

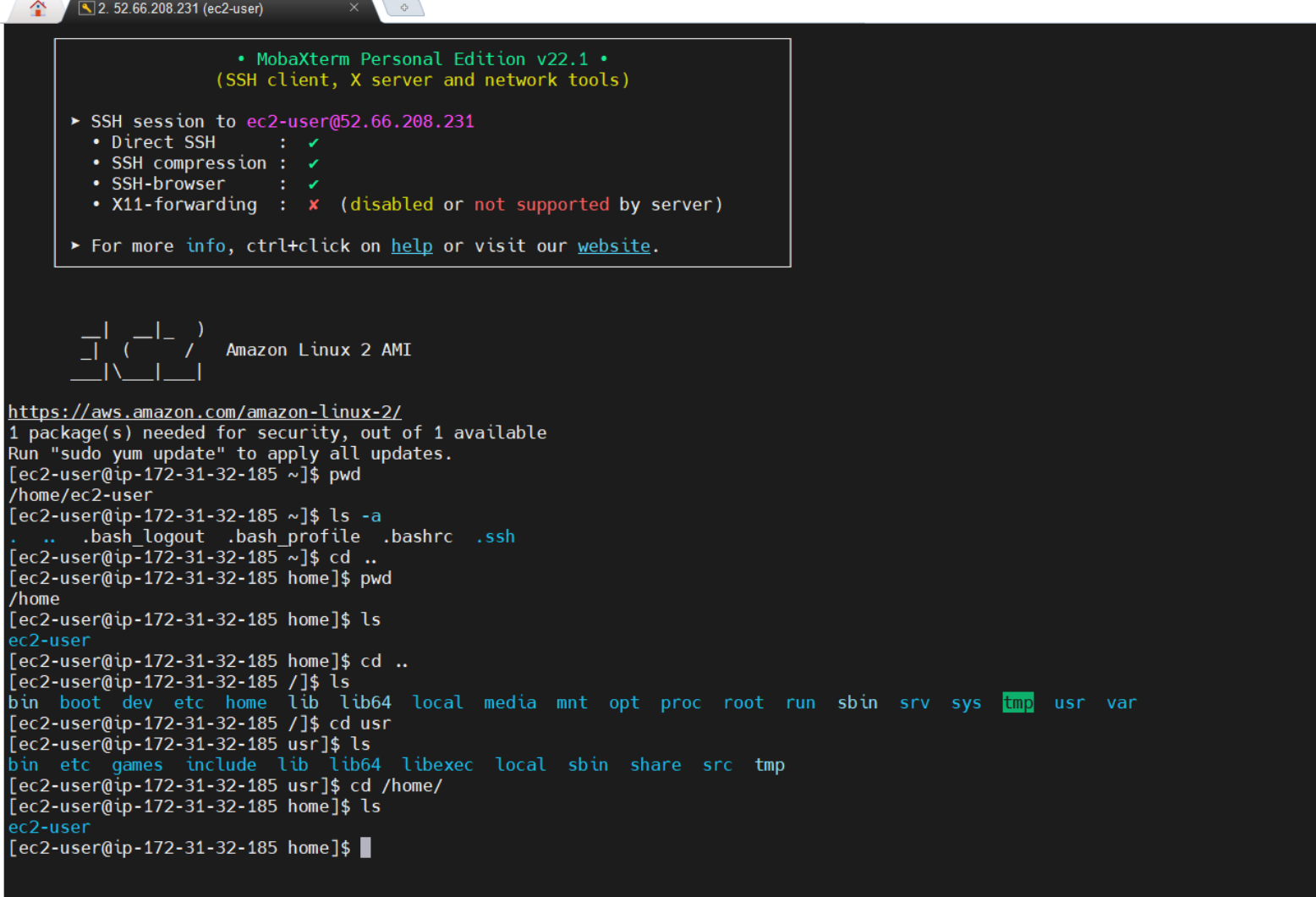
Assignment 1

Q1) 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?

