

# 40 Linux Commands

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- Using **pwd**, **ls**, **cd**, **mkdir**, **touch**, **grep** commands

```
omkar@OmkarPC: ~/new1
omkar@OmkarPC:~$ pwd
/home/omkar
omkar@OmkarPC:~$ mkdir new1
omkar@OmkarPC:~$ ls
Desktop  Downloads  new1      Pictures  snap      Videos
Documents Music      Omkar_files Public    Templates
omkar@OmkarPC:~$ cd new1
omkar@OmkarPC:~/new1$ touch hello.txt
omkar@OmkarPC:~/new1$ ls
hello.txt
omkar@OmkarPC:~/new1$ vi hello.txt
omkar@OmkarPC:~/new1$ grep COEP hello.txt
i study in COEP college
omkar@OmkarPC:~/new1$
```

- Using **cat**, **diff**, **tar -zcvf** commands

```
omkar@OmkarPC: ~
omkar@OmkarPC:~/new1$ ls
hello2.txt  hello.txt
omkar@OmkarPC:~/new1$ vi hello2.txt
omkar@OmkarPC:~/new1$ cat > hello2.txt
^C
omkar@OmkarPC:~/new1$ diff hello.txt hello2.txt
1,2d0
< my name is omkar oak
< i study in COEP college
omkar@OmkarPC:~/new1$ tar -zcvf archive.tar.gz new1
tar: new1: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
omkar@OmkarPC:~/new1$ cd ..
omkar@OmkarPC:~$ tar -zcvf archive.tar.gz new1
new1/
new1/archive.tar.gz
new1/hello2.txt
new1/hello.txt
omkar@OmkarPC:~$ ls
archive.tar.gz  Documents  Music  Omkar_files  Public  Templates
Desktop        Downloads  new1    Pictures     snap    Videos
omkar@OmkarPC:~$
```

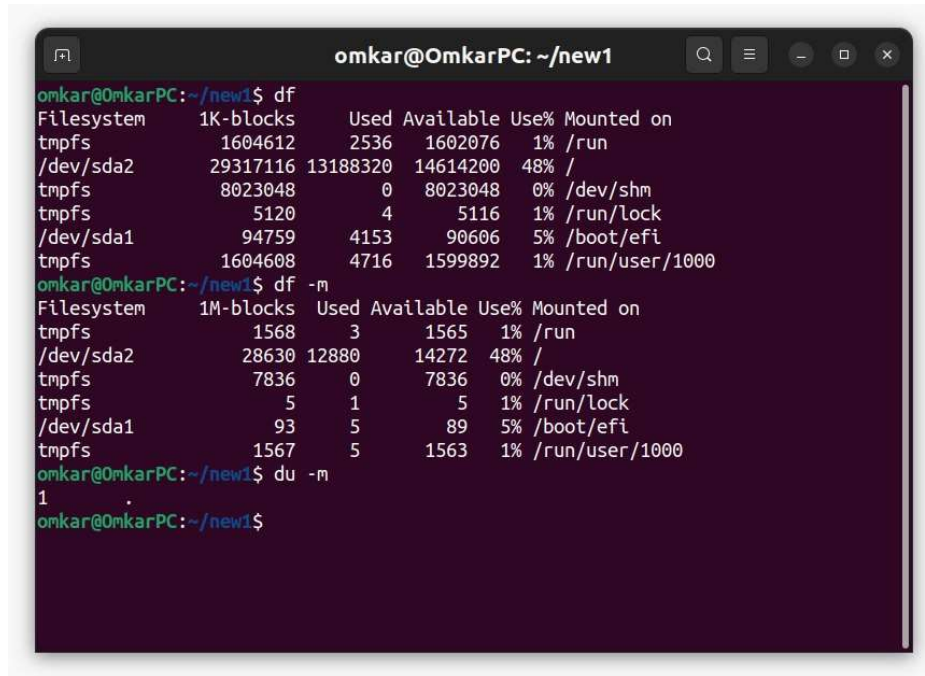
➤ Using **echo**, **zip**, **unzip** commands

```
omkar@OmkarPC: ~/new1
omkar@OmkarPC:~$ echo "hello world"
hello world
omkar@OmkarPC:~$ cd new1
omkar@OmkarPC:~/new1$ zip archive2.zip hello.txt hello2.txt
  adding: hello.txt (stored 0%)
  adding: hello2.txt (stored 0%)
omkar@OmkarPC:~/new1$ ls
archive2.zip  archive.tar.gz  hello2.txt  hello.txt
omkar@OmkarPC:~/new1$ unzip archive2.zip
Archive:  archive2.zip
replace hello.txt? [y]es, [n]o, [A]ll, [N]one, [r]ename: y
  extracting: hello.txt
replace hello2.txt? [y]es, [n]o, [A]ll, [N]one, [r]ename: y
  extracting: hello2.txt
omkar@OmkarPC:~/new1$ ls
archive2.zip  archive.tar.gz  hello2.txt  hello.txt
omkar@OmkarPC:~/new1$
```

