

# Task 1

## **Command of Kali Linux**

Created By

**Manali Gawade (Intern Id: 2035)**

## **pwd - Display current working directory**

Shows the full path of the folder you are currently working in.

```
(manali@kali)-[~]  
$ pwd  
/home/manali
```

## **ls — List files and directories**

Displays all files and folders inside the current directory (without opening them).

```
(manali@kali)-[~]  
$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos
```

## **cd — Change directory**

Allows you to move from one directory (folder) to another in the Linux file system.

```
(manali@kali)-[~]  
$ cd Downloads  
<  
(manali@kali)-[~/Downloads]  
$
```

## **clear — Clear terminal screen**

Clears all previous commands and output from the terminal window and provides a clean screen.

```
(manali@kali)-[~]  
$ clear
```

## **touch — Create a new empty file**

Creates a new blank file or updates the timestamp of an existing file.

```
(manali@kali)-[~]  
$ touch file
```

### **mkdir — Create a new directory**

Creates a new folder to organize files inside the filesystem.

```
(manali@kali)-[~]  
$ mkdir project
```

### **rm — Remove files or directories**

Deletes files or folders permanently from the system (cannot be undone).

```
(manali@kali)-[~]  
$ rmdir project
```

### **cp — Copy files or directories**

Creates a duplicate copy of files or directories to another location.

```
(manali@kali)-[~]  
$ cp file file2
```

### **mv — Move or rename files**

Moves files or folders to another location or renames them.

```
(manali@kali)-[~]  
$ mv file2 nfile
```

### **cat — View file contents**

Displays the entire content of a file directly in the terminal.

```
(manali@kali)-[~]  
$ cat file  
Hello
```

### **date — Display date and time**

Shows the current system date and time settings.

```
(manali@kali)-[~]  
$ date  
Wed Dec 31 12:02:38 AM EST 2025
```

### **uptime — Show how long system has been running**

Displays how long the system has been powered on along with average system load.

```
(manali@kali)-[~]
$ uptime
00:06:48 up 33 min, 3 users, load average: 0.10, 0.05, 0.08
```

## whoami — Show logged-in user

Displays the username of the currently logged-in user.

```
Session Actions Edit View Help
(manali@kali)-[~]
$ whoami
manali
```

## top — Display running processes

Shows real-time information of running processes, CPU usage, and memory usage.

```
(manali@kali)-[~]
$ top
top - 00:15:03 up 41 min, 3 users, load average: 0.33, 0.17, 0.11
Tasks: 267 total, 1 running, 266 sleeping, 0 stopped, 0 zombie
%Cpu(s): 3.3 us, 1.3 sy, 0.0 ni, 95.2 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem: 1962.4 total, 581.9 free, 929.7 used, 610.0 buff/cache
MiB Swap: 953.7 total, 953.7 free, 0.0 used, 1032.7 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR   S %CPU  %MEM    TIME+  COMMAND
11040 root        20   0 4053388 147024 82300   S   0.0   7.3   0:33.03  Xorg
11818 manali    20   0 886372 68788 52348   S   1.3   3.4   0:05.21  qterminal
113  root       20   0      0      0      0   I   0.3   0.0   0:00.87  kworker/0:2-events
415  root       20   0 75392 25026 23384   S   0.3   1.2   0:00.84  systemd-journal
592  root       20   0 114024  9772  8156   S   0.3   0.5   0:08.61  vmtolstd
1115 root        20   0      0      0      0   I   0.3   0.0   0:00.75  kworker/3:3-events
11250 manali   20   0 297584 49208 30800   S   0.3   2.4   0:02.40  xfbw
11460 manali   20   0 376440 46076 33000   S   0.3   2.3   0:07.52  vmtolstd
11548 manali   20   0 311468 65884 23724   S   0.3   3.3   0:06.36  wrapper-2.0
11558 manali   20   0 273000 28984 21864   S   0.3   1.4   0:07.36  wrapper-2.0
23393 manali   20   0 10724  5752  3572   R   0.3   0.3   0:00.06  top
1  root        20   0 24608 15024 10876   S   0.0   0.7   0:02.17  systemd
2  root        20   0      0      0      0   S   0.5   0.0   0:00.01  kthreadd
3  root        20   0      0      0      0   S   0.5   0.0   0:00.00  pool_workqueue_release
4  root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/R-rcu_gp
5  root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/R-sync_wq
6  root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/R-kvfree_rcu_reclaim
7  root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/R-slab_flushwq
8  root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/R-netns
10 root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/0:0-events_highpri
11 root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/0:1-cgroup_destroy
12 root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/u128:0-ipv6_addrconf
13 root        20   0      0      0      0   S   0.1   0.0   0:00.00  kworker/R-mm_percpu_wq
14 root        20   0      0      0      0   S   0.5   0.0   0:00.00  ksoftirqd/0
```

