

Basic Linux Commands Assignments

Name: Abhijit Barik

Gmail: abro45172018@gmail.com

Assignment-1

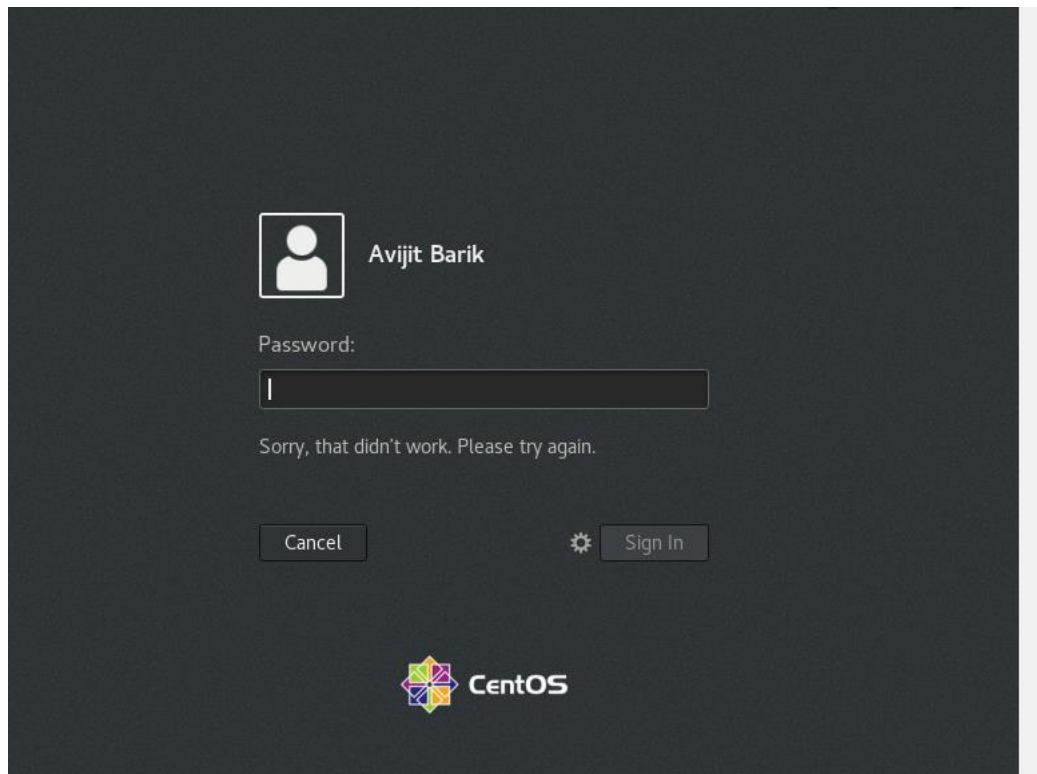
Connect and disconnect with login Access

* What happens when you login a non-existent users or username?

Ans) If we try to login with non-existent users then we unable to login in centos

* Provide Screenshot and What you understand, explain in short brief?

Ans) A user has created a directory with files, but the user does not exist in /etc/passwd or /etc/group that is called non existent user



Assignment-2

Password changing

* Login into your account and then change password?

