

Task 1

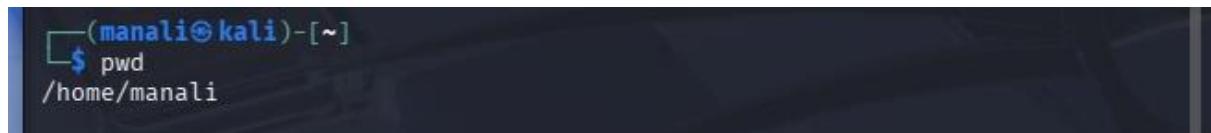
Command of Kali Linux

Created By

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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

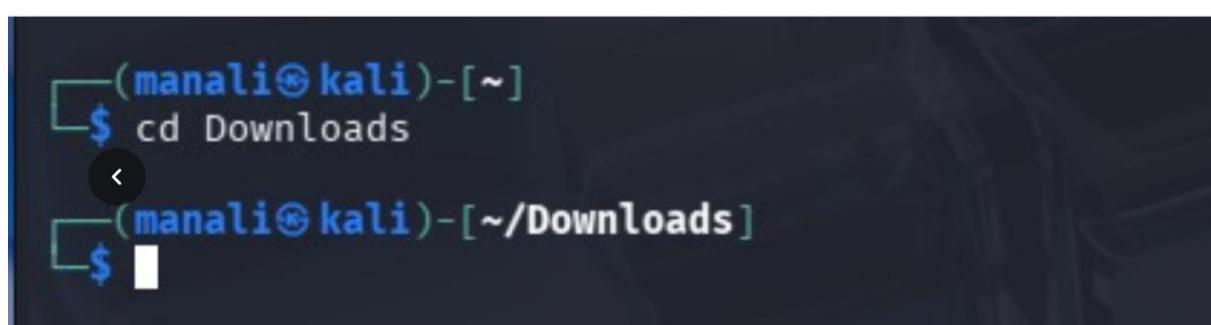
Displays all files and folders inside the current directory (without opening them).



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

cd — Change directory

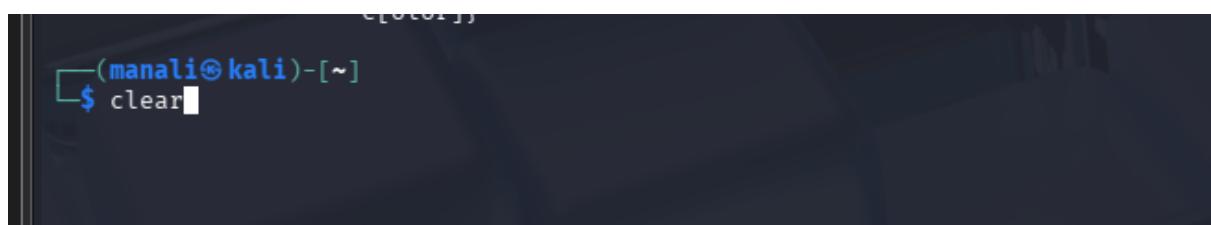
Allows you to move from one directory (folder) to another in the Linux file system.



```
(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.



```
[root@... ~]
$ clear
```

touch — Create a new empty file

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



```
  tmdir project
$ 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.

```
└─$ echo Hello > file
└─$ (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.