## tree — Display directory structure

Shows files and directories in a tree-like format.

```
(manali@kali)-[~]
$ tree
.
├── Desktop
├── Documents
├── Downloads
├── file
├── Music
├── Pictures
├── Public
├── Templates
└── Videos
```

## ping — Check network connectivity

Sends test packets to a destination to check if the network connection is active and how fast it responds.

```
(manali@kali)-[~]
$ ping www.google.com
PING www.google.com (142.251.42.228) 56(84) bytes of data.
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=1 ttl=119 time=7.84 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=2 ttl=119 time=13.9 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=3 ttl=119 time=118 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=4 ttl=119 time=19.0 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=5 ttl=119 time=27.7 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=6 ttl=119 time=677 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=7 ttl=119 time=68.1 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=8 ttl=119 time=19.3 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=9 ttl=119 time=123 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=10 ttl=119 time=141 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=11 ttl=119 time=17.8 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=12 ttl=119 time=20.3 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=13 ttl=119 time=11.3 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=14 ttl=119 time=52.9 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=15 ttl=119 time=14.6 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=16 ttl=119 time=22.9 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=17 ttl=119 time=25.3 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=18 ttl=119 time=47.8 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=19 ttl=119 time=12.5 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=20 ttl=119 time=16.1 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=21 ttl=119 time=15.4 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=22 ttl=119 time=22.1 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=23 ttl=119 time=445 ms
64 bytes from pnbomb-aw-in-f4.1e100.net (142.251.42.228): icmp_seq=24 ttl=119 time=13.4 ms
```

## ip -a — Show network interfaces

Displays all network interfaces and their details.

```
(manali@kali)-[~]
$ ip -a
Usage: ip [ OPTIONS ] OBJECT { COMMAND | help }
       ip [ -force ] -batch filename
where  OBJECT := { address | addrlabel | fou | help | ila | ioam | l2tp | lin
k |
        macsec | maddress | monitor | mptcp | mroute | mrule |
        neighbor | neighbour | netconf | netns | nexthop | ntable
|
        ntbl | route | rule | sr | stats | tap | tcpmetrics |
        token | tunnel | tuntap | vrf | xfrm }
OPTIONS := { -V[ersion] | -s[tatistics] | -d[etails] | -r[esolve] |
             -h[uman-readable] | -iec | -j[son] | -p[retty] |
             -f[amily] { inet | inet6 | mpls | bridge | link } |
             -4 | -6 | -M | -B | -O |
             -l[oops] { maximum-addr-flush-attempts } | -echo | -br[ie
f] |
             -o[neline] | -t[imestamp] | -ts[hort] | -b[atch] [filenam
e] |
             -rc[vbuf] [size] | -n[etns] name | -N[umeric] | -a[ll] |
             -c[olor]}
```

## ifconfig — Display network configuration

Shows network interface details such as IP address, MAC address, and network status.

```
(manali@kali)-[~]
$ ifconfig
eth0: 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::393e:1495:c471:73b6 prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:55:1c:87 txqueuelen 1000 (Ethernet)
    RX packets 91 bytes 7348 (7.1 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 110 bytes 9504 (9.2 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 24 bytes 1440 (1.4 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 24 bytes 1440 (1.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

## netstat — Show network and port information

Displays active network connections, listening ports, and routing information.