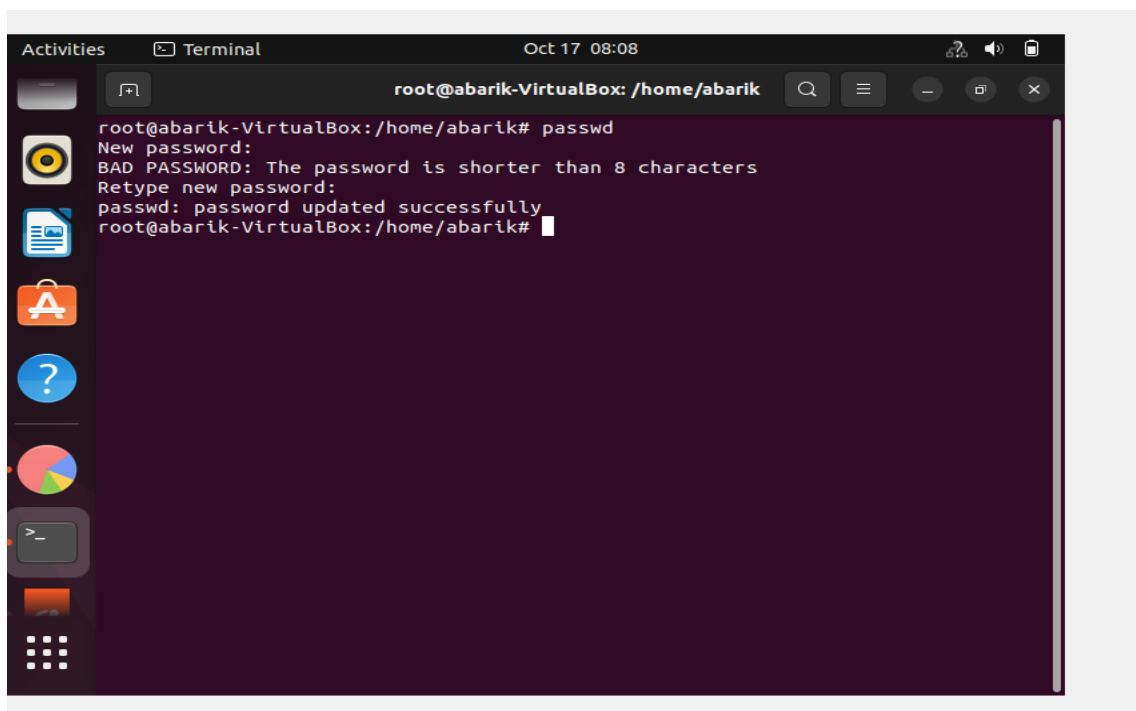
* Change your password into lneuR0n#42 and hit the Enter key

* Explain what happen and give screenshot?

```
abarik@abhihit-virtualbox: ~  
abarik@abhihit-virtualbox:~$ passwd  
Changing password for abarik.  
Current password:  
New password:  
Retype new password:  
passwd: password updated successfully  
abarik@abhihit-virtualbox:~$
```

It will change password

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



```
root@abarik-VirtualBox: /home/abarik  
root@abarik-VirtualBox:/home/abarik# passwd  
New password:  
BAD PASSWORD: The password is shorter than 8 characters  
Retype new password:  
passwd: password updated successfully  
root@abarik-VirtualBox:/home/abarik#
```

It will show bad password notification and password update successfully

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

```

root@abarik-VirtualBox: /home/abarik
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: No password supplied
Retype new password:

```

It will show bad password and authentication failed.

Assignment-3

Working with Directories

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

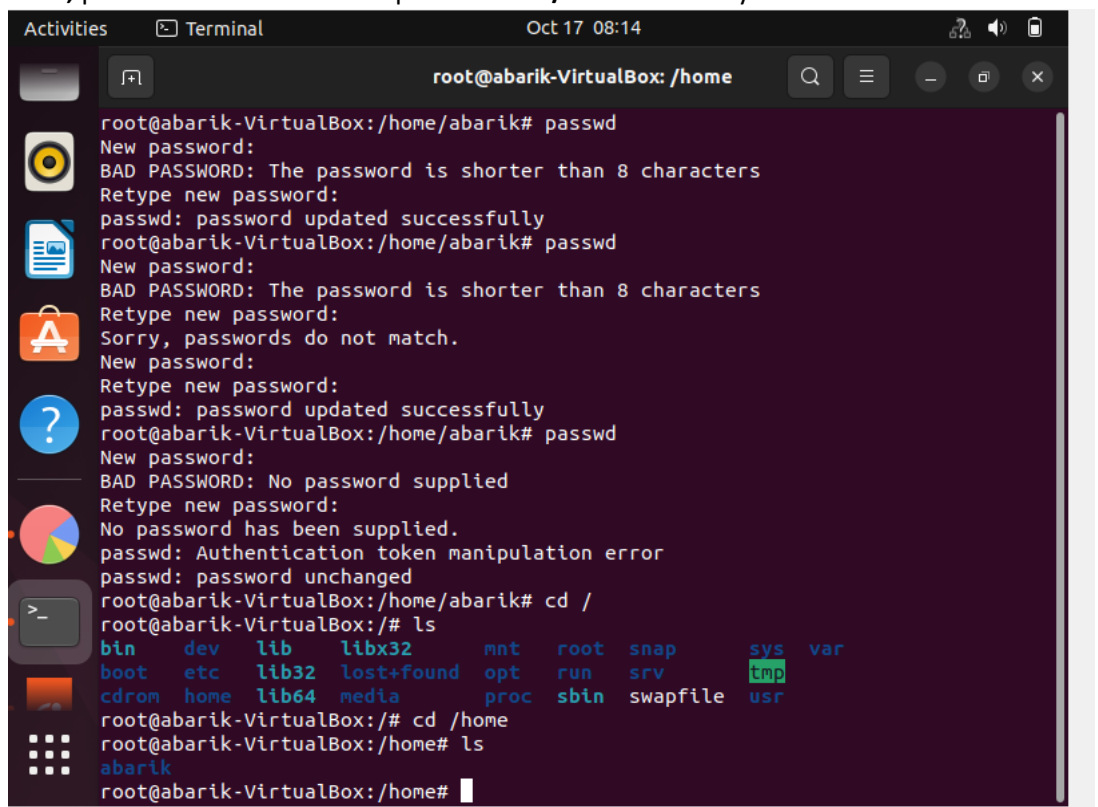
```

root@abarik-VirtualBox: /home/abarik# passwd
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: No password supplied
Retype new password:
No password has been supplied.
passwd: Authentication token manipulation error
passwd: password unchanged
root@abarik-VirtualBox:/home/abarik# cd /
root@abarik-VirtualBox:/# ls
bin      dev      lib      libx32  mnt      root     snap     sys      var
boot    etc      lib32    lost+found  opt      run      srv      tmp
cdrom   home     lib64    media    proc    /sbin    swapfile usr

