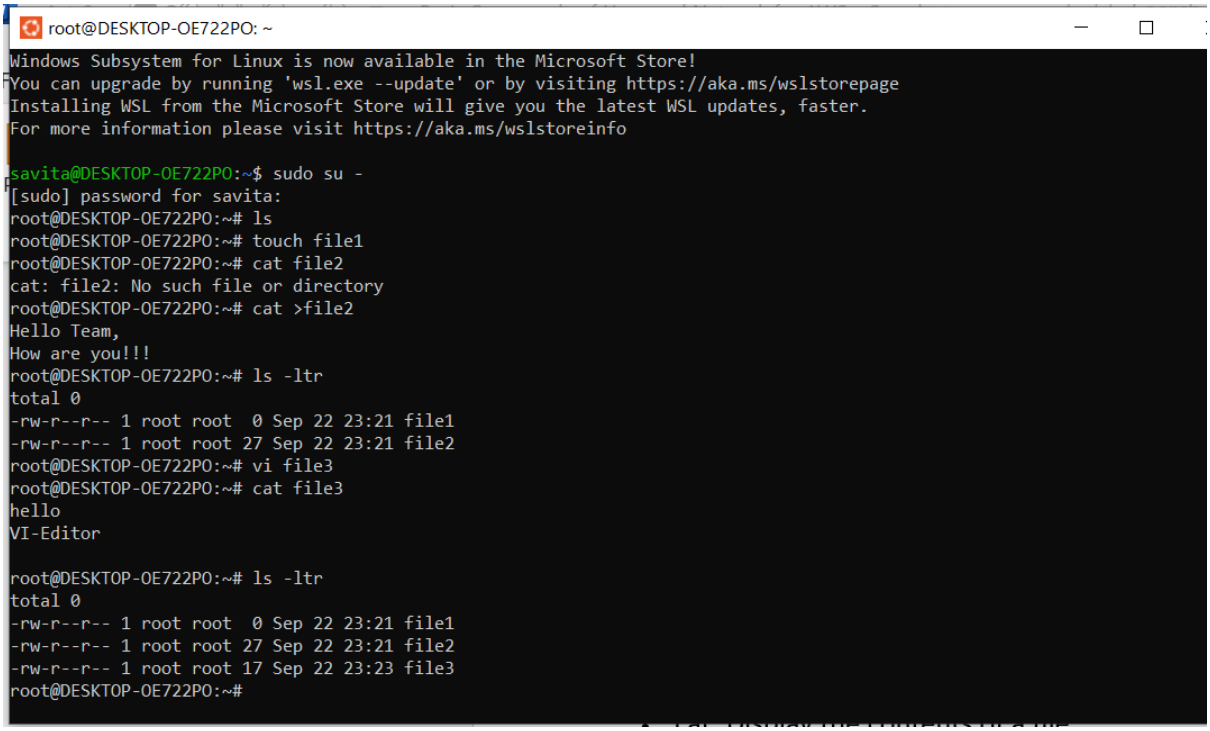
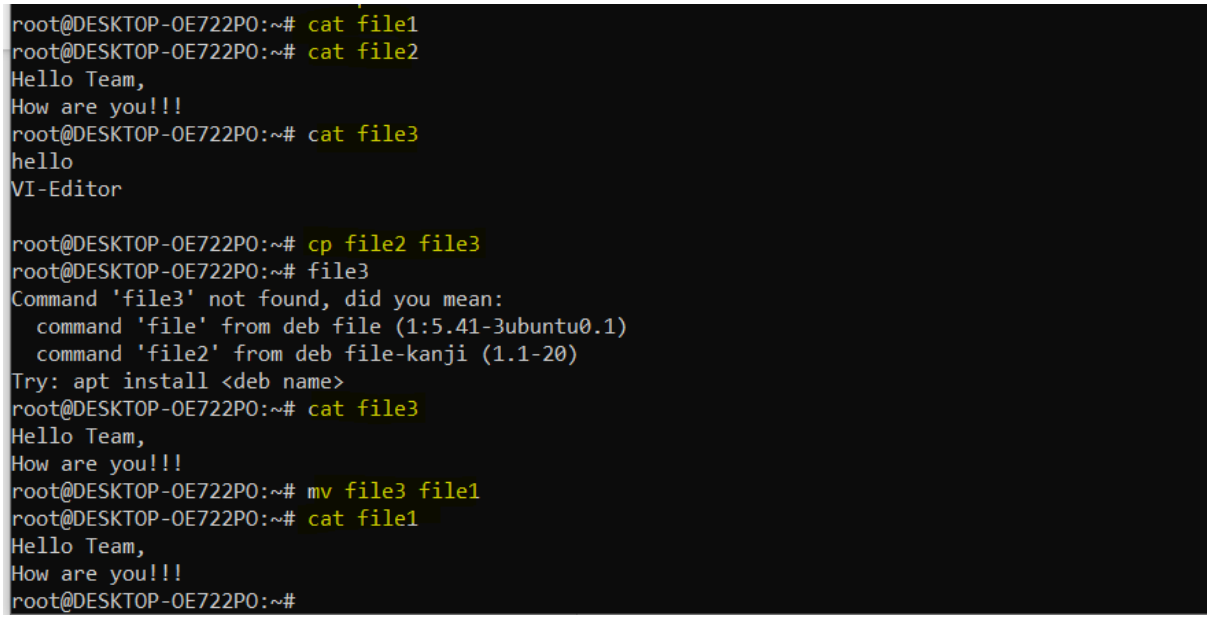
Basic Commands of Linux and Network for AWS

