

OPERATING SYSTEM 1

Lecture 2

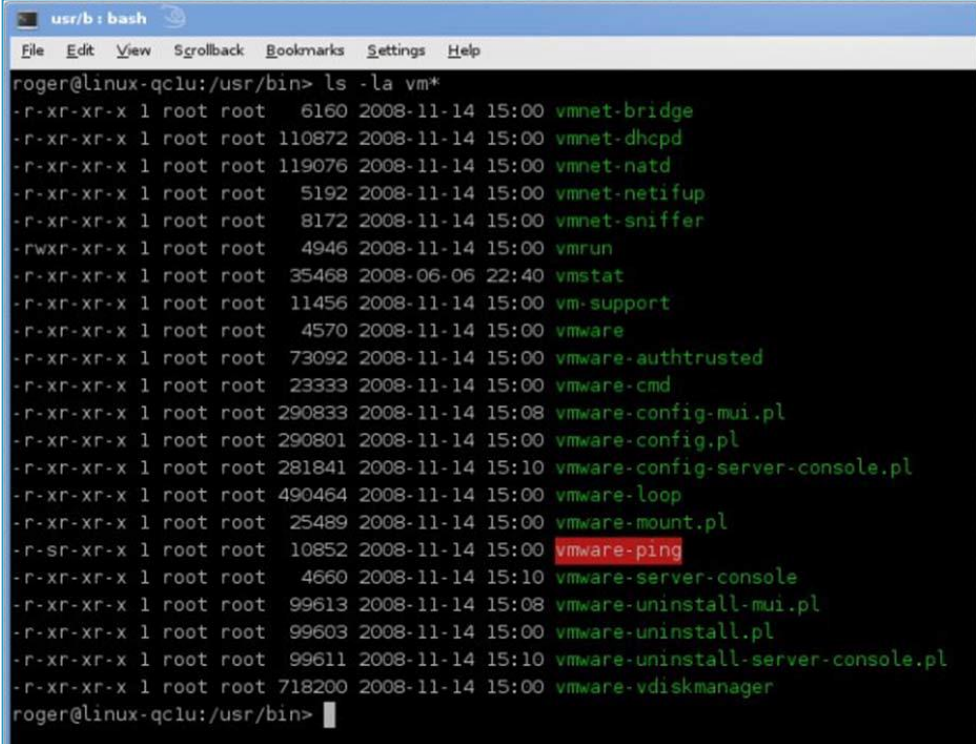
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The Shell (Terminal)

- The shell is the screen you use to interact with operating system.
- We have two type of shell:
 - GUI : Graphical User Interface (commonly on Desktop).
 - LUI : Line User Interface (commonly on Server).

Linux – Line User Interface (LUI)

- Line User Interface or Command Line Interface :
 - Is a user interface to a computer's operating system or an application.
 - In which the user responds to a visual prompt by typing in a command on a specified line, receives a response back from the system, and then enters another command, and so forth.



```
usr/b : bash
File Edit View Scrollback Bookmarks Settings Help
roger@linux-qclu:/usr/bin> ls -la vm*
-r-xr-xr-x 1 root root 6160 2008-11-14 15:00 vmnet-bridge
-r-xr-xr-x 1 root root 110872 2008-11-14 15:00 vmnet-dhcpd
-r-xr-xr-x 1 root root 119076 2008-11-14 15:00 vmnet-natd
-r-xr-xr-x 1 root root 5192 2008-11-14 15:00 vmnet-netifup
-r-xr-xr-x 1 root root 8172 2008-11-14 15:00 vmnet-sniffer
-rwxr-xr-x 1 root root 4946 2008-11-14 15:00 vmrun
-r-xr-xr-x 1 root root 35468 2008-06-06 22:40 vmstat
-r-xr-xr-x 1 root root 11456 2008-11-14 15:00 vm-support
-r-xr-xr-x 1 root root 4570 2008-11-14 15:00 vmware
-r-xr-xr-x 1 root root 73092 2008-11-14 15:00 vmware-authtrusted
-r-xr-xr-x 1 root root 23333 2008-11-14 15:00 vmware-cmd
-r-xr-xr-x 1 root root 290833 2008-11-14 15:08 vmware-config-mui.pl
-r-xr-xr-x 1 root root 290801 2008-11-14 15:00 vmware-config.pl
-r-xr-xr-x 1 root root 281841 2008-11-14 15:10 vmware-config-server-console.pl
-r-xr-xr-x 1 root root 490464 2008-11-14 15:00 vmware-loop
-r-xr-xr-x 1 root root 25489 2008-11-14 15:00 vmware-mount.pl
-r-sr-xr-x 1 root root 10852 2008-11-14 15:00 vmware-ping
-r-xr-xr-x 1 root root 4660 2008-11-14 15:10 vmware-server-console
-r-xr-xr-x 1 root root 99613 2008-11-14 15:08 vmware-uninstall-mui.pl
-r-xr-xr-x 1 root root 99603 2008-11-14 15:00 vmware-uninstall.pl
-r-xr-xr-x 1 root root 99611 2008-11-14 15:10 vmware-uninstall-server-console.pl
-r-xr-xr-x 1 root root 718200 2008-11-14 15:00 vmware-vdiskmanager
roger@linux-qclu:/usr/bin> █
```

