

Perform the following Linux Fedodra command operations

1. ifconfig : Display network interfaces and IP addresses.

```

jaivikjariwala@nomad:~$ ifconfig
eno2: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 58:11:22:3a:8b:79 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 16 memory 0x60100000-60120000

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 26 bytes 2861 (2.7 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 26 bytes 2861 (2.7 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlo1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 56:7e:e2:58:d0:61 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[jaivikjariwala@nomad ~]$

```

2. kill: Kill active processes by process ID or name

```

jaivikjariwala@nomad:~$ type -a kill
kill is a shell builtin
kill is /usr/bin/kill
[jaivikjariwala@nomad ~]$ kill -l
 1) SIGHUP      2) SIGINT      3) SIGQUIT     4) SIGILL      5) SIGTRAP
 6) SIGABRT     7) SIGBUS      8) SIGFPE      9) SIGKILL     10) SIGUSR1
11) SIGSEGV    12) SIGUSR2    13) SIGPIPE    14) SIGALRM     15) SIGTERM
16) SIGSTKFLT  17) SIGCHLD   18) SIGCONT    19) SIGSTOP     20) SIGTSTP
21) SIGTTIN    22) SIGTTOU   23) SIGURG     24) SIGXCPU     25) SIGXFSZ
26) SIGVTALRM  27) SIGPROF   28) SIGWINCH   29) SIGIO        30) SIGPWR
31) SIGSYS     34) SIGRTMIN  35) SIGRTMIN+1 36) SIGRTMIN+2 37) SIGRTMIN+3
38) SIGRTMIN+4 39) SIGRTMIN+5 40) SIGRTMIN+6 41) SIGRTMIN+7 42) SIGRTMIN+8
43) SIGRTMIN+9 44) SIGRTMIN+10 45) SIGRTMIN+11 46) SIGRTMIN+12 47) SIGRTMIN+13
48) SIGRTMIN+14 49) SIGRTMIN+15 50) SIGRTMAX-14 51) SIGRTMAX-13 52) SIGRTMAX-12
53) SIGRTMAX-11 54) SIGRTMAX-10 55) SIGRTMAX-9 56) SIGRTMAX-8 57) SIGRTMAX-7
58) SIGRTMAX-6 59) SIGRTMAX-5 60) SIGRTMAX-4 61) SIGRTMAX-3 62) SIGRTMAX-2
63) SIGRTMAX-1 64) SIGRTMAX
[jaivikjariwala@nomad ~]$ pidof firefox
9670 9639 9596 9499 9379 9319 9316 9264 9261 9228 9174 9156 9154 5206 5159 5121 4985
[jaivikjariwala@nomad ~]$ kill -9 $(pidof firefox)
[jaivikjariwala@nomad ~]$

```

3. mount : Mount file systems in Linux

```
jaivikjariwala@nomad:~$ mount
proc on /proc type proc (rw,nosuid,nodev,noexec,relatime)
sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime,seclabel)
devtmpfs on /dev type devtmpfs (rw,nosuid,seclabel,size=4096k,nr_inodes=1048576,mode=755,inode64)
securityfs on /sys/kernel/security type securityfs (rw,nosuid,nodev,noexec,relatime)
tmpfs on /dev/shm type tmpfs (rw,nosuid,nodev,seclabel,inode64)
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,seclabel,gid=5,mode=620,ptmxmode=000)
tmpfs on /run type tmpfs (rw,nosuid,nodev,seclabel,size=3197844k,nr_inodes=819200,mode=755,inode64)
cgroup2 on /sys/fs/cgroup type cgroup2 (rw,nosuid,nodev,noexec,relatime,seclabel,nsdelegate,memory_recursiveprot)
pstore on /sys/fs/pstore type pstore (rw,nosuid,nodev,noexec,relatime,seclabel)
efivarfs on /sys/firmware/efi/efivars type efivarfs (rw,nosuid,nodev,noexec,relatime)
bpf on /sys/fs/bpf type bpf (rw,nosuid,nodev,noexec,relatime,mode=700)
/dev/nvme0n1p8 on / type btrfs (rw,relatime,seclabel,compress=zstd:1,ssd,space_cache=v2,subvol=257,subvol=/root)
selinuxfs on /sys/fs/selinux type selinuxfs (rw,nosuid,noexec,relatime)
systemd-1 on /proc/sys/fs/binfmt_misc type autofs (rw,relatime,fd=35,pgrp=1,timeout=0,minproto=5,maxproto=5,direct,pipe_ino=22409)
debugfs on /sys/kernel/debug type debugfs (rw,nosuid,nodev,noexec,relatime,seclabel)
mqueue on /dev/mqueue type mqueue (rw,nosuid,nodev,noexec,relatime,seclabel)
hugetlbfs on /dev/hugepages type hugetlbfs (rw,relatime,seclabel,pagesize=2M)
tracefs on /sys/kernel/tracing type tracefs (rw,nosuid,nodev,noexec,relatime,seclabel)
fusectl on /sys/fs/fuse/connections type fusectl (rw,nosuid,nodev,noexec,relatime)
configfs on /sys/kernel/config type configfs (rw,nosuid,nodev,noexec,relatime)
tmpfs on /tmp type tmpfs (rw,nosuid,nodev,seclabel,size=7994608k,nr_inodes=1048576,inode64)
/dev/nvme0n1p8 on /home type btrfs (rw,relatime,seclabel,compress=zstd:1,ssd,space_cache=v2,subvol=256,subvol=/home)
/dev/nvme0n1p7 on /boot type ext4 (rw,relatime,seclabel,stripe=32)
/dev/nvme0n1p1 on /boot/efi type vfat (rw,relatime,fmask=0077,dmask=0077,codepage=437,iocharset=ascii,shortname=winnt,errors=remount-ro)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw,relatime)
tmpfs on /run/user/1000 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=1598920k,nr_inodes=399730,mode=700,uid=1000,gid=1000,inode64)
gvfsd-fuse on /run/user/1000/gvfs type fuse.gvfsd-fuse (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
portal on /run/user/1000/doc type fuse.portal (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
```

