

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:

ls

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.

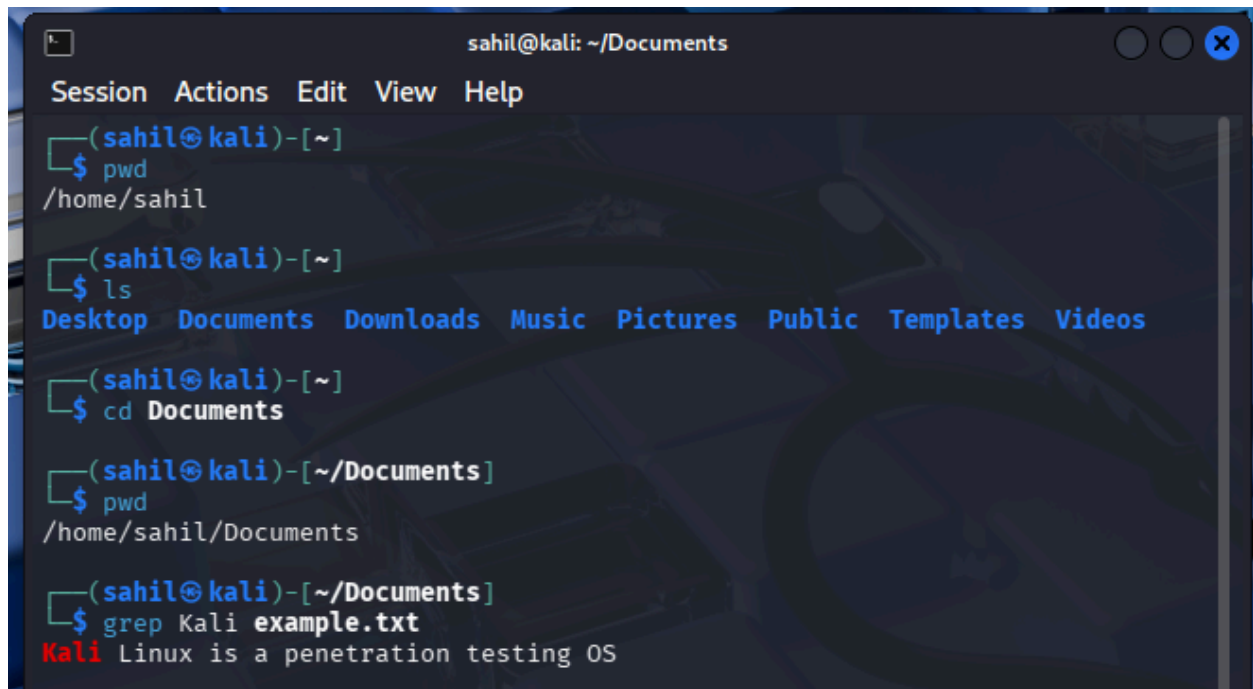
4. Search for a Word in a File

Command:

grep keyword filename

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

Output :

A terminal window titled 'sahil@kali: ~/Documents' with a menu bar (Session, Actions, Edit, View, Help). The terminal shows a series of commands and their outputs: 1. Prompt: (sahil@kali)-[~], Command: pwd, Output: /home/sahil. 2. Prompt: (sahil@kali)-[~], Command: ls, Output: Desktop Documents Downloads Music Pictures Public Templates Videos. 3. Prompt: (sahil@kali)-[~], Command: cd Documents, Output: (no output). 4. Prompt: (sahil@kali)-[~/Documents], Command: pwd, Output: /home/sahil/Documents. 5. Prompt: (sahil@kali)-[~/Documents], Command: grep Kali example.txt, Output: Kali Linux is a penetration testing OS. The output 'Kali' is highlighted in red.

```
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:

rm -r directory_name

Description - This command will remove the directory with the name `directory_name` from the current directory.

Output :

A terminal window with a dark blue background and a faint graphic of a computer monitor and keyboard. The terminal shows a series of commands and their outputs. The prompt is '(sahil@kali)-[~/Documents]'. The first command is '\$ mkdir hacking_tools'. The second command is '\$ ls', which outputs 'example.txt' and 'hacking_tools'. The third command is '\$ rmdir hacking_tools'. The fourth command is '\$ ls', which outputs 'example.txt'.