```
(manali@kali)-[~]
$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 192.168.0.106:bootpc    192.168.0.1:bootps     ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type       State         I-Node   Path
unix  3      [ ]          STREAM     CONNECTED   35500
unix  3      [ ]          STREAM     CONNECTED   9080
unix  3      [ ]          STREAM     CONNECTED   35755
unix  3      [ ]          STREAM     CONNECTED   36087 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   38270
unix  3      [ ]          STREAM     CONNECTED   38064
unix  3      [ ]          STREAM     CONNECTED   37270 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   35719
unix  3      [ ]          STREAM     CONNECTED   36085 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   19221
unix  3      [ ]          STREAM     CONNECTED   37406
unix  3      [ ]          STREAM     CONNECTED   35696
unix  3      [ ]          STREAM     CONNECTED   36207 /run/user/1003/bus
unix  3      [ ]          STREAM     CONNECTED   17891 /run/dbus/system_bus_socket
unix  3      [ ]          STREAM     CONNECTED   18933 /run/dbus/system_bus_socket
unix  3      [ ]          STREAM     CONNECTED   14428 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   13385 /run/user/1001/pipewire-0-manager
unix  3      [ ]          STREAM     CONNECTED   37151 /run/dbus/system_bus_socket
unix  3      [ ]          STREAM     CONNECTED   19143 /run/dbus/system_bus_socket
unix  2      [ ]          DGRAM      CONNECTED   12111
unix  3      [ ]          STREAM     CONNECTED   36422
unix  3      [ ]          STREAM     CONNECTED   38057 /run/user/1003/at-spi/bus_0
unix  3      [ ]          STREAM     CONNECTED   36137
unix  3      [ ]          STREAM     CONNECTED   13732 /run/user/1001/bus
unix  3      [ ]          STREAM     CONNECTED   9994 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   9690 /run/dbus/system_bus_socket
unix  3      [ ]          DGRAM      CONNECTED   6998
unix  3      [ ]          STREAM     CONNECTED   35741 @/tmp/.X11-unix/X0
unix  3      [ ]          STREAM     CONNECTED   17065
```

## hostname— show hostname

Displays the system's network name; can also change it.

```
(manali@kali)-[~]
$ hostname
kali
```

## wget— Download file



Retrieves files from the web using HTTP, HTTPS, or FTP.

## echo — Print text to terminal

Displays text or variables on the terminal screen.

```
(manali@kali)-[~]
$ echo "Hello">>file
```

## apt update — Update package index

Refreshes the list of available software packages and their versions from repositories.

```
(manali@kali)-[~]
$ sudo apt update
Hit:1 http://http.kali.org/kali kali-rolling InRelease
764 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

