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## **KALI LINUX COMMANDS**

# KALI LINUX COMMANDS

## 1) pwd

Pwd stands for Print Working Directory.

It shows the full absolute path of the directory you are currently working in.

## 2) ls

The ls command lists all files and directories present in the current location. It helps you see what folders and files are available to access.

## 3) cd

This command correctly matches the folder name and changes the directory .

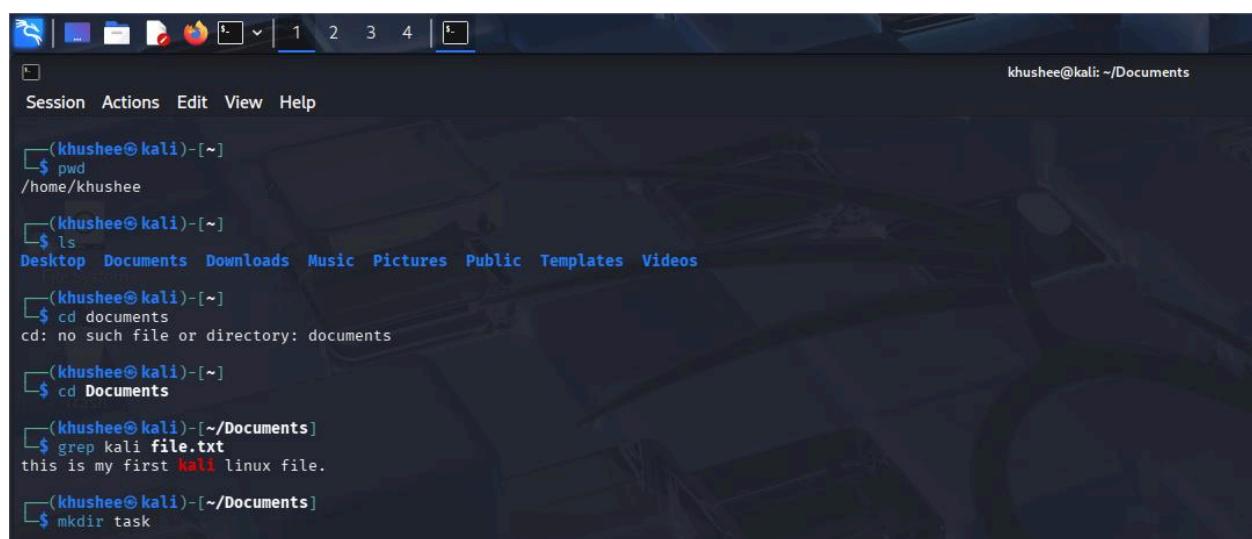
## 4) grep

The grep command searches for a specific word or pattern inside a file. It prints the entire line where the match is found.

## 5) mkdir task

mkdir stands for make directory.

This command creates a new folder named task in the current directory.



```
(khushee㉿kali)-[~]
$ pwd
/home/khushee
(khushee㉿kali)-[~]
$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
(khushee㉿kali)-[~]
$ cd documents
cd: no such file or directory: documents
(khushee㉿kali)-[~]
$ cd Documents
(khushee㉿kali)-[~/Documents]
$ grep kali file.txt
this is my first kali linux file.
(khushee㉿kali)-[~/Documents]
$ mkdir task
```

## 6) rmdir

Deletes an **empty directory** from the system.

It will not work if the directory contains any files or subfolders.

Used mainly for safely removing unused folders.

## 7) mv

Moves a file or directory from one location to another.

It can also be used to **rename files or folders**.

After moving, the original location no longer contains the item.

## 8)cp

Copies files from one location to another.

To copy directories, the **-r** (recursive) option must be used.

The original file remains unchanged after copying.

## 9)touch

Creates a **new empty file** if it does not already exist.

If the file exists, it updates the file's timestamp.

Often used to quickly create files for editing.

## 10)man

Displays the **manual page** for a command.

Provides detailed information about syntax, options, and examples.

Used when learning or troubleshooting commands.

```
└─(khushee㉿kali)-[~/Documents]
  └─$ rmkdir task

└─(khushee㉿kali)-[~/Documents]
  └─$ mkdir task

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

└─(khushee㉿kali)-[~/Documents]
  └─$ mv file.txt task/

└─(khushee㉿kali)-[~/Documents]
  └─$ ls
task

└─(khushee㉿kali)-[~/Documents]
  └─$ cp file.txt Downloads/
cp: cannot stat 'file.txt': No such file or directory

└─(khushee㉿kali)-[~/Documents]
  └─$ cp task Downloads/
cp: -r not specified; omitting directory 'task'

└─(khushee㉿kali)-[~/Documents]
  └─$ cp file_2.txt task/

└─(khushee㉿kali)-[~/Documents]
  └─$ touch notes.txt

└─(khushee㉿kali)-[~/Documents]
  └─$ man ls
```

## 11) ping

Checks network connectivity between the local system and a remote host. It sends ICMP echo request packets and waits for replies from the destination.