Linux

1. Create file in different ways



2. Copy or move files



3. Create directory, Hidden directory/files show them

```
root@DESKTOP-OE722PO:~# mkdir dir1
root@DESKTOP-OE722PO:~# mkdir dir2
root@DESKTOP-OE722PO:~# rmdir dir2
root@DESKTOP-OE722PO:~# ls -ltr
total 0
-rw-r--r-- 1 root root   27 Sep 22 23:21 file2
-rw-r--r-- 1 root root   27 Sep 22 23:26 file1
drwxr-xr-x 1 root root 4096 Sep 22 23:29 dir1
root@DESKTOP-OE722PO:~# mkdir .dir0
root@DESKTOP-OE722PO:~# ls -ltr
total 0
-rw-r--r-- 1 root root   27 Sep 22 23:21 file2
-rw-r--r-- 1 root root   27 Sep 22 23:26 file1
drwxr-xr-x 1 root root 4096 Sep 22 23:29 dir1
root@DESKTOP-OE722PO:~# ls -la
total 8
drwx------ 1 root root 4096 Sep 22 23:29 .
drwxr-xr-x 1 root root 4096 Sep 22 15:29 ..
-rw-r--r-- 1 root root 3106 Oct 15  2021 .bashrc
drwxr-xr-x 1 root root 4096 Sep 22 23:29 .dir0
-rw-r--r-- 1 root root    0 Sep 22 15:32 .motd_shown
-rw-r--r-- 1 root root  161 Jul  9  2019 .profile
-rw------- 1 root root  760 Sep 22 23:23 .viminfo
drwxr-xr-x 1 root root 4096 Sep 22 23:29 dir1
-rw-r--r-- 1 root root   27 Sep 22 23:26 file1
-rw-r--r-- 1 root root   27 Sep 22 23:21 file2
root@DESKTOP-OE722PO:~#
```

4. Create user and set password, create group and add into the user

```
root@DESKTOP-OE722PO:~# useradd savi01
root@DESKTOP-OE722PO:~# passwd savi01
New password:
Retype new password:
passwd: password updated successfully
root@DESKTOP-OE722PO:~# groupadd Nalawade
root@DESKTOP-OE722PO:~# useradd -G Nalawade savi01
useradd: user 'savi01' already exists
root@DESKTOP-OE722PO:~# useradd -a -G Nalawade savi01
useradd: invalid option -- 'a'
Usage: useradd [options] LOGIN
       useradd -D
       useradd -D [options]

Options:
      --badnames                do not check for bad names
  -b, --base-dir BASE_DIR       base directory for the home directory of the
```

```
savita:x:1000:
savi01:x:1001:
Nalawade:x:1002:
root@DESKTOP-OE722PO:~#
```

Access Modes/Permission

- chmod: Change file permissions.
- chown: Change file ownership.
- chgrp: Change group ownership.

1. Chmod – change the permission of file1

```
root@DESKTOP-OE722PO:~# ls -ltr
total 0
-rw-r--r-- 1 root root   27 Sep 22 23:21 file2
-rw-r--r-- 1 root root   27 Sep 22 23:26 file1
drwxr-xr-x 1 root root 4096 Sep 22 23:29 dir1
root@DESKTOP-OE722PO:~# chmod 766 file1
root@DESKTOP-OE722PO:~# ls -l
total 0
drwxr-xr-x 1 root root 4096 Sep 22 23:29 dir1
-rwxrw-rw- 1 root root   27 Sep 22 23:26 file1
-rw-r--r-- 1 root root   27 Sep 22 23:21 file2
root@DESKTOP-OE722PO:~#
```

2. Chown – Change the owner of file1 (root->Savita)

```
root@DESKTOP-OE722PO:~# chown savita file1
root@DESKTOP-OE722PO:~# ls -l
total 0
drwxr-xr-x 1 root   root 4096 Sep 22 23:29 dir1
-rwxrw-rw- 1 savita root   27 Sep 22 23:26 file1
-rw-r--r-- 1 root   root   27 Sep 22 23:21 file2
root@DESKTOP-OE722PO:~#
```