## apt upgrade — Upgrade installed packages

Installs the latest available versions of all currently installed packages.

```
(manali@kali)-[~]
$ sudo apt upgrade
The following packages were automatically installed and are no longer required:
curlftpfs libavfilter10 libavformat10 libconfig-inifiles-perl libfuse2t64 libpocketsphinx3 libpostproc58 libspinxbase3t64 libswscale8 pocketsphinx-en-us
Use 'sudo apt autoremove' to remove them.

Upgrading:
alsa-ucm-conf          ippt-usb          libgssdp-1.6-0     libquadmath0      openssl-server    python3-pymssql
amd64-microcode       iptables          libgstreamer-gli-0-0 libraw190.8       openssl-sftp-server python3-pyqt5.sip
apparmor              kali-desktop-base libgstreamer-plugins-bad1.0-0 libre2-11         openvas-scanner   python3-pyqt6.sip
at-spi2-common         kali-desktop-core libgstreamer1.0-0  librpm10          openvpn           python3-pyqt6.sip
at-spi2-core          kali-desktop-xfce libgtk-3-bt64      librpmio10        orca              python3-pyz
binutils               kali-linux-core   libgtk-3-bin       librpmio10        os-prober         python3-referencing
binutils-common       kali-linux-default libgtk-3-common    librpsign10       osdp-openvas     python3-regex
binutils-mingw-w64-1686 kali-linux-firmware libgtk-4-1         librpsign10       perl-kernel       python3-retrying
binutils-mingw-w64-x86_64 kali-linux-headless libgtk-4-bin       librpsign10       perl-kernel-modules python3-rpds-py
binutils-x86-64-linux-gnu kali-system-cli   libgtk-4-common   librpsign10       perl-kernel-modules python3-rq
burpsuite             kali-system-core libgtksourceview-4-0 librsync2         perl-kernel-modules python3-ruamel.yaml.clib
cadaver               kali-system-gui  libgtksourceview-4-common librsync2         perl-kernel-modules python3-samba
certipy-ad            kali-themes      libgusb2           librsync2         perl-kernel-modules python3-scapy
chromium              kali-themes-common libgusb2           librsync2         perl-kernel-modules python3-scipy
chromium-common       kali-tools-top10 libgusb2           librsync2         perl-kernel-modules python3-setproctitle
chromium-sandbox      kali-undercover  libharfbuzz-gobject0 librsync2         perl-kernel-modules python3-simplejson
clang-18              kbd              libharfbuzz-icu0  librsync2         perl-kernel-modules python3-smc
clang-19              keyboard-config  libharfbuzz-subset0 librsync2         perl-kernel-modules python3-smc
clang-tools-19        layer-shell-qt   libharfbuzz-subset0 librsync2         perl-kernel-modules python3-snappy
comerr-dev            legion          libhavege2        librsync2         perl-kernel-modules python3-soupsieve
comix                 lib32gcc-s1     libhdf4-0         librsync2         perl-kernel-modules python3-sqlalchemy-ext
console-setup         lib32stdc++4     libhdf4-0         librsync2         perl-kernel-modules python3-sqlalchemy-utc
console-setup-linux  lib32stdc++4     libhdf4-0         librsync2         perl-kernel-modules python3-sqlalchemy
cpio                  libapack2-mod-php libhdf4-0         librsync2         perl-kernel-modules python3-talloc
cpp-15               libapack2-mod-php8.4 libhdf4-0         librsync2         perl-kernel-modules python3-tdb
cpp-15-x86-64-linux-gnu libapparmor1     libhdf4-0         librsync2         perl-kernel-modules python3-tqdm
craclib-runtime      libaudit1        libhdf4-0         librsync2         perl-kernel-modules python3-traitlets
cron                  libaudit1        libhdf4-0         librsync2         perl-kernel-modules python3-twisted
cron-daemon-common   libaudit1        libhdf4-0         librsync2         perl-kernel-modules python3-typing-extensions
cryptsetup           libaudit1        libhdf4-0         librsync2         perl-kernel-modules python3-tz
cryptsetup-bin       libaudit1        libhdf4-0         librsync2         perl-kernel-modules python3-tzlocal
cryptsetup-initramfs libaudit1        libhdf4-0         librsync2         perl-kernel-modules python3-ubuntu
curl                  libb2             libhdf4-0         librsync2         perl-kernel-modules python3-unicode2
dconf-cli             libb2             libhdf4-0         librsync2         perl-kernel-modules python3-uvicorn
dconf-gsettings-backend libb2             libhdf4-0         librsync2         perl-kernel-modules python3-venv
dconf-service         libb2             libhdf4-0         librsync2         perl-kernel-modules python3-watchdog
dncpd-base            libb2             libhdf4-0         librsync2         perl-kernel-modules python3-wcwidth
dictionaries-common  libb2             libhdf4-0         librsync2         perl-kernel-modules python3-websockets
dirmgr                libb2             libhdf4-0         librsync2         perl-kernel-modules python3-websockets
```

## apt install — Install a new package

Downloads and installs a specific software package from the repository.

```
(manali@kali)-[~]
$ sudo apt install htop
Installing:
 htop

Suggested packages:
 strace

Summary:
 Upgrading: 0, Installing: 1, Removing: 0, Not Upgrading: 764
 Download size: 171 kB
 Space needed: 434 kB / 63.0 GB available

Get:1 http://kali.download/kali kali-rolling/main amd64 htop amd64 3.4.1-5 [171 kB]
Fetched 171 kB in 2s (84.6 kB/s)
Selecting previously unselected package htop.
(Reading database ... 422337 files and directories currently installed.)
Preparing to unpack .../htop_3.4.1-5_amd64.deb ...
Unpacking htop (3.4.1-5) ...
Setting up htop (3.4.1-5) ...
Processing triggers for mailcap (3.75) ...
Processing triggers for kali-menu (2025.4.3) ...
Processing triggers for desktop-file-utils (0.28-1) ...
Processing triggers for hicolor-icon-theme (0.18-2) ...
Processing triggers for man-db (2.13.1-1) ...
```