4. sort : Linux command to sort the content of a file while outputting

```
jaivikjariwala@nomad:~$ cat one.txt
hi
wolf
pup
howl
die
stress
depression
--Stopped
jaivikjariwala@nomad:~$ sort one.txt
die
hi
howl
pup
--Stopped
stress
wolf
jaivikjariwala@nomad:~$
```

5. export : Export environment variables in Linux

```
jaivikjariwala@nomad:~$ export [-f] [-n] [name[=value]...]
bash: export: `[-f] [-n] [name[=value]...]': not a valid identifier
jaivikjariwala@nomad:~$ export -p
declare -x COLORTERM="truecolor"
declare -x DBUS_SESSION_BUS_ADDRESS="unix:path=/run/user/1000/bus"
declare -x DEBUGINFOD_URLS="https://debuginfod.fedoraproject.org/"
declare -x DESKTOP_SESSION="gnome"
declare -x DISPLAY="":0"
declare -x EDITOR="/usr/bin/nano"
declare -x GDMSESSION="gnome"
declare -x GDM_LANG="en_IN.UTF-8"
declare -x GNOME_SETUP_DISPLAY="":1"
declare -x GNOME_TERMINAL_SCREEN="/org/gnome/Terminal/screen/36005707_6568_4754_b0aa_8ad042751b82"
declare -x GNOME_TERMINAL_SERVICE=":1.93"
declare -x HISTCONTROL="ignoredups"
declare -x HISTSIZE="1000"
declare -x HOME="/home/jaivikjariwala"
declare -x HOSTNAME="nomad"
declare -x LANG="en_IN.UTF-8"
declare -x LESSOPEN="||/usr/bin/lesspipe.sh %s"
declare -x LOGNAME="jaivikjariwala"
declare -x LS_COLORS="rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd=40;33;01:or=40;31;01:mi=01;37;41:su=37;41:sg=3
0;43:ca=00:tw=30;42:ow=34;42:st=37;44:ex=01;32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.arj=01;31:*.taz=01;31:*.lha=01;31:*.lz4=01;31:*.lzh=01
;31:*.lzma=01;31:*.tlz=01;31:*.txz=01;31:*.tzo=01;31:*.t7z=01;31:*.zip=01;31:*.z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lzo=0
1;31:*.xz=01;31:*.zst=01;31:*.tzst=01;31:*.bz2=01;31:*.bz=01;31:*.tbz=01;31:*.tbz2=01;31:*.tz=01;31:*.deb=01;31:*.rpm=01;31:*.jar=01;31:*.w
ar=01;31:*.ear=01;31:*.sar=01;31:*.rar=01;31:*.alz=01;31:*.ace=01;31:*.zoo=01;31:*.cpio=01;31:*.7z=01;31:*.rz=01;31:*.cab=01;31:*.wim=01;31
:*.swm=01;31:*.dwm=01;31:*.esd=01;31:*.avif=01;35:*.jpg=01;35:*.jpeg=01;35:*.mjpg=01;35:*.mjpeg=01;35:*.gif=01;35:*.bmp=01;35:*.pbm=01;35:*.
pgm=01;35:*.ppm=01;35:*.tga=01;35:*.xbm=01;35:*.xpm=01;35:*.tif=01;35:*.tiff=01;35:*.png=01;35:*.svg=01;35:*.svgz=01;35:*.mng=01;35:*.pcx=
01;35:*.mov=01;35:*.mpg=01;35:*.mpeg=01;35:*.m2v=01;35:*.mkv=01;35:*.webm=01;35:*.webp=01;35:*.ogm=01;35:*.mp4=01;35:*.m4v=01;35:*.mp4v=01;
35:*.vob=01;35:*.qt=01;35:*.nuv=01;35:*.wmv=01;35:*.asf=01;35:*.rm=01;35:*.rmvb=01;35:*.flc=01;35:*.avi=01;35:*.fli=01;35:*.flv=01;35:*.gl=