Used to verify internet connection, host availability, and measure response time.

```
└─(khushee㉿kali)-[~/Documents]
  └─$ ping google.com
PING google.com (142.250.207.238) 56(84) bytes of data.
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=1 ttl=255 time=7.04 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=2 ttl=255 time=5.34 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=3 ttl=255 time=5.78 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=4 ttl=255 time=5.11 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=5 ttl=255 time=10.3 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=6 ttl=255 time=5.86 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=7 ttl=255 time=5.65 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=8 ttl=255 time=5.24 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=9 ttl=255 time=5.13 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=10 ttl=255 time=6.10 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=11 ttl=255 time=5.00 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=12 ttl=255 time=5.16 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=13 ttl=255 time=7.28 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=14 ttl=255 time=5.80 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=15 ttl=255 time=5.79 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=16 ttl=255 time=5.36 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=17 ttl=255 time=4.81 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=18 ttl=255 time=7.77 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=20 ttl=255 time=4.60 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=21 ttl=255 time=5.86 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=22 ttl=255 time=4.99 ms
64 bytes from lcboma-bi-in-f14.1e100.net (142.250.207.238): icmp_seq=23 ttl=255 time=4.96 ms
```

## 12) ifconfig

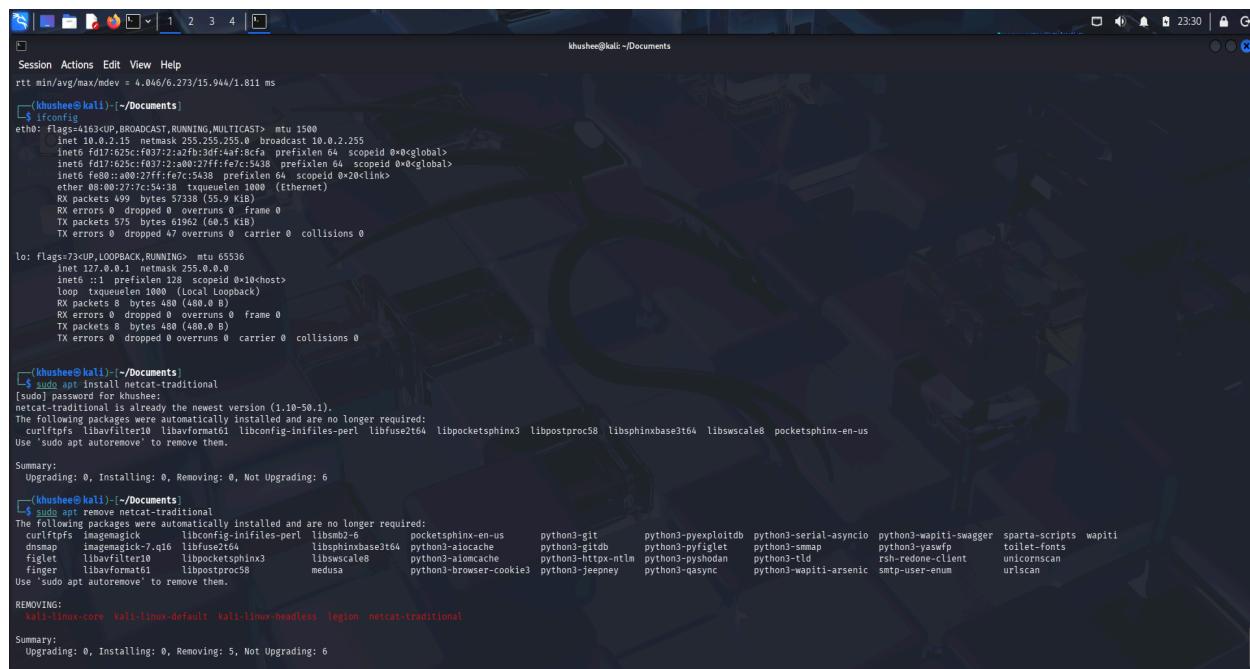
Displays detailed information about network interfaces on the system.  
It shows IP addresses, MAC addresses, MTU size, and packet statistics.  
Used to check network configuration and interface status.