➤ Using **head**, **tail** commands

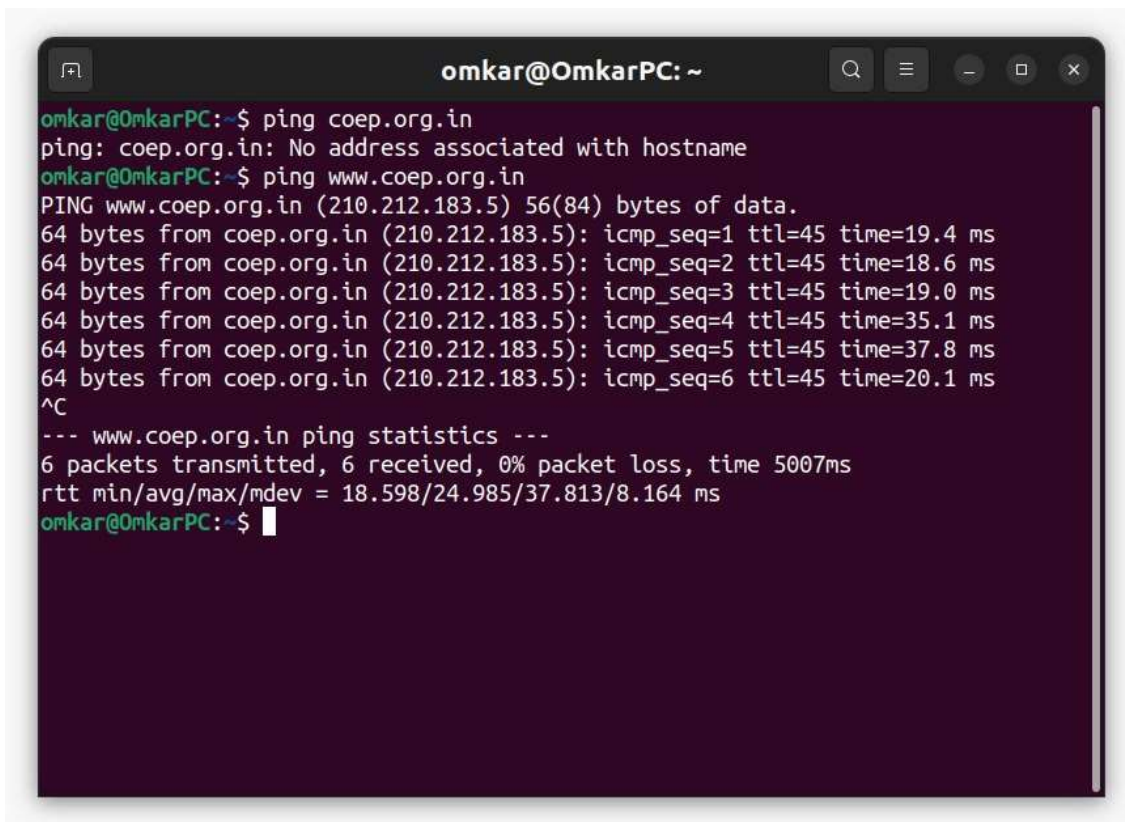
```
omkar@OmkarPC: ~/new1
omkar@OmkarPC:~/new1$ head hello.txt
my name is omkar oak
i study in COEP college
omkar@OmkarPC:~/new1$ tail hello.txt
my name is omkar oak
i study in COEP college
omkar@OmkarPC:~/new1$ tail -n 5*.txt
tail: invalid number of lines: '5*.txt'
omkar@OmkarPC:~/new1$ tail -n 5 *.txt
my name is omkar oak
i study in COEP college
omkar@OmkarPC:~/new1$
```

➤ Using **df** and **du** commands

A terminal window titled 'omkar@OmkarPC: ~/new1' showing the output of 'df' and 'du' commands. The 'df' command is run twice: first without options and then with '-m' to show disk usage in megabytes. The 'du' command is run with '-m' to show the size of the current directory in megabytes.

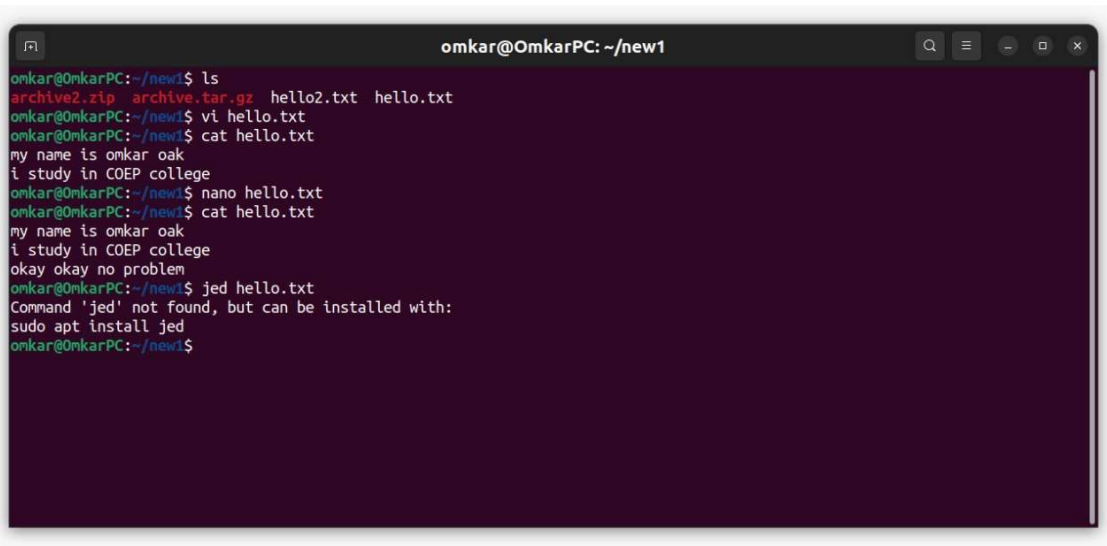
```
omkar@OmkarPC:~/new1$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
tmpfs           1604612      2536   1602076    1% /run
/dev/sda2       29317116 13188320  14614200   48% /
tmpfs           8023048        0   8023048    0% /dev/shm
tmpfs           5120         4     5116    1% /run/lock
/dev/sda1       94759       4153    90606    5% /boot/efi
tmpfs          1604608      4716  1599892    1% /run/user/1000
omkar@OmkarPC:~/new1$ df -m
Filesystem      1M-blocks    Used Available Use% Mounted on
tmpfs           1568         3     1565    1% /run
/dev/sda2       28630 12880    14272   48% /
tmpfs           7836         0     7836    0% /dev/shm
tmpfs           5         1         5    1% /run/lock
/dev/sda1       93         5         89    5% /boot/efi
tmpfs           1567         5     1563    1% /run/user/1000
omkar@OmkarPC:~/new1$ du -m
1
omkar@OmkarPC:~/new1$
```