CLI vs. GUI

- Why Linux Administrators prefer LUI instead GUI?
 - Usually Linux admin need to control the server remotely.
 - CLI allows them to accomplish tasks more quickly and easily than the GUI.
 - Decreases the overhead on server

CLI

- `ubuntu@ubuntu:~$`
 - before @ : name of the user
 - after @ : name of the computer
 - ~ : the home
 - \$: for normal users
 - # : for root
- To have root permission type “`sudo -i`”
- Commands are case sensitive
- Shell can save last executed commands, and we can move from one to another by using arrows.
- Autocomplete using tab.

LINUX COMMANDS

Basics

Basic Linux Commands

1. `dir`:
 - Lists the contents of a directory.

Basic Linux Commands

2. ls : Lists

- Lists the contents of a directory.
- **Syntax:** ls [option] [pathnames]
 - -a Shows you all files, even files that are hidden.
 - -l Shows you huge amounts of information (permissions, owners, size, and when last modified.)
 - -h print sizes in human readable format.
 - [pathname] Directory path you want to list it's contents, left empty to list current directory contents.
 - -r print in reverse order
 - -1 print one column
- **Examples:**
 - ls -l
 - ls -la /

Basic Linux Commands

3. `cd` : change the directory

- move to another directory

- **Syntax:** `cd [directory]`

- **directory** Name of the directory user wishes to enter.
- `cd ..` Used to go back one directory.
- `cd -` Switch between the current and previous directories.

- **Examples:**

- `cd Desktop/`
- `cd /home/users/`
- `cd ../..`

Basic Linux Commands

- 4. clear
 - It is used to clear the screen.
 - **Syntax:** clear
 - **Examples:**
 - clear

Basic Linux Commands

5. mkdir : **make directory**

- This command is used to create a new directory.
- **Syntax:** mkdir [option] directory
 - **-m mode** Set permission
 - **-p** No error if existing
 - **directory** The name of the directory that you wish to create.
- **Examples:**
 - mkdir /home/test
 - mkdir -m a=rwx mydir

Basic Linux Commands

6. echo

- Prints a text on the standard output.
- However in an interactive script, echo passes the message to the user through terminal.
- **Syntax:** `echo message`
- **Example:**
 - `echo hello class`
 - `echo "hello"`
 - `echo 3+6`
- **Note:**
 - `echo hello linux > h.txt` save message in a new file name "h.txt"
 - `Echo hiiiii >> h.txt` add the new message to the same file

Basic Linux Commands

7. pwd : **p**rint **w**orking **d**irectory
 - displays the name of the current working directory.
 - **Syntax:** pwd
 - **Examples:**
 - pwd

Basic Linux Commands

8. `cp` : **copy**

- Copies files from one location to another.
- **Syntax:** `cp [OPTION] SOURCE DIRECTORY`
 - `-r` copy directories recursively
 - `-f` if an existing destination file cannot be opened, remove it and try again
- **Examples:**
 - `cp /home/ypu/myfile.txt /etc/`

Basic Linux Commands

9. mv : **move**

- Renames a file or moves it from one directory to another directory.
- **Syntax:**
 - mv oldname newname
- **Examples:**
 - mv /home/ypu/myfile1.txt /home/ypu/myfile2.txt

Basic Linux Commands

10. rm : remove

- Deletes a file

- **Syntax:**

`rm [-f][-r] [filenames|directory]`

- -r

Recursively remove directories and subdirectories in the argument list.