Ans)

This one is when I tried login as a existing user: "ec2-user" using SSH



```
• MobaXterm Personal Edition v22.1 •
(SSH client, X server and network tools)

► SSH session to ec2-user@52.66.208.231
  • Direct SSH      : ✓
  • SSH compression : ✓
  • SSH-browser     : ✓
  • X11-forwarding  : ✗ (disabled or not supported by server)

► For more info, ctrl+click on help or visit our website.

 _ | _ | _ )
 _ | ( _ | /  Amazon Linux 2 AMI
 _ | \ _ | _ |


https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-185 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-32-185 ~]$ ls -a
.  ..  .bash_logout  .bash_profile  .bashrc  .ssh
[ec2-user@ip-172-31-32-185 ~]$ cd ..
[ec2-user@ip-172-31-32-185 home]$ pwd
/home
[ec2-user@ip-172-31-32-185 home]$ ls
ec2-user
[ec2-user@ip-172-31-32-185 home]$ cd ..
[ec2-user@ip-172-31-32-185 /]$ ls
bin  boot  dev  etc  home  lib  lib64  local  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
[ec2-user@ip-172-31-32-185 /]$ cd usr
[ec2-user@ip-172-31-32-185 usr]$ ls
bin  etc  games  include  lib  lib64  libexec  local  sbin  share  src  tmp
[ec2-user@ip-172-31-32-185 usr]$ cd /home/
[ec2-user@ip-172-31-32-185 home]$ ls
ec2-user
[ec2-user@ip-172-31-32-185 home]$
```

This one is when I tried login as a non-existing user: "anand" using SSH

Session settings

SSH Telnet Rsh Xdmcp RDP VNC FTP SFTP Serial File Shell Browser Mosh Aws S3 WSL

Basic SSH settings

Remote host * 52.66.208.231 ☒ Specify username anand  Port 22

Advanced SSH settings

Terminal settings Network settings Bookmark settings

☒ X11-Forwarding ☒ Compression Remote environment: Interactive shell

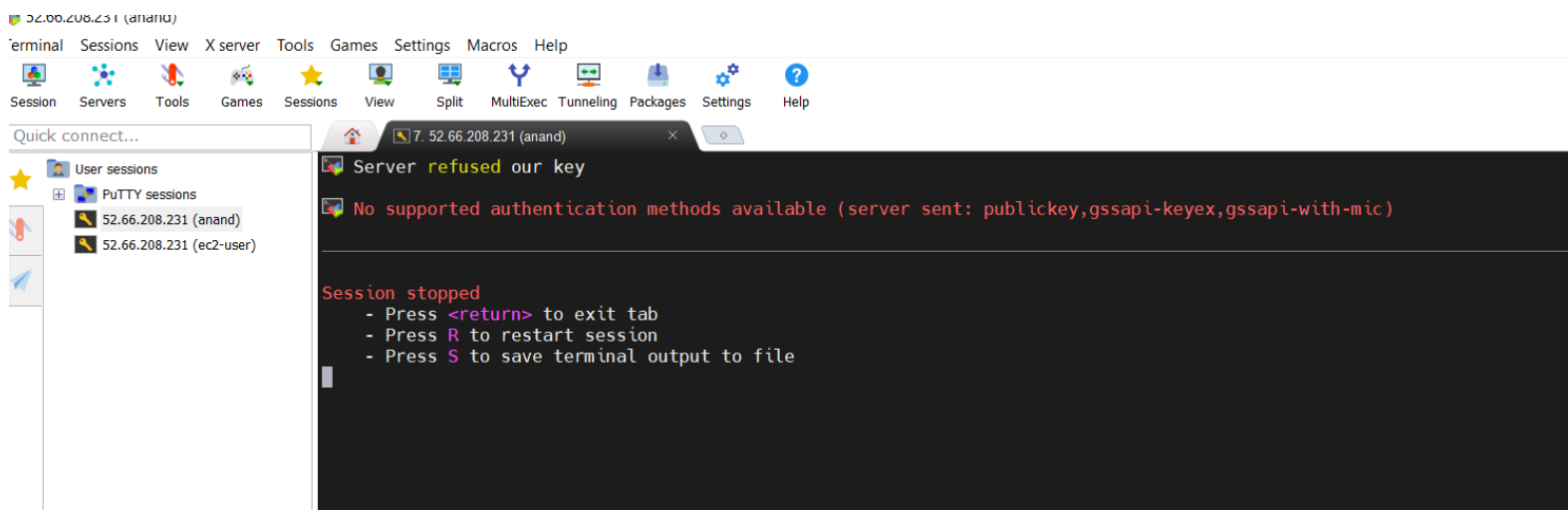
Execute command: ☐ Do not exit after command ends

