Assignment: Working with Linux

# Installation/Configuring Linux

* Execute the Oracle VM Virtual Box installable ‘VirtualBox-4.3.28-100309-Win.exe’
* Run the desktop icon ‘Oracle VM VirtualBox’.
* Create a new virtual machine. Specify memory as 2042 MB.
* Now open the ‘Settings’ window. Go to Storage > Controller: IDE > CD/DVD Drive > Select the Ubuntu iso file shared with you i.e. ‘ubuntu-14.04-desktop-amd64.iso’
* Start the created virtual machine.
* Choose ‘Install Ubuntu’ option.
* In order to close the virtual machine, select Machine > Close… > Save the machine state.

**Assignment 1 (Simple BASH commands):**

**Try following on linux terminal:**  
  
$ echo hello world

->Hello world

$ passwd

->Changing password for Ninad

(current) UNIX password:

$ date

-> Tue Jul 18 11:50:56 IST 2017

$ hostname

-> Ninad-VirtualBox

$ arch

-> x86\_64

$ uname -a

-> Linux Ninad-VirtualBox 3.13.0-24-generic #46-Ubuntu SMP Thu Apr 10 19:11:08 UTC 2014 x86\_64 x86\_64 x86\_64 GNU/LINUX

$ dmesg | more(you may need to press q to quit)

-> Intialized cgroup subsys

$ uptime

-> 11:52:19 up 6 min, 2 users

$ whoami

-> Ninad pts/0 2017-07-18 11:48(:0)

$ who

-> Ninad :0 2017-07-18 11:46 (:0)

Ninad pts/0 2017-07-18 11:48 (:0)

$ id

-> uid=1000(Ninad) gid=1000(Ninad) groups , adm , cdrom , sudo etc.

$ last

-> last logged in time and date

$ finger

->the program ‘finger’ is currently not installed and we can install it by typing sudo apt-get install finger

$ w

-> w: 63 column window is too narrow

$ top (you may need to press q to quit)

->displays all the processes with their ID’s , cpu% and mem%.

$ echo $SHELL

->/bin/bash

$ echo {con , pre}{sent,fer}{s,ed}

->consents consented confers conferred presents presented prefers preferred

Concatenated the arrays.

$ man "automatic door"

->no manual entry for automatic door

$ man ls (you may need to press q to quit)

-> list of all user commands

$ man who (you may need to press q to quit)

->more information about who user commands

$ who can tell me why i got license

->not running because of the extra operand ‘me’

$ lost

->no command lost found , did you mean: command ‘lout’

$ clear

->clears the terminal window

$ cal 2000

-> displays calendar for year 2000

$ cal 9 1752(do you notice anything unusual?)

->calendar for 9th month ie. September and year 1752

$ bc -l(type quit or press Ctrl-d to quit)

->copyrights

$ echo 5+4 | bc -l

->gives the answer 9

$ yes please(you may need to press Ctrl-c to quit)

->displays please infinite times

$ time sleep 5

->sleep time for the real , user and system.

$ history

->history of all the above commands

**Assignment 2 (Simple operations on file & directory):**

sud

1. Enter cd ~. Using the picture below, create two subdirectories named india and China—note China starts with a capital letter and india does not.
2. Under india and China, create three more subdirectories each – clothing, food, and sports.
3. Use the Internet and lookup a few facts about clothing in India. Use the editor to create a file and write what you found in the editor. Save the file. Did you create it in the correct subdirectory? If not, move the file to the clothing subdirectory under india.
4. In the correct subdirectory, use the editor to create a file and write about your favorite Indian food. Save the file. Make sure it is in the correct subdirectory!
5. Use the Internet to lookup a few facts about sports in China. In the Sports subdirectory under india, use the editor to create a file that describes what you found about sports in China. Yes, this is the incorrect place, but it gives you a chance to practice moving in the next step!
6. Move the file you just created from the sports subdirectory under india to the sports subdirectory under china.
7. Copy the file from the clothing subdirectory under india to the clothing subdirectory under china.
8. Copy the file from the food subdirectory under india to the food subdirectory under China. Edit the new file to reflect your favorite meal that could be cooked in China.
9. Delete the subdirectory clothing under india.

**Assignment 3 (vi Editor):**

1. Create a new document ‘history\_linux.txt’ & type the following contents:

You might be suprised to discover that Linux has been around in it's current form sinc the early 90's but the fondations go back much longer.

Late 1960's - Unix is developed developed and released in 1970's. It is widely adopted in business and academic circles.

1. Save & close the file.
2. Reopen the file in vi editor.
3. Go to the end of the document and type in the following paragraph:  
   1983 - a programmer Richard Stallman creates the GNU Project. It is an attempt at creating a Unix type operating system but composed of entirely free software.
4. Correct  the three  spelling errors and  remove the extra word "developed".
5. Add the words "Here is year wise Linux history!" to the end of the first paragraph.
6. Delete the words "developed and" from second paragraph.
7. Replace all occurrences of "is" with "was".
8. Swap the second & third paragraphs.
9. Save the file and quit.

**Assignment 4 (File Permissions):**

1. Create a group xoriant.
2. Create 2 users tom & jerry inside ‘xoriant’ with the home directories /home/tom & /home/jerry
3. In tom’s home directory, create a directory ‘tom\_docs’.
4. In jerry’s home directory, create a directory ‘jerry\_docs’.
5. Login as tom or jerry as per requirement using ‘su’ command.
6. Create a file inside each directory i.e. ‘tom\_resume.txt’ & ‘jerry\_resume.txt’.
7. Add some contents into the files.
8. Change the permission of tom\_resume.txt to writable at user level & group level.’
9. Change user to jerry & try to update tom\_resume.txt using vi editor.
10. Similarly apply writable permission at jerry\_resume.txt at user & group level. Try to update jerry\_resume.txt through tom’s login.
11. Make tom\_docs writable at group level. Add sticky bit to tom\_docs directory. Try to delete this directory using jerry’s login. It should not allow.

**Assignment 5 (Process related information):**

1. Start an editor ‘gedit’.
2. Display the information about all processes running on your machine.
3. Find the process id of gedit process.
4. Stop gedit process.
5. Again start gedit.
6. Find whether gedit is running or not.
7. Display the process tree.
8. Display currently running process along with memory & CPU usage.

**Assignment 6 (Inter machine files transfer):**

1. Transfer a file from one to another machine.
2. Transfer a directory including all its contents from one to another machine.