## history — Show previously executed commands

Displays past commands you typed.

```
(manali@kali)-[~]
$ history
1  whoami
2  pwd
3  ls
4  cd downloads
5  cd Downloads
6  cd ..
7  ifconfig
8  ip -a
9  clear
10 date
11 who
12 ping www.google.com
13 df
14 id
15 uptime
16 netstat
17 traceroute
18 traceroute google.com
19 ls -la
20 ss -tuln
21 nmcli
22 arp -a
23 arch
24 man ls
25 top
26 htop
27 history
```

## sudo reboot - Reboot system

Restarts the computer immediately; requires superuser privileges

```
(manali@kali)-[~]
$ sudo reboot
```

## man ls Show manual for ls

Displays the detailed manual/help page for the ls command

```
ls(1)                                User Commands
NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  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, --sort=TYPE
      sort by, and show, ctime (time of last change 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]
      color the output WHEN; more info below

  -d, --directory
      list directories themselves, not their contents

  -D, --dired
      generate output designed for Emacs' dired mode
```

## df — Display disk usage



Shows the amount of disk space used and available on all mounted filesystems.

```
(manali@kali)-[~]
$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev             898772         0   898772   0% /dev
tmpfs            200952     1436   199516   1% /run
/dev/sda1       82083148 16381088 61486512  22% /
tmpfs           1004756         4   1004752   1% /dev/shm
none             1024         0     1024   0% /run/credentials/systemd-journald.service
tmpfs           1004756         8   1004748   1% /tmp
none             1024         0     1024   0% /run/credentials/getty@tty1.service
tmpfs           200948        100   200848   1% /run/user/1001
tmpfs           200948        100   200848   1% /run/user/1000
tmpfs           200948        108   200840   1% /run/user/1003
```

## id — Show user identity

Displays the current user's UID, GID, and group memberships.

```
(manali@kali)-[~]
$ id
uid=1003(manali) gid=1003(manali) groups=1003(manali),27(sudo),100(users)
```

## netstat — Network statistics

Displays active network connections, routing tables, and interface statistics.

```
(manali@kali)-[~]
$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 192.168.0.106:bootpc    192.168.0.1:bootps     ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type       State         I-Node   Path
unix  3      [ ]          STREAM     CONNECTED   35500
unix  3      [ ]          STREAM     CONNECTED   9080
unix  3      [ ]          STREAM     CONNECTED   35755
unix  3      [ ]          STREAM     CONNECTED   36087 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   38270
unix  3      [ ]          STREAM     CONNECTED   38064
unix  3      [ ]          STREAM     CONNECTED   37270 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   35719
unix  3      [ ]          STREAM     CONNECTED   36085 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   19221
unix  3      [ ]          STREAM     CONNECTED   37406
unix  3      [ ]          STREAM     CONNECTED   35696
unix  3      [ ]          STREAM     CONNECTED   36207 /run/user/1003/bus
unix  3      [ ]          STREAM     CONNECTED   17891 /run/dbus/system_bus_socket
unix  3      [ ]          STREAM     CONNECTED   18933 /run/dbus/system_bus_socket
unix  3      [ ]          STREAM     CONNECTED   14428 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   13385 /run/user/1001/pipewire-0-manager
unix  3      [ ]          STREAM     CONNECTED   37151 /run/dbus/system_bus_socket
unix  3      [ ]          STREAM     CONNECTED   19143 /run/dbus/system_bus_socket
unix  2      [ ]          DGRAM     CONNECTED   12111
unix  3      [ ]          STREAM     CONNECTED   36422
unix  3      [ ]          STREAM     CONNECTED   38057 /run/user/1003/at-spi/bus_0
unix  3      [ ]          STREAM     CONNECTED   36137
unix  3      [ ]          STREAM     CONNECTED   13732 /run/user/1001/bus
unix  3      [ ]          STREAM     CONNECTED   9994 /run/systemd/journal/stdout
unix  3      [ ]          STREAM     CONNECTED   9690 /run/dbus/system_bus_socket
unix  3      [ ]          DGRAM     CONNECTED   6998
unix  3      [ ]          STREAM     CONNECTED   35741 @/tmp/.X11-unix/X0
unix  3      [ ]          STREAM     CONNECTED   17945
```