```

It will move user in root directory

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

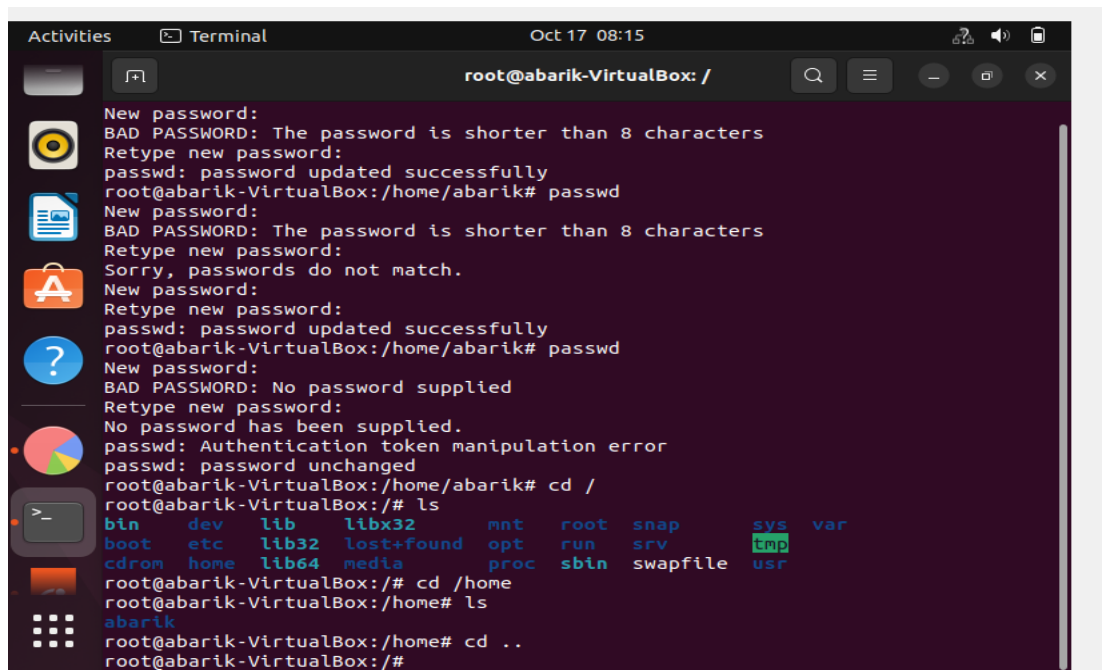


A terminal window titled 'root@abarik-VirtualBox: /home' showing the following commands and output:

```
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: No password supplied
Retype new password:
No password has been supplied.
passwd: Authentication token manipulation error
passwd: password unchanged
root@abarik-VirtualBox:/home/abarik# cd /
root@abarik-VirtualBox:/# ls
bin      dev      lib      libx32  mnt      root     snap     sys      var
boot     etc      lib32    lost+found  opt      run      srv      tmp
cdrom    home     lib64    media   proc      sbin     swapfile usr
root@abarik-VirtualBox:/# cd /home
root@abarik-VirtualBox:/home# ls
abarik
root@abarik-VirtualBox:/home#
```