01;35:*.dl=01;35:*.xcf=01;35:*.xwd=01;35:*.yuv=01;35:*.cgm=01;35:*.emf=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=01;36:*.au=01;36:*.flac=01;36:*.
m4a=01;36:*.mid=01;36:*.midi=01;36:*.mka=01;36:*.mp3=01;36:*.mpc=01;36:*.ogg=01;36:*.ra=01;36:*.wav=01;36:*.oga=01;36:*.opus=01;36:*.spx=01
;36:*.xspf=01;36:*=00;90:*=00;90:*.bak=00;90:*.old=00;90:*.orig=00;90:*.part=00;90:*.rej=00;90:*.swp=00;90:*.tmp=00;90:*.dpg=00;90:*.dist=00;90:
*.dpg=00;90:*.ucf=00;90:*.ucf-dist=00;90:*.ucf-new=00;90:*.ucf-old=00;90:*.rpmnew=00;90:*.rpmorig=00;90:*.rpmsave=00;90:"
declare -x MAIL="/var/spool/mail/jaivikjariwala"
declare -x OLDPWD
declare -x PATH="/home/jaivikjariwala/.local/bin:/home/jaivikjariwala/bin:/usr/local/bin:/usr/local/sbin:/usr/bin:/usr/sbin"
declare -x PWD="/home/jaivikjariwala"
declare -x QT_IM_MODULE="ibus"
declare -x SESSION_MANAGER="local/unix:@/tmp/.ICE-unix/2107,unix/unix:/tmp/.ICE-unix/2107"
declare -x SHELL="/bin/bash"
declare -x SHLVL="1"
declare -x SSH_AUTH_SOCK="/run/user/1000/keyring/ssh"
declare -x SYSTEMD_EXEC_PID="2162"
declare -x TERM="xterm-256color"
declare -x USER="jaivikjariwala"
declare -x USERNAME="jaivikjariwala"
declare -x VTE_VERSION="7001"
declare -x WAYLAND_DISPLAY="wayland-0"
declare -x XAUTHORITY="/run/user/1000/.mutter-Xwaylandauth.XBh3Y1"
declare -x XDG_CURRENT_DESKTOP="GNOME"
declare -x XDG_DATA_DIRS="/home/jaivikjariwala/.local/share/flatpak/exports/share:/var/lib/flatpak/exports/share:/usr/local/share:/usr/sha
re/"
declare -x XDG_MENU_PREFIX="gnome-"
declare -x XDG_RUNTIME_DIR="/run/user/1000"
declare -x XDG_SESSION_CLASS="user"
```

6. ssh : Secure Shell command in Linux

```
jaivikjariwala@nomad:~  
[jaivikjariwala@nomad ~]$ ssh localhost  
ssh: connect to host localhost port 22: Connection refused  
[jaivikjariwala@nomad ~]$
```

7. zip : Zip files in Linux

```
jaivikjariwala@nomad:~ — unzip xyz.zip  
[jaivikjariwala@nomad ~]$ ssh localhost  
ssh: connect to host localhost port 22: Connection refused  
[jaivikjariwala@nomad ~]$ zip myfile.zip wolf.txt  
zip warning: name not matched: wolf.txt  
  
zip error: Nothing to do! (myfile.zip)  
[jaivikjariwala@nomad ~]$ ls  
Desktop Downloads node_modules package.json Pictures Templates wolf1  
Documents Music one.txt package-lock.json Public Videos xyz.txt  
[jaivikjariwala@nomad ~]$ zip xyz.zip xyz.txt  
adding: xyz.txt (stored 0%)  
[jaivikjariwala@nomad ~]$ unzip xyz.zip  
Archive: xyz.zip  
replace xyz.txt? [y]es, [n]o, [A]ll, [N]one, [r]ename:
```