## traceroute — Trace network path

Shows the route packets take to reach a destination host, including all intermediate hops.

```

(manali@kali)-[~]
$ traceroute google.com
traceroute to google.com (142.250.195.14), 30 hops max, 60 byte packets
 1 192.168.0.1 (192.168.0.1) 7.584 ms 9.755 ms 9.562 ms
 2 183.87.240.34.soipl.co.in (183.87.240.34) 11.755 ms 11.654 ms 11.634 ms
 3 183.87.240.33.soipl.co.in (183.87.240.33) 16.509 ms 16.372 ms 16.265 ms
 4 103.246.240.190 (103.246.240.190) 11.090 ms 10.993 ms 10.895 ms
 5 103.246.240.189 (103.246.240.189) 16.389 ms 16.289 ms 16.334 ms
 6 hkg03s09-in-f30.1e100.net (173.194.127.30) 11.831 ms 6.101 ms *
 7 * * *
 8 142.250.214.102 (142.250.214.102) 49.573 ms 142.251.69.104 (142.251.69.104) 82.648 ms 216.239.46.136 (216.239.46.136) 49.039 ms
 9 209.85.248.61 (209.85.248.61) 48.837 ms 142.250.226.66 (142.250.226.66) 486.979 ms 209.85.250.139 (209.85.250.139) 48.384 ms
10 192.178.110.111 (192.178.110.111) 81.574 ms 192.178.110.207 (192.178.110.207) 81.362 ms del12s09-in-f14.1e100.net (142.250.195.14) 49.307 ms

```

## ss -tuln — Show socket connections

Displays all listening TCP/UDP ports without resolving names.

```

(manali@kali)-[~]
$ ss -tuln
Netid      State      Recv-Q     Send-Q     Local Address:Port      Peer Address:Port

```

## nmcli — Network Manager command

Manages network connections and displays network status via command line.

```

(manali@kali)-[~]
$ nmcli
eth0: connected to Wired connection 1
    "Intel 82545EM"
    ethernet (e1000), 00:0C:29:55:1C:87, hw, mtu 1500
    ip4 default
    inet4 192.168.0.106/24
    route4 192.168.0.0/24 metric 100
    route4 default via 192.168.0.1 metric 100
    inet6 fe80::393e:1495:c471:73b6/64
    route6 fe80::/64 metric 1024

lo: connected (externally) to lo
    "lo"
    loopback (unknown), 00:00:00:00:00:00, sw, mtu 65536
    inet4 127.0.0.1/8
    inet6 ::1/128

DNS configuration:
    servers: 192.168.0.1
    interface: eth0

Use "nmcli device show" to get complete information about known devices and
"nmcli connection show" to get an overview on active connection profiles.

Consult nmcli(1) and nmcli-examples(7) manual pages for complete usage details.

```

## arp -a — Show ARP table

Displays the system's ARP cache with IP-to-MAC address mappings.

```

(manali@kali)-[~]
$ arp -a
? (192.168.0.1) at 7c:f1:7e:6d:ea:fa [ether] on eth0

```

## arch — Show system architecture

Displays the machine's hardware architecture

```

(manali@kali)-[~]
$ arch
x86_64