User will move in home directory

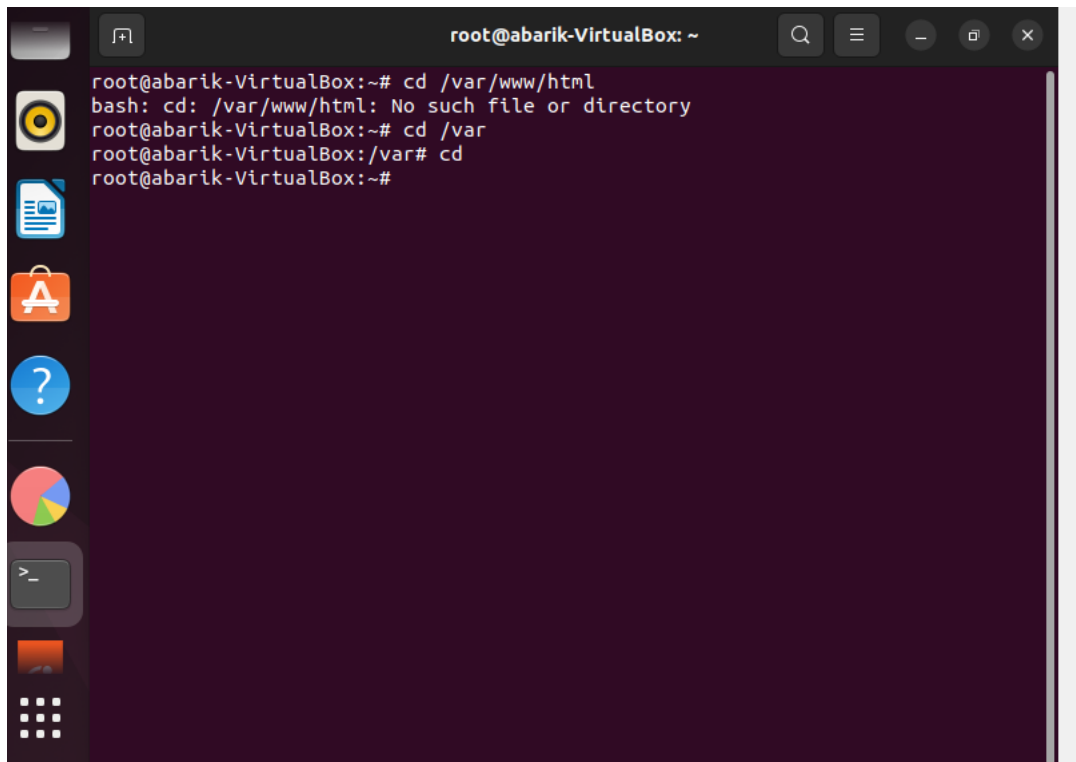
- Enter **cd ..** and hit **Enter** key [*Note: here we have space after cd then use double dot*]
 - Check what happen and give screenshot?



A terminal window titled 'root@abarik-VirtualBox: /' showing the following commands and output:

```
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
root@abarik-VirtualBox:/home/abarik# passwd
New password:
BAD PASSWORD: No password supplied
Retype new password:
No password has been supplied.
passwd: Authentication token manipulation error
passwd: password unchanged
root@abarik-VirtualBox:/home/abarik# cd /
root@abarik-VirtualBox:/# ls
bin      dev      lib      libx32  mnt      root     snap     sys      var
boot     etc      lib32    lost+found  opt      run      srv      tmp
cdrom    home     lib64    media   proc      sbin     swapfile usr
root@abarik-VirtualBox:/# cd /home
root@abarik-VirtualBox:/home# ls
abarik
root@abarik-VirtualBox:/home# cd ..
root@abarik-VirtualBox:/#
```

