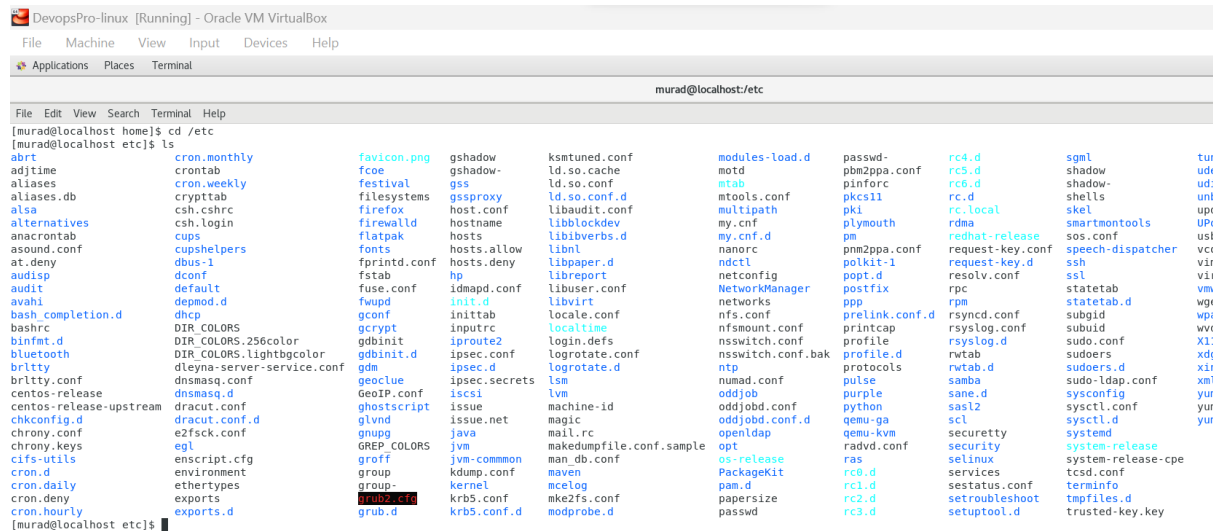


## Assignment-4

### Working with File Listing

- Go to **cd /etc** and type **ls**  
Take screenshot and explain what files you have seeing?
- Take screenshot and explain what different output you found compare to previous command you used?