```
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
Mem: 1962.4 total, 581.9 free, 929.7 used, 610.6 buff/cache
Mib Mem: 953.7 total, 953.7 free, 0.0 used, 1832.7 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 0:39:05 Xorg
111460 manali 20 0 806372 68700 52300 R 1.3 1.3 0:00:00 kworker/u:0-kernel
113 root 20 0 0 0 0 I 0.3 0.0 0:00:07 kworker/u:2-events
415 root 20 0 75392 25036 23384 S 0.3 1.2 0:00:04 systemd-journal
592 root 20 0 114024 9772 8156 S 0.3 0.5 0:00:01 vmtoolsd
1115 root 20 0 0 0 I 0.3 0.0 0:00:00 kworker/3:3-events
111546 manali 20 0 29750 12708 3800 S 0.3 0.3 0:00:00 kworker/u:0
11460 manali 20 0 378440 66976 33000 S 0.3 2.3 0:07:02 vmtoolsd
11548 manali 20 0 311468 65884 23724 S 0.3 3.3 0:06:36 wrapper-2.0
11558 manali 20 0 273008 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 24680 15024 10576 S 0.0 0.0 0:00:00 kthreadd
  2 root 20 0 0 0 0 S 0.0 0.0 0:00:01 kthreadd
  3 root 20 0 0 0 0 S 0.0 0.0 0:00:00 pool_workqueue_release
  4 root 0-20 0 0 0 I 0.0 0.0 0:00:00 kworker/R-rcu_gp
  5 root 0-20 0 0 0 I 0.0 0.0 0:00:00 kworker/R-sync_wq
  6 root 0-20 0 0 0 I 0.0 0.0 0:00:00 kworker/R-rcu_reclaim
  7 root 0-20 0 0 0 I 0.0 0.0 0:00:00 kworker/R-slub_flushwq
  8 root 0-20 0 0 0 I 0.0 0.0 0:00:00 kworker/R-nets
  10 root 0-20 0 0 0 I 0.0 0.0 0:00:00 kworker/0:0-events_highpri
  11 root 20 0 0 0 0 I 0.0 0.0 0:00:00 kworker/0:1-group_destroy
  12 root 20 0 0 0 0 I 0.0 0.0 0:00:00 kworker/0:2-ipv6_addrconf
  13 root 0-20 0 0 0 I 0.0 0.0 0:00:00 kworker/R-percpu_wq
  14 root 20 0 0 0 0 S 0.0 0.0 0:00:00 configfs_r
```

tree — Display directory structure

Shows files and directories in a tree-like format.

```
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[u man-readable] | -iec | -j[son] | -p[retty] | |
      -f[amily] { inet | inet6 | mpls | bridge | link } | |
      -4 | -6 | -M | -B | -0 | |
      -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 Local Address          Foreign Address        State
udp    0      0.0.0.0:bootpc       0.0.0.0: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  17845
```

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:
curliftpfs libavfilter0 libavformat01 libconfig-inifiles-perl libfuse2t64 libpocketsphinx3 libpostproc58 libsphinxbase3t64 libswscale8 pocketsphinx-en-us
Use 'sudo apt autoremove' to remove them.

Upgrading:
alsa-heimdall      iproute2          libquadmath0          openash-server    python3-pymysql
alsa-heimdall-conf iproute2          libgstreamer-glib1.0-0  libravel0_8     python3-pvt5_sip
amdgpu-microcode   iproute2          libgstreamer-plugins-bad1.0-0  librex2-11     python3-pvt6
apparmor           iptables          libgstreamer-plugins-base1.0-0  librm-sequoia-1  openvas
at-sp1-common      kali-desktop-base libgstreamer-plugins-base1.0-0  librpmsign10    openvas-scanner
at-sp2-store      kali-desktop-base libgstreamer-plugins-base1.0-0  librsvg2-2      openvas
atk                kali-system-core libgstreamer-plugins-base1.0-0  librsvg2-common p11-kit
atk-store          kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       openvpn
atk-utils          kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       orca
binutils           kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       os-prober
binutils-common    kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       osprobed
binutils-mingw-w64-1686  kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       openvas
binutils-mingw-w64-x86-64  kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       openvas-regex
binutils-x86-64-linux-gnu  kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       p11-kit
bison               kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       p11-kit-modules
bzip2               kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       pcl1.ids
bz2                 kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       pessl
cabinet             kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       perl-tk
caveweb            kali-system-core libgstreamer-plugins-base1.0-0  librtv0-0       pgcli
certipy-ad          kali-system-gui libgstreamer-plugins-base1.0-0  librtv0-0       python3-scapy
chromium            kali-themes        libgupnp1.6-0        librtv0-0       php
chromium-common    kali-themes-common libgupnp2          librtv0-0       python3-scpv
chromium-sandbox   kali-tools-top10 libgupnp2          librtv0-0       python3-setproctitle
curliftpfs         kali-undercover libgupnp2          librtv0-0       php-mysql
curliftpfs         libavfilter0     libgupnp2          librtv0-0       python3-simplejson
curliftpfs         libcurl          libgupnp2          librtv0-0       phpmyadmin
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-snappy
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-soupisieve
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-sqlalchemy
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-sqlalchemy-ext
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-sqlalchemy-utc
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-sqlparse
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-talloc
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-tdb
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-tqdm
curliftpfs         libcurl          libgupnp2          librtv0-0       pygments-highlighters
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-txstd
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-typing-extensions
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-tz
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-tzlocal
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-ujson
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-unordereddata2
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-uvicorn
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-venv
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-watchdog
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-wcwidth
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-websockets
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-xattr
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-yaml.clib
curliftpfs         libcurl          libgupnp2          librtv0-0       python3-zmq
```

apt install — Install a new package

Downloads and installs a specific software package from the repository.

