

1. **ls** - The most frequently used command in Linux to list directories
2. **pwd** - Print working directory command in Linux
3. **cd** - Linux command to navigate through directories
4. **mkdir** - Command used to create directories in Linux
5. **mv** - Move or rename files in Linux
6. **cp** - Similar usage as mv but for copying files in Linux
7. **rm** - Delete files or directories
8. **touch** - Create blank/empty files
9. **ln** - Create symbolic links (shortcuts) to other files
10. **cat** - Display file contents on the terminal
11. **clear** - Clear the terminal display
12. **echo** - Print any text that follows the command
13. **less** - Linux command to display paged outputs in the terminal
14. **man** - Access manual pages for all Linux commands
15. **uname** - Linux command to get basic information about the OS
16. **whoami** - Get the active username
17. **tar** - Command to extract and compress files in Linux

18. **grep** - Search for a string within an output
19. **head** - Return the specified number of lines from the top
20. **tail** - Return the specified number of lines from the bottom
21. **diff** - Find the difference between two files
22. **cmp** - Allows you to check if two files are identical
23. **comm** - Combines the functionality of diff and cmp
24. **sort** - Linux command to sort the content of a file while outputting
25. **export** - Export environment variables in Linux
26. **zip** - Zip files in Linux
27. **unzip** - Unzip files in Linux
28. **ssh** - Secure Shell command in Linux
29. **service** - Linux command to start and stop services
30. **ps** - Display active processes
31. **kill and killall** - Kill active processes by process ID or name
32. **df** - Display disk filesystem information
33. **mount** - Mount file systems in Linux

34. **chmod** - Command to change file permissions
35. **chown** - Command for granting ownership of files or folders
36. **ifconfig** - Display network interfaces and IP addresses
37. **traceroute** - Trace all the network hops to reach the destination
38. **wget** - Direct download files from the internet
39. **ufw** - Firewall command
40. **iptables** - Base firewall for all other firewall utilities to interface with
41. **apt, pacman, yum, rpm** - Package managers depending on the distro
42. **sudo** - Command to escalate privileges in Linux
43. **cal** - View a command-line calendar
44. **alias** - Create custom shortcuts for your regularly used commands
45. **dd** - Majorly used for creating bootable USB sticks
46. **whereis** - Locate the binary, source, and manual pages for a command
47. **whatis** - Find what a command is used for
48. **top** - View active processes live with their system usage
49. **useradd and usermod** - Add new user or change existing users data
50. **passwd** - Create or update passwords for existing users

```
Applications Terminal kiit@BT-2105358: ~ kiit - File Manager Screenshot kiit@BT-2105358: ~
File Edit View Search Terminal Help
kiit@BT-2105358:~$ ls
002file Documents Public addition_1.c bit_3.c bit_6.c gcc if_2.c.save test2.c test5.c
003file Downloads Templates area_1.c bit_3.c.save bit_7.c hw_1_1.c if_3.c.save test2.c.save test6.c
4_3.c Music Videos bit_1.c bit_4.c bit_8.c if_1.c multiplication_1.c test3.c thinclient_drives
Desktop Pictures a.out bit_2.c bit_5.c bit_9.c if_2.c test1.c test4.c
kiit@BT-2105358:~$ pwd
/home/kiit
kiit@BT-2105358:~$ cd 002file
bash: cd: 002file: Not a directory
kiit@BT-2105358:~$ cd Downloads
kiit@BT-2105358:~/Downloads$ cd ..
kiit@BT-2105358:~$ mkdir arjun
kiit@BT-2105358:~$ cp 002file 004file
kiit@BT-2105358:~$ ls
002file Desktop Pictures a.out bit_1.c bit_4.c bit_8.c if_1.c multiplication_1.c test3.c thinclient_drives
003file Documents Public addition_1.c bit_2.c bit_5.c bit_9.c if_2.c test1.c test4.c
004file Downloads Templates area_1.c bit_3.c bit_6.c gcc if_2.c.save test2.c test5.c
4_3.c Music Videos arjun bit_3.c.save bit_7.c hw_1_1.c if_3.c.save test2.c.save test6.c
kiit@BT-2105358:~$ mv 004file 005file
kiit@BT-2105358:~$ ls
002file Desktop Pictures a.out bit_1.c bit_4.c bit_8.c if_1.c multiplication_1.c test3.c thinclient_drives
003file Documents Public addition_1.c bit_2.c bit_5.c bit_9.c if_2.c test1.c test4.c
005file Downloads Templates area_1.c bit_3.c bit_6.c gcc if_2.c.save test2.c test5.c
4_3.c Music Videos arjun bit_3.c.save bit_7.c hw_1_1.c if_3.c.save test2.c.save test6.c
kiit@BT-2105358:~$ rm 005file
kiit@BT-2105358:~$ touch 006file
kiit@BT-2105358:~$ ls
002file Desktop Pictures a.out bit_1.c bit_4.c bit_8.c if_1.c multiplication_1.c test3.c thinclient_drives
003file Documents Public addition_1.c bit_2.c bit_5.c bit_9.c if_2.c test1.c test4.c
006file Downloads Templates area_1.c bit_3.c bit_6.c gcc if_2.c.save test2.c test5.c
4_3.c Music Videos arjun bit_3.c.save bit_7.c hw_1_1.c if_3.c.save test2.c.save test6.c
kiit@BT-2105358:~$ ln -s 006file 006file-Link
kiit@BT-2105358:~$ ls -l
002file
003file
006file
006file-Link
4_3.c
Desktop
Documents
```

