

Assignment-1

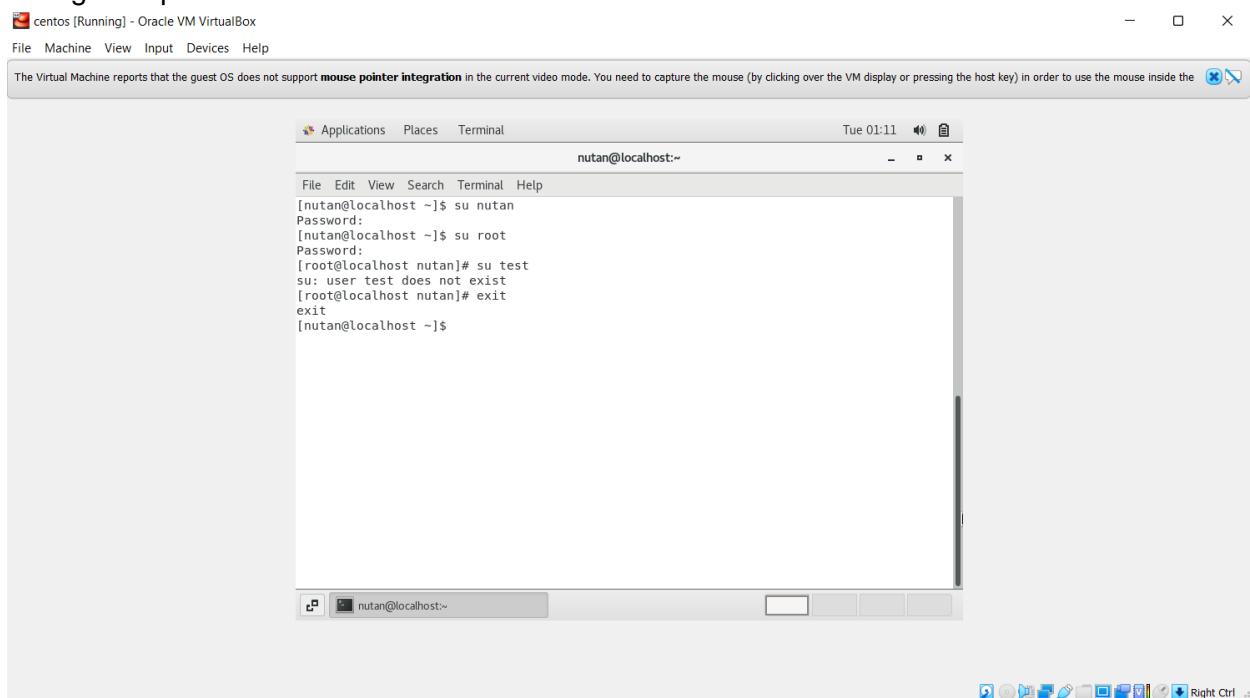
Connect and disconnect with login Access

- What happens when you login a non-existent user or username?
- o Provide Screenshot and What you understand, explain in short brief?

Answer -

i . When a user login it creates a unique identity in the system. The login name is looked up in a file called `/etc/passwd`. After successful login, the user gets all the privileges associated with that individual account. A user can be the part of multiple groups

li. When you try to switch a user which is not available in the system terminal shows the user does not exist. Also when trying to change the password using command `passwd` it returns that the user does not exist. Make sure to use the correct username of the person you intend to change the password for.