8. unzip : Unzip files in Linux

9. ps : Display active processes

```
jaivikjariwala@nomad:~  
[jaivikjariwala@nomad ~]$ ps  
  PID TTY          TIME CMD  
 15475 pts/1    00:00:00 bash  
 17127 pts/1    00:00:00 ps  
[jaivikjariwala@nomad ~]$
```

10. uname : Linux command to get basic information about the OS

```
jaivikjariwala@nomad:~  
[jaivikjariwala@nomad ~]$ ps  
  PID TTY          TIME CMD  
 15475 pts/1    00:00:00 bash  
 17127 pts/1    00:00:00 ps  
[jaivikjariwala@nomad ~]$ uname  
Linux  
[jaivikjariwala@nomad ~]$
```

11. chown : Command for granting ownership of files or folders

```
jaivikjariwala@nomad:~ — sudo chown test sample
[jaivikjariwala@nomad ~]$ chown NewUser FILE
chown: invalid user: 'NewUser'
[jaivikjariwala@nomad ~]$ chown Nomad FILE
chown: invalid user: 'Nomad'
[jaivikjariwala@nomad ~]$ chown jaivikjariwala@nomad FILE
chown: invalid user: 'jaivikjariwala@nomad'
[jaivikjariwala@nomad ~]$ chown test sample
chown: invalid user: 'test'
[jaivikjariwala@nomad ~]$ chown --version
chown (GNU coreutils) 9.1
Copyright (C) 2022 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Written by David MacKenzie and Jim Meyering.
[jaivikjariwala@nomad ~]$ sudo chown test sample
[sudo] password for jaivikjariwala:
```

12. wget : Direct download files from the internet

```
jaivikjariwala@nomad:~
[jaivikjariwala@nomad ~]$ wget http://example.com/sample.php
--2023-01-25 04:51:37-- http://example.com/sample.php
Resolving example.com (example.com)... 2606:2800:220:1:248:1893:25c8:1946, 93.184.216.34
Connecting to example.com (example.com)|2606:2800:220:1:248:1893:25c8:1946|:80..
. connected.
HTTP request sent, awaiting response... 404 Not Found
2023-01-25 04:51:38 ERROR 404: Not Found.
```

13. ufw : Firewall command

```
[jaivikjariwala@nomad ~]$ ufw
bash: ufw: command not found...
Install package 'ufw' to provide command 'ufw'? [N/y] y

* Waiting in queue...
The following packages have to be installed:
ufw-0.35-26.fc37.noarch      Uncomplicated Firewall
Proceed with changes? [N/y] y

* Waiting in queue...
* Waiting for authentication...
* Waiting in queue... Failed to install packages: Curl error (6): Couldn't resolve host name for https://mirrors.fedoraproject.org/metalink?repo=fedora-37&arch=x86_64 [Could not resolve host: mirrors.fedoraproject.org]
```

14. traceroute : Trace all the network hops to reach the destination

```
jaivikjariwala@nomad:~$ traceroute
Usage:
  traceroute [ -46dFITnreAUDV ] [ -f first_ttl ] [ -g gate,... ] [ -i device ] [
  -m max_ttl ] [ -N squeries ] [ -p port ] [ -t tos ] [ -l flow_label ] [ -w MAX,
  HERE,NEAR ] [ -q nqueries ] [ -s src_addr ] [ -z sendwait ] [ --fwmark=num ] hos
  t [ packetlen ]
Options:
  -4                      Use IPv4
  -6                      Use IPv6
  -d --debug              Enable socket level debugging
  -F --dont-fragment      Do not fragment packets
  -f first_ttl --first=first_ttl
                          Start from the first_ttl hop (instead from 1)
  -g gate,... --gateway=gate,...
                          Route packets through the specified gateway
                          (maximum 8 for IPv4 and 127 for IPv6)
  -I --icmp               Use ICMP ECHO for tracerouting
  -T --tcp                Use TCP SYN for tracerouting (default port is 80)
  -i device --interface=device
                          Specify a network interface to operate with
  -m max_ttl --max-hops=max_ttl
                          Set the max number of hops (max TTL to be
                          reached). Default is 30
  -N squeries --sim-queries=squeries
                          Set the number of probes to be tried
                          simultaneously (default is 16)
  -n                      Do not resolve IP addresses to their domain names
  -p port --port=port     Set the destination port to use. It is either
                          initial udp port value for "default" method
                          (incremented by each probe, default is 33434), or
                          initial seq for "icmp" (incremented as well,
                          default from 1), or some constant destination
                          port for other methods (with default of 80 for
```