SSH-browser type: SFTP protocol ☐ Follow SSH path (experimental)

☒ Use private key D:\neuron\New_pair.pem ☐ Adapt locales on remote server

Execute macro at session start: <none>

OK Cancel



Findings:

- I was not able to login.
- To be able to login using this user, I need to add this user to my linux instance, also need to add public key for this user which we will get from new .pem file and some more steps too.

Q2) password changing

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

```
Last login: Fri Dec  2 07:56:54 2022 from 45.251.234.199

  _|  _|_ )
  _| (    /  Amazon Linux 2 AMI
 _|\__|__|

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-185 ~]$ passwd ec2-user
passwd: Only root can specify a user name.
[ec2-user@ip-172-31-32-185 ~]$ sudo su -
Last login: Fri Dec  2 07:53:41 UTC 2022 on pts/0
[root@ip-172-31-32-185 ~]# passwd ec2-user
Changing password for user ec2-user.
New password:
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-32-185 ~]# clear
[root@ip-172-31-32-185 ~]# passwd ec2-user
Changing password for user ec2-user.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-32-185 ~]# █
```

The command to change the password of ec2-user is: "passwd ec2-user"

To do this we need to be "root user"

For this password change was successful without any warnings.

(b) Try again to change password but use like password **1234** or **abcd**

- Explain what happen and give screenshot?

```
Last login: Fri Dec  2 07:56:54 2022 from 45.251.234.199

  _|  _|_ )
 _| ( _|_ /   Amazon Linux 2 AMI
__| \__|__|

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-185 ~]$ passwd ec2-user
passwd: Only root can specify a user name.
[ec2-user@ip-172-31-32-185 ~]$ sudo su -
Last login: Fri Dec  2 07:53:41 UTC 2022 on pts/0
[root@ip-172-31-32-185 ~]# passwd ec2-user
Changing password for user ec2-user.
New password:
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-32-185 ~]#
```

For this password change was successful with warning password is shorter than 8 characters.

(c) Try again to change password but now don't use any password just hit **Enter** key

- Explain what happen and give screenshot?

```
[root@ip-172-31-32-185 ~]# passwd ec2-user
Changing password for user ec2-user.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-32-185 ~]# passwd ec2-user
Changing password for user ec2-user.
New password:
BAD PASSWORD: No password supplied
Retype new password:
No password supplied
passwd: Authentication token manipulation error
[root@ip-172-31-32-185 ~]#
```

For this password change was not successful.

