

Experiment No.: 8

Date: 21-03-2023

AIM: Familiarization of linux commands.

CO2: Perform system administration task.

1. Ip addr :

```
mca@t2:~$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp3s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 78:24:af:ba:c2:63 brd ff:ff:ff:ff:ff:ff
    inet 192.168.6.5/24 brd 192.168.6.255 scope global noprefixroute enp3s0
        valid_lft forever preferred_lft forever
    inet6 fe80::3e22:3662:2935:a9d2/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
```

```
mca@t2:~$ ssh mca @ 192.168.6.6
ssh: Could not resolve hostname mca: Temporary failure in name resolution
mca@t2:~$ ssh mca@192.168.6.6
ssh: connect to host 192.168.6.6 port 22: Connection refused
mca@t2:~$ sudo apt-get update
[sudo] password for mca:
Get:1 http://packages.microsoft.com/repos/code stable InRelease [3,023 B]
Get:2 http://ppa.launchpad.net/maarten-fonville/android-studio/ubuntu focal InRelease [17.6 kB]
Get:3 https://packages.microsoft.com/repos/vscode stable InRelease [1,867 B]
Get:4 https://dl.google.com/linux/chrome/deb stable InRelease [1,811 B]
Hit:5 http://in.archive.ubuntu.com/ubuntu focal InRelease
Get:6 http://packages.microsoft.com/repos/code stable/main armhf Packages [63.9 kB]
Get:7 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:8 https://packages.microsoft.com/repos/vscode stable/main amd64 Packages [162 kB]
Get:9 http://packages.microsoft.com/repos/code stable/main amd64 Packages [63.1 kB]
Get:10 http://packages.microsoft.com/repos/code stable/main arm64 Packages [63.5 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:12 https://dl.google.com/linux/chrome/deb stable/main amd64 Packages [1,079 B]
```

```
Get:85 http://in.archive.ubuntu.com/ubuntu focal-backports/universe DEP-11 48x48 Icons [13.2 kB]
Get:86 http://in.archive.ubuntu.com/ubuntu focal-backports/universe DEP-11 64x64 Icons [22.6 kB]
Get:87 http://in.archive.ubuntu.com/ubuntu focal-backports/universe DEP-11 64x64@2 Icons [29 B]
Get:88 http://in.archive.ubuntu.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [880 B]
Fetched 16.5 MB in 7s (2,248 kB/s)
Reading package lists... Done
```

```
mca@t2:~$ sudo apt-get install openssh-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libfprint-2-tod1 libfwupdplugin1 libllvm9 libxmlb1 shim
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  ncurses-term openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 upgraded, 4 newly installed, 0 to remove and 140 not upgraded.
Need to get 688 kB of archives.
After this operation, 6,010 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 ncurses-term all 6.2-0ubuntu2 [249 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-sftp-server amd64 1:8.2p1-4ubuntu0.5 [51.5 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-server amd64 1:8.2p1-4ubuntu0.5 [377 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal/main amd64 ssh-import-id all 5.10-0ubuntu1 [10.0 kB]
Fetched 688 kB in 6s (112 kB/s)
Preconfiguring packages ...
```

```
mca@t2:~$ sudo ufw allow 22
Rules updated
Rules updated (v6)
```

```
mca@t2:~$ ssh mca@192.168.6.29
The authenticity of host '192.168.6.29 (192.168.6.29)' can't be established.
ECDSA key fingerprint is SHA256:kKk7sOMYRkq6/H06Go97XKajNqNDSThuvCv+GSJz40U.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
```

```
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '192.168.6.29' (ECDSA) to the list of known hosts.
mca@192.168.6.29's password:
Welcome to Ubuntu 20.04 LTS (GNU/Linux 5.4.0-26-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

698 updates can be installed immediately.
459 of these updates are security updates.
To see these additional updates run: apt list --upgradable

Your Hardware Enablement Stack (HWE) is supported until April 2025.
Last login: Tue Mar 21 15:16:11 2023 from 192.168.6.6
```

```
mca@t2:~$ cat >keerthi
hgskak
^Z
[2]+  Stopped                  cat > keerthi
mca@t2:~$ ls
Desktop  document  Downloads  file1.txt  keerthi  Music  new  Pictures  samplesid.txt  Templates
details  Documents  file01     file.txt   kirr     names  new1  Public    Sports.txt     Videos
mca@t2:~$ ls
Desktop  Documents  file08     Hello      keerthi  names  nrs.txt  samplesid.txt  Videos
details  Downloads  file1.txt  How        kirr     new    Pictures Sports.txt     Videos
document file01     file.txt  'How_are_You?' Music    new1    Public  Templates
mca@t2:~$
```