Assignment-2

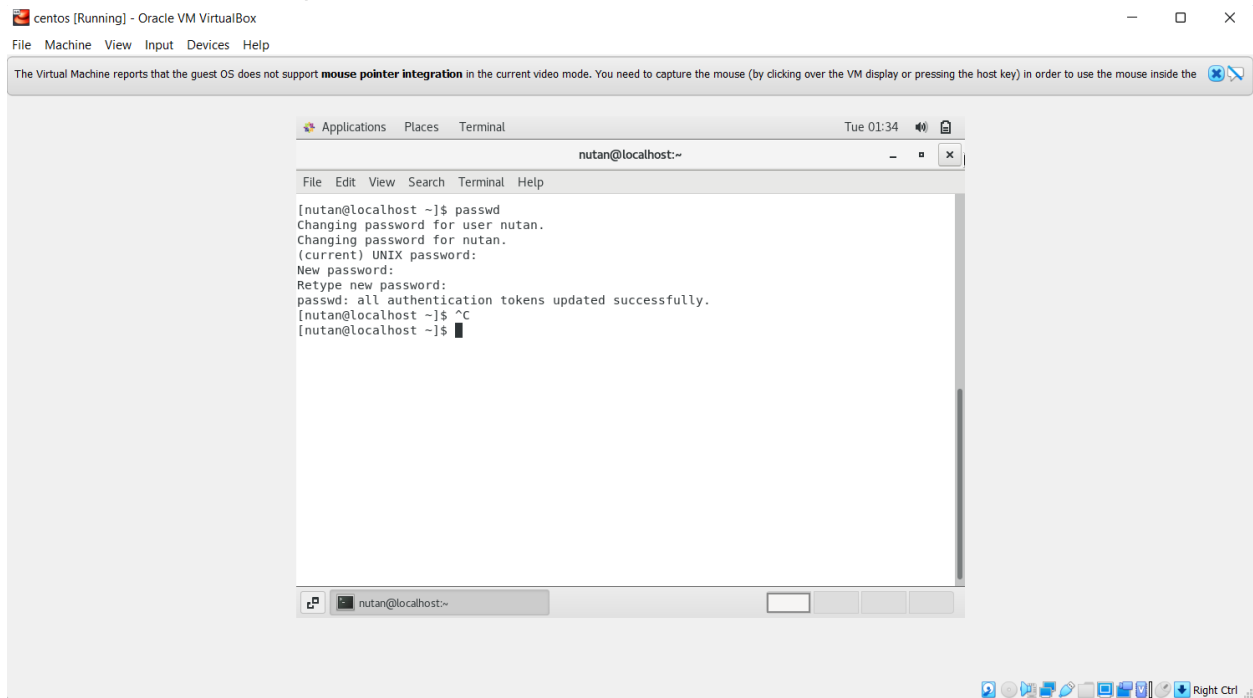
Password changing

- Login into your account and then change password?
- o Change your password into `IneuR0n#42` and hit the Enter key
- \$ Explain what happen and give screenshot?
- o Try again to change password but use like password `1234` or `abcd`
- \$ Explain what happen and give screenshot?

- o Try again to change password but now don't use any password just hit Enter key
- \$ Explain what happen and give screenshot?

Answer -

i. A normal user can change the password for his own account by simply entering the password command on their terminal as below. When you type a password, nothing is displayed on the screen, which is the expected behavior in Linux/UNIX.

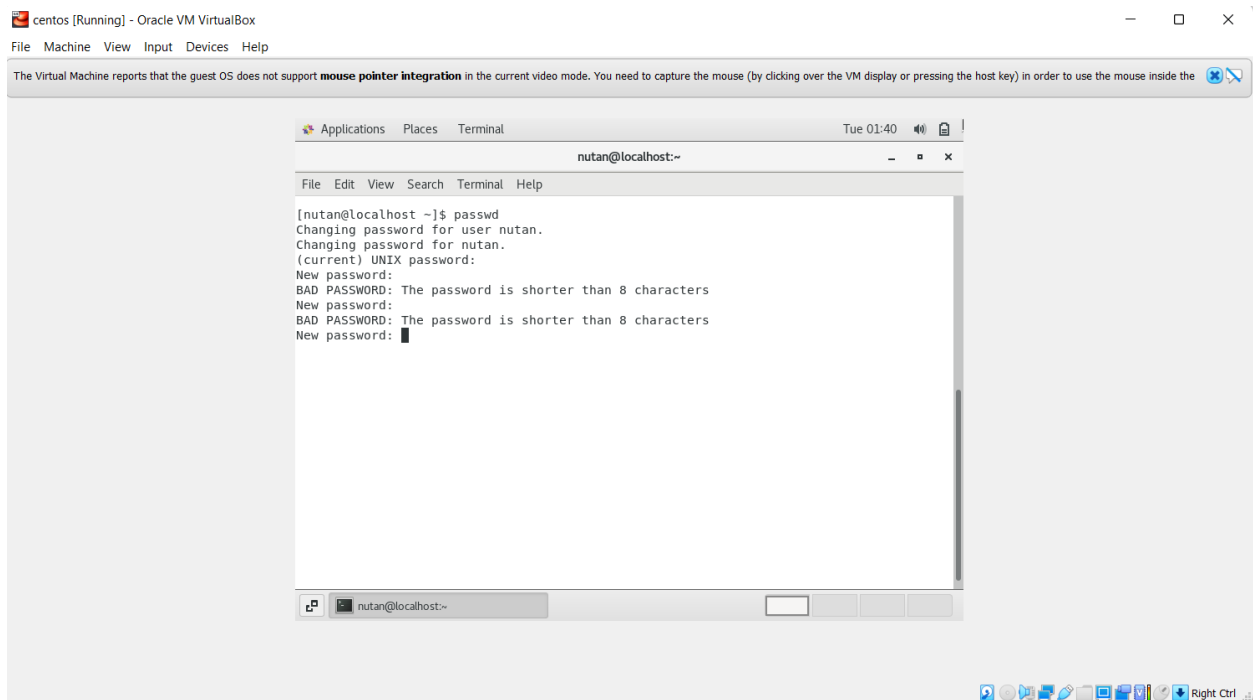


The screenshot shows a VirtualBox window titled 'centos [Running] - Oracle VM VirtualBox'. Inside the window, a terminal application is open with the title 'Applications Places Terminal'. The terminal shows the following commands and output:

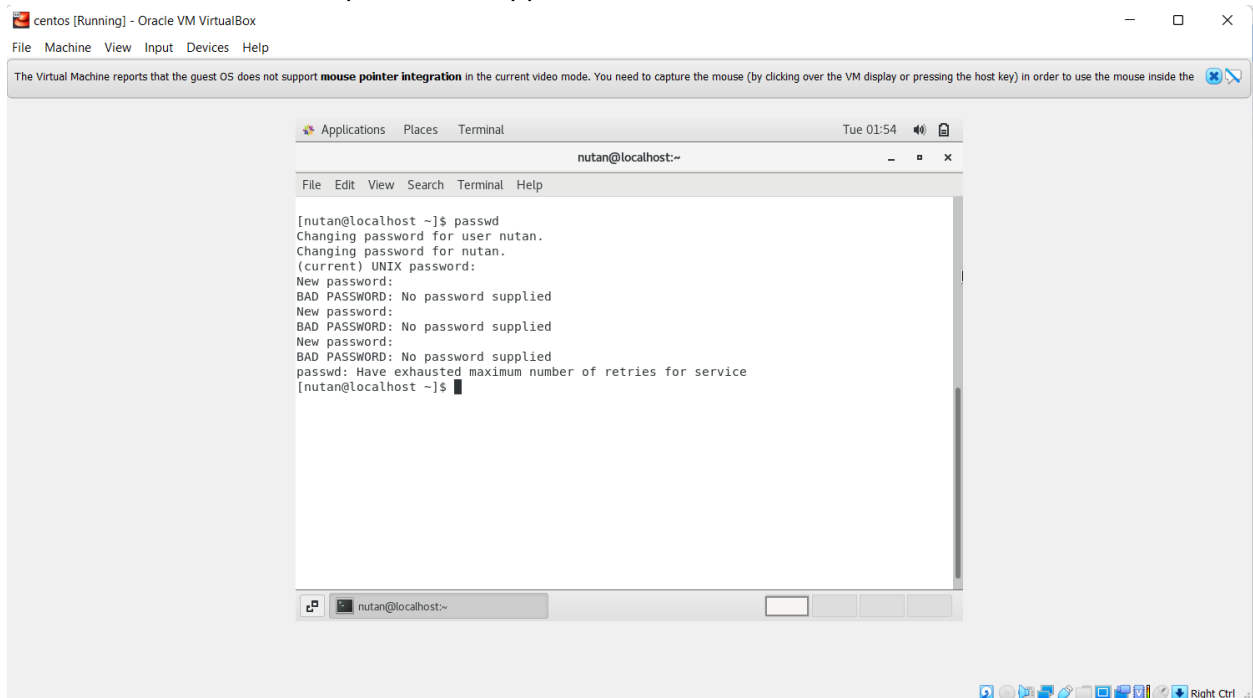
```
[nutan@localhost ~]$ passwd
Changing password for user nutan.
Changing password for nutan.
(current) UNIX password:
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[nutan@localhost ~]$ ^C
[nutan@localhost ~]$
```

ii. BAD PASSWORD: The password is shorter than 8 characters

For CentOS 7, the `/etc/security/pwquality.conf` or `/etc/pam.d/system-auth` configuration file is used.



lii. BAD PASSWORD: No password supplied



Assignment-3

Working with Directories

- Enter the command `cd /` and then `ls` and then hit Enter key
- o Take screenshot and explain what output we got?

- Enter the command now `cd /home` and then hit Enter key
- o Do `ls`, provide screenshot and explain what is `/home` directory used for?
- Enter `cd ..` and hit Enter key [Note: here we have space after `cd` then use double dot]
- o Check what happened and give a screenshot?
- Now enter `cd /var/www/html` and then type `cd` and hit Enter key
- o Explain what happen and give screenshot?
- Now type `cd /root` and then hit Enter key
- o Do `ls`, check any output we have on screen if yes then take a screenshot?