```

## top — Show running processes

Displays real-time information about CPU, memory usage, and active processes

```
(manali@kali)-[~]
└─$ top
top - 08:15:03 up 41 min, 3 users, load average: 0.33, 0.17, 0.11
Tasks: 267 total, 1 running, 266 sleeping, 0 stopped, 0 zombie
%Cpu(s): 3.3 us, 1.3 sy, 0.0 ni, 95.2 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem : 1962.4 total, 581.9 free, 929.7 used, 610.6 buff/cache
MiB Swap: 953.7 total, 953.7 free, 0.0 used, 1032.7 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S %CPU  MEM%   TIME+  COMMAND
11049 root        20   0 465388 147024 82300 S  9.6   7.3   0:39.65 Xorg
11018 manali    20   0 806372 68788 52340 S  1.3   3.4   0:05:21 qterminal
111 root       20   0 0 0 0 I  0.3  0.0   0:00.57 kworker/0:2-events
419 root       20   0 75392 25036 23384 S  0.3  1.2   0:00.64 systemd-journal
392 root       20   0 114024 9772 8156 S  0.3  0.5   0:00.61 vmttoolsd
1155 root       20   0 0 0 0 I  0.3  0.0   0:00.75 kworker/3:3-events
11358 manali  20   0 297504 49208 30500 S  0.3  2.4   0:08.40 xfwm4
11460 manali  20   0 376440 46076 33000 S  0.3  2.3   0:07.62 vmttoolsd
11546 manali  20   0 311468 65804 22724 S  0.3  3.3   0:00.30 wrapper-2.0
11558 manali  20   0 273000 28984 21864 S  0.3  1.4   0:07.36 wrapper-2.0
23393 manali  20   0 10724 5752 3572 R  0.3  0.3   0:00.06 top
1 root       20   0 246880 18024 10876 S  0.0  0.7   0:02:17 systemd
2 root       20   0 0 0 0 S  0.5  0.0   0:00.01 kthreadd
3 root       20   0 0 0 0 S  0.5  0.0   0:00.00 pool_workqueue_release
4 root       20  -20 0 0 0 I  1.0  0.0   0:00.00 kworker/R-rcu_gp
5 root       20  -20 0 0 0 I  1.0  0.0   0:00.00 kworker/R-synctsq
6 root       20  -20 0 0 0 I  1.0  0.0   0:00.00 kworker/R-kvfree_rcu_reclaim
7 root       20  -20 0 0 0 I  1.0  0.0   0:00.00 kworker/R-slub_flushhq
8 root       20  -20 0 0 0 I  1.0  0.0   0:00.00 kworker/R-netns
10 root      20  -20 0 0 0 I  1.0  0.0   0:00.00 kworker/0:0H-events_highpri
11 root      20   0 0 0 0 I  1.0  0.0   0:00.06 kworker/0:1-cgroup_destroy
12 root      20   0 0 0 0 I  1.0  0.0   0:00.00 kworker/u2:0-lpvs_addrconf
13 root      20  -20 0 0 0 I  1.0  0.0   0:00.00 kworker/R-mm_percpu_wq
14 root      20   0 0 0 0 S  0.5  0.0   0:00.00 ksoftirqd/0
```

## sudo apt install htop — Install htop

Installs the htop utility, an interactive process viewer for Linux

```
(manali@kali)-[~]
└─$ sudo apt install htop
Installing:
 htop

Suggested packages:
 strace

Summary:
 Upgrading: 0, Installing: 1, Removing: 0, Not Upgrading: 764
 Download size: 171 kB
 Space needed: 434 kB / 63.0 GB available

Get:1 http://kali.download/kali kali-rolling/main amd64 htop amd64 3.4.1-5 [171 kB]
Fetched 171 kB in 2s (84.6 kB/s)
Selecting previously unselected package htop.
(Reading database ... 422337 files and directories currently installed.)
Preparing to unpack .../htop_3.4.1-5_amd64.deb ...
Unpacking htop (3.4.1-5) ...
Setting up htop (3.4.1-5) ...
Processing triggers for mailcap (3.75) ...
Processing triggers for kali-menu (2025.4.3) ...
Processing triggers for desktop-file-utils (0.28-1) ...
Processing triggers for hicolor-icon-theme (0.18-2) ...
Processing triggers for man-db (2.13.1-1) ...
```

## sudo apt remove htop — Remove htop

Uninstalls the htop utility from the system.

```
(manali@kali)-[~]
└─$ sudo apt remove htop
REMOVING:
 htop

Summary:
 Upgrading: 0, Installing: 0, Removing: 1, Not Upgrading: 764
 Freed space: 434 kB
```