Q3) Working with Directories

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

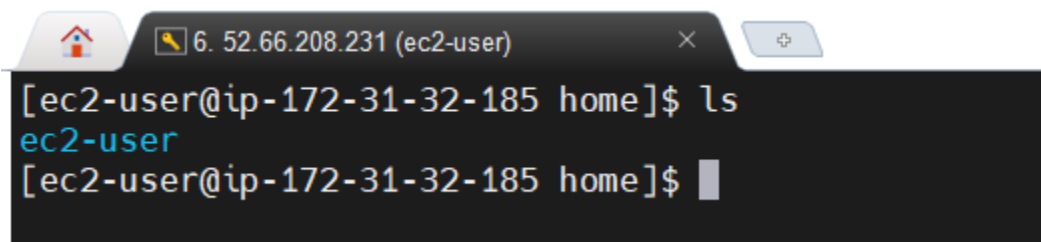
```
Last login: Fri Dec  2 11:35:19 2022 from 45.251.234.199

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 _|_  ( _|_  /  Amazon Linux 2 AMI
_|_ \_|_|_|_|_|

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-185 ~]$ cd /
[ec2-user@ip-172-31-32-185 /]$ ls
bin boot dev etc home lib lib64 local media mnt opt proc root run sbin srv sys tmp usr var
[ec2-user@ip-172-31-32-185 /]$
```

In output we can see what all directories are present in our instance.

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



```
6. 52.66.208.231 (ec2-user) x +
[ec2-user@ip-172-31-32-185 home]$ ls
ec2-user
[ec2-user@ip-172-31-32-185 home]$
```

/home directory indicates how many users we are having.

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

```
[ec2-user@ip-172-31-32-185 home]$ ls
ec2-user
[ec2-user@ip-172-31-32-185 home]$ cd ..
[ec2-user@ip-172-31-32-185 /]$ ls
bin boot dev etc home lib lib64 local media mnt opt proc root run sbin srv sys tmp usr var
[ec2-user@ip-172-31-32-185 /]$
```

By doing above step we are back to origin.

(d) Now enter **cd /var/www/html** and then type **cd** and hit **Enter** key

- Explain what happen and give screenshot?

```
[ec2-user@ip-172-31-32-185 home]$ ls
ec2-user
[ec2-user@ip-172-31-32-185 home]$ cd ..
[ec2-user@ip-172-31-32-185 /]$ ls
bin boot dev etc home lib lib64 local media mnt opt proc root run sbin srv sys tmp usr var
[ec2-user@ip-172-31-32-185 /]$ cd /var/www/html
-bash: cd: /var/www/html: No such file or directory
[ec2-user@ip-172-31-32-185 /]$ cd var/
[ec2-user@ip-172-31-32-185 var]$ ls
account adm cache db empty games gopher kerberos lib local lock log mail nis opt preserve run spool tmp yp
[ec2-user@ip-172-31-32-185 var]$
```

Since under /var we do not have /www that is why above msg was shown

(e) Now type **cd /root** and then hit **Enter** key

Do **ls**, check any output we have on screen if yes then take screenshot?

```
[ec2-user@ip-172-31-32-185 /]$ cd /var/www/html
-bash: cd: /var/www/html: No such file or directory
[ec2-user@ip-172-31-32-185 /]$ cd var/
[ec2-user@ip-172-31-32-185 var]$ ls
account adm cache db empty games gopher kerberos lib local lock log mail nis opt preserve run spool tmp yp
[ec2-user@ip-172-31-32-185 var]$ cd /root/
-bash: cd: /root/: Permission denied
[ec2-user@ip-172-31-32-185 var]$
```

```
[ec2-user@ip-172-31-32-185 /]$ cd /root/
-bash: cd: /root/: Permission denied
[ec2-user@ip-172-31-32-185 /]$ sudo su /root
su: user /root does not exist
[ec2-user@ip-172-31-32-185 /]$ sudo su -
Last login: Fri Dec  2 12:15:03 UTC 2022 on pts/0
[root@ip-172-31-32-185 ~]# cd /root/
[root@ip-172-31-32-185 ~]# exit
logout
[ec2-user@ip-172-31-32-185 /]$ sudo su -
Last login: Fri Dec  2 12:41:27 UTC 2022 on pts/0
[root@ip-172-31-32-185 ~]# cd /root/
[root@ip-172-31-32-185 ~]# ls
[root@ip-172-31-32-185 ~]#
```

To go inside /root we need to login as root and inside /root no files are present if we only do “ls” instead of “ls -a”.