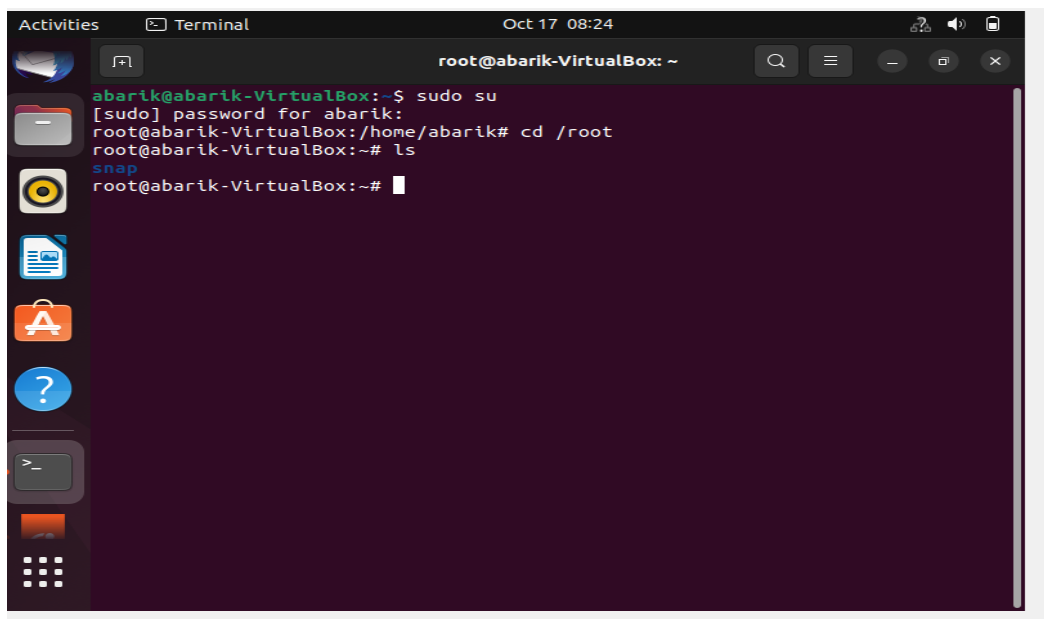
- Now enter **cd /var/www/html** and then type **cd** and hit **Enter** key
 - Explain what happen and give screenshot?



```
root@abarik-VirtualBox: ~  
root@abarik-VirtualBox:~# cd /var/www/html  
bash: cd: /var/www/html: No such file or directory  
root@abarik-VirtualBox:~# cd /var  
root@abarik-VirtualBox:/var# cd  
root@abarik-VirtualBox:~#
```

If u entering **cd** only then we are moving back root directory

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



```
abarik@abarik-VirtualBox:~$ sudo su  
[sudo] password for abarik:  
root@abarik-VirtualBox:/home/abarik# cd /root  
root@abarik-VirtualBox:~# ls  
snap  
root@abarik-VirtualBox:~#
```