## 13) sudo apt install netcat-traditional

Installs the netcat-traditional package using the APT package manager.  
Requires superuser (sudo) privileges to install system software.  
Used to add networking tools for data transfer and port communication.

## 14) sudo apt remove netcat-traditional

Removes the netcat-traditional package from the system.  
The software is uninstalled but configuration files may remain.  
Used to clean or manage installed packages.



```
khushhee@kali:~/Documents$ ifconfig
eth0: flags=416<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.2.15  brd 255.255.255.0  broadcast 10.0.2.255
                netmask 255.255.255.0  broadcast 10.0.2.255
                inet6 fe80::4c79:72ff:fe03:b3ff%eth0  brd fe80::ff:fe03:b3ff  mtu 1280  scopeid 0x0<global>
                ether 08:00:27:7c:54:38  txqueuelen 1000  (Ethernet)
                RX packets 499  bytes 57338 (55.9 kB)
                RX errors 0  dropped 0  overruns 0  frame 0
                TX packets 575  bytes 61962 (60.5 kB)
                TX errors 0  dropped 47 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  brd 255.255.255.0  broadcast 127.0.0.1
                netmask 255.0.0.0  broadcast 127.0.0.1
                ether 08:00:27:7c:54:39  txqueuelen 0  (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

khushhee@kali:~/Documents$ sudo apt install netcat-traditional
[sudo] password for khushhee:
netcat-traditional is already the newest version (1.10-50.i).
The following packages were automatically installed and are no longer required:
  curlftpfs  imagemagick  libconfig-inifiles-perl  libsm2-6  pocketsphinx-en-us  python3-git  python3-pyexploitdb  python3-serial-asyncio  python3-wapiti-swagger  sparta-scripts  wapiti
  dnsmasq  imagemagick7.0-q16  libnetfilter-queue1  libspinxbase3t64  python3-aiocache  python3-gitdb  python3-pyfiglet  python3-ssmap  python3-wafmp  toilet-fonts
  firecracker  libavformat10  libpocketsphinx3  libswscale8  python3-aiomcache  python3-httplib-ntlm  python3-pshtodan  python3-tld  rsh-redone-client  unicornscan
  finger  libavformat16  libpoptproc58  medusa  python3-browser-cookie3  python3-jpype1  python3-qasync  python3-wapiti-arsenic  smtp-user-enum  uriscan
Use 'sudo apt autoremove' to remove them.

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

khushhee@kali:~/Documents$ sudo apt remove netcat-traditional
The following packages were automatically installed and are no longer required:
  curlftpfs  imagemagick  libconfig-inifiles-perl  libsm2-6  pocketsphinx-en-us  python3-git  python3-pyexploitdb  python3-serial-asyncio  python3-wapiti-swagger  sparta-scripts  wapiti
  dnsmasq  imagemagick7.0-q16  libnetfilter-queue1  libspinxbase3t64  python3-aiocache  python3-gitdb  python3-pyfiglet  python3-ssmap  python3-wafmp  toilet-fonts
  firecracker  libavformat10  libpocketsphinx3  libswscale8  python3-aiomcache  python3-httplib-ntlm  python3-pshtodan  python3-tld  rsh-redone-client  unicornscan
  finger  libavformat16  libpoptproc58  medusa  python3-browser-cookie3  python3-jpype1  python3-qasync  python3-wapiti-arsenic  smtp-user-enum  uriscan
Use 'sudo apt autoremove' to remove them.

REMOVING:
  kali-linux-core  kali-linux-default  kali-linux-headless  logon  netcat-traditional

Summary:
Upgrading: 0, Installing: 0, Removing: 5, Not Upgrading: 6
```

## **15)sudo apt upgrade**

Used to install the latest versions of all packages currently installed on the system.

It fetches new versions of software from the repositories to keep the system up to date.

This command is essential for maintaining system security and stability.

## **16)sudo apt update**

Downloads package information from all configured sources to see what software can be updated.

It does not actually install new software but refreshes the local database of available packages.

This is typically run before the upgrade command to ensure the system knows about the newest versions.

## **17)whoami**

Displays the username of the current user effectively logged into the terminal session.

It is useful for verifying whether you are operating as a standard user or as root.

Often used in scripts to perform actions based on the specific user's identity.

## **18)sudo su**

Allows a user to switch to the superuser (root) account to perform administrative tasks.

It provides full system privileges, allowing the user to modify any file or setting.

