



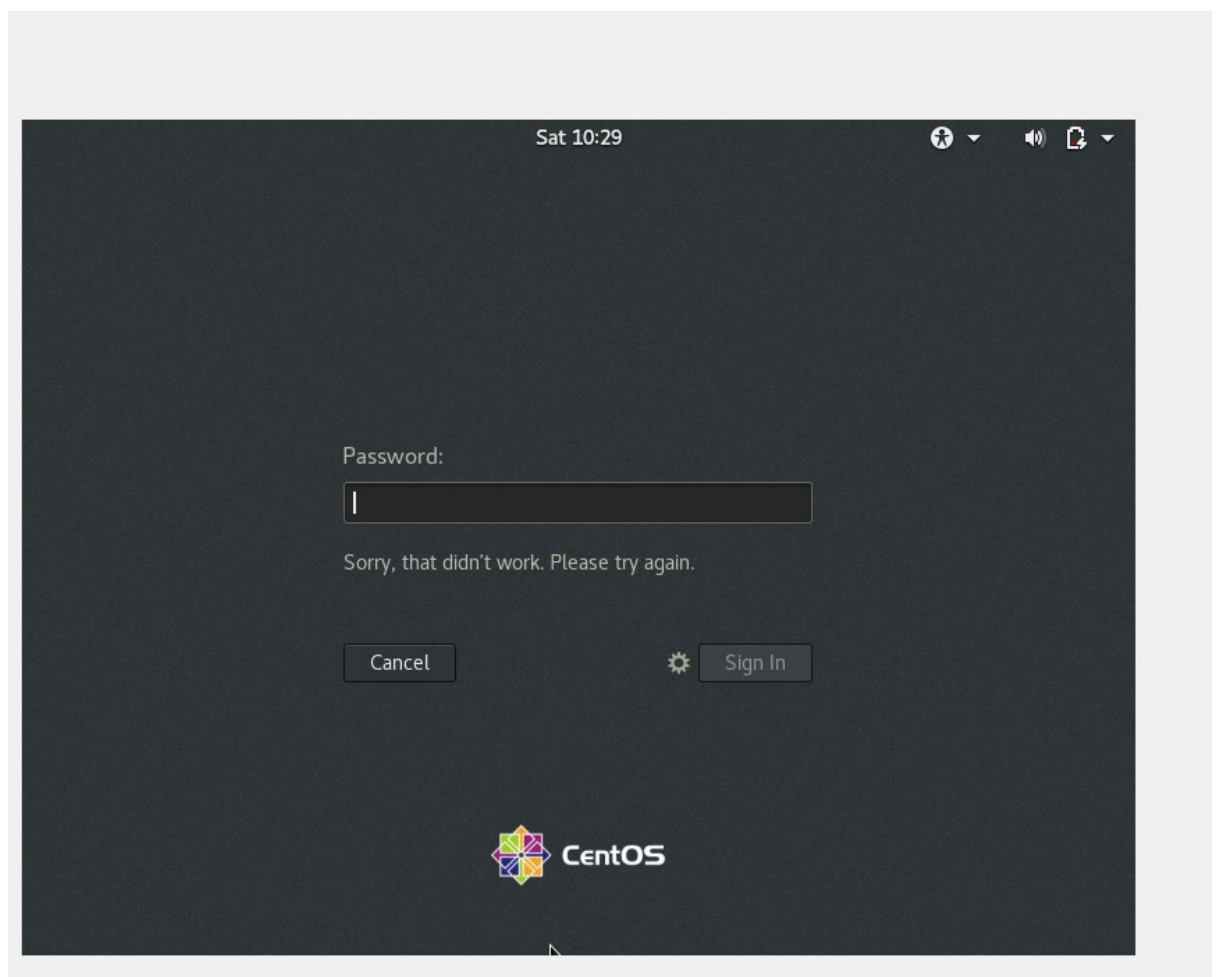
Basic Linux Commands Assignments

Assignment-1

Connect and disconnect with login Access

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

Answer: *When we try to login using a non-existent username , it accepts that and proceeds to the password screen. But once you enter the password , we get the Error as “Sorry that didn’t work.Please try again”. From this we understand , on entering a username it doesn’t validate whether the user exist or not , it only validates after entering password.*



Assignment-2

Password changing

- Login into your account and then change password?
 - Change your password into **IneuR0n#42** and hit the **Enter** key
 - Explain what happen and give screenshot?