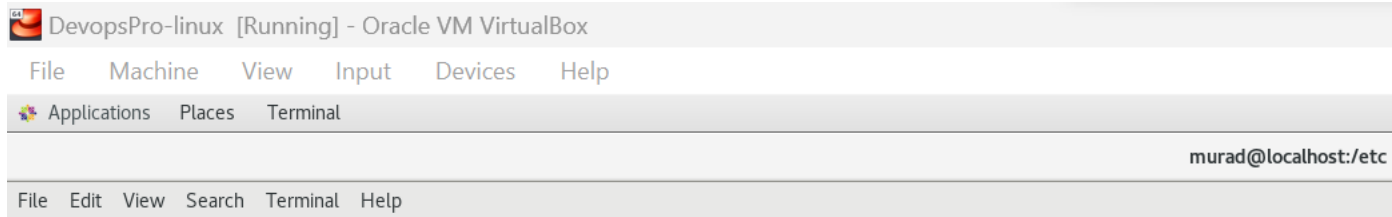
```
DevOpsPro-linux [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
murad@localhost:/etc

File Edit View Search Terminal Help
[murad@localhost home]$ cd /etc
[murad@localhost etc]$ ls
abrt                  cron.monthly          favicon.png           gshadow               ksmtuned.conf         modules-load.d        passwd-               rc4.d                 sgml                  tur
adjtime              crontab               fcoe                  gshadow-             ld.so.cache           motd                  pbm2ppa.conf          rc5.d                 shadow               udi
aliases              cron.weekly           festival              gshadow-             ld.so.conf            mtab                  pinforc               rc6.d                 shadow-             uni
aliases.db           crypttab              filesystems            gssproxy             ld.so.conf.d          mttools.conf          pkcs11                rc.d                  shells              upc
alsa                 csh.cshrc             firefox               host.conf             libaudit.conf         multipath             pki                   rc.local              skel                 upc
alternatives         csh.login             firewallld            hostname              libblockdev           my.cnf                plymouth              rdma                  smartmontools       upe
anacrontab           cups                  flatpak               hosts                 libblockdev           my.cnf                rpm                   redhat-release       sos.conf             ust
asound.conf          cupshelpers           fonts                 hosts.allow           libblockdev           nanorc                pnm2ppa.conf          request-key.conf     speech-dispatcher   vcc
at.deny              dbus-1                fprintd.conf          hosts.deny            libpaper.d            ndctl                 polkit-1              request-key.d        ssh                  vin
audisp               dconf                 fstab                 hp                    libreport             netconfig             popt.d               resolv.conf          ssl                  vin
audit                default               fuse.conf             idmapd.conf           libuser.conf          NetworkManager        postfix              rpc                   statetab            vme
avahi                depmod.d              fwupd                 init.d                libvirt               networks              ppp                   prelink.conf.d      rsyncd.conf         vge
bash_completion.d    dhcp                 gcrypt               inputrc               localtime             nfs.conf              printcap              profile.d            rsyslog.conf        vps
bashrc               DIR.COLORS            gdbinit              ipsec.conf            logrotate.d           nfmount.conf         printcap              profile.d            rsyslog.d           wvc
binfmt.d             DIR.COLORS.256color  gdbinit              ipsec.conf            logrotate.d           nfmount.conf         printcap              profile.d            rsyslog.d           wvc
bluetooth            DIR.COLORS.lightbgcolor  gdbinit              ipsec.conf            logrotate.d           nfmount.conf         printcap              profile.d            rsyslog.d           wvc
brltty               dleyna-server-service.conf  gdm                  ipsec.conf            logrotate.d           nfmount.conf         printcap              profile.d            rsyslog.d           wvc
brltty.conf          dnsmasq.conf          geoclue              ipsec.conf            logrotate.d           nfmount.conf         printcap              profile.d            rsyslog.d           wvc
centos-release       dnsmasq.d             GeoIP.conf            ipsec.conf            logrotate.d           nfmount.conf         printcap              profile.d            rsyslog.d           wvc
centos-release-upstream  dracut.conf          glvnd                 issue.net             magic                 nfmount.conf         printcap              profile.d            rsyslog.d           wvc
chkconfig.d          dracut.conf.d         gnupg                 java                  makedumpfile.conf.sample  nfmount.conf         printcap              profile.d            rsyslog.d           wvc
chrony.conf          e2fsck.conf           GREP.COLORS          jvm                   maven                 nfmount.conf         printcap              profile.d            rsyslog.d           wvc
chrony.keys          enscript.cfg          group-                kernel                maven                 nfmount.conf         printcap              profile.d            rsyslog.d           wvc
cifs-utils           environment            group-                kernel                maven                 nfmount.conf         printcap              profile.d            rsyslog.d           wvc
cron.d               ethertypes            group-                kernel                maven                 nfmount.conf         printcap              profile.d            rsyslog.d           wvc
cron.daily            exports                group-                kernel                maven                 nfmount.conf         printcap              profile.d            rsyslog.d           wvc
cron.deny             exports.d              grub.d                krb5.conf             modprobe.d            nfmount.conf         printcap              profile.d            rsyslog.d           wvc
cron.hourly           exports.d              grub.d                krb5.conf             modprobe.d            nfmount.conf         printcap              profile.d            rsyslog.d           wvc
[murad@localhost etc]$
```

With the above command we can see all the configuration file saved in etc file. This is the configuration files which system saved by default in etc directory.

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

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



We can see all the files information like when it was created, who created permissions assigned and whether its file or directory and files name. Also, we can see hidden files i.e starting with .