➤ Using **ping** command

A terminal window titled 'omkar@OmkarPC: ~' showing the output of 'ping' commands. The first command 'ping coep.org.in' fails with 'No address associated with hostname'. The second command 'ping www.coep.org.in' succeeds, showing 6 successful pings with round-trip times between 18.6ms and 37.8ms. The window also shows the standard ping statistics summary.

```
omkar@OmkarPC:~$ ping coep.org.in
ping: coep.org.in: No address associated with hostname
omkar@OmkarPC:~$ ping www.coep.org.in
PING www.coep.org.in (210.212.183.5) 56(84) bytes of data.
64 bytes from coep.org.in (210.212.183.5): icmp_seq=1 ttl=45 time=19.4 ms
64 bytes from coep.org.in (210.212.183.5): icmp_seq=2 ttl=45 time=18.6 ms
64 bytes from coep.org.in (210.212.183.5): icmp_seq=3 ttl=45 time=19.0 ms
64 bytes from coep.org.in (210.212.183.5): icmp_seq=4 ttl=45 time=35.1 ms
64 bytes from coep.org.in (210.212.183.5): icmp_seq=5 ttl=45 time=37.8 ms
64 bytes from coep.org.in (210.212.183.5): icmp_seq=6 ttl=45 time=20.1 ms
^C
--- www.coep.org.in ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5007ms
rtt min/avg/max/mdev = 18.598/24.985/37.813/8.164 ms
omkar@OmkarPC:~$
```

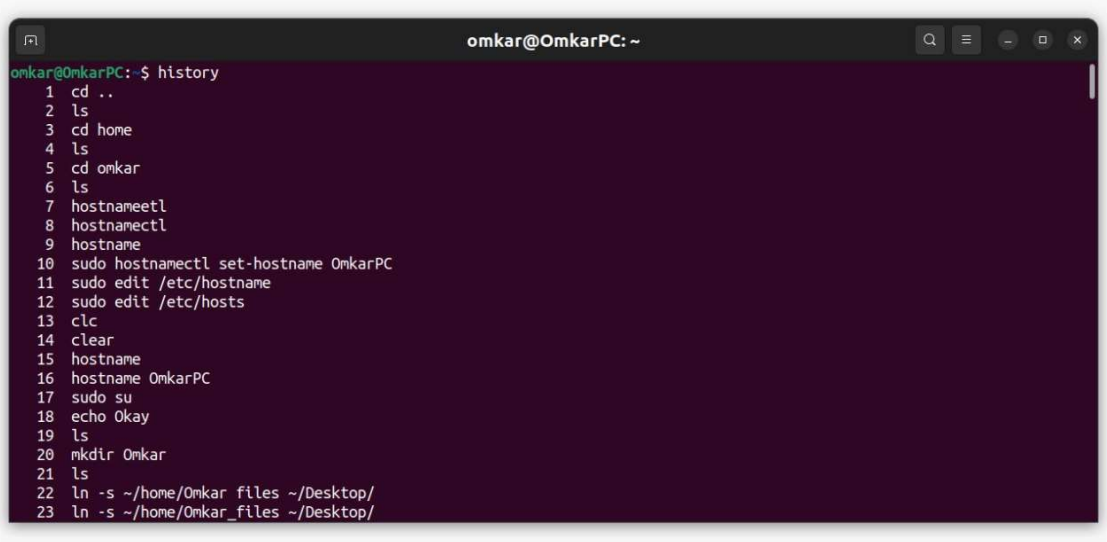
➤ Using **vi**, **nano** and **jed** editors



A terminal window titled "omkar@OmkarPC: ~/new1" showing a series of commands and their outputs. The user first lists files in the current directory, then uses the vi editor to create and edit a file named hello.txt. They then use the nano editor to edit the same file. Finally, they attempt to use the jed editor, which is not installed, and are prompted to install it using apt.

```
omkar@OmkarPC:~/new1$ ls
archive2.zip  archive.tar.gz  hello2.txt  hello.txt
omkar@OmkarPC:~/new1$ vi hello.txt
omkar@OmkarPC:~/new1$ cat hello.txt
my name is omkar oak
i study in COEP college
omkar@OmkarPC:~/new1$ nano hello.txt
omkar@OmkarPC:~/new1$ cat hello.txt
my name is omkar oak
i study in COEP college
okay okay no problem
omkar@OmkarPC:~/new1$ jed hello.txt
Command 'jed' not found, but can be installed with:
sudo apt install jed
omkar@OmkarPC:~/new1$
```

