

**Report on**

**Kali Linux Command Line Essentials**

**by**

**Intern Name**

**Sameer Anil More**

**Intern ID**

**2056**

## **1. To display present working directory**

**Command:**

*pwd*

**Description** - This command will display the current directory you are in.

## **2. To list the directories and files in the current directory.**

**Command:**

*/s*

**Description** - This command will display the list of files and directories in the current directory.

## **3. To change the current working directory**

**Command:**

*cd*

**Description** - This command will change the directory you are currently working on.

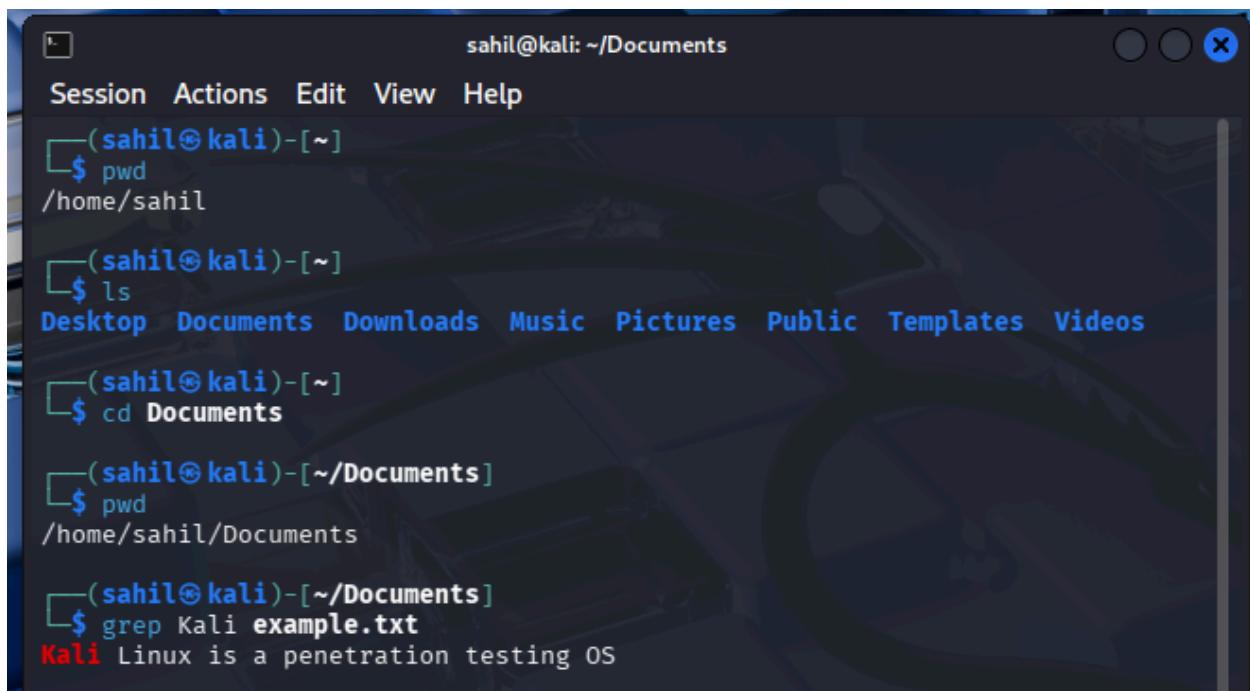
## **4. Search for a Word in a File**

**Command:**

*grep keyword filename*

**Description** - This command searches for a specific keyword or pattern inside a file and displays matching lines.

**Output :**



A screenshot of a terminal window titled "sahil@kali: ~/Documents". The terminal shows a session history with the following commands and output:

```
sahil@kali: ~/Documents
Session Actions Edit View Help
└─(sahil㉿kali)-[~]
  └─$ pwd
  /home/sahil

└─(sahil㉿kali)-[~]
  └─$ ls
  Desktop Documents Downloads Music Pictures Public Templates Videos

└─(sahil㉿kali)-[~]
  └─$ cd Documents
  └─(sahil㉿kali)-[~/Documents]
  └─$ pwd
  /home/sahil/Documents

└─(sahil㉿kali)-[~/Documents]
  └─$ grep Kali example.txt
Kali Linux is a penetration testing OS
```