Pictures  
Public  
Templates  
Videos

a.out  
addition\_1.c  
area\_1.c  
arjun  
bit\_1.c  
bit\_2.c  
bit\_3.c  
bit\_3.c.save  
bit\_4.c  
bit\_5.c  
bit\_6.c  
bit\_7.c  
bit\_8.c  
bit\_9.c  
gcc  
hw\_1\_1.c  
if\_1.c  
if\_2.c  
if\_2.c.save  
if\_3.c.save  
multiplication\_1.c  
test1.c  
test2.c  
test2.c.save  
test3.c  
test4.c  
test5.c  
test6.c  
thinclient\_drives

kiit@BT-2105358:~\$ ls  
002file Desktop Public area\_1.c bit\_3.c.save bit\_8.c if\_2.c test2.c test6.c  
003file Documents Templates arjun bit\_4.c bit\_9.c if\_2.c.save test2.c.save thinclient\_drives  
006file Downloads Videos bit\_1.c bit\_5.c gcc if\_3.c.save test3.c  
006file-Link Music a.out bit\_2.c bit\_6.c hw\_1\_1.c multiplication\_1.c test4.c  
4\_3.c Pictures addition\_1.c bit\_3.c bit\_7.c if\_1.c test1.c test5.c  
kiit@BT-2105358:~\$

```
Applications - Terminal kiit@BT-2105358: ~ kiit - File Manager Screenshot kiit@BT-2105358: ~
File Edit View Search Terminal Help
kiit@BT-2105358:~$ ls
002file Desktop Public area_1.c bit_3.c.save bit_8.c if_2.c test2.c test6.c
003file Documents Templates arjun bit_4.c bit_9.c if_2.c.save test2.c.save thinclient_drives
006file Downloads Videos bit_1.c bit_5.c gcc if_3.c.save test3.c
006file-Link Music a.out bit_2.c bit_6.c hw_1_1.c multiplication_1.c test4.c
4_3.c Pictures addition_1.c bit_3.c bit_7.c if_1.c test1.c test5.c
kiit@BT-2105358:~$ cat 002file
Kalinga Institute of Industrial technologykiit@BT-2105358:~$ echo OP
OP
kiit@BT-2105358:~$ cat > 002file
hellokiit@BT-2105358:~$ cat 002file
hellokiit@BT-2105358:~$ cat >> 002file
, how are u doingkiit@BT-2105358:~$ cat002file
cat002file: command not found
kiit@BT-2105358:~$ cat 002file
hello, how are u doingkiit@BT-2105358:~$ whatis ls
ls (1) - list directory contents
kiit@BT-2105358:~$ uname -a
Linux BT-2105358 5.10.16.3-microsoft-standard-WSL2 #1 SMP Fri Apr 2 22:23:49 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
kiit@BT-2105358:~$ whoami
kiit
kiit@BT-2105358:~$ tar -cvf Compress.tar 006file 006file-Link
006file
006file-Link
kiit@BT-2105358:~$ tar -xvf Compress.tar
006file
006file-Link
kiit@BT-2105358:~$ ls
002file Compress.tar Pictures addition_1.c bit_3.c bit_7.c if_1.c test1.c test5.c
003file Desktop Public area_1.c bit_3.c.save bit_8.c if_2.c test2.c test6.c
006file Documents Templates arjun bit_4.c bit_9.c if_2.c.save test2.c.save thinclient_drives
006file-Link Downloads Videos bit_1.c bit_5.c gcc if_3.c.save test3.c
4_3.c Music a.out bit_2.c bit_6.c hw_1_1.c multiplication_1.c test4.c
kiit@BT-2105358:~$ zip Sample.zip 006file 006file-Link
Command 'zip' not found, but can be installed with:
sudo apt install zip
kiit@BT-2105358:~$ sudo apt install zip
```