Answer -

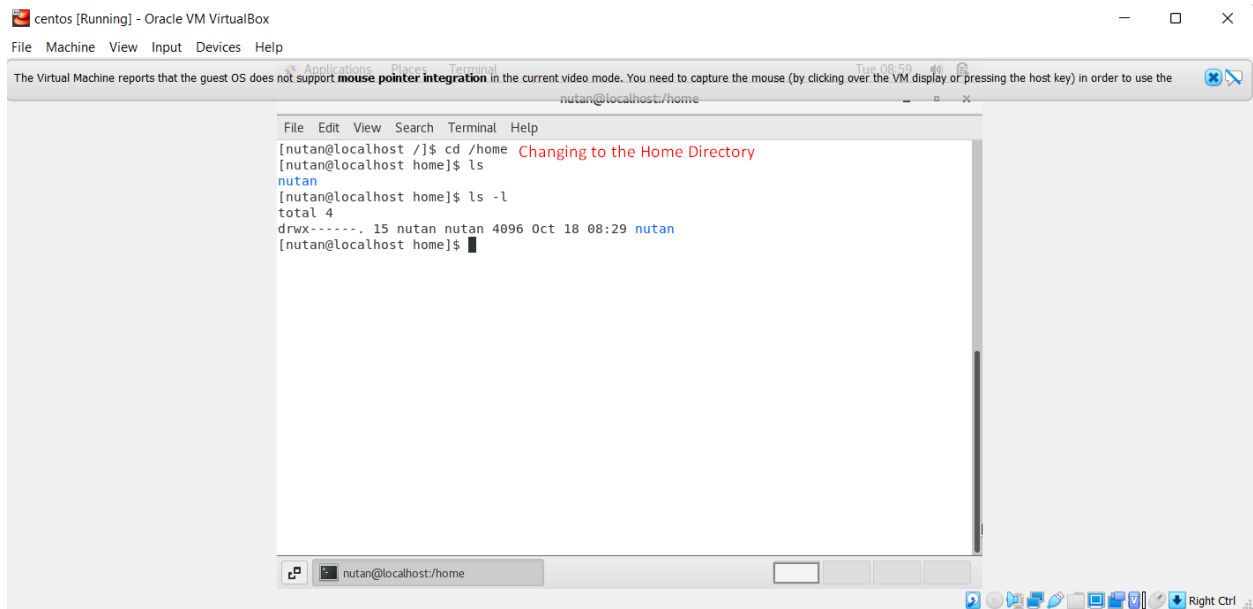
i. To change the present directory to root directory we use slash symbol (/) to the `cd` command to move into systems working directory. And we use `ls` command to list the content(files and repositories) from that directory.

The screenshot shows a terminal window titled 'centos [Running] - Oracle VM VirtualBox'. The user is logged in as 'nutan' on 'localhost'. The terminal shows the following commands and output:

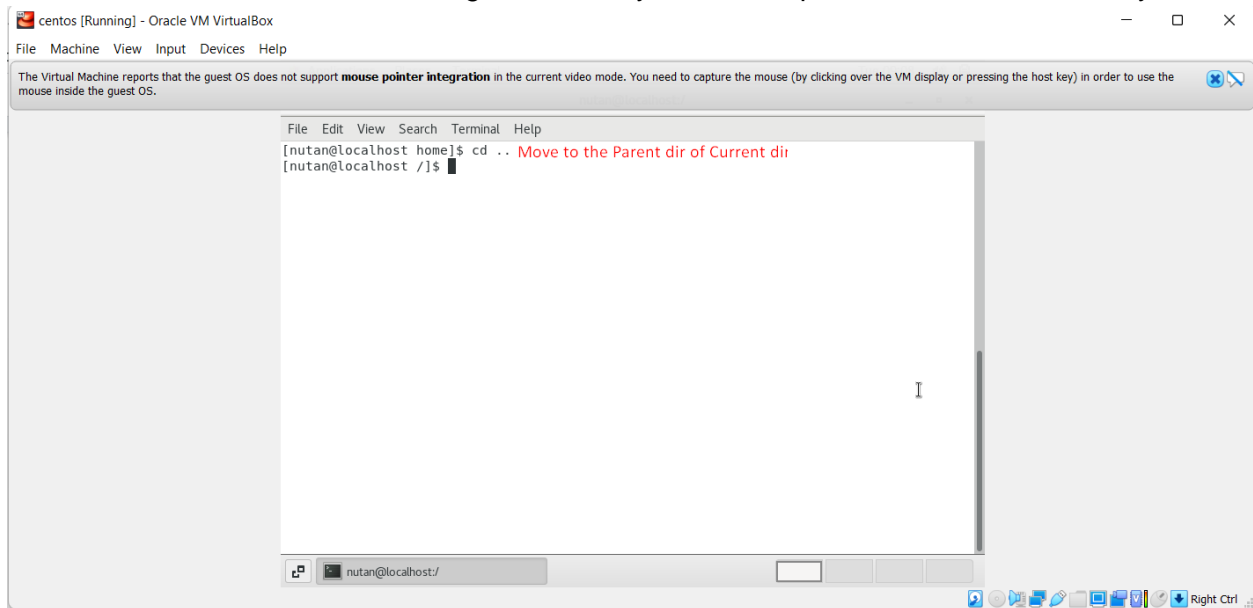
```
[nutan@localhost ~]$ cd / Changing to the Root Directory
[nutan@localhost /]$ ls
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot  etc  lib  media  opt  root  sbin  sys  usr
[nutan@localhost /]$ ls -l
total 20
lrwxrwxrwx. 1 root root 7 Oct 16 16:20 bin -> usr/bin
dr-xr-xr-x. 5 root root 4096 Oct 16 22:03 boot
drwxr-xr-x. 20 root root 3160 Oct 18 08:29 dev
drwxr-xr-x. 139 root root 8192 Oct 18 02:08 etc
drwxr-xr-x. 3 root root 19 Oct 16 16:29 home
lrwxrwxrwx. 1 root root 7 Oct 16 16:20 lib -> usr/lib
lrwxrwxrwx. 1 root root 9 Oct 16 16:20 lib64 -> usr/lib64
drwxr-xr-x. 2 root root 6 Apr 11 2018 media
drwxr-xr-x. 2 root root 6 Apr 11 2018 mnt
drwxr-xr-x. 3 root root 16 Oct 16 16:24 opt
dr-xr-xr-x. 206 root root 9 Oct 18 08:29 proc
dr-xr-xr-x. 5 root root 205 Oct 18 01:11 root
drwxr-xr-x. 40 root root 1240 Oct 18 08:32 run
lrwxrwxrwx. 1 root root 8 Oct 16 16:20 sbin -> usr/sbin
drwxr-xr-x. 2 root root 6 Apr 11 2018 srv
dr-xr-xr-x. 13 root root 0 Oct 18 08:29 sys
drwxrwxrwt. 16 root root 4096 Oct 18 08:31 tmp
drwxr-xr-x. 13 root root 155 Oct 16 16:20 usr
drwxr-xr-x. 20 root root 282 Oct 16 22:02 var
[nutan@localhost /]$
```