## 5. To create a new directory

**Command:**

*mkdir directory\_name*

**Description** - This command will create a new directory in the current folder with the name directory\_name.

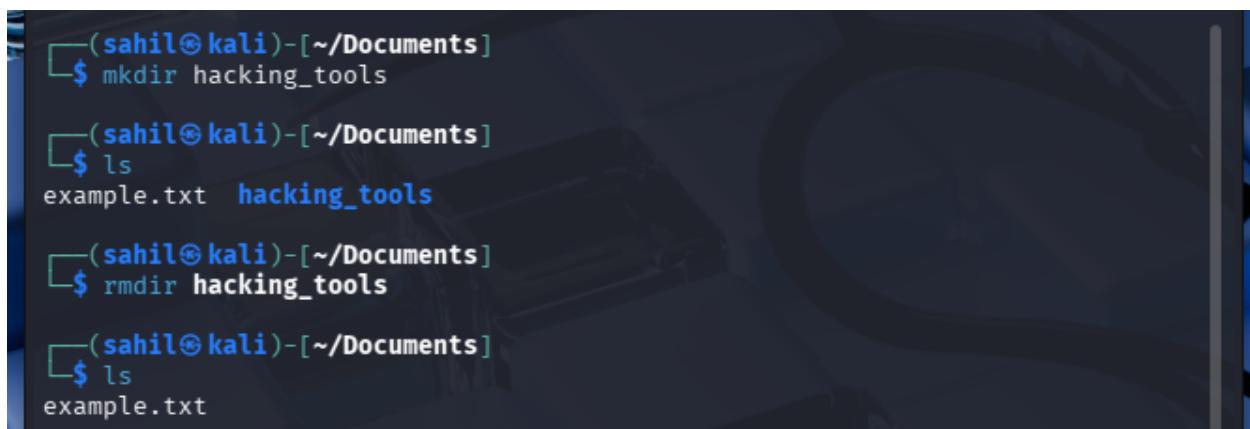
## 6. To remove a directory

**Command:**

*rmdir directory\_name*

**Description** - This command will remove the directory with the name directory\_name from the current directory.

**Output :**



```
(sahil㉿kali)-[~/Documents]
$ mkdir hacking_tools

(sahil㉿kali)-[~/Documents]
$ ls
example.txt  hacking_tools

(sahil㉿kali)-[~/Documents]
$ rmdir hacking_tools

(sahil㉿kali)-[~/Documents]
$ ls
example.txt
```

A screenshot of a terminal window titled '(sahil㉿kali)-[~/Documents]'. The window shows a sequence of commands and their outputs. It starts with '\$ mkdir hacking\_tools', followed by '\$ ls' which shows 'example.txt' and 'hacking\_tools'. Then it runs '\$ rmdir hacking\_tools', and finally '\$ ls' again which only shows 'example.txt'.

## 7. To move a file

**Command:**

*mv source destination*

**Description** - This command is used to move a file from one location to another.

**Output :**

```
Session Actions Edit View Help
└─(sahil㉿kali)-[~]
$ cd Documents

└─(sahil㉿kali)-[~/Documents]
$ mv file1.txt Fruit/
mv: cannot move 'file1.txt' to 'Fruit/': Not a directory

└─(sahil㉿kali)-[~/Documents]
$ mv file1.txt Desktop/
mv: cannot move 'file1.txt' to 'Desktop/': Not a directory

└─(sahil㉿kali)-[~/Documents]
$ mkdir fruits

└─(sahil㉿kali)-[~/Documents]
$ mv file1.txt fruits/

└─(sahil㉿kali)-[~/Documents]
$ ls
example.txt  fruits
```

## 8. To copy a file

**Command:**

*cp source destination*

**Description** - This command will copy the file from the source to the destination.

## 9. To create a new file

**Command:**

*touch filename*

**Description** - This command will create a new file with the name "filename"

## **Output :**

```
└─(sahil㉿kali)-[~/Documents]
└─$ cp example.txt fruits/
└─(sahil㉿kali)-[~/Documents]
└─$ ls fruits/
example.txt  file1.txt
└─(sahil㉿kali)-[~/Documents]
└─$ ls
example.txt  fruits
└─(sahil㉿kali)-[~/Documents]
└─$ touch notes.txt
```

## **10. To display manual of a command**

### **Command:**

*man ls*

**Description** - This command will display a manual or a user guide for the command.

## **11. To check the internet connection or to check whether the host is active or not.**

### **Command:**

*ping google.com*

**Description** - This command will send some packets to the mentioned host and will give us output about the details of what is the status of the packet. This command could be used to check the internet connection.