Working with File Listing

* Go to `cd /etc` and type `ls`

* Take screenshot and explain what files you have seeing?

```
abarik@abhijit-virtualbox: /etc$ ls
acpi                                console-setup          environment             hosts                   libreoffice            mtools.conf           popularity-contest.conf  sddm
adduser.conf                       containerd             environment.d          hosts.allow            locale.alias           mysql                  ppp                     sddm.conf
adjtime                           cracklib               ethertypes            hosts.deny             locale.conf           nanorc                presage.xml            security
alsa                              cron.d                firefox              hp                    locale.gen            netplan               profile                selinux
alternatives                      cron.daily            fonts                 ifplugd               localtime             netcsid.conf          profile.d              sensors3.conf
anacrontab                       cron.hourly          fuse.conf            init                  login.defs            network              protocols              services
apm                               cron.monthly         fwupd               init.d                logrotate.conf        networkd-dispatcher   pulse                 shadow
apparmor                         cron.onab            gai.conf             initramfs-tools       logrotate.d           NetworkManager        python2.7              shadow-
apparmor.d                      cron.weekly          geoclue              inputrc               lsb-release           newt                  python3                 shells
appport                        cryptsetup-initramfs  ghostscript          iproute2              ltrace.conf          ofono                 python3.8              skel
appstream.conf                 cups                 gnome                issue                 lvm                  opt                   rc0.d                  snmp
apt                             cupshelpers          GNUstep              issue.net             machine-id            os-release            rc1.d                  ssh
apt.conf                       dbus-1               groff                kernel                 magic                 PackageKit           rc2.d                  ssl
avahi                          debconf.conf         group               kernel-img.conf       magic.mine            pan.conf              rc3.d                  subgid
bash.bashrc                    debconf.d            grub                kernel-loops.conf     mailcap              pan.d                 rc4.d                  subuid
bash_completion                debian_version       grub.d              ld.so.cache           manpath.conf         paperize             rc5.d                  subuid-
bash_completion.d              default              gshadow             ld.so.conf            menu-methods         passwd               rc6.d                  sudoers
bindresvport.blacklist         deluser.conf         gshadow-            ld.so.conf.d          mime.types            pcscia               rcS.d                  sysctl.d
bluetooth                     depmod.d             gss                 legal                 modemmanager         perl                 resolv.conf            systemd
ca-certificates                dhcp                 gtk-2.0             libao.conf            ModemManager         pki                   resolv.conf.NTJQT1    sudoers
ca-certificates.conf           dictionary-common    gtk-3.0             libaudit.conf         modprobe.d           pm                    sane.d                 sysctl.conf
ca-certificates.conf.dpkg-old  docker              hdpam.conf          libblockdev           modules              pnm2ppa.conf        sddm.conf              systemd
calendar                      dpkg                host.conf           libbl-3               modules-load.d       polkit-1             sddm.conf              systemd
catdocrc                      e2scrub.conf        hostname            libpaper.d            ntab                 polkit-1             sane.d                 systemd
chatscripts                    emacs               hostnames            libpaper.d            ntab                 polkit-1             sane.d                 systemd
catdocrc                      e2scrub.conf        hostname            libpaper.d            ntab                 polkit-1             sane.d                 systemd
chatscripts                    emacs               hostnames            libpaper.d            ntab                 polkit-1             sane.d                 systemd
```

The `/etc` maintains a lot of files and directory. Many networking configuration files are in `/etc`

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

* Then type `ls -al` and hit Enter key

You can view hidden files with normal files and directories.

```

abarik@abhijit-virtualbox:/etc$ ls -al
total 1124
drwxr-xr-x 131 root root    12288 Oct 21 14:28 .
drwxr-xr-x 20 root root     4096 Oct 17 11:04 ..
drwxr-xr-x 3 root root     4096 Aug 31 12:26 acpi
-rw-r--r-- 1 root root     3028 Aug 31 12:22 adduser.conf
-rw-r--r-- 1 root root        44 Oct 16 19:50 adjtime
drwxr-xr-x 3 root root     4096 Aug 31 12:24 alsa
drwxr-xr-x 2 root root     4096 Oct 17 16:25 alternatives
-rw-r--r-- 1 root root     401 Jul 17 2019 anacrontab
drwxr-xr-x 5 root root     4096 Aug 31 12:24 apm
drwxr-xr-x 3 root root     4096 Aug 31 12:26 apparmor
drwxr-xr-x 7 root root     4096 Oct 17 13:58 apparmor.d
drwxr-xr-x 4 root root     4096 Aug 31 12:27 appopt
-rw-r--r-- 1 root root       769 Jan 18 2020 appstream.conf
drwxr-xr-x 8 root root     4096 Oct 18 15:37 apt
-rw-r--r-- 1 root root        0 Oct 17 11:41 apt.conf
drwxr-xr-x 3 root root     4096 Aug 31 12:27 avahi
-rw-r--r-- 1 root root    2319 Feb 25 2020 bash.bashrc
-rw-r--r-- 1 root root        45 Jan 26 2020 bash_completion
drwxr-xr-x 2 root root     4096 Aug 31 12:27 bash_completion.d
-rw-r--r-- 1 root root     367 Apr 15 2020 bindresvport.blacklist
drwxr-xr-x 2 root root     4096 Apr 22 2020 binfmt.d
drwxr-xr-x 2 root root     4096 Aug 31 12:26 bluetooth
drwxr-xr-x 3 root root     4096 Aug 31 12:22 ca-certificates
-rw-r--r-- 1 root root    6821 Aug 31 12:23 ca-certificates.conf
-rw-r--r-- 1 root root    5713 Aug 31 12:22 ca-certificates.conf.dpkg-old
drwxr-xr-x 2 root root     4096 Aug 31 12:26 calendar
-rw-r--r-- 1 root root     119 Sep 14 2017 catdocrc
drwxr-xr-x 2 root dip     4096 Aug 31 12:26 chatscripts
drwxr-xr-x 2 root root     4096 Oct 16 20:01 console-setup
drwxr-xr-x 2 root root     4096 Oct 17 16:19 containerd
drwxr-xr-x 2 root root     4096 Aug 31 12:28 cracklib
drwxr-xr-x 2 root root     4096 Aug 31 12:26 cron.d
drwxr-xr-x 2 root root     4096 Aug 31 12:28 cron.daily
drwxr-xr-x 2 root root     4096 Aug 31 12:22 cron.hourly