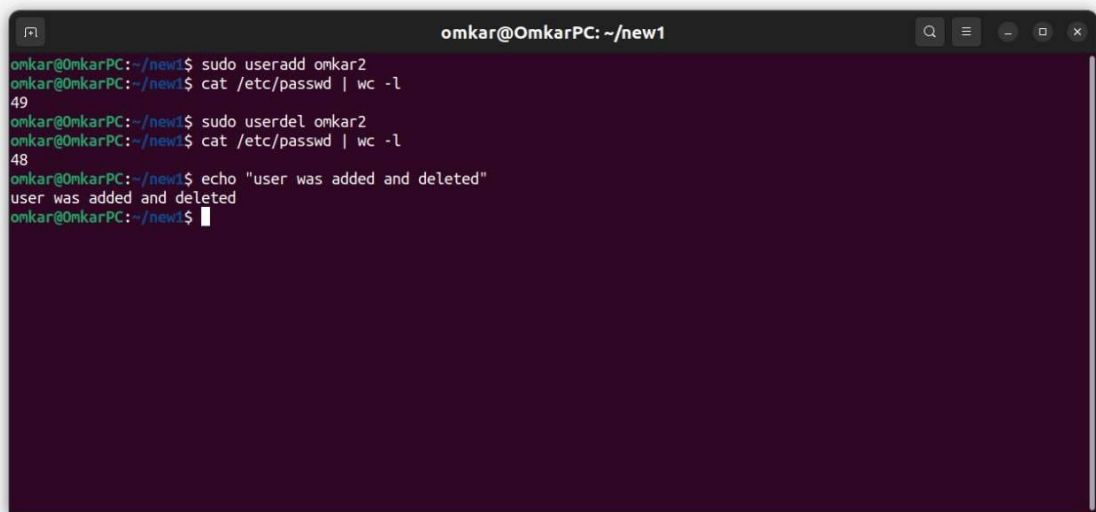
➤ Using **history** command



A terminal window titled "omkar@OmkarPC: ~" showing the output of the history command. The output is a numbered list of 23 commands that were entered in the current session, starting from the first command 'cd ..' to the last command 'ln -s ~/home/Omkar\_files ~/Desktop/'.

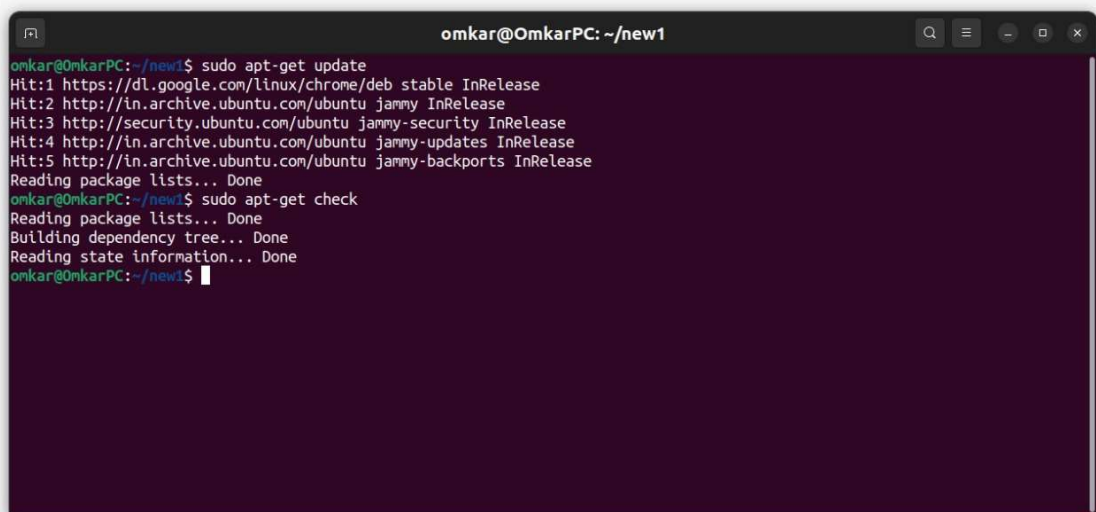
```
omkar@OmkarPC:~$ history
1 cd ..
2 ls
3 cd home
4 ls
5 cd omkar
6 ls
7 hostnamectl
8 hostnamectl
9 hostname
10 sudo hostnamectl set-hostname OmkarPC
11 sudo edit /etc/hostname
12 sudo edit /etc/hosts
13 clc
14 clear
15 hostname
16 hostname OmkarPC
17 sudo su
18 echo Okay
19 ls
20 mkdir Omkar
21 ls
22 ln -s ~/home/Omkar_files ~/Desktop/
23 ln -s ~/home/Omkar_files ~/Desktop/
```

- Using **sudo** commands with root privileges  
Used **useradd**, **passwd**, **userdel** commands along with sudo

A terminal window titled 'omkar@OmkarPC: ~/new1' with a dark purple background. It shows a sequence of commands: adding a user 'omkar2', checking the password file, deleting the user, checking the password file again, and a confirmation message.