ii. To change the present directory to home directory we use slash symbol (/) to the `cd` command with the directory name to move into home directory. And we use `ls` command to list the content(files and repositories) from that directory.

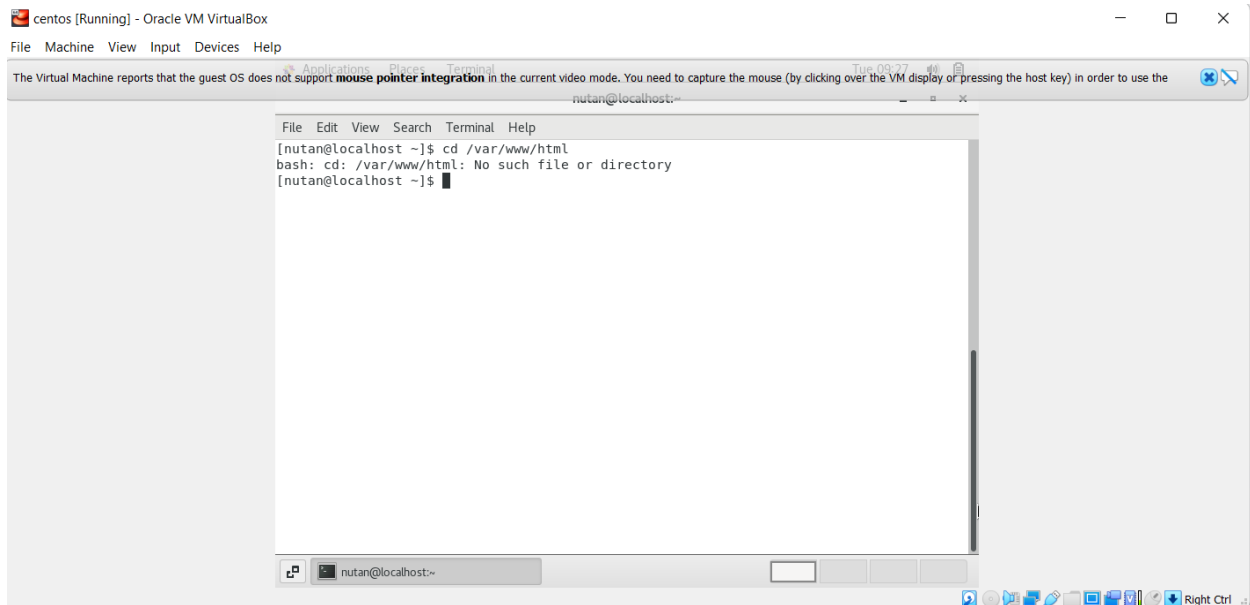
`/home` directory - This is the first place that occurs after logging into a system. It is automatically created as `/home` for each user in the directory. It is a directory for a particular user of the system and consists of individual files. It is also referred to as the login directory.