File Edit View Search Terminal Help

```
kiit@BT-2105358:~$ cat > 002file
hey everyone.
how is everyone doing today?kiit@BT-2105358:~$ cat 002file | grep "learn"
kiit@BT-2105358:~$ cat 002file | grep "hey"
hey everyone.
kiit@BT-2105358:~$ head 002file
hey everyone.
how is everyone doing today?kiit@BT-2105358:~$ tail 002file
hey everyone.
how is everyone doing today?kiit@BT-2105358:~$ diff 006file 002file
0a1,2
> hey everyone.
> how is everyone doing today?
\ No newline at end of file
kiit@BT-2105358:~$ comm 002file 006file
hey everyone.
how is everyone doing today?
kiit@BT-2105358:~$ cmp 002file 006file
cmp: EOF on 006file which is empty
kiit@BT-2105358:~$ sort 002file
hey everyone.
how is everyone doing today?
kiit@BT-2105358:~$ ssh kiit@kiit
ssh: Could not resolve hostname kiit: Name or service not known
kiit@BT-2105358:~$ ssh kiit@localhost3390
ssh: Could not resolve hostname localhost3390: Name or service not known
kiit@BT-2105358:~$ service ssh status
* sshd is not running
kiit@BT-2105358:~$ service ssh stop
* Stopping OpenBSD Secure Shell server sshd
kiit@BT-2105358:~$ service ssh start
mkdir: cannot create directory '/run/sshd': Permission denied
kiit@BT-2105358:~$ service ssh start
mkdir: cannot create directory '/run/sshd': Permission denied
kiit@BT-2105358:~$ ifconfig
```

Command 'ifconfig' not found, but can be installed with:

```
sudo apt install net-tools
```

```
kiit@BT-2105358:~$ sudo apt install net-tools
[sudo] password for kiit:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
 net-tools
0 upgraded, 1 newly installed, 0 to remove and 141 not upgraded.
Need to get 196 kB of archives.
After this operation, 864 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 net-tools amd64 1.60+git20180626.aebd88e-1ubuntu1 [196 kB]
Fetched 196 kB in 3s (60.8 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 93127 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20180626.aebd88e-1ubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
```

[ OK ]

File Edit View Search Terminal Help

```
ssh: Could not resolve hostname kiit: Name or service not known
kiit@BT-2105358:~$ ssh kiit@localhost3390
ssh: Could not resolve hostname localhost3390: Name or service not known
kiit@BT-2105358:~$ service ssh status
* sshd is not running
kiit@BT-2105358:~$ service ssh stop
* Stopping OpenBSD Secure Shell server sshd
kiit@BT-2105358:~$ service ssh start
mkdir: cannot create directory '/run/sshd': Permission denied
kiit@BT-2105358:~$ service ssh start
mkdir: cannot create directory '/run/sshd': Permission denied
kiit@BT-2105358:~$ ifconfig
```

Command 'ifconfig' not found, but can be installed with:

```
sudo apt install net-tools
```

```
kiit@BT-2105358:~$ sudo apt install net-tools
[sudo] password for kiit:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 141 not upgraded.
Need to get 196 kB of archives.
After this operation, 864 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 net-tools amd64 1.60+git20180626.aebd88e-1ubuntu1 [196 kB]
Fetched 196 kB in 3s (60.8 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 93127 files and directories currently installed.)
Preparing to unpack .../net-tools 1.60+git20180626.aebd88e-1ubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
```

```
kiit@BT-2105358:~$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.23.210.60 netmask 255.255.240.0 broadcast 172.23.223.255
    inet6 fe80::215:5dff:fe6b:5469 prefixlen 64 scopeid 0x20<link>
    ether 00:15:5d:6b:54:69 txqueuelen 1000 (Ethernet)
    RX packets 12353 bytes 14138932 (14.1 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 5159 bytes 460680 (460.6 KB)
    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 82924 bytes 136084552 (136.0 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 82924 bytes 136084552 (136.0 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
kiit@BT-2105358:~$
```