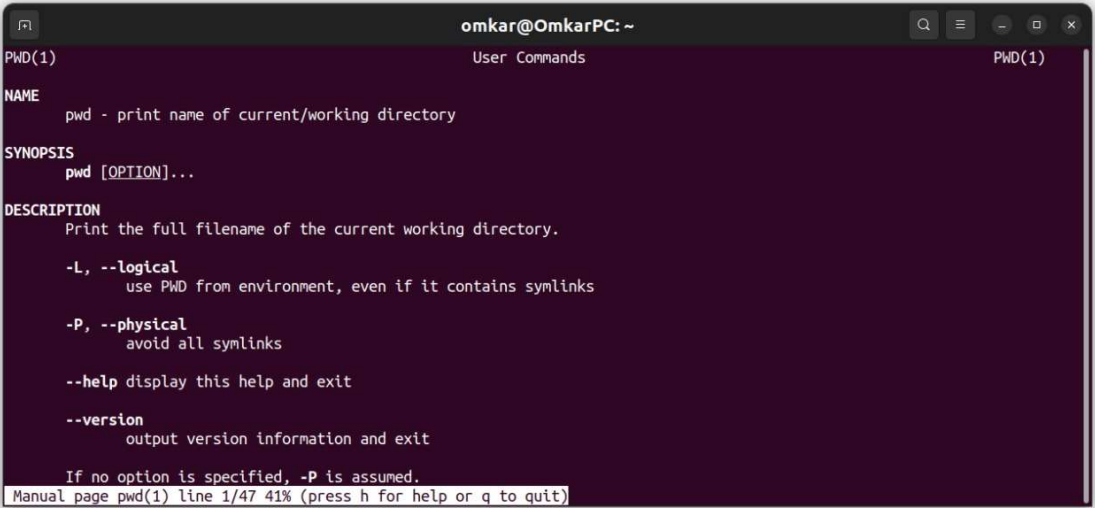
```
omkar@OmkarPC:~/new1$ sudo useradd omkar2
omkar@OmkarPC:~/new1$ cat /etc/passwd | wc -l
49
omkar@OmkarPC:~/new1$ sudo userdel omkar2
omkar@OmkarPC:~/new1$ cat /etc/passwd | wc -l
48
omkar@OmkarPC:~/new1$ echo "user was added and deleted"
user was added and deleted
omkar@OmkarPC:~/new1$
```

- Using **sudo apt-get install**, **sudo apt-get update**, **sudo apt-get check** commands

A terminal window titled 'omkar@OmkarPC: ~/new1' with a dark purple background. It shows the execution of 'sudo apt-get update' and 'sudo apt-get check', displaying the output of the update process and the successful completion of the check.

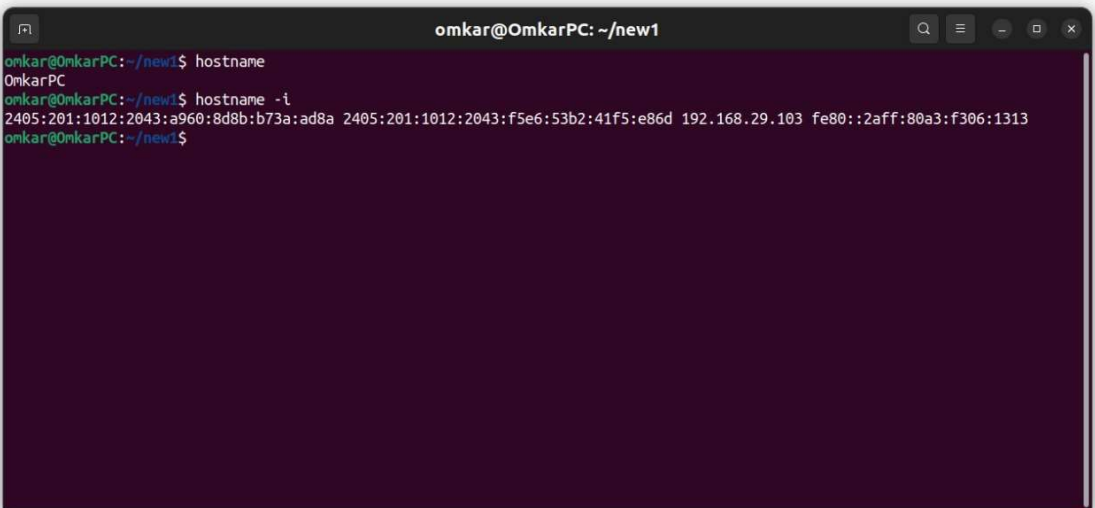
```
omkar@OmkarPC:~/new1$ sudo apt-get update
Hit:1 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:4 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:5 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists... Done
omkar@OmkarPC:~/new1$ sudo apt-get check
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
omkar@OmkarPC:~/new1$
```