Once entered, the terminal prompt usually changes to indicate that the session has root access.

## 19)exit

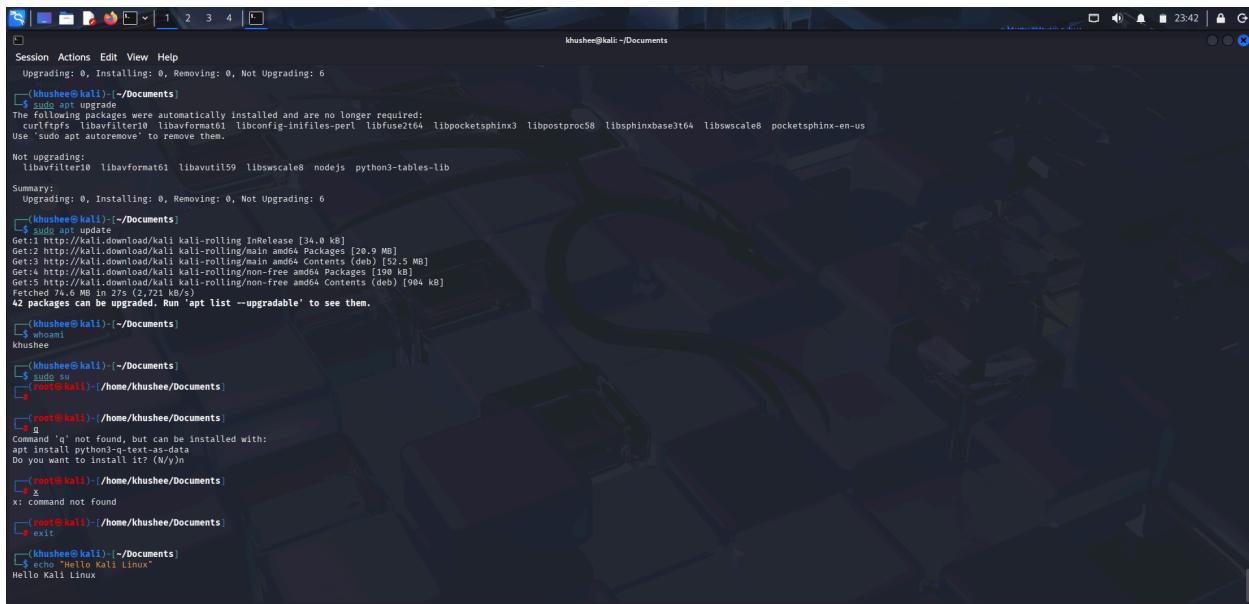
Used to terminate the current terminal session or log out of a shell account. If used after switching users with su, it returns the session to the previous standard user.

It is a safe way to close a connection or stop a process running in the background.

## 20)echo

Prints the specified string of text or the value of a variable to the terminal window.

Commonly used in shell scripts to provide status messages or output data to files.



The screenshot shows a terminal window with a dark blue background and white text. It displays a sequence of commands and their outputs:

- Session Actions Edit View Help
- Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 6
- (khushee㉿kali):~/Documents
- \$ sudo apt upgrade
- The following packages were automatically installed and are no longer required:  
curl4curl libavfilter10 libavformat61 libconfig-inifiles-perl libfuse2t64 libpocketsphinx3 libpostproc58 libsphinxbase3t64 libswscale8 pocketsphinx-en-us  
Use 'sudo apt autoremove' to remove them.
- Not upgrading:  
libavfilter10 libavformat61 libavutil59 libswscale8 nodejs python3-tables-lib
- Summary:  
Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 6
- (khushee㉿kali):~/Documents
- \$ sudo apt update
- Get: http://kali.download/kali kali-rolling InRelease [34.0 kB]
- Get:2 http://kali.download/kali kali-rolling/main amd64 Packages [20.9 kB]
- 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 [390 kB]
- Get:5 http://kali.download/kali kali-rolling/non-free amd64 Contents (deb) [904 kB]
- Fetched 74.6 MB in 27s (2.721 kB/s)
- 42 packages can be upgraded. Run 'apt list --upgradable' to see them.
- (khushee㉿kali):~/Documents
- \$ whoami
- khushee
- (khushee㉿kali):~/Documents
- \$ sudo su
- (root㉿kali):/home/khushee/Documents
- #
- (root㉿kali):/home/khushee/Documents
- # command 'g' not found, but can be installed with:  
apt install python3-qtext-as-data  
Do you want to install it? (N/y)
- (root㉿kali):/home/khushee/Documents
- # x: command not found
- (root㉿kali):/home/khushee/Documents
- # exit
- (khushee㉿kali):~/Documents
- \$ echo Hello Kali Linux
- Hello Kali Linux

## 21) cat

Displays the entire content of a file on the terminal screen for quick reading. It is also used to concatenate and merge multiple files into one output.