15. service : Linux command to start and stop services

```
jaivikjariwala@nomad ~]$ service
Usage: service < option > | --status-all | [ service_name [ command | --full-restart ] ]
jaivikjariwala@nomad ~]$
```

16. alias : Create custom shortcuts for your regularly used commands

```
jaivikjariwala@nomad:~$ alias
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias l.='ls -d .* --color=auto'
alias ll='ls -l --color=auto'
alias ls='ls --color=auto'
alias xzgrep='xzgrep --color=auto'
alias xzfgrep='xzfgrep --color=auto'
alias xzgrep='xzgrep --color=auto'
alias zegrep='zegrep --color=auto'
alias zfgrep='zfgrep --color=auto'
alias zgrep='zgrep --color=auto'
jaivikjariwala@nomad ~]$
```

17. dd : Majorly used for creating bootable USB sticks

```
jaivikjariwala@nomad:~ — dd
[jaivikjariwala@nomad ~]$ dd
ibm
asosrc
```

18. whereis : Locate the binary, source, and manual pages for a command

```
jaivikjariwala@nomad:~
[jaivikjariwala@nomad ~]$ whereis -V
whereis from util-linux 2.38.1
[jaivikjariwala@nomad ~]$
```

19. whatis : Find what a command is used for

```
jaivikjariwala@nomad:~
[jaivikjariwala@nomad ~]$ whereis -V
whereis from util-linux 2.38.1
[jaivikjariwala@nomad ~]$ whatis -version
whatis what?
[jaivikjariwala@nomad ~]$
```

20. diff : Find the difference between two files

```
jaivikjariwala@nomad:~
[jaivikjariwala@nomad ~]$ diff --help
Usage: diff [OPTION]... FILES
Compare FILES line by line.

Mandatory arguments to long options are mandatory for short options too.
  --normal                output a normal diff (the default)
  -q, --brief             report only when files differ
  -s, --report-identical-files report when two files are the same
  -c, -C NUM, --context[=NUM] output NUM (default 3) lines of copied context
  -u, -U NUM, --unified[=NUM] output NUM (default 3) lines of unified context
  -e, --ed               output an ed script
  -n, --rcs              output an RCS format diff
  -y, --side-by-side     output in two columns
  -W, --width=NUM        output at most NUM (default 130) print columns
  --left-column          output only the left column of common lines
  --suppress-common-lines do not output common lines

  -p, --show-c-function   show which C function each change is in
  -F, --show-function-line=RE show the most recent line matching RE
  --label LABEL          use LABEL instead of file name and timestamp
                        (can be repeated)
```


21. In : Create symbolic links (shortcuts) to other files

```
[jaivikjariwala@nomad ~]$ In
bash: In: command not found...
[jaivikjariwala@nomad ~]$
```

22. top : View active processes live with their system usage

```
jaivikjariwala@nomad:~ — top
top - 14:28:46 up 13 min, 1 user, load average: 0.24, 0.29, 0.22
Tasks: 384 total, 1 running, 383 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.4 us, 0.2 sy, 0.0 ni, 99.2 id, 0.0 wa, 0.2 hi, 0.0 si, 0.0 st
MiB Mem : 15614.5 total, 12031.6 free, 1263.8 used, 2319.1 buff/cache
MiB Swap: 8192.0 total, 8192.0 free, 0.0 used, 13614.9 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+  COMMAND
 3971 jaivikj+  20   0  772152  57936  44636 S   5.3   0.4   0:10.18  gnome-terminal-
 2146 jaivikj+  20   0 8018936 216588 125552 S   3.7   1.4   1:09.19  gnome-shell
   513 root      -51   0     0     0     0 S   1.0   0.0   0:02.76  irq/79-ASUP1205:00
   901 systemd+ 20   0   16156   7932   7004 S   0.3   0.0   0:02.21  systemd-oomd
  2415 root      20   0  259640  29744   8056 S   0.3   0.2   0:00.58  sssd_kcm
  5120 jaivikj+  20   0 224996   3880   3040 R   0.3   0.0   0:00.03  top
     1 root      20   0  172164  17840  11060 S   0.0   0.1   0:01.74  systemd
     2 root      20   0     0     0     0 S   0.0   0.0   0:00.01  kthreadd
     3 root       0 -20     0     0     0 I   0.0   0.0   0:00.00  rcu_gp
     4 root       0 -20     0     0     0 I   0.0   0.0   0:00.00  rcu_par_gp
     5 root       0 -20     0     0     0 I   0.0   0.0   0:00.00  slub_flushwq
     6 root       0 -20     0     0     0 I   0.0   0.0   0:00.00  netns
     8 root       0 -20     0     0     0 I   0.0   0.0   0:00.00  kworker/0:0H-events_highpri
     9 root      20   0     0     0     0 I   0.0   0.0   0:01.48  kworker/u40:0-btrfs-endio-write
    10 root       0 -20     0     0     0 I   0.0   0.0   0:00.00  mm_percpu_wq
    12 root      20   0     0     0     0 I   0.0   0.0   0:00.00  rcu_tasks_kthread
    13 root      20   0     0     0     0 I   0.0   0.0   0:00.00  rcu_tasks_rude_kthread
    14 root      20   0     0     0     0 I   0.0   0.0   0:00.00  rcu_tasks_trace_kthread
    15 root      20   0     0     0     0 S   0.0   0.0   0:00.00  ksoftirqd/0
    16 root      20   0     0     0     0 I   0.0   0.0   0:00.99  rcu_preempt
    17 root      rt   0     0     0     0 S   0.0   0.0   0:00.01  migration/0
    19 root      20   0     0     0     0 S   0.0   0.0   0:00.00  cpuhp/0
    20 root      20   0     0     0     0 S   0.0   0.0   0:00.00  cpuhp/1
    21 root      rt   0     0     0     0 S   0.0   0.0   0:00.11  migration/1
```