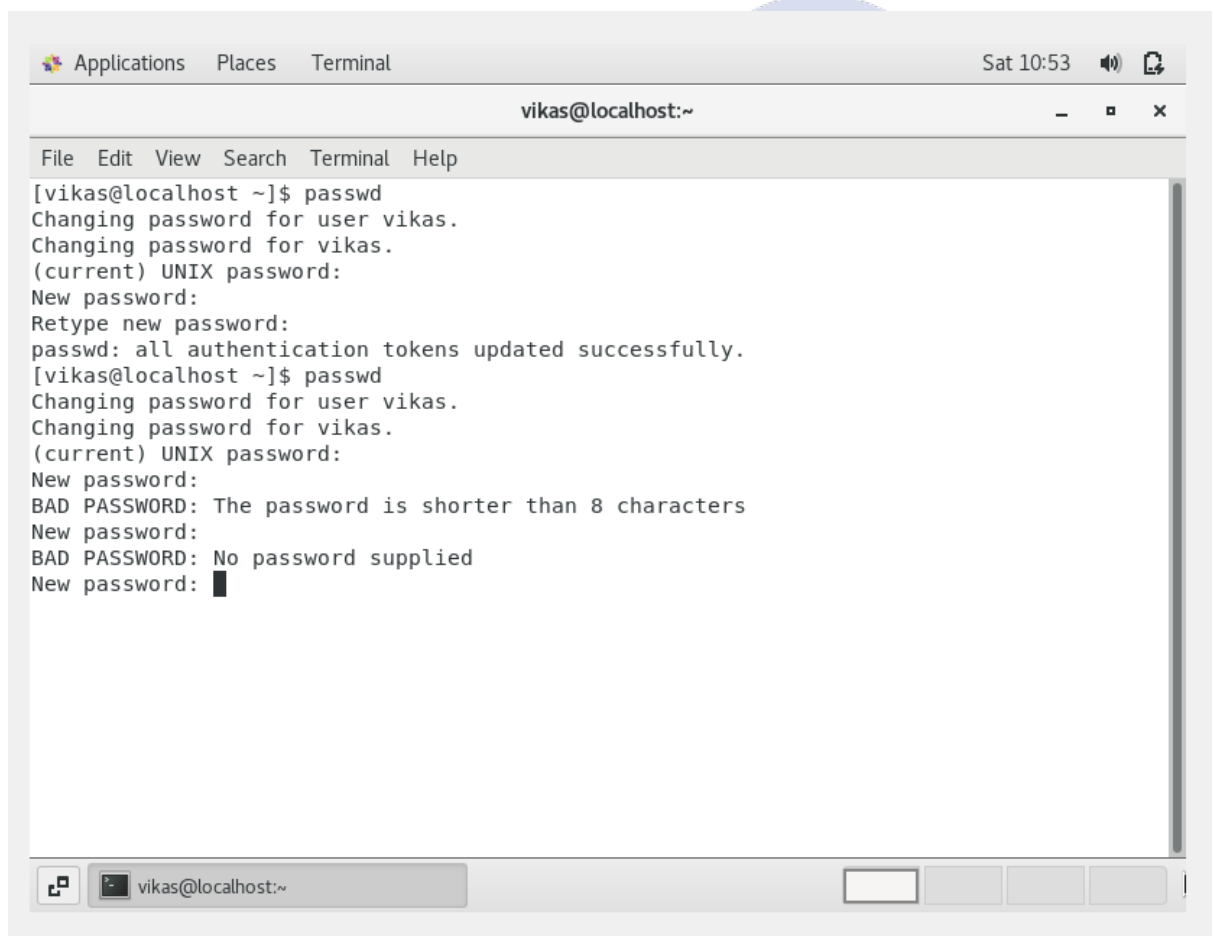
Answer: *Once you give keyword passwd , it asks us to enter the current password. On entering the current password it asks to enter the new password and then confirm it again. Once the two passwords (new and confirm) match , it gives the comment saying all authentication tokens updated successfully.*

- Try again to change password but use like password **1234** or **abcd**
 - Explain what happen and give screenshot?