## 22) less

Opens a file for viewing one screen at a time, allowing for easy navigation. It is more memory-efficient than 'cat' when dealing with very large text files.

### **23) head**

Displays the first few lines of a file, which is helpful for checking file headers. By default, it shows the first 10 lines unless a different number is specified.

### **24) tail**

Prints the last few lines of a file to the terminal for quick review. Often used to monitor the most recent entries in system log files.

### **25) find**

Searches for files and directories within a specified path based on their names. A powerful tool for locating specific data across the entire file system hierarchy.

```
(khushee㉿kali)-[~/Documents]
└─$ cat file_2.txt
this is 2nd file.

(kushee㉿kali)-[~/Documents]
└─$ less file_2.txt

(kushee㉿kali)-[~/Documents]
└─$ head file_2.txt
this is 2nd file.

(kushee㉿kali)-[~/Documents]
└─$ tail file_2.txt
this is 2nd file.

(kushee㉿kali)-[~/Documents]
└─$ find /home -name file_2.txt
/home/khushee/Documents/task/file_2.txt
/home/khushee/Documents/file_2.txt
```

Here are the 1–2 line descriptions for the commands shown in your uploaded images, starting from numbering **26**.

## 26)history

Displays a list of all commands previously executed in the current terminal session.

It allows users to track their activity or quickly reuse complex commands from the past.

information.

## 27) df -h

Displays the amount of disk space available and used on all mounted file systems.

The -h flag makes the output human-readable by using units like GB and MB.

## **28) du -sh**

Estimates the disk space usage of a specific directory or file.

It provides a summary of the total size, making it easy to identify large folders.

## **29) ps aux**

Provides a detailed snapshot of all currently running processes on the system.

It shows resource usage, such as CPU and memory, for every active task.

```
(khushee㉿kali)-[~/Documents]
$ history
1  pwd
2  ls
3  cd
4  cd intership
5  clear
6  pwd
7  ls
8  ls -l
9  cd Documents
10  pwd
11  grep Kali example 1.txt
12  grep Kali example 1
13  ls -l
14  nano file.txt
15  ls -l
16  grep kali file.txt
17  clear
18  pwd
19  cd khushee
20  ls
21  cd khushee
22  cd ..
23  cd ~
24  clear
25  pwd
26  ls
27  cd documents
28  cd Documents
29  grep kali file.txt
30  mkdir task
31  rmdir task
32  mkdir task
33  mv file.txt New/
34  mv file.txt task/
```

```
(khushee㉿kali)-[~/Documents]
$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            1.6G   0    1.6G  0% /dev
tmpfs           341M  980K  340M  1% /run
/dev/sda1        47G   16G   29G  35% /
tmpfs           1.7G  4.0K  1.7G  1% /dev/shm
none            1.0M   0    1.0M  0% /run/credentials/systemd-journald.service
tmpfs           1.7G  904K  1.7G  1% /tmp
none            1.0M   0    1.0M  0% /run/credentials/getty@tty1.service
tmpfs           341M  120K  341M  1% /run/user/1000
```