23. useradd : Add new user or change existing users data

```
jaivikjariwala@nomad:~  
; -->HEADER<-- opcode: QUERY, status: NOERROR, id: 62011  
; flags: qr aa rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1  
  
; OPT PSEUDOSECTION:  
EDNS: version: 0, flags:; udp: 65494  
; QUESTION SECTION:  
.                IN      NS  
  
; Query time: 1 msec  
; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)  
; WHEN: Thu Feb 02 16:07:27 EST 2023  
; MSG SIZE rcvd: 28  
  
jaivikjariwala@nomad ~]$ talk  
bash: talk: command not found...  
Install package 'talk' to provide command 'talk'? [N/y] y  
  
* Waiting in queue...  
The following packages have to be installed:  
talk-0.17-66.fc37.x86_64      Talk client for one-on-one Internet chatting  
Proceed with changes? [N/y] y
```

24. man : Access manual pages for all Linux commands

25. cp : Similar usage as mv but for copying files in Linux

```
jaivikjariwala@nomad:~  
jaivikjariwala@nomad ~]$ cp xyz.txt  
cp: missing destination file operand after 'xyz.txt'  
Try 'cp --help' for more information.  
jaivikjariwala@nomad ~]$ cp wolf1  
cp: missing destination file operand after 'wolf1'
```

26. ln : Create symbolic links (shortcuts) to other files

```
jaivikjariwala@nomad:~  
jaivikjariwala@nomad ~]$ ln  
bash: ln: command not found...  
jaivikjariwala@nomad ~]$
```