Answer: *When you try to change the password as 1234 , it prompts the error saying "BAD PASSWORD :The password is shorter than 8 charaters"*

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

Answer: *When you press enter without entering anything, it prompts the msg saying "BAD PASSWORD : No password supplied"*



The screenshot shows a terminal window titled 'Applications Places Terminal' with a status bar indicating 'Sat 10:53'. The terminal prompt is 'vikas@localhost:~'. The user has executed the 'passwd' command three times. The first execution was successful, displaying 'passwd: all authentication tokens updated successfully.' The second execution resulted in an error: 'BAD PASSWORD: The password is shorter than 8 characters'. The third execution resulted in another error: 'BAD PASSWORD: No password supplied'. The terminal window has a menu bar with 'File Edit View Search Terminal Help' and a taskbar at the bottom showing the terminal icon and the prompt 'vikas@localhost:~'.

```
[vikas@localhost ~]$ passwd
Changing password for user vikas.
Changing password for vikas.
(current) UNIX password:
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[vikas@localhost ~]$ passwd
Changing password for user vikas.
Changing password for vikas.
(current) UNIX password:
New password:
BAD PASSWORD: The password is shorter than 8 characters
New password:
BAD PASSWORD: No password supplied
New password:
```

Assignment-3

Working with Directories (All screenshots attached below)

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

Answer: *Once you give **cd /**, it goes into the root directory and once you give **ls**, all the folders present in the root directory is displayed.*

```
[vikas@localhost ~]$ cd /  
[vikas@localhost /]$ ls  
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var  
boot  etc  lib  media  opt  root  sbin  sys  usr
```

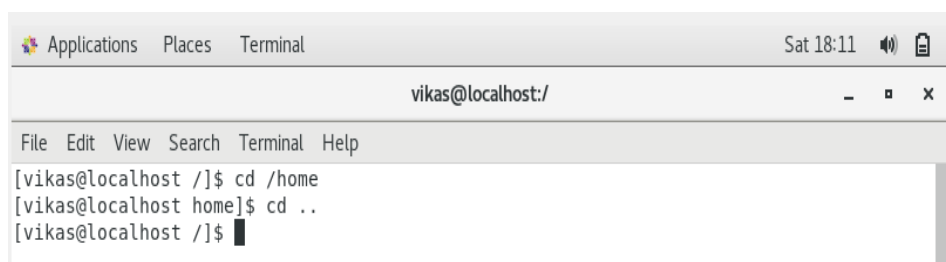
- Enter the command now **cd /home** and then hit **Enter** key
 - Do **ls**, provide screenshot and explain what is **/home** directory used for?

Answer: */home directory is one's individual directory in the linux system. This directory is automatically created once you login and also called as login directory. The user can store his individual files in this directory*

```
[vikas@localhost /]$ cd /home  
[vikas@localhost home]$ ls  
vikas
```

- Enter **cd ..** and hit **Enter** key [Note: here we have space after **cd** then use double dot]
 - Check what happen and give screenshot?

Answer: *cd .. takes us to one directory level up*

A screenshot of a terminal window titled 'Applications Places Terminal' with a status bar showing 'Sat 18:11'. The terminal shows the user 'vikas@localhost' at the root directory. The user enters 'cd /home', then 'ls', and then 'cd ..', returning to the root directory.

```
vikas@localhost:/  
File Edit View Search Terminal Help  
[vikas@localhost /]$ cd /home  
[vikas@localhost home]$ cd ..  
[vikas@localhost /]$
```

- Now enter **cd /var/www/html** and then type **cd** and hit **Enter** key
 - Explain what happen and give screenshot?

Answer: *We get an error as no such file or directory since the var folder doesn't have a file called **www** inside it.*

```
[vikas@localhost home]$ cd ..  
[vikas@localhost /]$ cd /var/www/html  
bash: cd: /var/www/html: No such file or directory
```

- Now type **cd /root** and then hit **Enter** key
 - Do **ls**, check any output we have on screen if yes then take screenshot?