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

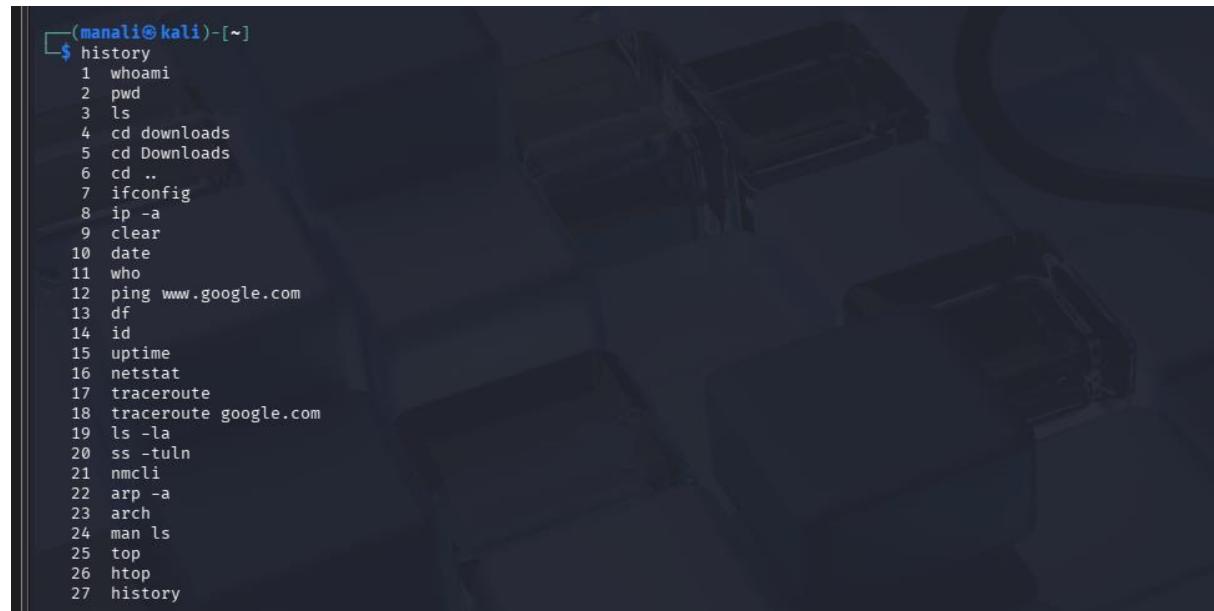
Suggested packages:
  strace

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 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

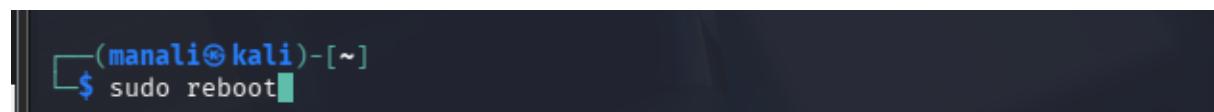
Displays past commands you typed.



```
(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

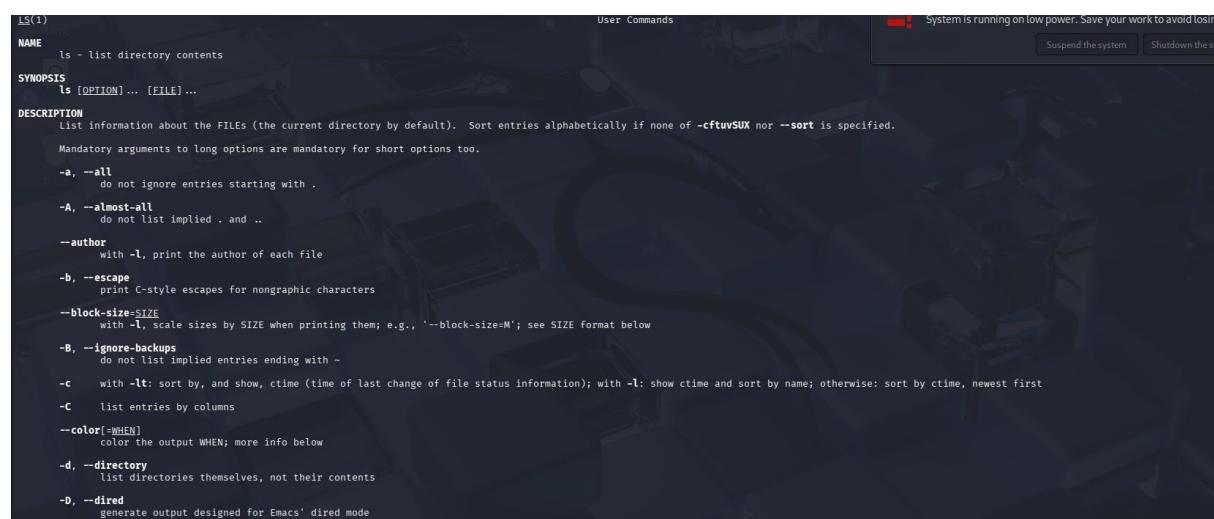
Restarts the computer immediately; requires superuser privileges



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

man ls Show manual for ls

Displays the detailed manual/help page for the ls command