3. Chgrp – change the group of file/user

```
root@DESKTOP-OE722PO:~# chgrp devops file2
root@DESKTOP-OE722PO:~# ls -ltr
total 0
-rw-r--r-- 1 root   devops   27 Sep 22 23:21 file2
-rwxrw-rw- 1 savita root     27 Sep 22 23:26 file1
drwxr-xr-x 1 root   root   4096 Sep 22 23:29 dir1
```

Network

1. ifconfig - View and configure network interfaces

```
root@DESKTOP-OE722PO:~# ifconfig
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 1500
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0xfe<compat,link,site,host>
        loop  (Local Loopback)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wifi0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.0.106  netmask 255.255.255.0  broadcast 192.168.0.255
        inet6 fe80::a933:c0e3:4ed0:21b1  prefixlen 64  scopeid 0xfd<compat,link,site,host>
        ether c0:e4:34:20:4c:5f  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

root@DESKTOP-OE722PO:~#
```

2. ping- Test network connectivity to a host.

```
root@DESKTOP-OE722PO:~# ping google.com
PING google.com (142.250.71.110) 56(84) bytes of data.
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=1 ttl=57 time=96.7 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=2 ttl=57 time=8.25 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=3 ttl=57 time=9.01 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=4 ttl=57 time=14.1 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=5 ttl=57 time=8.79 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=6 ttl=57 time=10.3 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=7 ttl=57 time=8.25 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=8 ttl=57 time=8.42 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=9 ttl=57 time=8.94 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=10 ttl=57 time=12.3 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=11 ttl=57 time=10.4 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=12 ttl=57 time=9.48 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=13 ttl=57 time=8.87 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=14 ttl=57 time=8.27 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=15 ttl=57 time=9.43 ms
64 bytes from pnbomb-ad-in-f14.1e100.net (142.250.71.110): icmp_seq=16 ttl=57 time=10.0 ms
^Z
[1]+  Stopped                 ping google.com
root@DESKTOP-OE722PO:~#
```

3.netstat- Display network statistics

```
root@DESKTOP-OE722PO:~# netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type       State         I-Node   Path
root@DESKTOP-OE722PO:~#
```

4.netstat -r :displays the routing table of the local machine.

```
root@DESKTOP-OE722PO:~# netstat -r
Kernel IP routing table
Destination     Gateway         Genmask         Flags   MSS Window  irtt Iface
127.0.0.0       0.0.0.0         255.0.0.0       U         0 0          0 lo
127.0.0.1       0.0.0.0         255.255.255.255 U         0 0          0 lo
127.255.255.255 0.0.0.0         255.255.255.255 U         0 0          0 lo
224.0.0.0       0.0.0.0         240.0.0.0       U         0 0          0 lo
255.255.255.255 0.0.0.0         255.255.255.255 U         0 0          0 lo
0.0.0.0         192.168.0.1     255.255.255.255 U         0 0          0 wifi0
192.168.0.0     0.0.0.0         255.255.255.0   U         0 0          0 wifi0
192.168.0.106   0.0.0.0         255.255.255.255 U         0 0          0 wifi0
192.168.0.255   0.0.0.0         255.255.255.255 U         0 0          0 wifi0
224.0.0.0       0.0.0.0         240.0.0.0       U         0 0          0 wifi0
255.255.255.255 0.0.0.0         255.255.255.255 U         0 0          0 wifi0
root@DESKTOP-OE722PO:~#
```

5.Traceroute -to show the exact data path of network

6. nslookup – to display the ip from domain name & vice versa

```
root@DESKTOP-OE722PO:~# nslookup google.com
Server:         192.168.0.1
Address:        192.168.0.1#53

Non-authoritative answer:
Name:   google.com
Address: 142.250.71.110
Name:   google.com
Address: 2404:6800:4009:806::200e

root@DESKTOP-OE722PO:~# nslookup netflix.com
;; communications error to 192.168.0.1#53: timed out
Server:         192.168.0.1
Address:        192.168.0.1#53

Non-authoritative answer:
Name:   netflix.com
Address: 18.200.8.190
Name:   netflix.com
Address: 54.155.246.232
Name:   netflix.com
Address: 54.73.148.110
Name:   netflix.com
Address: 2a05:d018:76c:b685:e8ab:afd3:af51:3aed
Name:   netflix.com
Address: 2a05:d018:76c:b684:8ab7:ac02:667b:e863
Name:   netflix.com
Address: 2a05:d018:76c:b683:a2cd:4240:8669:6d4

root@DESKTOP-OE722PO:~#
```

7.SSH – ssh [username]@[hostname or IP address]

```
savita@DESKTOP-OE722PO:~$ sudo ssh savita@DESKTOP-OE722PO
ssh: connect to host desktop-oe722po port 22: Connection refused
savita@DESKTOP-OE722PO:~$
```