Q4) Working with File Listing

(a) 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?

```
Last login: Fri Dec  2 12:05:39 2022 from 45.251.234.199

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_| ( _ _ _ /  Amazon Linux 2 AMI
_| \ _ _ _ _ |

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-185 ~]$ cd /etc/
[ec2-user@ip-172-31-32-185 etc]$ ls
acpi                cronab                GREP_COLORS          issue                 mtab                  prelink.conf.d       rwtab.d              sysconfig
adjtime             cron.weekly           groff                 issue.net             my.cnf                printcap              sasl2                sysctl.conf
aliases             csh.cshrc             group                 krb5.conf             my.cnf.d              profile               scl                   sysctl.d
aliases.db          csh.login             group-                krb5.conf.d           nanorc                 profile.d             screenrc              systemd
alternatives        dbus-1                grub2.cfg             ld.so.cache           netconfig              protocols             securetty             system-release
amazon              default                grub2-efi.cfg         ld.so.conf            NetworkManager         python                security              system-release-cpe
anacrontab          depmod.d              grub.d                ld.so.conf.d          networks               rc0.d                 selinux               terminfo
at.deny             dhcp                  gshadow              libaudit.conf         nfs.conf               rc1.d                 services              tmpfiles.d
audisp              DIR_COLORS            gshadow-              libnl                  nfsmount.conf          rc2.d                 sestatus.conf         trusted-key.key
audit               DIR_COLORS.256color   gss                   libuser.conf          nsswitch.conf          rc3.d                 setuptool.d           udev
bash_completion.d   DIR_COLORS.lightbgcolor gssproxy              locale.conf           nsswitch.conf.bak     rc4.d                 shadow                updatedb.conf
bashrc              dracut.conf           hibagent-config.cfg  localtime             openldap               rc5.d                 shadow-               update-motd.d
binfmt.d            e2fsck.conf           hibinit-config.cfg   login.defs             opt                    rc6.d                 shells                 vimrc
chkconfig.d         e2fsck.conf           host.conf             logrotate.conf         os-release             rc.d                  skel                  virc
chrony.conf          environment           hostname              logrotate.d            pam.d                  rc.local              ssh                   wgetrc
chrony.d            ethertypes            hosts                 lsm                    passwd                 request-key.conf      ssl                   X11
chrony.keys          exports               hosts.allow           lvm                     passwd-                request-key.d          statetab              xdg
cifs-utils           exports.d             hosts.deny            machine-id              pki                    resolv.conf           statetab.d            xinetd.d
cloud               filesystems           idmapd.conf          magic                  plymouth               rpc                   subgid                yum
cron.d              fstab                 image-id              man_db.conf            popt.d                 rpm                   subuid                yum.conf
cron.daily           gcrypt               init.d                mke2fs.conf            postfix                rsyncd.conf           sudo.conf              yum.repos.d
cron.deny            GeoIP.conf            inittab              modprobe.d             ppp                    rsyslog.conf          sudoers               sudo-ldap.conf
cron.hourly          GeoIP.conf.default   inputrc              modules-load.d          rpm                    rwtab                 sudo-ldap.conf
cron.monthly         gnupg                 iproute2              motd
```