[ OK ]

I



```

Fetched 196 kB in 3s (60.8 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 93127 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20180626.aebd88e-lubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-lubuntu1) ...
Setting up net-tools (1.60+git20180626.aebd88e-lubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
kiit@BT-2105358:~$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.23.210.60 netmask 255.255.240.0 broadcast 172.23.223.255
    inet6 fe80::215:5dff:fe6b:5469 prefixlen 64 scopeid 0x20<link>
    ether 00:15:5d:6b:54:69 txqueuelen 1000 (Ethernet)
    RX packets 12353 bytes 14138932 (14.1 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 5159 bytes 460680 (460.6 KB)
    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 82924 bytes 136084552 (136.0 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 82924 bytes 136084552 (136.0 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

kiit@BT-2105358:~$ ls
002file 006file-Link Desktop Music Sample.zip a.out arjun bit_3.c bit_5.c bit_8.c hw_1_1.c if_2.c.save test1.c test3.c test6.c
003file 4_3.c Documents Pictures Templates addition_1.c bit_1.c bit_3.c.save bit_6.c bit_9.c if_1.c if_3.c.save test2.c test4.c thinclient_drives
006file Compress.tar Downloads Public Videos area_1.c bit_2.c bit_4.c bit_7.c gcc if_2.c multiplication_1.c test2.c.save test5.c
kiit@BT-2105358:~$ cal
January 2023
Su Mo Tu We Th Fr Sa
1  2  3  4  5  6  7
8  9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

kiit@BT-2105358:~$ date
Thu Jan 12 17:22:10 IST 2023
kiit@BT-2105358:~$ l
002file 006file-Link Desktop/ Music/ Sample.zip a.out* arjun/ bit_3.c bit_5.c bit_8.c hw_1_1.c if_2.c.save test1.c test3.c test6.c
003file 4_3.c Documents/ Pictures/ Templates/ addition_1.c bit_1.c bit_3.c.save bit_6.c bit_9.c if_1.c if_3.c.save test2.c test4.c thinclient_drives/
006file Compress.tar Downloads/ Public/ Videos/ area_1.c bit_2.c bit_4.c bit_7.c gcc if_2.c multiplication_1.c test2.c.save test5.c
kiit@BT-2105358:~$ alias ls="l"
alias ls='ls --color=auto'
bash: alias: =l: not found
kiit@BT-2105358:~$ l
002file 006file-Link Desktop/ Music/ Sample.zip a.out* arjun/ bit_3.c bit_5.c bit_8.c hw_1_1.c if_2.c.save test1.c test3.c test6.c
003file 4_3.c Documents/ Pictures/ Templates/ addition_1.c bit_1.c bit_3.c.save bit_6.c bit_9.c if_1.c if_3.c.save test2.c test4.c thinclient_drives/
006file Compress.tar Downloads/ Public/ Videos/ area_1.c bit_2.c bit_4.c bit_7.c gcc if_2.c multiplication_1.c test2.c.save test5.c
kiit@BT-2105358:~$ whereis sudo
sudo: /usr/bin/sudo /usr/lib/sudo /usr/share/man/man8/sudo.8.gz
kiit@BT-2105358:~$
```