```

* Take screenshot and explain what new file or directory you found?

* Then use ls -li and hit Enter key

* Now see what different output its shows and take screenshot?

```

524332 cupshelpers
abarik@abhijit-virtualbox:/etc$ ls -li
524306 acpi
524662 adduser.conf
565862 adjtime
524307 alsa
524308 alternatives
524663 anacrontab
524309 apm
524311 apparmor
524310 apparmor.d
524312 appopt
524664 appstream.conf
524313 apt
569123 apt.conf
524314 avahi
524665 bash.bashrc
524666 bash_completion
524315 bash_completion.d
524667 bindresvport.blacklist
524316 binfmt.d
524317 bluetooth
524318 ca-certificates
524668 ca-certificates.conf
524669 ca-certificates.conf.dpkg-old
524320 calendar
524671 catdocrc
524321 chatscripts
524323 console-setup
573863 containerd
524324 cracklib
524325 cron.d
524326 cron.daily
524796 hostname
524333 dbus-1
524334 dconf
524783 debconf.conf
524784 debian_version
524335 default
524785 deluser.conf
524336 depmod.d
524337 dhcp
524338 dictionaries-common
573864 docker
524339 dpkg
524786 e2scrub.conf
524340 enacs
525703 environment
524341 environment.d
524788 ethertypes
524342 firefox
524343 fonts
524789 fstab
524790 fuse.conf
524344 fwupd
524791 gai.conf
524345 geoclue
524346 ghostscript
524347 glvnd
524348 gnome
524299 GNUMstep
524349 groff
54921 group
525406 group-
524350 grub.d
524797 hosts
524798 hosts.allow
524799 hosts.deny
524354 hp
524355 ifplugd
524300 ImageMagick-6
524357 init
524356 init.d
524358 initramfs-tools
524800 inputrc
524359 iproute2
524801 issue
524802 issue.net
524360 kernel
524803 kernel-img.conf
524804 kerneloops.conf
524362 ldap
529718 ld.so.cache
524806 ld.so.conf
524361 ld.so.conf.d
524807 legal
524808 libao.conf
524809 libaudit.conf
524363 libblockdev
524364 libnl-3
524365 libpaper.d
524366 libreoffice
524810 locale.alias
565859 locale.conf
524811 locale.gen
529836 localtime
524817 magic
524818 magic.mime
544938 mailcap
524820 mailcap.order
524821 nanpath.config
524370 menu-methods
524822 mime.types
524823 nke2fs.conf
524301 ModemManager
524371 modprobe.d
524824 modules
524372 modules-load.d
524294 ntab
524825 nttools.conf
524373 nsssl
524826 nanorc
524374 netplan
524827 netscsd.conf
524375 network
524376 networkd-dispatcher
524302 NetworkManager
524828 networks
524377 newt
524829 nsswitch.conf
524378 ofono
524379 opt
524295 os-release
524383 PackageKit
524830 pam.conf
524380 pan.d
524831 paperize
524834 popularity-contest.conf
524836 ppp
524835 presage.xml
524836 profile
524387 profile.d
524837 protocols
524388 pulse
524390 python2.7
524390 python3
524389 python3.8
524391 rc0.d
524392 rc1.d
524393 rc2.d
524394 rc3.d
524395 rc4.d
524396 rc5.d
524397 rc6.d
524398 rc5.d
544930 resolv.conf
524497 resolv.conf.MTJQT1
525677 resolv.conf.save
524297 rnt
524838 rpc
524839 rsyslog.conf
524400 rsyslog.d
524401 sane.d
524402 sddm
524792 sddm.conf
524403 security
524404 selinux
524840 sensors3.conf
524409 ssl
565874 subg
524845 subg
565873 subg
565865 subg
524846 subg
524410 subg
524847 sysd
524411 sysd
524412 syst
524413 term
524414 ther
524848 time
524415 tmpd
524416 ubun
524849 ucf
524417 udev
524418 udis
524419 ufw
524850 unic
524420 upda
524421 upda
524422 upda
524304 Upo
524851 usb
524423 usb
565857 vcon
524852 vdp
524424 vin
524298 vtrg
524425 vuln