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

(khushee㉿kali)-[~]
$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root      1  0.0  0.4 24868 15300 ?        Ss Dec30 0:04 /sbin/init splash
root      2  0.0  0.0   0    0 ?        Ss Dec30 0:00 [kthreadd]
root      3  0.0  0.0   0    0 ?        Ss Dec30 0:00 [ksoftirqqueue_release]
root      4  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-rcu_gp]
root      5  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-sync_wq]
root      6  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-kvfree_rcu_reclaim]
root      7  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-kvfree_rcu_hwq]
root      8  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-netns]
root     10  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-highpri]
root     13  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-mm_percpu_wq]
root     14  0.0  0.0   0    0 ?        S Dec30 0:00 [ksoftirqd/0]
root     15  0.1  0.0   0    0 ?        I Dec30 0:17 [rcu_prempt]
root     16  0.0  0.0   0    0 ?        S Dec30 0:00 [rcu_exp_ban_gp_kthread_worker/0]
root     17  0.0  0.0   0    0 ?        S Dec30 0:00 [rcu_exp_ban_gp_kthread_worker]
root     18  0.0  0.0   0    0 ?        S Dec30 0:01 [migration/0]
root     19  0.0  0.0   0    0 ?        S Dec30 0:00 [idle_inject/0]
root     20  0.0  0.0   0    0 ?        S Dec30 0:00 [cpuhp/0]
root     21  0.0  0.0   0    0 ?        S Dec30 0:00 [cpuhp/1]
root     22  0.0  0.0   0    0 ?        S Dec30 0:01 [migration/1]
root     23  0.0  0.0   0    0 ?        S Dec30 0:01 [migration/1]
root     24  0.0  0.0   0    0 ?        S Dec30 0:00 [ksoftirqd/1]
root     27  0.0  0.0   0    0 ?        S Dec30 0:00 [cpuhp/2]
root     28  0.0  0.0   0    0 ?        S Dec30 0:00 [idle_inject/2]
root     29  0.0  0.0   0    0 ?        S Dec30 0:00 [migration/2]
root     30  0.0  0.0   0    0 ?        S Dec30 0:01 [ksoftirqd/2]
root     33  0.0  0.0   0    0 ?        S Dec30 0:00 [cpuhp/3]
root     34  0.0  0.0   0    0 ?        S Dec30 0:00 [idle_inject/3]
root     35  0.0  0.0   0    0 ?        S Dec30 0:01 [migration/3]
root     36  0.0  0.0   0    0 ?        S Dec30 0:00 [ksoftirqd/3]
root     38  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-highpri]
root     43  0.0  0.0   0    0 ?        S Dec30 0:00 [ksoftirqd/4]
root     44  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-inet_frag_wq]
root     45  0.0  0.0   0    0 ?        I Dec30 0:00 [rcu_tasks_kthread]
root     46  0.0  0.0   0    0 ?        I Dec30 0:00 [rcu_tasks_rude_kthread]
root     47  0.0  0.0   0    0 ?        I Dec30 0:00 [rcu_tasks_trace_kthread]
root     48  0.0  0.0   0    0 ?        S Dec30 0:00 [kauditd]
root     49  0.0  0.0   0    0 ?        S Dec30 0:00 [khungtaskd]
root     50  0.0  0.0   0    0 ?        S Dec30 0:00 [oom_reaper]
root     51  0.0  0.0   0    0 ?        I< Dec30 0:00 [kworker/R-writeback]
root     52  0.0  0.0   0    0 ?        S Dec30 0:04 [kcompactd0]
```

### **30)top**

Provides a real-time, dynamic view of the system's running processes and resource usage. It is often used to identify which applications are consuming the most CPU or RAM.

### **31)ip addr**

Displays the IP addresses and network interface details for the current system. It is the modern command used to check network connectivity and hardware status.

### **32)sudo netstat -tulpn**

Shows all active network connections and the specific ports that the system is listening on. It helps in troubleshooting network services and identifying which programs are using the internet.

### **33)chmod 755**

Changes the access permissions of a file to allow the owner to read, write, and execute. The "755" setting specifically makes a script executable while allowing others only to read it.

### **34)nano**

A terminal-based text editor used to create and modify the contents of files. It requires **sudoprivileges** when editing system-protected files to avoid permission errors.

```
(khushee㉿kali)-[~]
└─$ top
top - 00:13:18 up 4:23, 1 user, load average: 0.40, 0.17, 0.12
Tasks: 186 total, 1 running, 185 sleeping, 0 stopped, 0 zombie
%Cpu(s): 6.6 us, 3.3 sy, 0.0 ni, 88.5 id, 0.0 wa, 0.0 hi, 1.6 si, 0.0 st
Mem: 3408.1 total, 1384.9 free, 885.9 used, 1308.0 buff/cache
Swap: 2652.0 total, 2652.0 free, 0.0 used. 2522.2 avail Mem