## Output :

```
sahil@kali: ~/Documents
```

Session Actions Edit View Help

LS(1) User Commands LS(1)

**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

Manual page ls(1) line 1 (press h for help or q to quit)■

```
(sahil@sahil-kali)-[~/Documents]
$ ping google.com
PING google.com (142.250.207.238) 56(84) bytes of data.
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=1 ttl=117
time=10.0 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=2 ttl=117
time=8.76 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=3 ttl=117
time=8.60 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=4 ttl=117
time=7.89 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=5 ttl=117
time=8.35 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=6 ttl=117
time=7.71 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=7 ttl=117
time=7.45 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=8 ttl=117
time=8.63 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=9 ttl=117
time=8.06 ms
64 bytes from del12s11-in-f14.1e100.net (142.250.207.238): icmp_seq=10 ttl=117
time=6.86 ms
^C
--- google.com ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9026ms
rtt min/avg/max/mdev = 6.864/8.230/10.006/0.814 ms
```

## 12. To display network interface details.

**Command:**

*ifconfig*

**Description** - This command is used to display the details of the network interfaces connected to the system.

**Output :**

```
(sahil㉿kali)-[~/Documents]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.0.123 netmask 255.255.255.0 broadcast 192.168.0.255
        inet6 fe80::a00:27ff:fe9e:e01 prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:9e:0e:01 txqueuelen 1000 (Ethernet)
                RX packets 345 bytes 23580 (23.0 KiB)
                RX errors 0 dropped 0 overruns 0 frame 0
                TX packets 136 bytes 22428 (21.9 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 8 bytes 480 (480.0 B)
                RX errors 0 dropped 0 overruns 0 frame 0
                TX packets 8 bytes 480 (480.0 B)
                TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

### 13. To download a file

#### Command:

*wget link\_to\_file*

**Description** - This command will download the file from the link entered in the command.

#### Output :

```
(sahil@sahil-kali)-[~/Documents]$ wget https://kali linux.com/file.zip
--2025-12-29 12:25:00-- https://kali/
Resolving kali (kali) ... 127.0.1.1
Connecting to kali (kali)|127.0.1.1|:443 ... failed: Connection refused.
Prepended http:// to 'linux.com/file.zip'
--2025-12-29 12:25:00-- http://linux.com/file.zip
Resolving linux.com (linux.com) ... 23.185.0.3, 2620:12a:8000::3, 2620:12a:800
1::3
Connecting to linux.com (linux.com)|23.185.0.3|:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://linux.com/file.zip [following]
--2025-12-29 12:25:01-- https://linux.com/file.zip
Connecting to linux.com (linux.com)|23.185.0.3|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://www.linux.com/file.zip [following]
--2025-12-29 12:25:02-- https://www.linux.com/file.zip
Resolving www.linux.com (www.linux.com) ... 23.185.0.3, 2620:12a:8001::3, 2620
:12a:8000::3
Connecting to www.linux.com (www.linux.com)|23.185.0.3|:443... connected.
```

## 14. To install a package

### Syntax:

*sudo apt install package\_name*

### Command:

*sudo apt install netcat*

**Description** - This command is used to install the mentioned package in the system.

### Output :

```
(sahil㉿kali)-[~]
└─$ sudo apt install netcat-traditional
netcat-traditional is already the newest version (1.10-50.1).
The following packages were automatically installed and are no longer required:
  curlftpfs          libfuse2t64      libswscale8
  libavfilter10       libpocketsphinx3  pocketsphinx-en-us
  libavformat61       libpostproc58
  libconfig-inifiles-perl  libsphinxbase3t64
Use 'sudo apt autoremove' to remove them.

Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 6
```

## 15. To remove a package

**Syntax:**

*sudo apt remove package\_name*

**Command:**

*sudo apt remove netcat*

**Description** - This command will remove the mentioned package from the system.

**Output :**

```
(sahil㉿kali)-[~]
$ sudo apt remove netcat-traditional
The following packages were automatically installed and are no longer required:
d:
curlftpfs           libswscale8          python3-serial-asyncio
dnsmap              medusa              python3-smmmap
figlet              pocketsphinx-en-us   python3-tld
finger              python3-aiocache    python3-wapiti-arsenic
imagemagick         python3-aiomcache   python3-wapiti-swagger
imagemagick-7.q16   python3-browser-cookie3 python3-yaswfp
libavfilter10       python3-git        rsh-redone-client
libavformat61       python3-gitdb      smtp-user-enum
libconfig-inifiles-perl python3-htpx-ntlm sparta-scripts
libfuse2t64         python3-jeepney    toilet-fonts
libpocketsphinx3   python3-pyexploitdb unicornscan
libpostproc58       python3-pyfiglet   wapiti
libsmb2-6           python3-pysodan    urlscan
libsphinxbase3t64  python3-qasync
```

Use 'sudo apt autoremove' to remove them.

REMOVING:

```
kali-linux-core      kali-linux-headless  netcat-traditional
kali-linux-default   legion
```

Summary:

```
Upgrading: 0, Installing: 0, Removing: 5, Not Upgrading: 6
Freed space: 3,794 kB
```

## 16. To upgrade packages in the system

**Command:**

```
sudo apt upgrade
```

**Description** - This command will upgrade all the packages in the system.

**Output :**

```
└$ sudo apt upgrade
The following packages were automatically installed and are no longer required:
  curlftfps          libswscale8          python3-serial-asyncio
  dnsmap              medusa              python3-smmmap
  figlet              pocketsphinx-en-us  python3-tld
  finger              python3-aiocache   python3-wapiti-arsenic
  imagemagick         python3-aiomcache  python3-wapiti-swagger
  imagemagick-7.q16   python3-browser-cookie3 python3-yaswfp
  libavfilter10       python3-git        rsh-redone-client
  libavformat61       python3-gitdb      smtp-user-enum
  libconfig-inifiles-perl python3-httplib-ntlm sparta-scripts
  libfuse2t64         python3-jeepney    toilet-fonts
  libpocketsphinx3   python3-pyexploitdb unicornscan
  libpostproc58       python3-pyfiglet   urlscan
  libsmb2-6           python3-pyshodan   wapiti
  libsphinxbase3t64  python3-qasync
Use 'sudo apt autoremove' to remove them.

Not upgrading:
  libavfilter10  libavutil59  nodejs
  libavformat61  libswscale8  python3-tables-lib

Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 6
└$
```

## 17. To fetch the packages updates

**Command:**

```
sudo apt update
```

**Description** - This command will check for updates of all the packages and will add the updates in the list to upgrade.

**Output :**

```
(sahil@sahil-kali)-[~]
$ sudo apt update
Get:1 http://kali.download/kali kali-rolling InRelease [34.0 kB]
Get:2 http://kali.download/kali kali-rolling/main amd64 Packages [20.9 MB]
Get:3 http://kali.download/kali kali-rolling/main amd64 Contents (deb) [52.5
MB]
Get:4 http://kali.download/kali kali-rolling/non-free amd64 Packages [190 kB]
Get:5 http://kali.download/kali kali-rolling/non-free amd64 Contents (deb) [9
04 kB]
Fetched 74.6 MB in 20s (3,690 kB/s)
35 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

## 18. To get the current username

**Command:**

*whoami*

**Description** - This command is used to print the username of the current user.

## 19. To change the current user to superuser or root

**Command:**

*sudo su*

**Description** - This command will ask for a password and will change the current user to root.

**Output :**

```
(sahil㉿kali)-[~]
$ whoami
sahil

(sahil㉿kali)-[~]
$ sudo su
(root㉿kali)-[/home/sahil]
#
```

## 20. Print Text on the Terminal

**Command:**

```
echo " To print something on terminal"
```

**Description** - The command will print the mentioned text on the terminal

## 21. View file contents

**Commands:**

```
cat filename
```

**Description** - Displays the entire content of a file on the terminal.

**Output :**

```
(sahil㉿kali)-[~]
└─$ echo "Hello Kali Linux"
Hello Kali Linux

(sahil㉿kali)-[~]
└─$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos

(sahil㉿kali)-[~]
└─$ cd Documents
(sahil㉿kali)-[~/Documents]
└─$ ls
example.txt fruits notes.txt

(sahil㉿kali)-[~/Documents]
└─$ cat notes.txt
```