- Using **man** command for **pwd**, i.e. **man pwd**



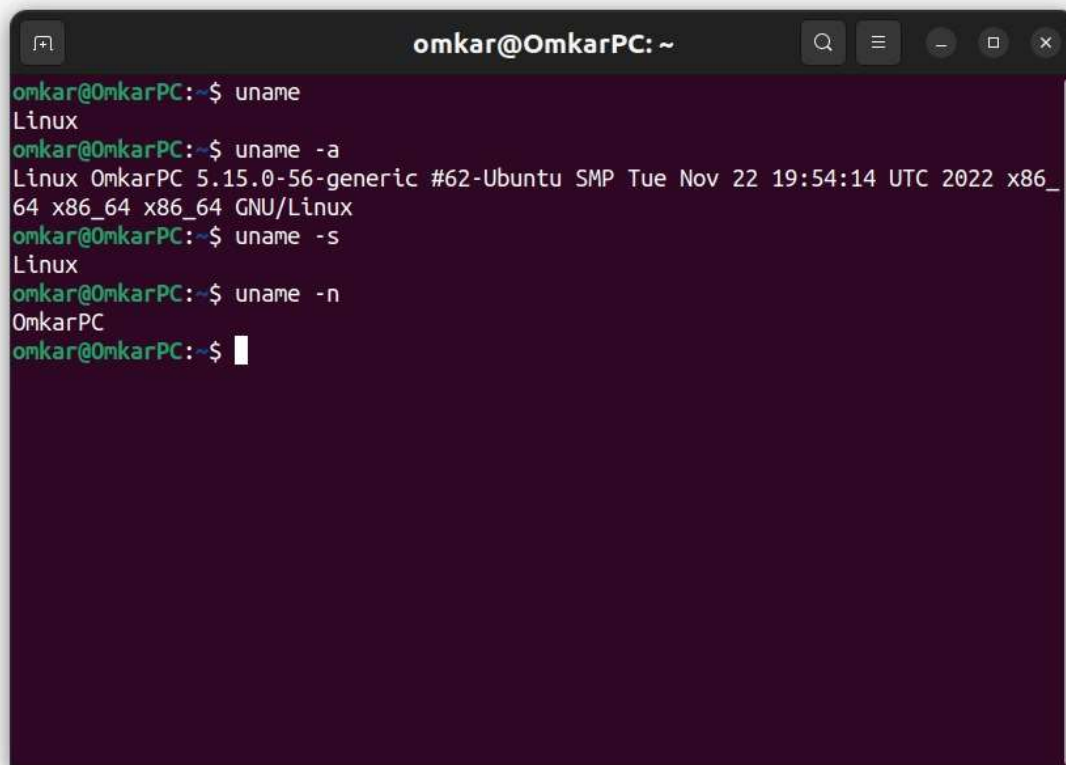
```
omkar@OmkarPC: ~  
PWD(1) User Commands PWD(1)  
  
NAME  
    pwd - print name of current/working directory  
  
SYNOPSIS  
    pwd [OPTION]...  
  
DESCRIPTION  
    Print the full filename of the current working directory.  
  
    -L, --logical  
        use PWD from environment, even if it contains symlinks  
  
    -P, --physical  
        avoid all symlinks  
  
    --help display this help and exit  
  
    --version  
        output version information and exit  
  
    If no option is specified, -P is assumed.  
Manual page pwd(1) line 1/47 41% (press h for help or q to quit)
```

- Using **hostname**, **hostname -i** commands



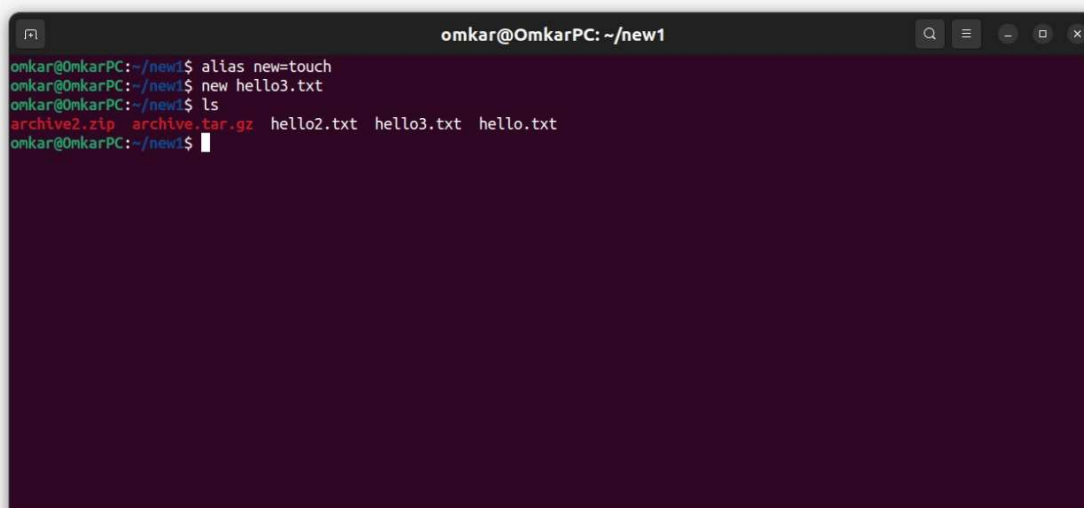
```
omkar@OmkarPC: ~/new1  
omkar@OmkarPC:~/new1$ hostname  
OmkarPC  
omkar@OmkarPC:~/new1$ hostname -i  
2405:201:1012:2043:a960:8d8b:b73a:ad8a 2405:201:1012:2043:f5e6:53b2:41f5:e86d 192.168.29.103 fe80::2aff:80a3:f306:1313  
omkar@OmkarPC:~/new1$
```

- Using **uname -a**, **uname -s**, **uname -n** commands



```
omkar@OmkarPC: ~  
omkar@OmkarPC:~$ uname  
Linux  
omkar@OmkarPC:~$ uname -a  
Linux OmkarPC 5.15.0-56-generic #62-Ubuntu SMP Tue Nov 22 19:54:14 UTC 2022 x86_  
64 x86_64 x86_64 GNU/Linux  
omkar@OmkarPC:~$ uname -s  
Linux  
omkar@OmkarPC:~$ uname -n  
OmkarPC  
omkar@OmkarPC:~$
```