File Edit View Search Terminal Help

```
top - 17:25:14 up 3:05, 0 users, load average: 1.59, 0.50, 0.18
Tasks: 68 total, 1 running, 67 sleeping, 0 stopped, 0 zombie
%Cpu(s): 4.4 us, 0.5 sy, 0.0 ni, 94.9 id, 0.0 wa, 0.0 hi, 0.1 si, 0.0 st
MiB Mem : 7632.9 total, 6172.5 free, 719.4 used, 741.0 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used, 6661.4 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
106	kiit	20	0	639780	243612	84808	S	28.9	3.1	1:49.08	Xorg
103	xrdp	20	0	47076	32020	11036	S	26.0	0.4	1:42.31	xrdp
2575	kiit	20	0	319960	39576	31860	S	15.6	0.5	0:00.27	xfce4-screensho
1871	kiit	20	0	552300	50860	35008	S	4.6	0.7	0:05.07	gnome-terminal-
208	kiit	20	0	557340	127136	88316	S	4.0	1.6	0:34.35	xfwm4
220	kiit	20	0	319512	43620	33152	S	2.9	0.6	0:10.12	xfce4-panel
167	kiit	20	0	7884	3576	2456	S	0.6	0.0	0:05.38	dbus-daemon
191	kiit	20	0	7504	4360	3628	S	0.6	0.1	0:00.60	dbus-daemon
219	kiit	20	0	226916	20580	14700	S	0.6	0.3	0:02.26	xfsettingsd
231	kiit	20	0	428756	97912	41768	S	0.6	1.3	0:05.10	xfdesktop
1	root	20	0	1744	1084	1016	S	0.0	0.0	0:00.02	init
7	root	20	0	1752	72	0	S	0.0	0.0	0:00.00	init
8	root	20	0	1752	80	0	S	0.0	0.0	0:00.03	init
9	kiit	20	0	10036	4888	3160	S	0.0	0.1	0:00.06	bash
94	root	20	0	12192	4156	3228	S	0.0	0.1	0:00.01	xrdp-sesman
97	xrdp	20	0	10460	2128	1520	S	0.0	0.0	0:00.00	xrdp
104	root	20	0	12536	2608	1672	S	0.0	0.0	0:00.00	xrdp-sesman
105	kiit	20	0	8620	3160	2940	S	0.0	0.0	0:00.03	bash
109	kiit	20	0	89620	4756	4024	S	0.0	0.1	0:00.03	xrdp-chansrv
140	kiit	20	0	7032	2252	1852	S	0.0	0.0	0:00.00	dbus-launch
141	kiit	20	0	7108	2336	1972	S	0.0	0.0	0:00.00	dbus-daemon
166	kiit	20	0	7032	2208	1808	S	0.0	0.0	0:00.00	dbus-launch
175	kiit	20	0	6036	452	0	S	0.0	0.0	0:00.07	ssh-agent
184	kiit	20	0	572196	106360	72852	S	0.0	1.4	0:00.76	xfce4-session
186	kiit	20	0	305356	8544	5940	S	0.0	0.1	0:00.02	at-spi-bus-laun
195	kiit	20	0	230200	5848	5024	S	0.0	0.1	0:00.42	xfconfd
201	kiit	20	0	162904	6508	5856	S	0.0	0.1	0:02.89	at-spi2-registr
207	kiit	20	0	9220	280	0	S	0.0	0.0	0:00.00	gpg-agent
212	kiit	20	0	238864	7684	6696	S	0.0	0.1	0:00.24	gvfsd
226	kiit	20	0	392652	45896	34524	S	0.0	0.6	0:14.54	Thunar
234	kiit	20	0	192504	22168	17120	S	0.0	0.3	0:00.32	panel-6-systray
235	kiit	20	0	309648	37936	30664	S	0.0	0.5	0:18.79	panel-8-pulseau
236	kiit	20	0	238436	36072	29392	S	0.0	0.5	0:00.45	panel-9-power-m
237	kiit	20	0	238300	35980	29236	S	0.0	0.5	0:00.44	panel-10-notifi
238	kiit	20	0	194224	24784	19528	S	0.0	0.3	0:00.39	panel-14-action
249	kiit	20	0	162124	6940	6292	S	0.0	0.1	0:00.01	xiccd
260	kiit	20	0	189300	14156	12056	S	0.0	0.2	0:00.36	xfce4-power-man
262	kiit	20	0	425608	32688	26088	S	0.0	0.4	0:00.33	nm-applet
267	kiit	20	0	632244	56616	44032	S	0.0	0.7	0:00.43	evolution-alarm
275	kiit	20	0	263784	20912	16052	S	0.0	0.3	0:00.32	light-locker
286	kiit	20	0	263060	17176	15184	S	0.0	0.2	0:00.22	xfce4-notifyd
293	kiit	20	0	156224	5496	4904	S	0.0	0.1	0:00.05	dconf-service
303	kiit	20	0	238096	6700	6040	S	0.0	0.1	0:00.04	gvfs-udisks2-vo
308	kiit	20	0	235024	5992	5492	S	0.0	0.1	0:00.10	gvfs-goa-volume
312	kiit	20	0	546152	38860	30884	S	0.0	0.5	0:00.06	goa-daemon
323	kiit	20	0	313904	10940	7860	S	0.0	0.1	0:00.08	goa-identity-se
332	kiit	20	0	315872	10760	7748	S	0.0	0.1	0:00.71	gvfs-afc-volume
335	kiit	20	0	938220	27500	21604	S	0.0	0.4	0:00.15	evolution-sourc