## 22. View file content page by page

### Commands:

`less filename`

**Description** - Allows scrolling through large files one page at a time.

### Output :

```
hey there
Kali Linux is a penetration testing OS
This is the best
example.txt (END)█
```

## 23. Display first few lines of a file

**Commands:**

*head filename*

**Description** - Shows the first 10 lines of a file by default.

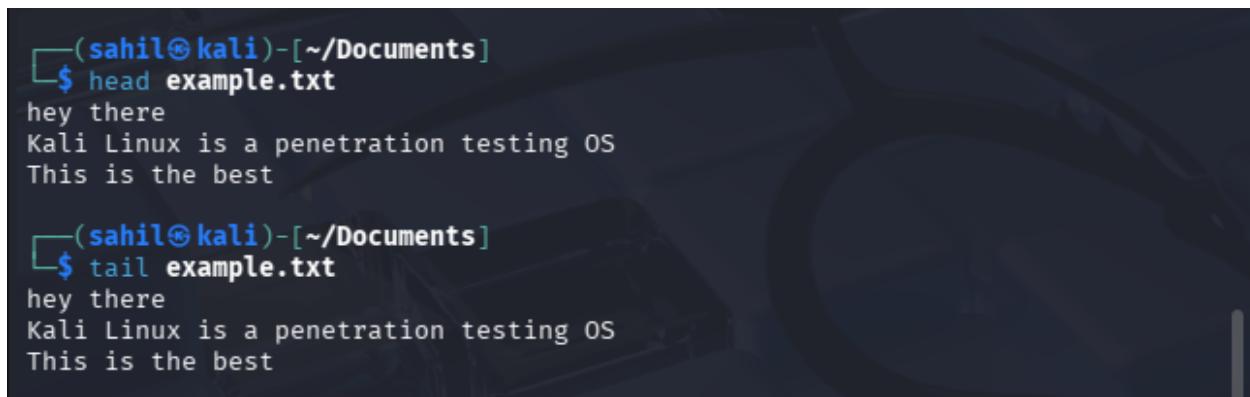
## 24. Display last few lines of a file

**Commands:**

*tail filename*

**Description** - Shows the last 10 lines of a file, useful for log monitoring.

**Output :**



```
(sahil㉿kali)-[~/Documents]
└─$ head example.txt
hey there
Kali Linux is a penetration testing OS
This is the best

(sahil㉿kali)-[~/Documents]
└─$ tail example.txt
hey there
Kali Linux is a penetration testing OS
This is the best
```

## 25. Find files or directories

**Commands:**

*find /path -name filename*

**Description** - Searches for a file or directory in a specified path.

**Output :**

```
└─(sahil㉿kali)-[~/Documents]
$ find /home -name example.txt
/home/sahil/Documents/example.txt
/home/sahil/Documents/fruits/example.txt
```

## 26. Search command history

**Commands:**

*history*

**Description** - Displays previously executed commands.

**Output :**

```
(sahil@sahil-kali) [~/Documents]
$ history
1 sudo apt update && sudo apt upgrade -y
2 cat /etc/os-release
3 sudo apt install htop
4 htop
5 sudo apt install -y virtualbox-guest-utils virtualbox-guest-x11
6 reboot
7 pwd
8 ls
9 cd geeksforgeeks/
10 pwd
11 ls
12 cd
13 cat filename
14 pwd
15 ls
16 cd /
17 hey there
18 pwd
19 ls
20 cd Documents
21 pwd
22 grep kali example.txt
23 pwd
24 ls
25 cd Documents
```