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
4736 khushee 20 0 0.0p 0.0p 0.0p S 18.8 2.1 0:31.70 qterminal
768 root 20 0 0.0p 0.0p 0.0p S 12.5 5.1 5:56.79 Xorg
1063 khushee 20 0 0.0p 0.0p 0.0p S 6.2 0.1 1:41.18 VBoxClient
126814 khushee 20 0 0.0p 0.0p 0.0p R 6.2 0.2 0:00.20 top
1 root 20 0 0.0p 0.0p 0.0p S 0.0 0.4 0:04.64 systemd
2 root 20 0 0.0p 0.0p 0.0p S 0.0 0.0 0:00.08 kthreadd
3 root 20 0 0.0p 0.0p 0.0p S 0.0 0.0 0:00.00 pool_workqueue_release
4 root 0 -20 0.0p 0.0p 0.0p I 0.0 0.0 0:00.00 kworker/R-rcu_gp
5 root 0 -20 0.0p 0.0p 0.0p I 0.0 0.0 0:00.00 kworker/R-sync_wq
6 root 0 -20 0.0p 0.0p 0.0p I 0.0 0.0 0:00.00 kworker/R-kvfree_rcu_reclaim
7 root 0 -20 0.0p 0.0p 0.0p I 0.0 0.0 0:00.00 kworker/R-slub_flushwq
8 root 0 -20 0.0p 0.0p 0.0p I 0.0 0.0 0:00.00 kworker/R-netns
10 root 0 -20 0.0p 0.0p 0.0p I 0.0 0.0 0:00.09 kworker/0:H-events_highpri
13 root 0 -20 0.0p 0.0p 0.0p I 0.0 0.0 0:00.00 kworker/R-mm_percpu_wq
14 root 20 0 0.0p 0.0p 0.0p S 0.0 0.0 0:00.54 ksoftirqd/0
15 root 20 0 0.0p 0.0p 0.0p I 0.0 0.0 0:18.09 rcu_prempt
16 root 20 0 0.0p 0.0p 0.0p S 0.0 0.0 0:00.00 rcu_exp_par_gp_kthread_worker/0
17 root 20 0 0.0p 0.0p 0.0p S 0.0 0.0 0:00.22 rcu_exp_gp_kthread_worker
18 root rt 0 0.0p 0.0p 0.0p S 0.0 0.0 0:01.04 migration/0

(khushee㉿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 brd 00:00:00:00:00:00 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 brd 00:00:00:00:00:00 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 08:00:27:7c:54:38 brd ff:ff:ff:ff:ff:ff
    inet 10.8.2.15/24 brd 10.8.2.255 scope global dynamic noprefixroute eth0
        valid_lft 78797sec preferred_lft 78797sec
        inet6 fe80::a00:27ff:fe7c:5438/64 scope link noprefixroute
            valid_lft 86155sec preferred_lft 14155sec
    inet6 fd17:625c:fa07:2:a00:27ff:fea7:c543/64 scope global dynamic mngtmpaddr noprefixroute
        valid_lft 86155sec preferred_lft 14155sec
    inet6 fe80::a00:27ff:fea7:c543/64 scope link noprefixroute
        valid_lft forever preferred_lft forever

(khushee㉿kali)-[~]
└─$ sudo netstat -tulpn
[sudo] password for khushee:
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State      PID/Program name
(khushee㉿kali)-[~]
└─$ touch script.sh
(khushee㉿kali)-[~]
└─$ nano script.sh
(khushee㉿kali)-[~]
└─$ chmod 755 script.sh
```

## 35)sudo chown

Changes the owner and group of a file or directory to a specified user.

It is used to regain access to files that were created by a different user or by the root system.

## 36)date

Displays the current system date, time, and timezone in the terminal.

It is often used in scripts to create timestamps for logs or to schedule specific tasks.

## 37)tar -czvf

Creates a compressed archive file (tarball) from a specified directory or set of files.

This command is the standard way to package and compress data for backup or transfer.

### **38)tar -xzvf**

Extracts the contents of a compressed archive file into the current directory.

It automatically decompresses the files while preserving the original folder structure.

### **39)uptime**

Shows how long the system has been running since its last reboot.

It also displays the number of logged-in users and the system load averages for the past 1, 5, and 15 minutes.

### **40)uname -a**

Provides detailed information about the system's kernel and operating system version.

This is essential for checking the hardware architecture and the current Linux distribution in use.

### **41)free -h**

Displays the total, used, and available amount of physical and swap memory in the system.

The -h flag makes the output human-readable, showing values in MB and GB for easy analysis.

### **42)ln -s**

Creates a symbolic link (shortcut) to an existing file or directory.

This allows you to access the same file from multiple locations without creating a duplicate copy.