- -f

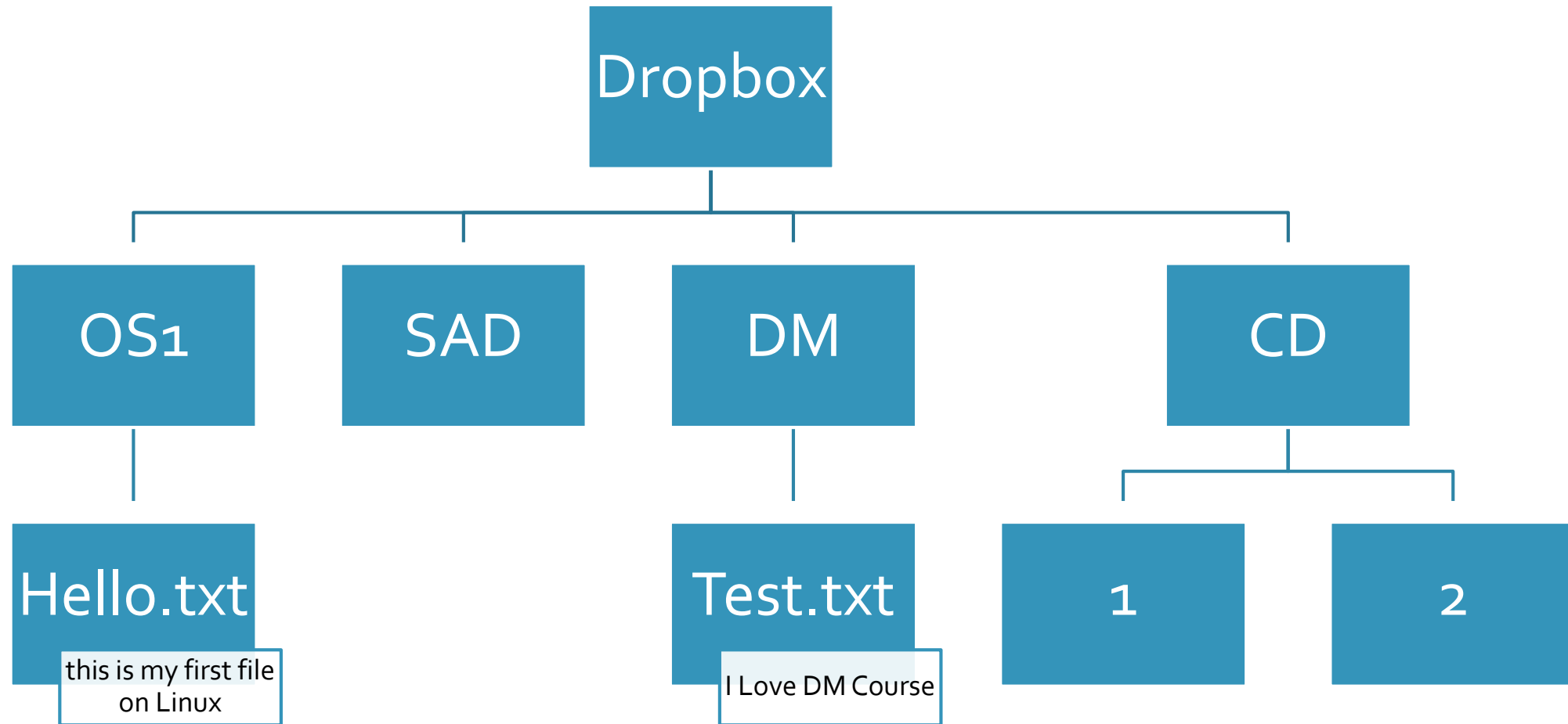
Remove all files in a directory without prompting the user.

- **Examples:**

- `rm /home/ypu/myfile.txt`

Basic Linux Commands

Exercise



Basic Linux Commands

Exercise

1. Build the tree in the last slide on your PC using only Linux Commands.
2. Add new file (F1.txt) in the SAD folder contains the working directory path of CD1 directory.
3. Add new file (F2.txt) in the CD2 folder contains the list of directories and files in Dropbox directory.