27. netstat : netstat command displays various network related information such as network connections, routing tables, interface statistics, masquerade connections, multicast memberships etc.

```
jaivikjariwala@nomad:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      1 nomad:39044             10.30.1.14:domain      SYN_SENT
^[[3~udp        0      0 nomad:bootpc            1.1.1.1:bootps         ESTABLISHED

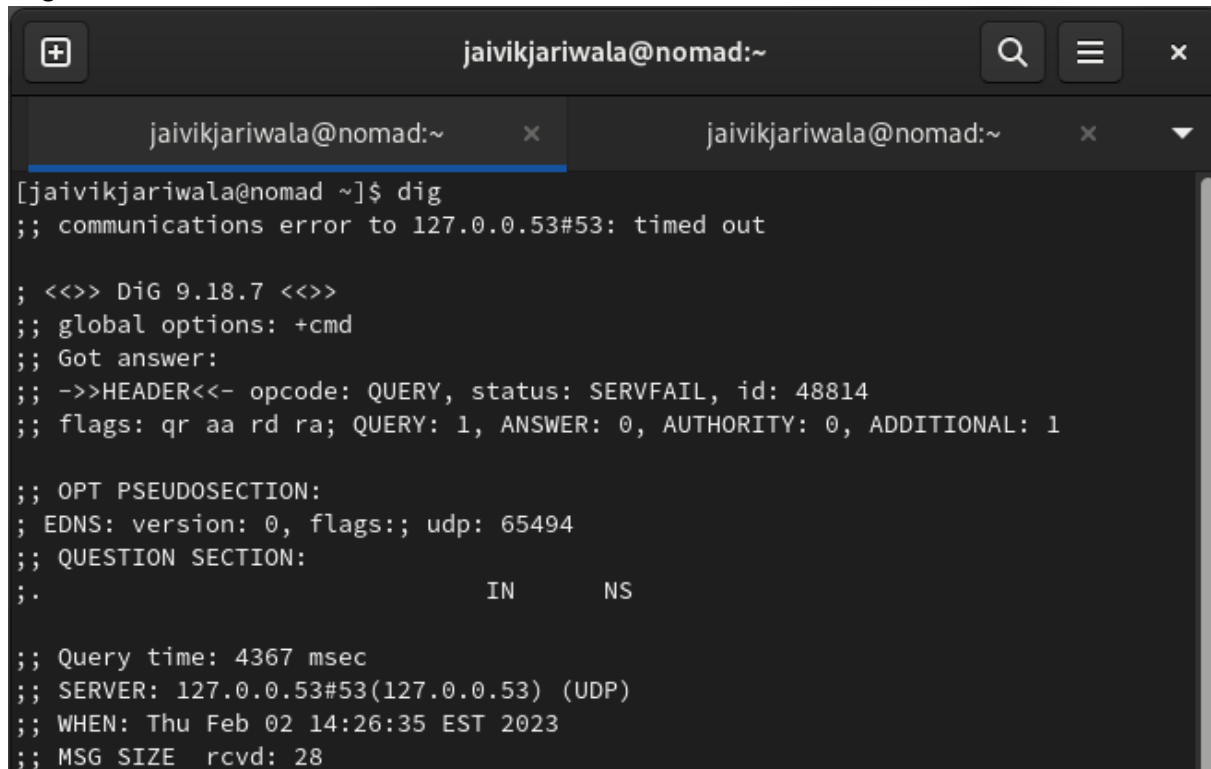
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags   Type       State         I-Node  Path
unix   3      [ ]      STREAM    CONNECTED    41743    /run/systemd/journal/stdout
unix   3      [ ]      DGRAM     CONNECTED    19099    /run/systemd/journal/stdout
unix   3      [ ]      STREAM    CONNECTED    43839    /run/systemd/journal/stdout
unix   3      [ ]      STREAM    CONNECTED    40205    /run/user/1000/bus
unix   3      [ ]      STREAM    CONNECTED    26854    /run/user/1000/bus
unix   3      [ ]      STREAM    CONNECTED    37861    /run/user/1000/bus
unix   3      [ ]      STREAM    CONNECTED    37750    /run/user/1000/wayland-0
unix   3      [ ]      STREAM    CONNECTED    24865    /run/user/1000/wayland-0
unix   3      [ ]      STREAM    CONNECTED    16304    /run/systemd/journal/stdout
unix   3      [ ]      STREAM    CONNECTED    37679    /run/user/1000/pipewire-0
unix   3      [ ]      DGRAM     CONNECTED    40992    /run/systemd/journal/stdout
unix   3      [ ]      STREAM    CONNECTED    25672    /run/systemd/journal/stdout
unix   3      [ ]      STREAM    CONNECTED    55772    /run/systemd/journal/stdout
unix   3      [ ]      STREAM    CONNECTED    33831    /run/systemd/journal/stdout
unix   3      [ ]      STREAM    CONNECTED    37866    /run/user/1000/bus
unix   3      [ ]      STREAM    CONNECTED    35267    /run/user/1000/bus
```

28. nslookup : A network utility program used to obtain information about Internet servers. As its name suggests, the utility finds name server information for domains by querying DNS.

```
jaivikjariwala@nomad:~ — nslookup
jaivikjariwala@nomad:~$ nslookup
> ls
The 'ls' command is not implemented.
> wolf1
;; communications error to 127.0.0.53#53: timed out
Server:         127.0.0.53
Address:        127.0.0.53#53

** server can't find wolf1.pdu.ac.in: SERVFAIL
>
```