## 27. Clear terminal screen

### Commands:

*clear*

**Description** - Clears all previous output from the terminal.

### Output :

The screenshot shows a terminal window with a dark background and light-colored text. At the top, it displays the session number (85), the user (sahil), the host (kali), and the current directory (~/Documents). Below this is a menu bar with 'Session', 'Actions', 'Edit', 'View', and 'Help'. The main area contains a numbered list of terminal commands from 85 to 109. The commands include various system administration tasks such as installing netcat, updating packages, checking user information, and managing files. At the bottom of the terminal window, there is a prompt indicating the user's location: '(sahil@kali)-[~/Documents]'. Below the prompt, the user has typed the command '\$ clear' and is awaiting the output.

```
85 sudo apt install netcat
86 cd ~
87 sudo apt install netcat
88 sudo apt install netcat-traditional
89 sudo apt remove netcat-traditional
90 sudo apt upgrade
91 sudo apt update
92 whoami
93 sudo su
94 echo "Hello Kali Linux"
95 ls
96 cd Documents
97 ls
98 cat notes.txt
99 less largefile.log
100 less example.txt
101 less fruits
102 less file1.txt
103 less example.txt
104 head example.txt
105 tail example.txt
106 tail file1.txt
107 tail fruits
108 find /Documents -name example.txt
109 find /home -name example.txt

(sahil@kali)-[~/Documents]
$ clear
```

## 28. Check system disk usage

**Commands:**

*df -h*

**Description** - Displays disk space usage in human-readable format.

**Output :**

```
(sahil@sahil-kali)-[~/Documents]
$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            882M    0  882M   0% /dev
tmpfs           198M  1004K 197M   1% /run
/dev/sda1        47G   16G   30G  35% /
tmpfs           986M  4.0K  986M   1% /dev/shm
tmpfs           986M  8.0K  986M   1% /tmp
none            1.0M    0   1.0M   0% /run/credentials/getty@tty1.service
tmpfs           198M  116K  198M   1% /run/user/1000
none            1.0M    0   1.0M   0% /run/credentials/systemd-journald.servi
ce
```

## 29. Check directory size

**Commands:**

*du -sh directory\_name*

**Description** - Shows total size of a directory.

## 30. Check running processes

**Commands:**

*ps aux*

**Description** - Displays all running processes on the system.

**Output :**

```
(sahil㉿kali)-[~]
$ du -sh Downloads
4.0K    Downloads

(sahil㉿kali)-[~]
$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root        1  0.0  0.7  24792 15580 ?      Ss  10:33  0:03 /sbin/init
root        2  0.0  0.0     0     0 ?      S  10:33  0:00 [kthreadd]
root        3  0.0  0.0     0     0 ?      S  10:33  0:00 [pool_work
root        4  0.0  0.0     0     0 ?      I< 10:33  0:00 [kworker/R
root        5  0.0  0.0     0     0 ?      I< 10:33  0:00 [kworker/R
root        6  0.0  0.0     0     0 ?      I< 10:33  0:00 [kworker/R
root        7  0.0  0.0     0     0 ?      I< 10:33  0:00 [kworker/R
root        8  0.0  0.0     0     0 ?      I< 10:33  0:00 [kworker/R
root       10  0.0  0.0     0     0 ?      I< 10:33  0:00 [kworker/0
root       13  0.0  0.0     0     0 ?      I< 10:33  0:00 [kworker/R
root       14  0.0  0.0     0     0 ?      S  10:33  0:00 [ksoftirqd
root       15  0.1  0.0     0     0 ?      I  10:33  0:10 [rcu_prem
root       16  0.0  0.0     0     0 ?      S  10:33  0:00 [rcu_exp_p
root       17  0.0  0.0     0     0 ?      S  10:33  0:00 [rcu_exp_g
root       18  0.0  0.0     0     0 ?      S  10:33  0:00 [migration
root       19  0.0  0.0     0     0 ?      S  10:33  0:00 [idle_inje
root       20  0.0  0.0     0     0 ?      S  10:33  0:00 [cpuhp/0]
root       21  0.0  0.0     0     0 ?      S  10:33  0:00 [cpuhp/1]
root       22  0.0  0.0     0     0 ?      S  10:33  0:00 [idle_inje
root       23  0.0  0.0     0     0 ?      S  10:33  0:00 [migration
root       24  0.0  0.0     0     0 ?      S  10:33  0:00 [ksoftirqd
```