Answer : When we give **cd /root** , we get error as “Permission denied” since we are not logged in as a root user. So use **su –** to login as root user and then give **cd /root** followed by **ls** to get the files in the home directory of root user

```
[vikas@localhost ~]$ cd /root
bash: cd: /root: Permission denied
[vikas@localhost ~]$ su -
Password:
Last login: Thu Dec  8 20:33:35 IST 2022 on pts/0
[root@localhost ~]# cd /root
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
[root@localhost ~]#
```

Assignment 3 full screenshot :

The screenshot shows a terminal window titled 'root@localhost:~'. The user 'vikas' starts in the home directory (~) and runs 'cd /'. Then 'ls' is run, showing a list of directories: bin, dev, home, lib64, mnt, proc, run, srv, tmp, var, boot, etc, lib, media, opt, root, sbin, sys, usr. Next, 'cd /home' is run, and 'ls' shows the user 'vikas'. Then 'cd ..' is run, returning to the root directory (/). 'cd /var/www/html' is attempted but fails with 'No such file or directory'. Then 'cd /root' is run, failing with 'Permission denied'. Finally, 'su -' is run, providing a password, and the user becomes root. The root prompt shows 'cd /root' and 'ls', which lists 'anaconda-ks.cfg' and 'initial-setup-ks.cfg'.

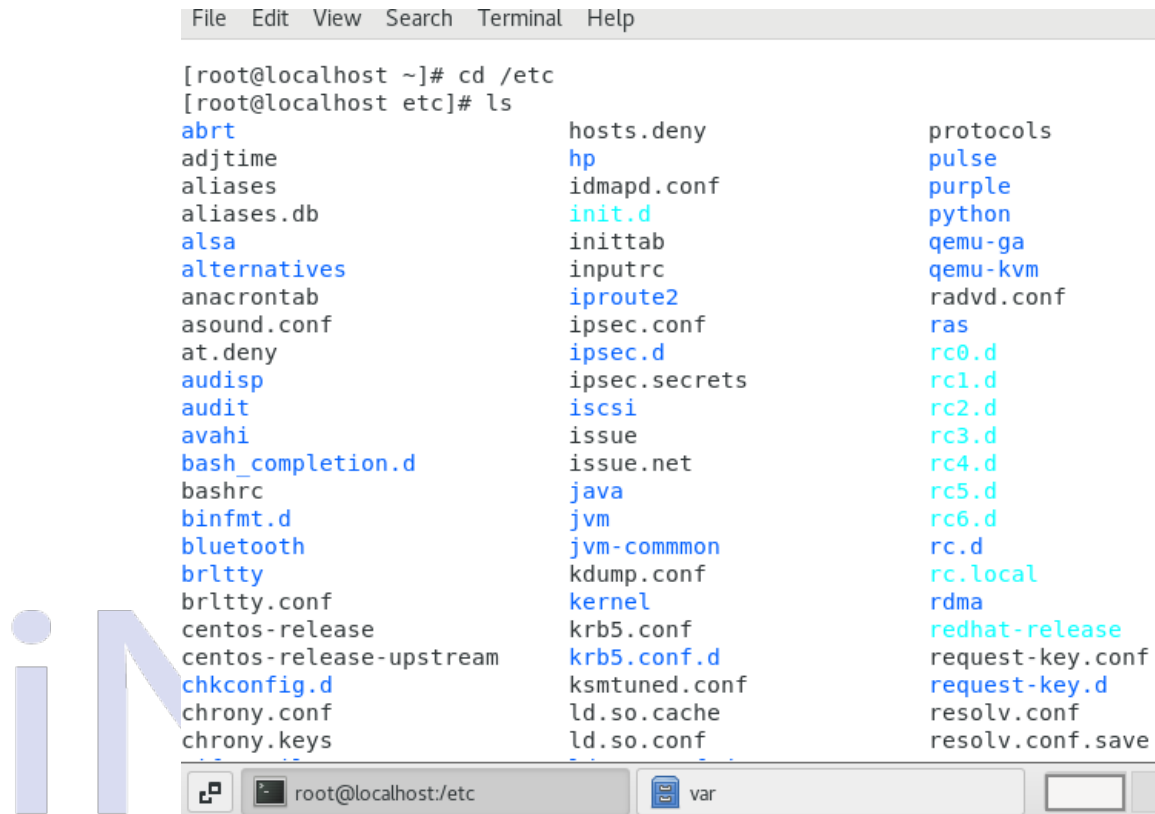
```
File Edit View Search Terminal Help
[vikas@localhost ~]$ cd /
[vikas@localhost /]$ ls
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot  etc  lib  media  opt  root  sbin  sys  usr
[vikas@localhost /]$ cd /home
[vikas@localhost home]$ ls
vikas
[vikas@localhost home]$ cd ..
[vikas@localhost /]$ cd /var/www/html
bash: cd: /var/www/html: No such file or directory
[vikas@localhost /]$ cd /root
bash: cd: /root: Permission denied
[vikas@localhost /]$ su -
Password:
Last login: Thu Dec  8 20:33:35 IST 2022 on pts/0
[root@localhost ~]# cd /root
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
[root@localhost ~]#
```