```
(khushee㉿kali)-[~]
$ sudo chown khushee:khushee script.sh
(khushee㉿kali)-[~]
$ date
Wednesday 31 December 2025 12:28:45 AM IST
(khushee㉿kali)-[~]
$ tar -czvf project.tar.gz khushee/
tar: khushee: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
(khushee㉿kali)-[~]
$ tar -czvf project.tar.gz project/
(khushee㉿kali)-[~]
$ ls
Desktop Documents Downloads Music Pictures project project.tar.gz Public script.sh Templates Videos
(khushee㉿kali)-[~]
$ tar -xvf project.tar.gz
project
(khushee㉿kali)-[~]
$ uptime
00:32:46 up 4:42, 1 user, load average: 0.12, 0.18, 0.14
(khushee㉿kali)-[~]
$ uname -a
Linux kali 6.17.10+kali1-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.17.10-1kali1 (2025-12-08) x86_64 GNU/Linux
(khushee㉿kali)-[~]
$ free -h
              total        used        free      shared  buff/cache   available
Mem:       3.3Gi     889Mi    1.3Gi     16Mi     1.3Gi     2.5Gi
Swap:      2.6Gi          0B      2.6Gi

(khushee㉿kali)-[~]
$ ln -s
ln: missing file operand
Try 'ln --help' for more information.
```

## 43)nmap

A powerful network security tool used to discover hosts and services on a computer network. It scans specific IP addresses to identify open ports and detect potential vulnerabilities.

## 44) who

Displays a list of all users who are currently logged into the system. It provides details such as the terminal line used and the time each user logged in.

## 45) env

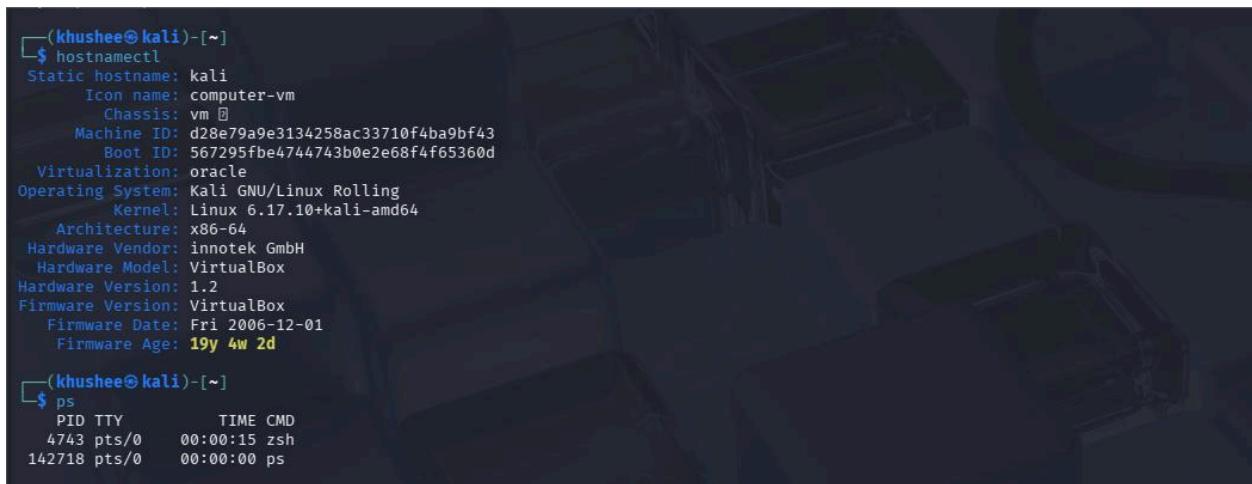
Lists all current environment variables and their assigned values for the active shell session. It is commonly used to check configuration paths, system settings, and user-specific variables.

## 46) hostnamectl

Displays detailed information about the system's network hostname and hardware settings. It also provides data on the operating system kernel, architecture, and virtualization type.

## 47) ps

Displays a brief snapshot of the active processes currently running in the user's terminal session. It specifically shows the Process ID (PID) and the command name for basic monitoring.



```
(khushee㉿kali)-[~]
$ hostnamectl
  static hostname: kali
    Icon name: computer-vm
    Chassis: vm
  Machine ID: d28e79a9e3134258ac33710f4ba9bf43
    Boot ID: 567295fbe4744743b0e2e68f4f65360d
Virtualization: oracle
Operating System: Kali GNU/Linux Rolling
      Kernel: Linux 6.17.10+kali-amd64
    Architecture: x86-64
Hardware Vendor: innotek GmbH
Hardware Model: VirtualBox
Hardware Version: 1.2
Firmware Version: VirtualBox
Firmware Date: Fri 2006-12-01
Firmware Age: 19y 4w 2d

(khushee㉿kali)-[~]
$ ps
  PID TTY          TIME CMD
 4743 pts/0    00:00:15 zsh
142718 pts/0    00:00:00 ps
```