Shells

- Bash

- Bourne

- Z

- C

- KORN

- TC

Terminal Command

- ls
- pwd
- cd
- mkdir
- cp
- rm
- su
- man

- ps
- top
- cat
- find
- pipe
- grep

pwd

If You Want To Know What Is The Current Directory That You Are In It, Use This Command.

Try This:

- $ pwd

cd

- Is Used To Change Current Directory To Another.

- Try These:

- `$ cd [directory name]`

- `$ cd ..`

- `$ cd \`

- `$ cd ../..`

ls

- ls Used To See Everything (Files And Directories) In Current Directory.

- Try To Use These And See Result:

- `$ ls`

- `$ ls -l`

- `$ ls -Q`

- `$ ls -1`

- `$ ls –a`

- `$ ls a*`

- `$ ls a?.txt`

mkdir

To make a new directory type this:

```
$ mkdir <foldername>
```

cp

Is used to copy files:

try these:

```
$ cp -a /source /dest
$ cp -r /source /dest
```

rm

Is used to remove files and folders.

If you want to remove a file try this:

```
$ rm <filename>
```

And if you want to remove a directory try this:

```
$ rm –r <foldername>
```

su

Su is a abbreviation for SWITH USER.

Is Used To Change To The Root Mode:

Just Type:

- $ su

And Then Enter The Root Password To See Yourself In Root Mood.

man

This item used to give a help for command.

Try these:

- $ man ls

- $ man touch

- $ man ps

ps

Ps is used to see all running process in your shell.

Try these:

- `$ ps`

- `$ ps –e`

top

Is used to show all running processes alive. Try this:

```
$ top
```

And if you want to go out enter "Q" key.

Cat & Head & Tail

Used To Show Content Of A Text File.

If You Have Text File Which Name Is Sample.Txt, Try This:

- `$ cat sample.txt`
- `$ head sample.txt`
- `$ tail sample.txt`
- `$ tail -f smaple.txt`

find

To Find A File In Your System Which You Don't Know Where That Is, You Usually Search.

To Find You File Type This:

```
$ find /directry –name <filename>
```

Pipe and grep

- A **Pipe** Is A Form Of Redirection That Is Used In **Linux** And Other Unix-like Operating Systems To Send The Output Of One Program To Another Program For Further Processing. Try:

- `$ history | grep ls`

- `$ history | grep cp`

Vi Terminal Editor

Vi is a text editor under the terminal command line.

It has two mode:

- INSERT

- ESC

Compose a file and open it in vi editor by typing

$ vi sample.txt

Then enter "i" on keyboard. Now you are in INSERT MODE.

To back and save file you need to go in ESCAPE MODE by press the ESC.

Vi Editor

- To save without quit type:

  `:w`

- To quit without save type:

  `:q`

- To save all things and quit from vi editor you typed in file then type:

  `:wq`

- *move cursor to end of current line*

  $

Vi Editor

- *move cursor to start of current line*

  0

- *delete entire current line*

  dd

- Perhaps the most important command is the one that allows you to back up and *undo* your last action

  u

-

Script

- What Is A Script?
  - A Script Is A List Of Commands Which Can Be Executed Without User Interaction.
  - Scripting Languages Are Not Compiled.
  - Scripting Languages Are Easy To Use And Easy To Write.

Hello Bash

We Want To Write A Simple Script:

```
!#/bin/bash
# this is my first experience on bash script
echo "Hello Bash"
```

and save it!

chmod

Then you have to make the file executable by this command:

```
$ chmod +x <yourScriptName.sh>
```

And then run it with:

```
$ ./<yourScriptName.sh>
```

Hello Bash

Define a variable and print it:

```
!#/bin/bash
# this is my first experience on bash script
name="Danial"
echo $name
```

Save All Running Process On a Text File

```
!#/bin/bash

Ls -l > processes.txt
```

THE END

The Only Person Who Is Educated Is The One Who Has Learn Have To Learn And Change.

~Carl Rogers