Assignment-4

Working with File Listing

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

Answer: On giving `cd /etc` followed by `ls`, we see all the files present in the `etc` directory (It has all the config files)



```
File Edit View Search Terminal Help

[root@localhost ~]# cd /etc
[root@localhost etc]# ls
abrt                               hosts.deny                         protocols
adjtime                           hp                                pulse
aliases                          idmapd.conf                       purple
aliases.db                       init.d                            python
alsa                             inittab                          qemu-ga
alternatives                     inputrc                          qemu-kvm
anacrontab                       iproute2                         radvd.conf
asound.conf                      ipsec.conf                       ras
at.deny                          ipsec.secrets                    rc0.d
audisp                           iscsi                            rc1.d
audit                            issue                            rc2.d
avahi                            issue.net                        rc3.d
bash_completion.d               java                              rc4.d
bashrc                           jvm                              rc5.d
binfo.d                         jvm-common                       rc6.d
bluetooth                       kdump.conf                      rc.d
brltty                          kernel                           rc.local
brltty.conf                     krb5.conf                       rdma
centos-release                  krb5.conf.d                     redhat-release
centos-release-upstream         ksmtuned.conf                  request-key.conf
chkconfig.d                    ld.so.cache                    request-key.d
chrony.conf                    ld.so.conf                     resolv.conf
chrony.keys                    protocols                       resolv.conf.save
```

- Take screenshot and explain what different output you found compare to previous command you used?

Answer: For all the commands used before we didn't see any config related files. But in `etc` directory we see those

- Then type `ls -al` and hit **Enter** key
 - Take screenshot and explain what new file or directory you found?

Answer This command gives us the hidden files in the directory in a long list. We can view files starting with `."` displayed here. We can see the first two lines have file with `."` and `.."`

```

File Edit View Search Terminal Help
root@localhost etc]# ls -al
total 1372
lrwxr-xr-x. 139 root root      8192 Dec 10 10:52 .
lrwxr-xr-x. 17 root root       224 Dec 1 12:47 ..
lrwxr-xr-x. 3 root root       101 Dec 1 12:38 abrt
-rw-r--r--. 1 root root        16 Dec 1 12:47 adjtime
-rw-r--r--. 1 root root     1529 Apr 1 2020 aliases
-rw-r--r--. 1 root root    12288 Dec 1 12:49 aliases.db
lrwxr-xr-x. 3 root root        65 Dec 1 12:40 alsa
lrwxr-xr-x. 2 root root     4096 Dec 1 12:45 alternatives
-rw-r-----. 1 root root       541 Aug 9 2019 anacrontab
-rw-r--r--. 1 root root        55 Aug 8 2019 asound.conf
-rw-r--r--. 1 root root         1 Oct 30 2018 at.deny
lrwxr-xr-x. 3 root root        43 Dec 1 12:38 audisp
lrwxr-xr-x. 3 root root        83 Dec 1 12:49 audit
lrwxr-xr-x. 4 root root        71 Dec 1 12:40 avahi
lrwxr-xr-x. 2 root root     4096 Dec 1 12:41 bash_completion.d
-rw-r--r--. 1 root root    2853 Apr 1 2020 bashrc
lrwxr-xr-x. 2 root root         6 Oct 1 2020 binfmt.d
lrwxr-xr-x. 2 root root        23 Dec 1 12:38 bluetooth
lrwxr-xr-x. 2 root root    12288 Dec 1 12:39 brltty
-rw-r--r--. 1 root root   21929 Apr 11 2018 brltty.conf
-rw-r--r--. 1 root root        37 Oct 23 2020 centos-release
-rw-r--r--. 1 root root        51 Oct 23 2020 centos-release-upstream
lrwxr-xr-x. 2 root root         6 Oct 13 2020 chkconfig.d