```
ls(1)                                         User Commands                                         System is running on low power. Save your work to avoid loss.
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      with -lt: 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      [ ]      DGRAM    CONNECTED  9690       /run/dbus/system_bus_socket
unix    3      [ ]      STREAM    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.

```
└─$ 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.soip1.co.in (183.87.240.34)  11.755 ms  11.654 ms  11.634 ms
 3  183.87.240.33.soip1.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.

```
└─$ 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.

```
└─$ 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
    inetc6 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
    inetc6 127.0.0.1/8
    inetc6 ::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.

```
└─$ 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

```
└─$ arch
x86_64
```

top — Show running processes

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

```
(manali㉿kali)-[~]
└─$ top
top - 15:08 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,  0.2 hi,  0.0 st
Mem:  1962.4 total,   581.9 free,  920.7 used,   610.6 buff/cache
Mib Mem:  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 147074 82308 S  9.6  7.3  0:09:05 Xorg
111813 manali   20   0 806372 68788 52348 S  1.3  3.4  0:05:21 qterminal
113 root      20   0      0      0 I  0.3  0.0  0:00:07 kworker/0:2-events
415 root      20   0 753972 25036 23384 S  0.3  1.5  0:00:08 systemd-journal
111814 root      20   0 114624  9772 81320 S  0.3  0.5  0:00:51 kworker/0:1-events
1115 root      20   0      0      0 I  0.3  0.0  0:00:07 kworker/3:3-events
11358 manali   20   0 297504 49286 30500 S  0.3  2.4  0:08:40 xfwm4
11460 manali   20   0 376440 46676 33000 S  0.3  2.3  0:07:62 vmtoolsd
11548 manali   20   0 374480 65896 23764 S  0.3  3.4  0:00:07:36 wrapper-2.0
11549 manali   20   0 272300 100844 23642 S  0.3  3.4  0:00:07:36 wrapper-2.0
23393 manali   20   0 10724  5752  3572 R  0.3  0.3  0:00:06 top
1 root      20   0 24688 15024 10876 S  0.6  0.7  0:02:17 systemd
2 root      20   0      0      0 I  0.5  0.0  0:00:01 kthread
3 root      20   0      0      0 I  0.5  0.0  0:00:01 kworker/0:0-kQueue_release
4 root      0:-20      0      0 I  0.0  0.0  0:00:00 kworker/R-rcu_E0
5 root      0:-20      0      0 I  0.0  0.0  0:00:00 kworker/R-sync_wq
6 root      0:-20      0      0 I  0.0  0.0  0:00:00 kworker/R-kvFree_rcu_reclaim
7 root      0:-20      0      0 I  0.0  0.0  0:00:00 kworker/R-slub_flushwq
8 root      0:-20      0      0 I  0.0  0.0  0:00:00 kworker/R-netns
10 root     0:-20      0      0 I  0.0  0.0  0:00:00 kworker/0:0-kQueue_highpri
11 root     20   0      0      0 I  0.0  0.0  0:00:06 kworker/0:1-group_destroy
12 root     20   0      0      0 I  0.0  0.0  0:00:06 kworker/u128:0-ipv6_addrconf
13 root     0:-20      0      0 I  0.0  0.0  0:00:00 kworker/R-mm_percpu_wq
14 root     0:-20      0      0 I  0.5  0.0  0:00:00 xssoftirvfd/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
```