- Using **alias** command



```
omkar@OmkarPC: ~/new1  
omkar@OmkarPC:~/new1$ alias new=touch  
omkar@OmkarPC:~/new1$ new hello3.txt  
omkar@OmkarPC:~/new1$ ls  
archive2.zip  archive.tar.gz  hello2.txt  hello3.txt  hello.txt  
omkar@OmkarPC:~/new1$
```



➤ Using **ps**, **ps -u username** commands

```
omkar@OmkarPC: ~/new1$ ps
  PID TTY          TIME CMD
 2898 pts/0    00:00:00 bash
  7860 pts/0    00:00:00 ps
omkar@OmkarPC: ~/new1$ ps -u omkar
  PID TTY          TIME CMD
 1656 ?            00:00:00 systemd
 1657 ?            00:00:00 (sd-pam)
 1663 ?            00:00:00 pipewire
 1664 ?            00:00:00 pipewire-media-
 1665 ?            00:00:00 pulseaudio
 1666 ?            00:00:01 snapd-desktop-i
 1675 ?            00:00:00 dbus-daemon
 1682 ?            00:00:00 gvfsd
 1687 ?            00:00:00 gvfsd-fuse
 1710 ?            00:00:00 xdg-document-po
 1712 ?            00:00:00 gnome-keyring-d
 1717 ?            00:00:00 xdg-permission-
 1736 ?            00:00:01 tracker-miner-f
 1746 tty2      00:00:00 gdm-wayland-ses
 1749 tty2      00:00:00 gnome-session-b
 1790 ?            00:00:00 gnome-session-c
 1792 ?            00:00:00 gvfs-udisks2-vo
 1807 ?            00:00:00 gnome-session-b
```

➤ Using **top**, **kill** command

```
omkar@OmkarPC: ~
Tasks: 349 total, 2 running, 347 sleeping, 0 stopped, 0 zombie
%Cpu(s): 3.7 us, 7.4 sy, 0.0 ni, 88.9 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
Mem Mem : 15670.0 total, 9435.5 free, 1771.1 used, 4463.5 buff/cache
Mem Swap: 0.0 total, 0.0 free, 0.0 used, 13075.3 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
  39 root        20   0    0     0   0    0  S   0.0   0.0   0:00.20 ksoftirqd/4
2868 omkar      20   0 837672 56248 43304  R   50.0   0.4   0:07.70 gnome-terminal-
6914 omkar      20   0 21992  4208  3236  R   50.0   0.0   0:00.22 top
   1 root        20   0 168084 13444  8272  S   0.0   0.1   0:03.14 systemd
   2 root        20   0    0     0   0    0  S   0.0   0.0   0:00.01 kthreadd
top - 21:31:27 up 21 min, 1 user, load average: 0.20, 0.54, 0.58
Tasks: 349 total, 3 running, 346 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.4 us, 0.1 sy, 0.0 ni, 99.5 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
Mem Mem : 15670.0 total, 9435.5 free, 1771.1 used, 4463.5 buff/cache
Mem Swap: 0.0 total, 0.0 free, 0.0 used, 13075.3 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
1847 omkar      20   0 6230828 273512 127992  R   6.2   1.7   0:47.85 gnome-shell
2868 omkar      20   0 837808 56252 43300  R   6.2   0.4   0:07.73 gnome-terminal-
6914 omkar      20   0 21992  4208  3236  R   4.2   0.0   0:00.24 top
6312 omkar      20   0 32.50 256912 172364  S   2.1   1.6   0:17.70 chrome
   1 root        20   0 168084 13444  8272  S   0.0   0.1   0:03.14 systemd
top - 21:31:27 up 21 min, 1 user, load average: 0.20, 0.54, 0.58
Tasks: 349 total, 2 running, 347 sleeping, 0 stopped, 0 zombie
%Cpu(s): 2.1 us, 4.3 sy, 0.0 ni, 93.6 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
Mem Mem : 15670.0 total, 9435.5 free, 1771.1 used, 4463.5 buff/cache
Mem Swap: 0.0 total, 0.0 free, 0.0 used, 13075.3 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
2868 omkar      20   0 837892 56312 43296  R  33.3   0.4   0:07.74 gnome-terminal-
   1 root        20   0 168084 13444  8272  S   0.0   0.1   0:03.14 systemd
   2 root        20   0    0     0   0    0  S   0.0   0.0   0:00.01 kthreadd
   3 root        0 -20    0     0   0    0  I   0.0   0.0   0:00.00 rcu_gp
   4 root        0 -20    0     0   0    0  I   0.0   0.0   0:00.00 rcu_par_gp
top - 21:31:27 up 21 min, 1 user, load average: 0.20, 0.54, 0.58
Tasks: 349 total, 2 running, 347 sleeping, 0 stopped, 0 zombie
%Cpu(s): 4.5 us, 4.5 sy, 0.0 ni, 90.9 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
Mem Mem : 15670.0 total, 9435.5 free, 1771.1 used, 4463.5 buff/cache
Mem Swap: 0.0 total, 0.0 free, 0.0 used, 13075.3 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
1847 omkar      20   0 6230828 273512 127992  S 200.0   1.7   0:47.85 gnome-shell
2868 omkar      20   0 837840 56188 43172  R 200.0   0.4   0:07.75 gnome-terminal-
6914 omkar      20   0 21992  4208  3236  R 100.0   0.0   0:00.25 top
```