```

- Then use **ls -i** and hit **Enter** key
 - Now see what different output its shows and take screenshot?
 -

Answer: This gives us the Index number (inode) of each file in the directory.

```

[root@localhost etc]# ls -i
34542840 abrt
17445510 adjtime
16777834 aliases
17933946 aliases.db
1689682 alsa
33927954 alternatives
17445482 anacrontab
17192591 asound.conf
17926600 at.deny
51146806 audisp
17523893 audit
35176763 avahi
74276 bash_completion.d
16777835 bashrc
51001706 binfmt.d
51094977 bluetooth
17573565 brltty
17573566 brltty.conf
16777320 centos-release
16777321 centos-release-upstream
50363127 chkconfig.d
17545046 chrony.conf
17545048 chrony.keys
51967965 cifs-utils
2992966 mcelog
17226377 mke2fs.conf
17378801 modprobe.d
1228840 modules-load.d
16777848 motd
16777284 mtab
17048473 mtools.conf
17574002 multipath
17349872 my.cnf
17349873 my.cnf.d
17960032 nanorc
34590756 ndctl
17226398 netconfig
34493618 NetworkManager
17445512 networks
17625521 nfs.conf
17625522 nfsmount.conf
17379036 nsswitch.conf
16884143 nsswitch.conf.bak
51967933 ntp
17490233 numad.conf
51146794 oddjob
17523873 oddjobd.conf
1552480 oddjobd.conf.d

```

- Then use **ls --help** and see other options about **ls** command
 - Explore it and try with other attribute we can use with **ls** command

```

vikas@localhost etc]$ ls --help
usage: ls [OPTION]... [FILE]...
list information about the FILES (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.
-a, --all                do not ignore entries starting with .
-A, --almost-all        do not list implied . and ..
--author                with -l, print the author of each file
-b, --escape             print C-style escapes for nongraphic characters
--block-size=SIZE       scale sizes by SIZE before printing them; e.g.,
                        '--block-size=M' prints sizes in units of
                        1,048,576 bytes; see SIZE format below
-B, --ignore-backups     do not list implied entries ending with ~
-c                      with -lt: sort by, and show, ctime (time of last
                        modification of file status information);
                        with -l: show ctime and sort by name;
                        otherwise: sort by ctime, newest first
-C                      list entries by columns
--color[=WHEN]          colorize the output; WHEN can be 'never', 'auto',
                        or 'always' (the default); more info below