```
(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
```

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 speci-
  fied.

  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@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@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:8001::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:
curlftpfs      libswscale8      python3-serial-asyncio
dnsmap          medusa            python3-smmmap
figlet          pocketsphinx-en-us python3-tld
finger          python3-aiohttp python3-wapiti-arsenic
imagemagick     python3-aiohttp 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-httpx-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.

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:
 curlftpfs                libswscale8                python3-serial-asyncio
 dnsmap                   medusa                     python3-smmap
 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-httpx-ntlm        sparta-scripts
 libfuse2t64              python3-jeepney           toilet-fonts
 libpocketsphinx3         python3-pyexploitdb       unicornscan
 libpostproc58            python3-pyfiglet          urlscan
 libsmb2-6                python3-pyshodan          wapiti
 libspnbase3t64           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

(sahil@kali)-[~]
└─$

```

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@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) [904 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.

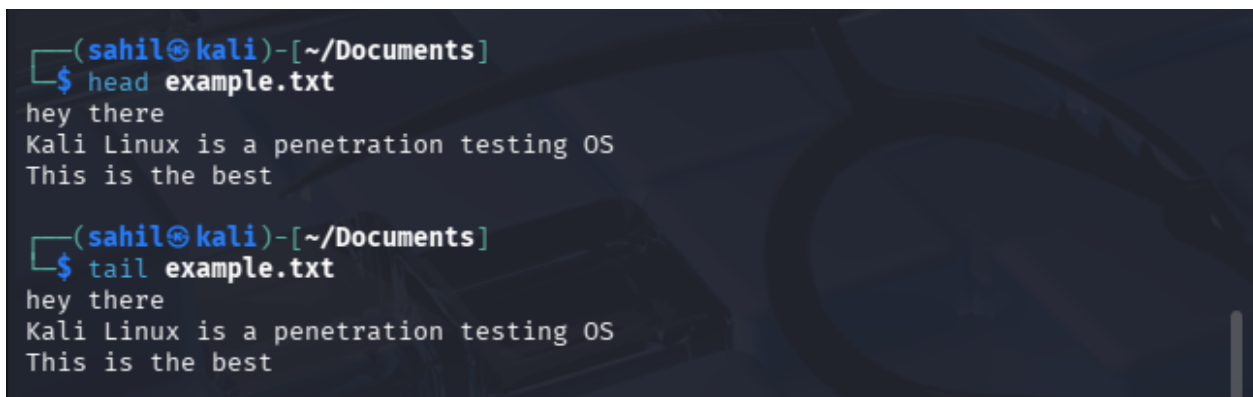
24. Display last few lines of a file

Commands:

tail filename

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

Output :

A terminal window with a dark blue background and a faint Kali Linux logo. The prompt is (sahil@kali)-[~/Documents]. The first command is \$ head example.txt, which outputs three lines: 'hey there', 'Kali Linux is a penetration testing OS', and 'This is the best'. The second command is \$ tail example.txt, which outputs the same three lines.

```
(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
```

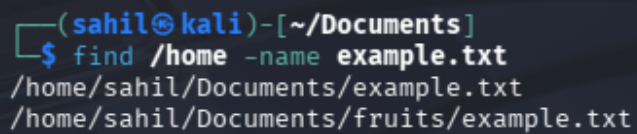
25. Find files or directories

Commands:

```
find /path -name filename
```

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

Output :

A terminal window with a dark background. The prompt is `(sahil@kali)-[~/Documents]`. The command `$ find /home -name example.txt` has been entered. The output shows two lines: `/home/sahil/Documents/example.txt` and `/home/sahil/Documents/fruits/example.txt`.

```
(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@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 :

```
sahil@kali: ~/Documents
Session  Actions  Edit  View  Help
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@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.service
```

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_preem
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@kali)-[~]
$ tar -xzf project.tar.gz
project/

(sahil@kali)-[~]
$ uptime
13:38:36 up 3:05, 1 user, load average: 0.06, 0.08, 0.08

(sahil@kali)-[~]
$ uname -a
Linux kali 6.17.10+kali-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.17.10-1kali1 (2025-12-08) x86_64 GNU/Linux

(sahil@kali)-[~]
$ free -h
```

	total	used	free	shared	buff/cache	available
Mem:	1.9Gi	893Mi	148Mi	9.2Mi	1.1Gi	1.1Gi
Swap:	2.0Gi	0B	2.0Gi			2.0Gi

```
(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 -O 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@kali)-[~]  
$ sudo shutdown now
```

48. Reboot system

Commands:

reboot

Description - Restarts the system.

Output :

```
(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
```