## 31. Real-time process monitoring

### Commands:

*top*

**Description** - Shows running processes and system resource usage live.

### Output :

```
(sahil㉿kali)-[~]
$ top
top - 13:17:55 up 2:44, 1 user, load average: 0.20, 0.13, 0.10
Tasks: 200 total, 1 running, 199 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.3 us, 0.7 sy, 0.0 ni, 99.0 id, 0.1 wa, 0.0 hi, 0.0 si, 0.0
MiB Mem : 1971.6 total, 220.6 free, 880.4 used, 1032.8 buff/cache
MiB Swap: 2046.0 total, 2046.0 free, 0.0 used. 1091.2 avail Mem

PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+
 766 root      20   0 425852 137384 81228 S  1.7  6.8  3:31.39
1068 sahil    20   0 215612  3376 2960 S  1.0  0.2  1:01.32
1138 sahil    20   0 627080 137016 94624 S  0.7  6.8 13:11.49
 515 message+ 20   0 10228  6576 4252 S  0.3  0.3  0:11.02
 712 root      20   0 353140  2980 2716 S  0.3  0.1  0:16.12
1061 sahil    20   0 215096  3408 2952 S  0.3  0.2  0:21.90
1206 sahil    20   0 272996 29680 22560 S  0.3  1.5  0:40.41
1253 root      20   0 319076 10952 8864 S  0.3  0.5  0:11.05
 4995 root     20   0      0      0      0 I  0.3  0.0  0:00.45
14806 root     20   0      0      0      0 I  0.3  0.0  0:08.37
 67368 sahil   20   0 802688 65772 49456 S  0.3  3.3  0:01.49
    1 root      20   0 24792 15580 11408 S  0.0  0.8  0:03.73
    2 root      20   0      0      0      0 S  0.0  0.0  0:00.04
    3 root      20   0      0      0      0 S  0.0  0.0  0:00.00
    4 root      0 -20      0      0      0 I  0.0  0.0  0:00.00
    5 root      0 -20      0      0      0 I  0.0  0.0  0:00.00
    6 root      0 -20      0      0      0 I  0.0  0.0  0:00.00
    7 root      0 -20      0      0      0 I  0.0  0.0  0:00.00
```

## 32. Kill a process

### Commands:

*kill PID*

**Description** - Terminates a process using its Process ID.

### 33. Check IP address

**Commands:**

*ip addr*

**Description** - Displays IP address and network interface details.

**Output :**

```
(sahil㉿kali)-[~]
$ kill 1234

(sahil㉿kali)-[~]
$ 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 noprefixroute
            valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:9e:0e:01 brd ff:ff:ff:ff:ff:ff
        inet 192.168.0.123/24 brd 192.168.0.255 scope global dynamic noprefixroute eth0
            valid_lft 3555sec preferred_lft 3555sec
        inet6 fe80::a00:27ff:fe9e:e01/64 scope link noprefixroute
            valid_lft forever preferred_lft forever
```

### 34. Check active network connections

**Commands:**

*netstat -tulnp*

**Description** - Shows listening ports and active connections.

**Output :**

```
(sahil㉿kali)-[~]
└─$ sudo netstat -tulnp
[sudo] password for sahil:
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address          Foreign Address        State
PID/Program name
```

## 35. Change file permissions

**Commands:**

```
chmod 755 filename
```

**Description** - Modifies read, write, and execute permissions of a file.

**Output :**

```
(sahil㉿kali)-[~]
└─$ touch script.sh

(sahil㉿kali)-[~]
└─$ nano script.sh

(sahil㉿kali)-[~]
└─$ chmod 755 script.sh
```

## 36. Change file ownership

**Commands:**

```
chown user:group filename
```

**Description** - Changes ownership of a file or directory.

## **37. Check current date and time**

**Commands:**

*date*

**Description** - Displays current system date and time.

## **38. Compress files**

**Commands:**

*tar -czvf file.tar.gz directory*

**Description** - Compresses files or directories into a tar archive.

**Output :**

```
(sahil㉿kali)-[~]
$ sudo chown sahil:sahil script.sh

(sahil㉿kali)-[~]
$ date
Monday 29 December 2025 01:34:41 PM IST

(sahil㉿kali)-[~]
$ tar -czvf project.tar.gz project/
tar: project: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors

(sahil㉿kali)-[~]
$ ls
Desktop   Downloads  Pictures      Public      Templates
Documents  Music     project.tar.gz  script.sh  Videos

(sahil㉿kali)-[~]
$ mkdir project

(sahil㉿kali)-[~]
$ tar -czvf project.tar.gz project/
project/
```