```

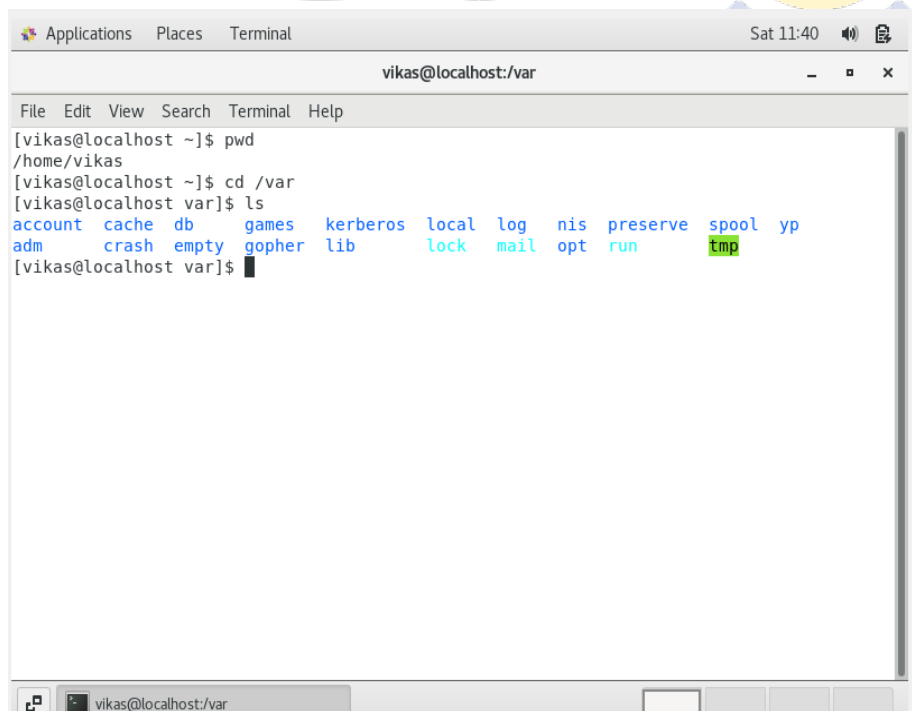
Assignment-5

Know where you are and where you working

Here we use **pwd**, **cd** and **ls** as combine task to understand where you working on terminal and how you can switch from one directory to another one.

- Open terminal after restart the linux
 - Check which location you working, type **pwd** and take screenshot

Answer : *This tells us the present working directory (/home/vikas)*



```

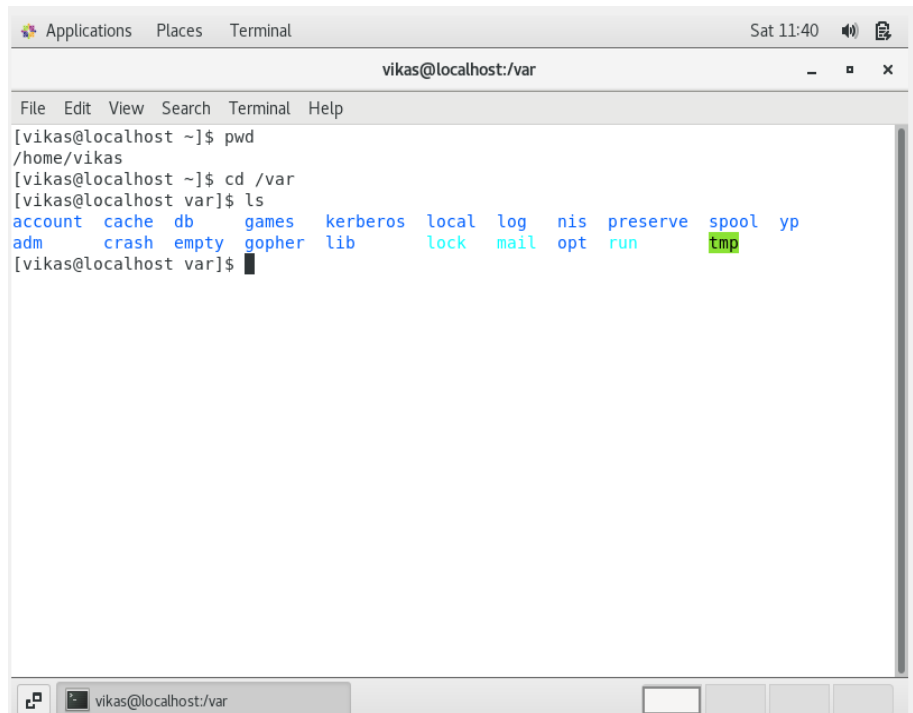
Applications  Places  Terminal
vikas@localhost: /var

File Edit View Search Terminal Help
[vikas@localhost ~]$ pwd
/home/vikas
[vikas@localhost ~]$ cd /var
[vikas@localhost var]$ ls
account  cache  db      games  kerberos  local  log  nis  preserve  spool  yp
adm      crash  empty  gopher  lib       lock  mail  opt  run      tmp
[vikas@localhost var]$

```

- Now use **cd /var** and hit **Enter** key
 - Do **ls**, and see what output comes, give screenshot?

Answer: *This lists the files present in var directory*



```
Applications Places Terminal Sat 11:40
vikas@localhost:/var
File Edit View Search Terminal Help
[vikas@localhost ~]$ pwd
/home/vikas
[vikas@localhost ~]$ cd /var
[vikas@localhost var]$ ls
account  cache  db      games  kerberos  local  log  nis  preserve  spool  yp
adm      crash  empty  gopher  lib       lock   mail opt   run       tmp
[vikas@localhost var]$
```

- Do explore other help options of each command to learn more other things we can do with these commands