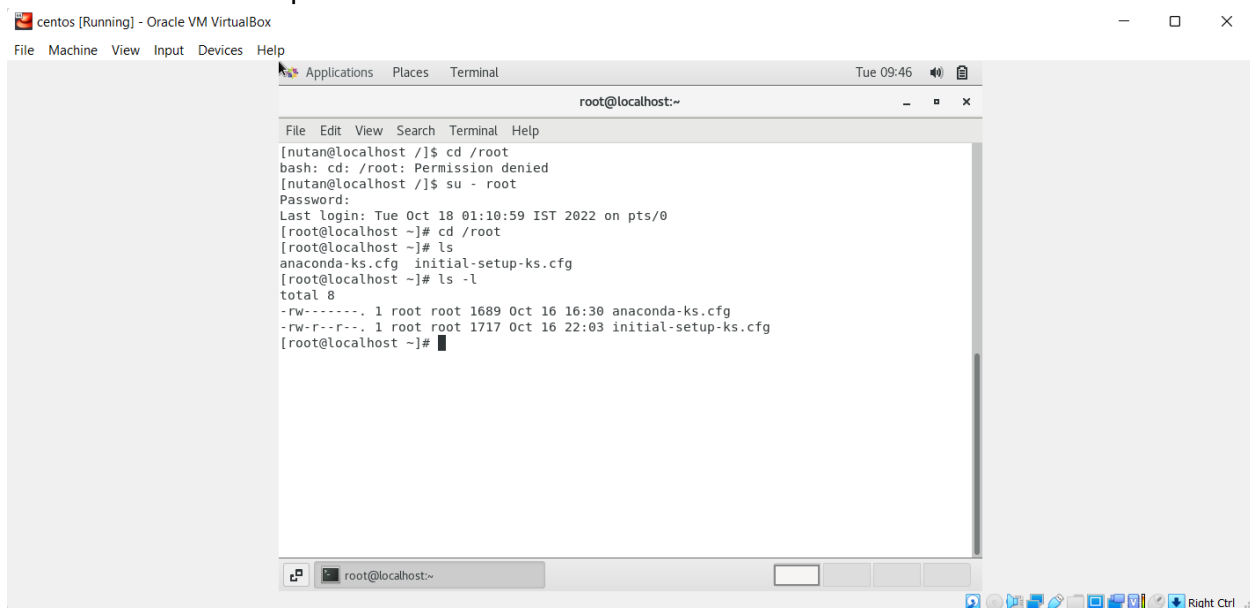
iii. `cd ..` command is used for making the directory one level up from the current directory.



iv. The path `/var/www/html` is created when you install Apache HTTP server.



v. permission denied error occurs when the user does not have the privileges to make edits to a file. Only root or users with sudo privileges can change permissions for files and repositories. In this scenario we got an error because the user is not the owner of /root folder. Hence cannot change the permission of the folder other than the root user. We need to switch to a root account to run the respective commands.



Assignment-4

Working with File Listing

- Go to `cd /etc` and type `ls`
- o Take screenshot and explain what files you have seeing?

- o Take screenshot and explain what different output you found compare to previous command you used?
 - Then type `ls -al` and hit Enter key
- o Take screenshot and explain what new file or directory you found?
 - Then use `ls -i` and hit Enter key
- o Now see what different output its shows and take screenshot?
 - Then use `ls --help` and see other options about `ls` command
- o Explore it and try with other attribute we can use with `ls` command

Answer -

i. The `/etc` refers to a folder in the root called `etc`. The `/etc` directory contains system configuration information. It contains a "configuration file" which is a local file used to control the operation of a program; it must be static and cannot be an executable binary. Many networking configuration files are in `/etc` as well.

The screenshot shows a terminal window titled "centos [Running] - Oracle VM VirtualBox". The terminal prompt is `nutan@localhost:/etc`. The user has entered `cd /etc` and `ls -l`. The output is a long list of files and directories with their permissions, owner, group, size, date, and name. The files listed include `abrt`, `adjtime`, `aliases`, `aliases.db`, `alsa`, `alternatives`, `anacrontab`, `asound.conf`, `at.deny`, `audisp`, `audit`, `avahi`, `bash_completion.d`, `bashrc`, `binfmt.d`, `bluetooth`, `brltty`, `brltty.conf`, `centos-release`, `centos-release-upstream`, `chkconfig.d`, `chrony.conf`, and `chrony.keys`.