Ssh stands for secure shell

Ssh-keygen : generate a key for ssh

```
mca@t2:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/mca/.ssh/id_rsa): abc.txt
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Passphrases do not match. Try again.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in abc.txt
Your public key has been saved in abc.txt.pub
The key fingerprint is:
SHA256:BSIn6RHD342HscsHV6mexrkvxfXU6Qj47nItC2o0qJM mca@t2
The key's randomart image is:
+---[RSA 3072]-----+
|      .+..+..+      |
|    ..*..O..+      |
|   =O..**          |
|  O..+.X          |
| .S.+.**o         |
| .O. .Bo+o        |
| O. ...O.O.       |
| E  ....+ +       |
| .. .+oo O.      |
+---[SHA256]-----+
```

```
mca@t2:~$ cat abc.txt
-----BEGIN OPENSSH PRIVATE KEY-----
b3B1bnNzaC1rZXktdjEAAAACmFlczI1Ni1jdHIAAAAGYmNyeXB0AAAAAGAAAABCMGzhega
wfQHEnLyOPLfurAAAAEAAAAAEEAAAGXAAAAB3NzaC1yc2EAAAADAQABAAQgQDFuP8V0o8v
kkToPB30SmtMZCUau5W+GecCQR30Hqicmsz0d3/6PeZtl1lcZkKOCMZsQTzN1SA1LNJa
eVtBENA0N58tJLPxbBH2Vy1F1zTdVEDw29DwUdSiZUXjNC8pGyFr58YMFda02C494goHtI
3tZNLKLIaEjPdiY8s6owAgadmC0HN39b8d81RXF/PEnZa50dzd8Bb1MqM8a0Q15x2C2HmU
gQiVpX5NbqyR4aqmPyK4MXegHzQcZfYoJ61s+pLI0DKcaRZHGRsRRijjwKDrroE/hUjYU
/MwHFV481rPIpD+FnrPwTX4872gD5576lKjZltB2ZjAEVRjy2fPRLwngRwtf/jWoCksLrg
Gj4N+QSJZv+En+k3+R4yeLQxTGAWtJ2N55oJZgxClFuDZVI84rBi7IE0XcYG6y47vTPvPF
7ZYkpJAGWnouUj+a8k1XJx05Ke5F4y62YsmWQYR2t80fd6GqZVmzslxUUMG20/Qhh6CnnM
gYRNq2STSKc0CAAWA/oD1GBzHBj823WQmL3ZypC+HNlubqmE1Vqfm5JXM28Yfh15TF41
```

Ps : currently running program

```
mca@t2:~$ ps
  PID TTY          TIME CMD
  5152 pts/1    00:00:00 bash
  5192 pts/1    00:00:00 ps
mca@t2:~$
```



```
mca@t2:~$ ps -u mca
  PID TTY          TIME CMD
 1298 ?            00:00:00 systemd
 1299 ?            00:00:00 (sd-pam)
 1304 ?            00:00:00 pulseaudio
 1306 ?            00:00:00 tracker-miner-f
 1308 ?            00:00:00 dbus-daemon
 1325 ?            00:00:00 gvfsd
 1330 ?            00:00:00 gvfsd-fuse
 1333 ?            00:00:00 gvfs-udisks2-vo
 1343 ?            00:00:00 gvfs-mtp-volume
 1347 ?            00:00:00 gvfs-goa-volume
 1351 ?            00:00:00 goa-daemon
 1359 ?            00:00:00 goa-identity-se
 1365 ?            00:00:00 gvfs-gphoto2-vo
 1369 ?            00:00:00 gvfs-afc-volume
 1378 ?            00:00:00 gnome-keyring-d
 1383 tty2        00:00:00 gdm-x-session
```

```
5366 ?            00:00:00 tracker-store
5397 pts/1        00:00:00 ps
mca@t2:~$ ps -C filefox
  PID TTY          TIME CMD
```

```
  PID TTY          TIME CMD
mca@t2:~$ ps -f -p 65560
UID      PID  PPID  C  STIME TTY          TIME CMD
mca@t2:~$
```

Result

The program was executed and the result was successfully obtained. Thus CO2 was obtained