```

Each file in a file system has an identification number, called an inode number, that is unique in its file system. The inode number refers to the physical file, the data stored in a particular location. A file also has a device number, and the combination of its inode number and device number is unique

throughout all the file systems in the hierarchical file system. To display the inode numbers of the files in your working directory

* Then use `ls --help` and see other options about `ls` command

* Explore it and try with other attribute we can use with `ls` command

```
try 'ls --help' for more information.
abarik@abhijit-virtualbox:/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   with -l, scale sizes by SIZE when printing them;
                          e.g., '--block-size=M'; 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 'always' (default
                          if omitted), 'auto', or 'never'; more info below
  -d, --directory         list directories themselves, not their contents
  -D, --dired              generate output designed for Emacs' dired mode
  -f                       do not sort, enable -aU, disable -ls --color
  -F, --classify          append indicator (one of */=>@|) to entries
      --file-type          likewise, except do not append '*'
      --format=WORD       across -x, commas -m, horizontal -x, long -l,
                          single-column -1, verbose -l, vertical -C
      --full-time          like -l --time-style=full-iso
  -g                       like -l, but do not list owner
      --group-directories-first
                          group directories before files;
                          can be augmented with a --sort option, but any
                          use of --sort=none (-U) disables grouping
  -G, --no-group           in a long listing, don't print group names
```


or available locally via: info '(coreutils) ls invocation'

abarik@abhijit-virtualbox:/etc\$ ls -L

acpi	console-setup	environment	hosts	libreoffice	mttools.conf
adduser.conf	containerd	environment.d	hosts.allow	locale.alias	mysql
adjtime	cracklib	ethertypes	hosts.deny	locale.conf	nanorc
alsa	cron.d	firefox	hp	locale.gen	netplan
alternatives	cron.daily	fonts	ifplugd	localtime	netcsid.conf
anacrontab	cron.hourly	fstab	ImageMagick-6	logcheck	network
apm	cron.monthly	fuse.conf	init	login.defs	networkd-dispatcher
apparmor	crontab	fwupd	init.d	logrotate.conf	NetworkManager
apparmor.d	cron.weekly	gai.conf	initramfs-tools	logrotate.d	networks
appopt	cryptsetup-initramfs	geoclue	inputrc	lsb-release	newt
appstream.conf	crypttab	ghostscript	iproute2	ltrace.conf	nsswitch.conf
apt	cups	glvnd	issue	lvm	ofono
apt.conf	cupshelpers	gnome	issue.net	machine-id	opt
avahi	dbus-1	GNUPstep	kernel	magic	os-release
bash.bashrc	dconf	groff	kernel-img.conf	magic.mime	PackageKit
bash_completion	debconf.conf	group	kerneloops.conf	mailcap	pam.conf
bash_completion.d	debian_version	group-	ldap	mailcap.order	pam.d
bindresvport.blacklist	default	grub.d	ld.so.cache	manpath.config	papersize
binfmt.d	deluser.conf	gshadow	ld.so.conf	menu-methods	passwd
bluetooth	depmod.d	gshadow-	ld.so.conf.d	mime.types	passwd-
ca-certificates	dhcp	gss	legal	mke2fs.conf	pcmcia
ca-certificates.conf	dictionaries-common	gtk-2.0	libao.conf	ModemManager	perl
ca-certificates.conf.dpkg-old	docker	gtk-3.0	libaudit.conf	modprobe.d	pki
calendar	dpkg	hdparm.conf	libblockdev	modules	pm
catdocrc	e2scrub.conf	host.conf	libnl-3	modules-load.d	pnm2ppa.conf
chatscripts	emacs	hostname	libpaper.d	mtab	polkit-1
abarik@abhijit-virtualbox:/etc\$ ls -A					
acpi	containerd	ethertypes	hp	localtime	network
adduser.conf	cracklib	firefox	ifplugd	logcheck	networkd-dispatcher