/etc : contains System configuration information

(b) Then type **ls -al** and hit **Enter** key

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

```
cloud               filesystems           idmapd.conf          magic                  plymouth               rpm
cron.d              fstab                 image-id              man_db.conf            popt.d                 rsyncd.conf
cron.daily           gcrypt               init.d                mke2fs.conf            postfix                rsyslog.conf
cron.deny            GeoIP.conf            inittab              modprobe.d             ppp                    rsyslog.d
cron.hourly          GeoIP.conf.default   inputrc              modules-load.d          rpm                    rwtab
cron.monthly         gnupg                 iproute2              motd
[ec2-user@ip-172-31-32-185 etc]$ ls -al
total 1128
drwxr-xr-x 81 root root    8192 Dec  2 12:13 .
dr-xr-xr-x 18 root root    257 Dec  2 07:10 ..
drwxr-xr-x  4 root root     35 Nov 12 01:08 acpi
-rw-r--r--  1 root root     16 Nov 12 01:09 adjtime
-rw-r--r--  1 root root   1518 Jun  7 2013 aliases
-rw-r--r--  1 root root  12288 Dec  2 07:10 aliases.db
drwxr-xr-x  2 root root   4096 Nov 12 01:08 alternatives
drwxr-xr-x  3 root root     17 Nov 12 01:08 amazon
-rw-r----- 1 root root     541 Jan 16 2020 anacrontab
-rw-r--r--  1 root root      1 Jan 16 2020 at.deny
drwxr-xr-x  3 root root     43 Nov 12 01:08 audisp
drwxr-xr-x  3 root root     83 Dec  2 07:10 audit
drwxr-xr-x  2 root root     94 Nov 12 01:08 bash_completion.d
-rw-r--r--  1 root root   2853 Feb 21 2020 bashrc
drwxr-xr-x  2 root root      6 Sep 28 02:18 binfmt.d
drwxr-xr-x  2 root root      6 Jul 31 2018 chkconfig.d
```

"ls -al" : list all files including hidden file along with long format - show permissions

(c) Then use **ls -i** and hit **Enter** key

Now see what different output it shows and take screenshot?

```
drwxr-xr-x 4 root root      38 Nov 12 01:07 xdg
drwxr-xr-x 2 root root       6 Apr  9 2019 xinetd.d
drwxr-xr-x 6 root root     100 Nov 12 01:08 yum
-rw-r--r-- 1 root root     862 Jun 23 22:26 yum.conf
drwxr-xr-x 2 root root       54 Nov 12 01:09 yum.repos.d
[ec2-user@ip-172-31-32-185 etc]$ ls -i
304786 acpi                8410229 environment      8880083 ld.so.cache        8410216 pki                8573088 sestatus.conf
8573165 adjtime            8410230 ethertypes          8410625 ld.so.conf         312532 plymouth          4502714 setuptool.d
8410225 aliases            8410231 exports            8410626 ld.so.conf.d       529 pm                9031509 shadow
9030459 aliases.db           312551 exports.d          8423355 libaudit.conf  12614920 popt.d            8879939 shadow-
8410669 alternatives         8410232 filesystems        12615199 libnl             13180546 postfix          8410248 shells
13209988 amazon              8409187 fstab              8573279 libuser.conf     13006261 ppp                530 skel
8573058 anacrontab          12615032 gcrypt             9031496 locale.conf     12689836 prelink.conf.d    8548173 ssh
```

"ls -i": list file's inode(index) number

(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

```
8514780 e2fsck.conf          12741985 krb5.conf.d          4205456 pkcs11            8410246 s
[ec2-user@ip-172-31-32-185 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 -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
-h, --human-readable     with -l, print sizes in human readable format
```


Q5) 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.

(a) Open terminal after restart the linux

Check which location you working, type **pwd** and take screenshot

```
Last login: Fri Dec  2 13:38:41 2022 from 45.251.234.199

  _|_  ( _|_ )
 _|_  ( _|_ /  Amazon Linux 2 AMI
_|_ \|_|_|_|_|

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-185 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-32-185 ~]$
```

(b) Now use **cd /var** and hit **Enter** key

Do **ls**, and see what output comes, give screenshot?

```
https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-185 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-32-185 ~]$ cd /var/
[ec2-user@ip-172-31-32-185 var]$ ls
account adm cache db empty games gopher kerberos lib local lock log mail nis opt preserve run spool tmp yp
[ec2-user@ip-172-31-32-185 var]$
```