Then use **ls -i** and hit **Enter** key

Now see what different output its shows and take screenshot?

```
DevOpsPro-linux [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
murad@localhost:etc
File Edit View Search Terminal Help

[murad@localhost etc]$ ls -i
34714872 abrt 1245214 dnsmasq.d 16777398 hosts.deny 17162665 mke2fs.conf 16777484 protocols 17683538 sos.conf
17226502 adjtime 17197328 dracut.conf 17569317 hp 17197393 modprobe.d 34529454 pulse 17551808 speech-dispatcher
16777386 aliases 34529808 dracut.conf.d 17226327 idmapd.conf 996504 modules-load.d 1835461 purple 34563472 ssh
17958833 aliases.db 17162643 e2fsck.conf 16797088 init.d 16777400 motd 17103187 python 126515 ssl
1437202 alsa 1086896 egl 17197315 inittab 16777284 rtab 2572843 qemu-ga 17226508 statetab
33897426 alternatives 17915347 encrypt.cfg 16777399 inputrc 16982489 mtools.conf 51422129 qemu-kvm 991224 statetab.d
17225899 amacrontab 16777390 environment 16889330 iproute2 17618961 multipath 17569314 radvd.conf 16777409 subgid
17103887 asound.conf 17580513 ethertypes 17571645 ipsec.conf 17226352 my.cnf 51745842 ras 16777410 subuid
17571664 at.deny 16777391 exports 51114382 ipsec.d 17226353 my.cnf.d 17226507 rc0.d 17620141 sudo.conf
51842966 audit 2609147 exports.d 17571646 ipsec.secrets 17915488 nanorc 16797014 rc1.d 17620142 sudoers
17551637 audit 17162287 favicon.png 991204 scsi 34698276 ndctl 16797015 rc2.d 2572962 sudoers.d
35486267 avahi 51422192 fcoe 16777321 issue 17162686 netconfig 16797016 rc3.d 17485271 sudo-ldap.conf
74276 bash_completion.d 34698309 festival 16777322 issue.net 34530130 NetworkManager 16797017 rc4.d 50332834 sysconfig
16777387 bashrc 16777392 filesystems 17184554 java 17226503 networks 16797018 rc5.d 17226509 sysctl.conf
50924554 binfmt.d 34748573 firefox 909342 jvm 17498703 nfs.conf 16797019 rc6.d 17197508 sysctl.d
50957025 bluetooth 34749018 firewall.d 17184557 jvm-common 17498704 nfsmount.conf 123707 rc.d 34529130 systemd
17618525 brltty 17589916 flatpak 17571658 kdump.conf 17197628 nsswitch.conf 16777401 rc.local 16777325 system-release
17618526 brltty.conf 87 fonts 51811258 kernel 16796975 nsswitch.conf.bak 1086111 rdma 16777326 system-release-cpe
16889416 centos-release 17551934 fprintrd.conf 16797007 krb5.conf 51746013 ntp 16777324 redhat-release 17569313 tcsh.conf
16777320 centos-release-upstream 16777282 fstab 17094091 krb5.conf.d 17548186 numad.conf 16927641 request-key.conf 76443 terminfo
50371927 chkconfig.d 16891582 fuse.conf 17225902 ksmtuned.conf 51842954 oddjob 33944952 request-key.d 17197509 tmpfiles.d
17569014 chrony.conf 16566608 fwupd 16777865 ld.so.cache 17551617 oddjobd.conf 18253116 resolv.conf 17196744 trusted-key.key
17569016 chrony.keys 34529746 gconf 18101086 ld.so.conf 1245280 oddjobd.conf.d 16796974 rpc 35416564 tuned
51811261 cifs-utils 123752 gcrypt 50335216 ld.so.conf.d 17225918 openldap 33595833 rpm 34529137 udev
34538124 cron.d 17162673 gdbinit 16796996 libaudit.conf 16777412 opt 17571662 rsyncd.conf 19572807 udisks2
34382817 cron.daily 17162674 gdbinit.d 50956065 libblockdev 16777323 sr-release 17571667 rsyslog.conf 34768868 unbound
17225907 cron.deny 51485403 gdm 17580384 libbverbs.d 991108 PackageKit 34529126 rsyslog.d 17913144 updatedb.conf
34538122 cron.hourly 51198244 geoclue 33897406 libnl 33889968 pam.d 16797020 rvtab 34768326 UPower
50925108 cron.monthly 17226335 GeoIP.conf 50940113 libpaper.d 17094006 papersize 50782397 rvtab.d 17551926 usb-modeswitch.conf
17226473 crontab 17620400 ghostscript 50333593 libreport 17017508 passwd 50925217 samba 16777286 vconsole.conf
991198 cron.weekly 16793334 glvnd 17225925 libuser.conf 17197317 passwd- 1086582 sane.d 17498445 vimrc
16777283 crypttab 34404972 gnupg 51114471 libvirt 17954985 pbm2ppa.conf 858939 sas12 17606982 virc
16777388 csh.cshrc 16809413 GREP_COLORS 16777293 locale.conf 17791544 pinforc 17955836 scl 17548133 vmware-tools
16777389 csh.login 50374678 groff 16777287 localtime 33897786 pkcs11 16777405 security 17915344 wgetrc
51487568 cups 17454350 login.defs 17454350 login.defs 17777317 pki 34380938 security 1086151 wpa_supplicant
34903281 cupshelpers 17197244 group- 17196777 logrotate.conf 17485264 plymouth 17454269 selinux 17910830 wvdial.conf
996502 dbus-1 17468867 17468867 909942 logrotate.d 33595878 pm 16777406 services 16777411 x11
60976276 dracut 16777383 6097731 lvm 17054006 nmtui.conf 17197398 rc2-tar.gz.conf 74778 vda
```

With the above command we can see the inode. Inode is a metadata for the file and directory and for each file, unique inode assigned

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

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

```
DevopsPro-linux [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
murad@localhost:/etc

File Edit View Search Terminal Help
GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
For complete documentation, run: info coreutils 'ls invocation'
[murad@localhost etc]$
[murad@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
-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 -l, 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
-h, --human-readable    with -l, print sizes in human readable format
                        (e.g., 1K 234M 2G)
    --si                likewise, but use powers of 1000 not 1024
-H, --dereference-command-line
                        follow symbolic links listed on the command line
```

with the above command we can see all the command details for help, like d is for directory where as D is for dired. We used “d” only but with upper case and lower case, both has different meaning. Hence, Linux is a case sensitive