8.Hostname

```
savita@DESKTOP-OE722PO:~$ hostname
DESKTOP-OE722PO
savita@DESKTOP-OE722PO:~$
```

9.route - **To display the IP/kernel routing table.**

```
savita@DESKTOP-OE722PO:~$ route
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
127.0.0.0       0.0.0.0         255.0.0.0       U     256    0        0 lo
127.0.0.1       0.0.0.0         255.255.255.255 U     256    0        0 lo
127.255.255.255 0.0.0.0         255.255.255.255 U     256    0        0 lo
224.0.0.0       0.0.0.0         240.0.0.0       U     256    0        0 lo
255.255.255.255 0.0.0.0         255.255.255.255 U     256    0        0 lo
0.0.0.0         192.168.0.1     255.255.255.255 U     0      0        0 wifi0
192.168.0.0     0.0.0.0         255.255.255.0   U     256    0        0 wifi0
192.168.0.106   0.0.0.0         255.255.255.255 U     256    0        0 wifi0
192.168.0.255   0.0.0.0         255.255.255.255 U     256    0        0 wifi0
224.0.0.0       0.0.0.0         240.0.0.0       U     256    0        0 wifi0
255.255.255.255 0.0.0.0         255.255.255.255 U     256    0        0 wifi0
savita@DESKTOP-OE722PO:~$
```

10.systeminfo – to view all configuration of your system

```
C:\Windows\system32>systeminfo

Host Name:                 DESKTOP-OE722PO
OS Name:                   Microsoft Windows 10 Pro
OS Version:                10.0.19045 N/A Build 19045
OS Manufacturer:           Microsoft Corporation
OS Configuration:          Standalone Workstation
OS Build Type:             Multiprocessor Free
Registered Owner:          HP
Registered Organization:
Product ID:                00331-10000-00001-AA726
Original Install Date:     17-08-2024, 09:20:16
System Boot Time:          21-09-2024, 10:55:23
System Manufacturer:       HP
System Model:              HP Laptop 15-da0xxx
System Type:               x64-based PC
Processor(s):              1 Processor(s) Installed.
                           [01]: Intel64 Family 6 Model 142 Stepping 9 GenuineIntel ~2300 Mhz
BIOS Version:              Insyde F.36, 03-02-2021
Windows Directory:         C:\Windows
System Directory:          C:\Windows\system32
Boot Device:               \Device\HarddiskVolume1
System Locale:             en-us;English (United States)
Input Locale:              00004009
Time Zone:                 (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi
Total Physical Memory:     8,103 MB
Available Physical Memory: 2,566 MB
Virtual Memory: Max Size:  9,575 MB
Virtual Memory: Available: 2,400 MB
Virtual Memory: In Use:    7,175 MB
Page File Location(s):     C:\pagefile.sys
Domain:                    WORKGROUP
Logon Server:              \\DESKTOP-OE722PO
Hotfix(s):                 13 Hotfix(s) Installed.
                           [01]: KB5042097
                           [02]: KB5042056
                           [03]: KB5007401
                           [04]: KB5011048
                           [05]: KB5012170
                           [06]: KB5015684
                           [07]: KB5043064
                           [08]: KB5014032
                           [09]: KB5014671
```

11.arp – To display and modify the internet

```
C:\Windows\system32>arp

Displays and modifies the IP-to-Physical address translation tables used by
address resolution protocol (ARP).

ARP -s inet_addr eth_addr [if_addr]
ARP -d inet_addr [if_addr]
ARP -a [inet_addr] [-N if_addr] [-v]

  -a            Displays current ARP entries by interrogating the current
                protocol data.  If inet_addr is specified, the IP and Physical
                addresses for only the specified computer are displayed.  If
                more than one network interface uses ARP, entries for each ARP
                table are displayed.
  -g            Same as -a.
  -v            Displays current ARP entries in verbose mode.  All invalid
                entries and entries on the loop-back interface will be shown.
  inet_addr     Specifies an internet address.
  -N if_addr    Displays the ARP entries for the network interface specified
                by if_addr.
  -d            Deletes the host specified by inet_addr. inet_addr may be
                wildcarded with * to delete all hosts.
  -s            Adds the host and associates the Internet address inet_addr
                with the Physical address eth_addr.  The Physical address is
                given as 6 hexadecimal bytes separated by hyphens. The entry
                is permanent.
  eth_addr      Specifies a physical address.
  if_addr       If present, this specifies the Internet address of the
                interface whose address translation table should be modified.
                If not present, the first applicable interface will be used.
Example:
  > arp -s 157.55.85.212   00-aa-00-62-c6-09  .... Adds a static entry.
  > arp -a                                    .... Displays the arp table.

C:\Windows\system32>
```