ii. List all files including hidden files starting with a dot (`.`) A hidden file is a file which has the hidden attribute turned on so that it is not visible to users when exploring or listing files. Hidden files are used for storage of user preferences or for preservation of the state of utilities.

```
centos [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

The Virtual Machine reports that the guest OS does not support mouse pointer integration in the current video mode. You need to capture the mouse (by clicking over the VM display or pressing the host key) in order to use the mouse inside the

Applications Places Terminal Tue 16:04

nutan@localhost:/

File Edit View Search Terminal Help

[nutan@localhost etc]$ cd ..
[nutan@localhost /]$ ls -al
total 20
dr-xr-xr-x. 17 root root 224 Oct 16 16:29 .
dr-xr-xr-x. 17 root root 224 Oct 16 16:29 ..
lrwxrwxrwx. 1 root root 7 Oct 16 16:20 bin -> usr/bin
dr-xr-xr-x. 5 root root 4096 Oct 16 22:03 boot
drwxr-xr-x. 20 root root 3160 Oct 18 15:43 dev
drwxr-xr-x. 139 root root 8192 Oct 18 02:00 etc
drwxr-xr-x. 3 root root 19 Oct 16 16:29 home
lrwxrwxrwx. 1 root root 7 Oct 16 16:20 lib -> usr/lib
lrwxrwxrwx. 1 root root 9 Oct 16 16:20 lib64 -> usr/lib64
drwxr-xr-x. 2 root root 6 Apr 11 2018 media
drwxr-xr-x. 2 root root 6 Apr 11 2018 mnt
drwxr-xr-x. 3 root root 16 Oct 16 16:24 opt
dr-xr-xr-x. 206 root root 0 Oct 18 15:43 proc
dr-xr-xr-x. 5 root root 205 Oct 18 09:52 root
drwxr-xr-x. 40 root root 1240 Oct 18 15:44 run
lrwxrwxrwx. 1 root root 8 Oct 16 16:20 sbin -> usr/sbin
drwxr-xr-x. 2 root root 6 Apr 11 2018 srv
dr-xr-xr-x. 13 root root 0 Oct 18 15:43 sys
drwxrwxrwt. 16 root root 4096 Oct 18 16:01 tmp
drwxr-xr-x. 13 root root 155 Oct 16 16:20 usr
drwxr-xr-x. 20 root root 282 Oct 16 22:02 var
[nutan@localhost /]$
```

iii. Display Inode number of File or Directory. An inode is a data structure in UNIX operating systems that contains important information pertaining to files within a file system. When a file system is created in UNIX, a set amount of inodes is created, as well.

```
centos [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

The Virtual Machine reports that the guest OS does not support mouse pointer integration in the current video mode. You need to capture the mouse (by clicking over the VM display or pressing the host key) in order to use the mouse inside the

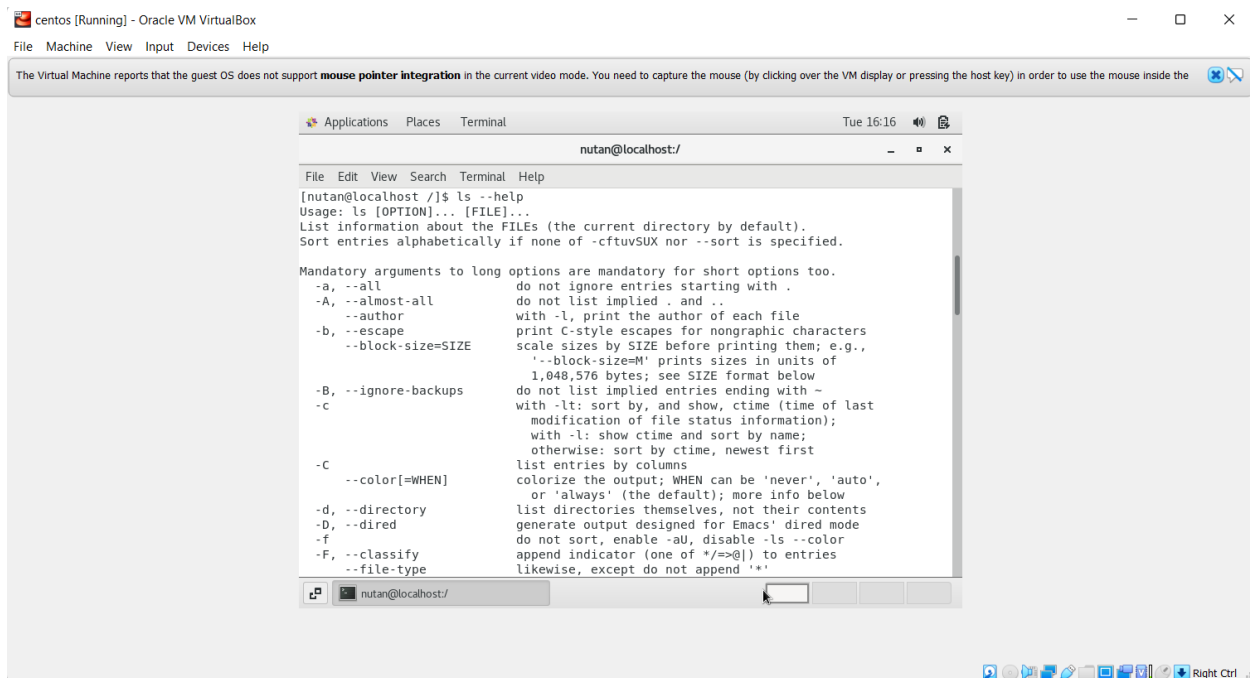
Applications Places Terminal Tue 16:14

nutan@localhost:/

File Edit View Search Terminal Help

[nutan@localhost /]$ ls -li
74275 bin 50332835 home 16777415 mnt 7373 run 16777288 tmp
64 boot 81 lib 33593545 opt 74279 sbin 33593488 usr
3 dev 83 lib64 1 proc 50332836 srv 50331713 var
16777281 etc 84 media 33574977 root 1 sys
[nutan@localhost /]$
```