29. dig : dig is a tool for querying DNS nameservers for information about host addresses, mail exchanges, nameservers, and related information. This tool can be used from any Linux (Unix) or Macintosh OS X operating system. The most typical use of dig is to simply query a single host.



```
jaivikjariwala@nomad:~$ dig
;; communications error to 127.0.0.53#53: timed out

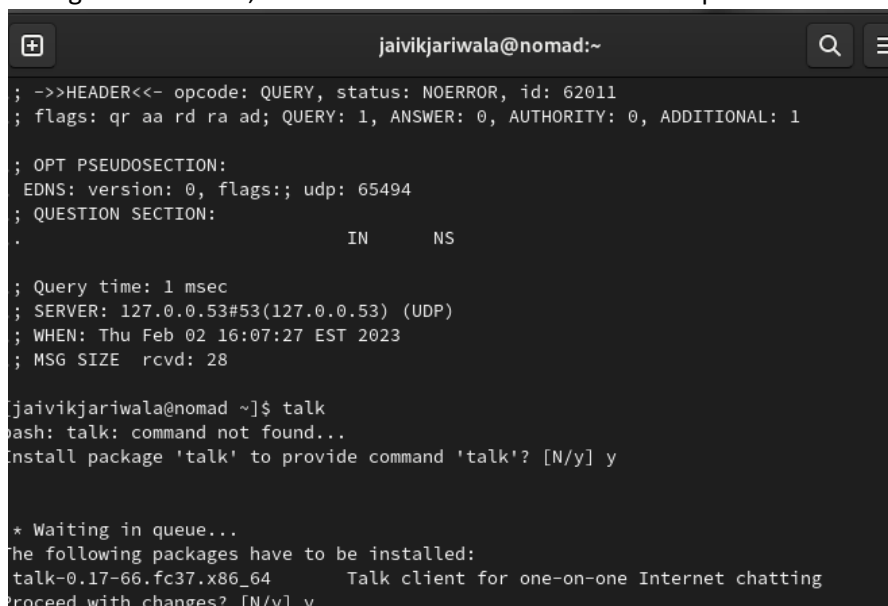
; <<>> DiG 9.18.7 <<>>
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: SERVFAIL, id: 48814
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;                               IN      NS

;; Query time: 4367 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Thu Feb 02 14:26:35 EST 2023
;; MSG SIZE rcvd: 28
```

30. uptime : You have just connected to your Linux Server Machine and founds Something unusual or malicious, what you will do? Guessing.... NO, definitely not you could run uptime to verify what happened actually when the server was unattended.

31. wall : one of the most important command for administrator, wall sends a message to everybody logged in with their mesg permission set to “yes”. The message can be given as an argument to wall, or it can be sent to wall’s standard input.



```
jaivikjariwala@nomad:~$ talk
bash: talk: command not found...
install package 'talk' to provide command 'talk'? [N/y] y

* Waiting in queue...
the following packages have to be installed:
talk-0.17-66.fc37.x86_64      Talk client for one-on-one Internet chatting
proceed with changes? [N/y] y
```

32. **mesg** : Lets you control if people can use the “write” command, to send text to you over the screen.

```
jaivikjariwala@nomad:~  
[jaivikjariwala@nomad ~]$ mesg  
is y  
[jaivikjariwala@nomad ~]$
```

33. **write** : Let you send text directly to the screen of another Linux machine if ‘mesg’ is ‘y’.

```
jaivikjariwala@nomad ~]$ write  
Try 'write --help' for more information.  
jaivikjariwala@nomad ~]$ write wolf1  
write: wolf1 is not logged in
```

34. **talk** : An enhancement to write command, talk command lets you talk to the logged in users.

```
jaivikjariwala@nomad:~ — bash  
[jaivikjariwala@nomad ~]$ talk  
bash: talk: command not found...
```

35. **w** : what command ‘w’ seems you funny? But actually it is not. t’s a command, even if it’s just one letter long! The command “w” is a combination of uptime and who commands given one immediately after the other, in that order.

36. **rename** : As the name suggests, this command rename files. rename will rename the specified files by replacing the first occurrence from the file name.

```
jaivikjariwala@nomad:~  
[jaivikjariwala@nomad ~]$ free  
              total        used        free       shared  buff/cache   available  
Mem:          15989212     1264344     12430512        405872        2294356        14003804  
Swap:           8388604           0         8388604  
[jaivikjariwala@nomad ~]$ w  
14:23:04 up 7 min,  1 user,  load average: 0.32, 0.44, 0.24  
USER      TTY      LOGIN@  IDLE   JCPU   PCPU   WHAT  
jaivikja  tty2      14:16   7:48   0.02s  0.02s  /usr/libexec/gnome-session-bina  
[jaivikjariwala@nomad ~]$
```

37. **free** : Keeping track of memory and resources is as much important, as any other task performed by an administrator, and ‘free’ command comes to rescue here.

```
jaivikjariwala@nomad:~  
[jaivikjariwala@nomad ~]$ free  
              total        used        free       shared  buff/cache   available  
Mem:          15989212     1264344     12430512        405872        2294356        14003804  
Swap:           8388604           0         8388604  
[jaivikjariwala@nomad ~]$
```