- Using **htop** command

```

omkar@OmkarPC:~/new1
0[ 0.0%] 4[ 0.0%] 8[ 0.0%] 12[ 0.0%]
1[ 0.0%] 5[ 0.0%] 9[ 0.0%] 13[ 0.0%]
2[ 0.0%] 6[ 1.1%] 10[ 0.0%] 14[ 0.0%]
3[ 0.0%] 7[ 0.0%] 11[ 0.0%] 15[ 0.0%]
Mem[|||||] 1.47G/15.3G Tasks: 113, 345 thr: 1 running
Swap[ 0K/0K] Load average: 0.18 0.20 0.34
Uptime: 00:13:07

PID USER PRI NI VIRT RES SHR S CPU%MEM TIME+ Command
1847 omkar 20 0 6082M 289M 133M S 0.5 1.8 1:18.63 /usr/bin/gnome-shell
7853 omkar 20 0 6050 4592 240M R 1.1 0.0 0:00.50 bash
1 root 0 0 1649 13444 8272 S 0.0 0.1 0:00.00 /sbin/init splash
374 root 19 -1 8052 29148 27548 S 0.0 0.2 0:00.54 /lib/systemd/systemd-journald
432 root 20 0 27220 7628 4632 S 0.0 0.0 0:00.61 /lib/systemd/systemd-udev
679 systemd-o 0 14824 6124 5332 S 0.0 0.0 0:03.46 /lib/systemd/systemd-cond
680 systemd-r 0 2300 1716 640 S 0.0 0.1 0:00.20 /lib/systemd/systemd-resolved
681 systemd-t 0 89376 6496 5640 S 0.0 0.0 0:00.05 /lib/systemd/systemd-timesyncd
680 systemd-t 0 89376 6496 5640 S 0.0 0.0 0:00.00 /lib/systemd/systemd-timesyncd
716 root 20 0 242M 7780 6856 S 0.0 0.0 0:00.20 /usr/libexec/accounts-daemon
717 root 20 0 2812 1180 1692 S 0.0 0.0 0:00.36 /usr/sbin/acpid
719 avahi 0 624 3668 258 S 0.0 0.0 0:00.17 avahi-daemon: running [OmkarPC.local]
720 root 20 0 10592 5424 4980 S 0.0 0.0 0:00.05 /usr/lib/bluetooth/bluetoothd
721 root 20 0 18148 2984 2728 S 0.0 0.0 0:00.00 /usr/sbin/cron -f -P
722 messagebu 0 11120 6812 4688 S 0.0 0.0 0:01.67 dbus-daemon -system --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
723 root 20 0 263M 10208 13952 S 0.0 0.1 0:01.10 /usr/sbin/NetworkManager --no-daemon
723 root 20 0 2800 3844 3472 S 0.0 0.0 0:00.21 /usr/lib/rbaleacl -foreground
732 root 20 0 49688 20948 17672 S 0.0 0.1 0:00.15 /usr/bin/python3 /usr/bin/networkd-dispatcher --run-startup-triggers
733 root 20 0 245M 11028 7260 S 0.0 0.1 0:02.21 /usr/libexec/polkitd --no-debug
734 root 20 0 242M 7520 6808 S 0.0 0.0 0:00.04 /usr/libexec/power-profiles-daemon
735 syslog 20 0 217M 5836 4224 S 0.0 0.0 0:00.13 /usr/sbin/rsyslogd -n -NONE
738 root 20 0 239M 6640 4036 S 0.0 0.0 0:00.03 /usr/libexec/swtchero-control
739 root 20 0 48244 8172 6928 S 0.0 0.1 0:00.22 /lib/systemd/systemd-logind
740 root 20 0 278M 10848 9828 S 0.0 0.1 0:00.48 /usr/sbin/thermald --system --dbus-enable --adaptive
741 root 20 0 384M 13480 10572 S 0.0 0.1 0:00.26 /usr/libexec/udisks2/udisksd
742 root 20 0 1760 1156 960 S 0.0 0.1 0:00.05 /sbin/wpa_supplicant -u -s -O /run/wpa_supplicant
767 root 20 0 242M 7520 6808 S 0.0 0.0 0:00.00 /usr/libexec/power-profiles-daemon
762 root 20 0 242M 7780 6856 S 0.0 0.0 0:00.11 /usr/libexec/accounts-daemon
763 root 20 0 245M 11028 7260 S 0.0 0.1 0:00.00 /usr/libexec/polkitd --no-debug
766 root 20 0 82808 3844 3472 S 0.0 0.0 0:00.00 /usr/sbin/rbaleacl -foreground
767 root 20 0 239M 6640 4036 S 0.0 0.0 0:00.00 /usr/libexec/swtchero-control
769 avahi 0 7440 340 S 0.0 0.0 0:00.00 avahi-daemon: chroot helper
904 root 20 0 384M 13480 10572 S 0.0 0.1 0:00.00 /usr/libexec/udisks2/udisksd
922 syslog 20 0 217M 5836 4224 S 0.0 0.0 0:00.04 /usr/sbin/rsyslogd -n -NONE
F1help F2setup F3Search F4filter F5tree F6sortby F7nice F8force F9kill F10quit

```