iv. The help command is the simplest way to get information regarding a built-in shell command.



Assignment-5

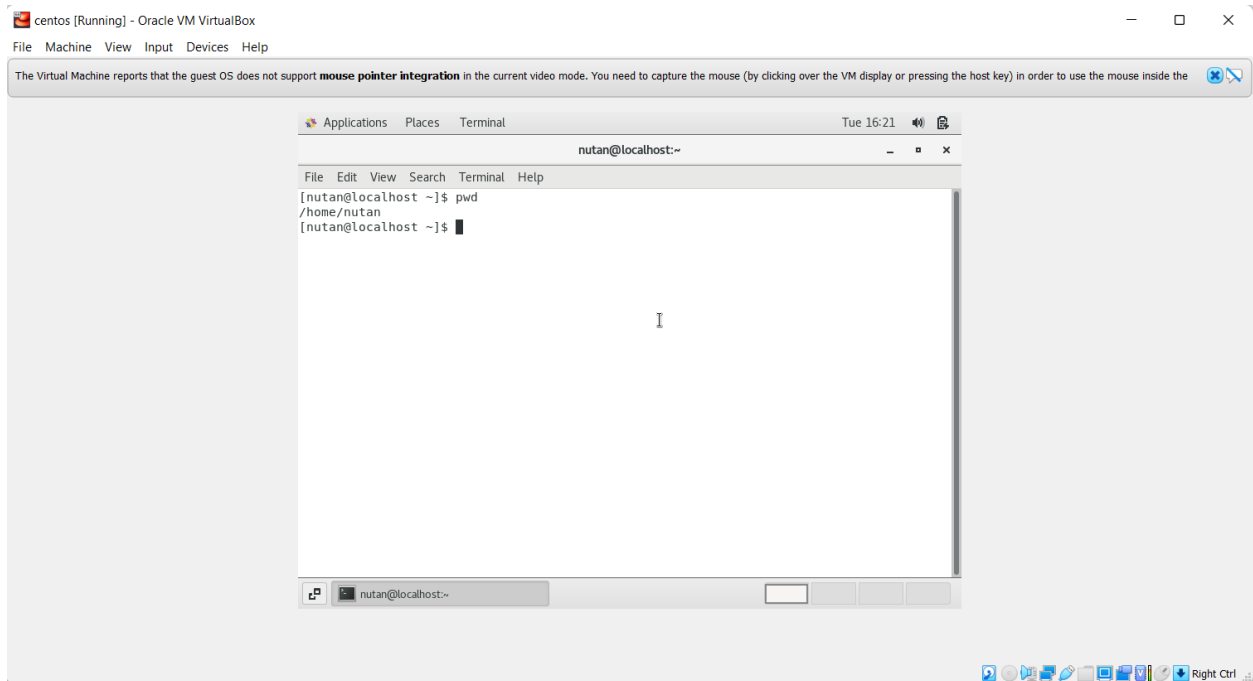
Know where you are and where you working

Here we use `pwd`, `cd` and `ls` as a combined task to understand where you are working on the terminal and how you can switch from one directory to another one.

- Open terminal after restart the linux
- o Check which location you working, type `pwd` and take screenshot
- Now use `cd /var` and hit Enter key
- o Do `ls`, and see what output comes, give screenshot?
- Do explore other help options of each command to learn more other things we can do with these commands

Answer -

i. `pwd` stands for Print Working Directory. It prints the path of the working directory, starting from the root. All directories are separated by a slash (/).



ii. /var is a standard subdirectory of the root directory. /var contains variable data files. This includes spool directories and files, administrative and logging data, and transient and temporary files. Some portions of /var are not shareable between different systems. For instance, /var/log , /var/lock , and /var/run .