## 39. Extract compressed files

**Commands:**

*tar -xzvf file.tar.gz*

**Description** - Extracts compressed tar files.

## 40. Check system uptime

**Commands:**

*uptime*

**Description** - Shows how long the system has been running.

## 41. Display system information

**Commands:**

*uname -a*

**Description** - Displays kernel and system details.

## 42. Check memory usage

**Commands:**

*free -h*

**Description** - Shows RAM usage in readable format.

## 43. Create symbolic link

**Commands:**

*ln -s source linkname*

**Description** - Creates a shortcut (symbolic link) to a file.

## Output :

```
[sahil@sahil-kali:~]$ tar -xzvf project.tar.gz
project/
[sahil@sahil-kali:~]$ uptime
13:38:36 up 3:05, 1 user, load average: 0.06, 0.08, 0.08
[sahil@sahil-kali:~]$ uname -a
Linux sahil 6.17.10+kali-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.17.10-1kali1 (202
5-12-08) x86_64 GNU/Linux
[sahil@sahil-kali:~]$ free -h
              total        used        free      shared  buff/cache   availa
ble
Mem:       1.9Gi      893Mi     148Mi      9.2Mi      1.1Gi      1.
1Gi
Swap:      2.0Gi          0B      2.0Gi
[sahil@sahil-kali:~]$ ln -s /etc/passwd passwd_link
```

## 44. Download using curl

### Commands:

*curl -O link*

**Description** - Downloads a file from a URL.

## 45. Scan open ports (basic)

### Commands:

*nmap target\_ip*

**Description** - Scans open ports on a target system.

## 46. Check logged-in users

**Commands:**

`who`

**Description** - Displays users currently logged into the system.

**Output :**

```
(sahil㉿kali)-[~]
$ curl -0 https://example.com/file.zip
<!doctype html><html lang="en"><head><title>Example Domain</title><meta name="viewport" content="width=device-width, initial-scale=1"><style>body{background:#eee; width:60vw; margin:15vh auto; font-family:system-ui,sans-serif}h1{font-size:1.5em}div{opacity:0.8}a:link,a:visited{color:#348}</style><body><div><h1>Example Domain</h1><p>This domain is for use in documentation examples without needing permission. Avoid use in operations.<p><a href="https://iana.org/domains/example">Learn more</a></div></body></html>

(sahil㉿kali)-[~]
$ nmap 192.168.1.1
Starting Nmap 7.98 ( https://nmap.org ) at 2025-12-29 13:42 +0530
Note: Host seems down. If it is really up, but blocking our ping probes, try -Pn
Nmap done: 1 IP address (0 hosts up) scanned in 3.23 seconds

(sahil㉿kali)-[~]
$ who
sahil      seat0          2025-12-29 10:33 (:0)
```

## 47. Shutdown system

**Commands:**

*shutdown now*

**Description** - Immediately shuts down the system.

**Output :**

```
[sahil@sahil-kali:~]$ sudo shutdown now
```

## 48. Reboot system

**Commands:**

*reboot*

**Description** - Restarts the system.

**Output :**

```
[sahil@sahil-kali:~]$ sudo reboot
```

## 49. Create multiple directories

**Commands:**

*mkdir dir1 dir2 dir3*

**Description** - Creates multiple directories at once.

## 50. Display environment variables

**Commands:**

`env`

**Description** - Displays all environment variables.

**Output :**

```
(sahil㉿kali)-[~]
$ mkdir tools reports logs

(sahil㉿kali)-[~]
$ ls
Desktop    logs      Pictures      Public      Templates
Documents   Music     project      reports     tools
Downloads   passwd_link project.tar.gz script.sh  Videos

(sahil㉿kali)-[~]
$ env
COLORFGBG=15;0
COLORTERM=truecolor
COMMAND_NOT_FOUND_INSTALL_PROMPT=1
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
DESKTOP_SESSION=lightdm-xsession
DISPLAY=:0.0
DOTNET_CLI_TELEMETRY_OPTOUT=1
GDMSESSION=lightdm-xsession
HOME=/home/sahil
LANG=en_IN
LANGUAGE=en_IN:en
LOGNAME=sahil
NMAP_PRIVILEGED=
PANEL_GDK_CORE_DEVICE_EVENTS=0
PATH=/home/sahil/.local/bin:/usr/local/sbin:/usr/sbin:/sbin:/usr/local/bin:/usr/bin:/bin:/usr/local/games:/usr/games:/home/sahil/.dotnet/tools
POWERSHELL_TELEMETRY_OPTOUT=1
```

