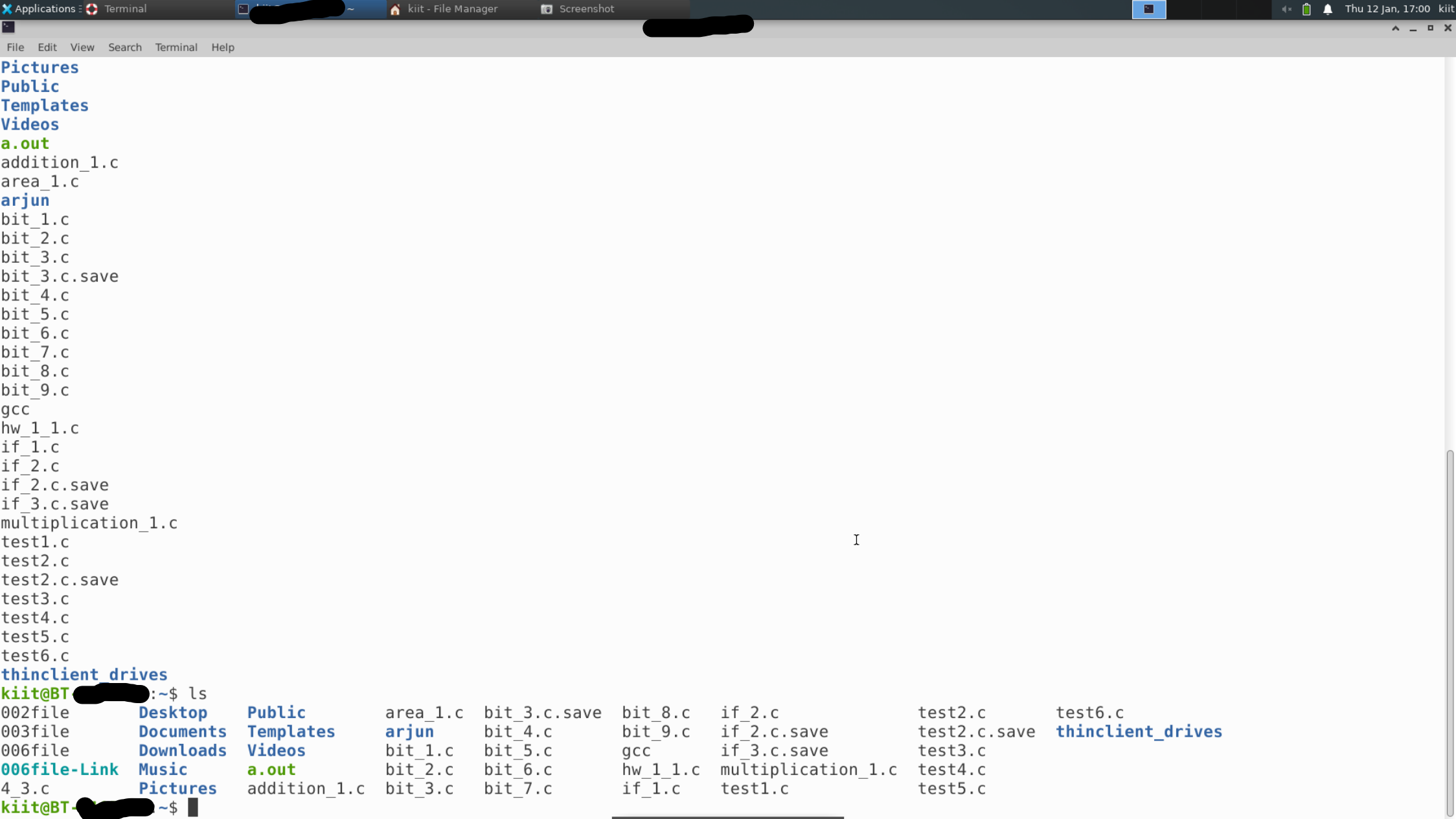1. **ls** - The most frequently used command in Linux to list directories
2. **pwd** - Print working directory command in Linux
3. **cd** - Linux command to navigate through directories
4. **mkdir** - Command used to create directories in Linux
5. **mv** - Move or rename files in Linux
6. **cp** - Similar 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

File Edit View Search Terminal Help

```
kiit@BT-       :~$ 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-       :~$ pwd
/home/kiit
kiit@BT-       :~$ cd 002file
bash: cd: 002file: Not a directory
kiit@BT-       :~$ cd Downloads
kiit@BT-       :~/Downloads$ cd ..
kiit@BT-       :~$ mkdir arjun
kiit@BT-       :~$ cp 002file 004file
kiit@BT-       :~$ 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-       :~$ mv 004file 005file
kiit@BT-       :~$ 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-       :~$ rm 005file
kiit@BT-       :~$ touch 006file
kiit@BT-       :~$ 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-       :~$ ln -s 006file 006file-Link
kiit@BT-       :~$ ls -1
002file
003file
006file
006file-Link
4_3.c
Desktop
Documents
```

File Edit View Search Terminal Help

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   :~$ 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-   ~$

```
File  Edit  View  Search  Terminal  Help
kiit@BT-        :~$ 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-        :~$ cat 002file
Kalinga Institute of Industrial technologykiit@BT-2105358:~$ echo OP
OP
kiit@BT-        :~$ cat > 002file
hellokiit@BT-       :~$ cat 002file
hellokiit@BT-        :~$ cat >> 002file
, how are u doingkiit@BT-        :~$ cat002file
cat002file: command not found
kiit@BT-        :~$ cat 002file
hello, how are u doingkiit@BT-        :~$ whatis ls
ls (1)              - list directory contents
kiit@BT-        :~$ 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-        :~$ whoami
kiit
kiit@BT-        :~$ tar -cvf Compress.tar 006file 006file-Link
006file
006file-Link
kiit@BT-2105358:~$ tar -xvf Compress.tar
006file
006file-Link
kiit@BT-        :~$ 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-        :~$ zip Sample.zip 006file 006file-Link

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

sudo apt install zip

kiit@BT-        :~$ sudo apt install zip
```

File   Edit   View   Search   Terminal   Help

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

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

sudo apt install net-tools

kiit@BT-███████:~$ 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) ...
```

File Edit View Search Terminal Help

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

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

sudo apt install net-tools

kiit@BT-      ~$ 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-      ~$ 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-      ~$
```

kiit@BT-2105358: ~

File Edit View Search Terminal Help

```
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-        ~$ 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-        ~$ 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-        ~$ 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-        ~$ date
Thu Jan 12 17:22:10 IST 2023
kiit@BT-        ~$ 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-        ~$ alias ls ="l"
alias ls='ls --color=auto'
bash: alias: =l: not found
kiit@BT-        ~$ 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-        ~$ whereis sudo
sudo: /usr/bin/sudo /usr/lib/sudo /usr/share/man/man8/sudo.8.gz
kiit@BT-        ~$
```
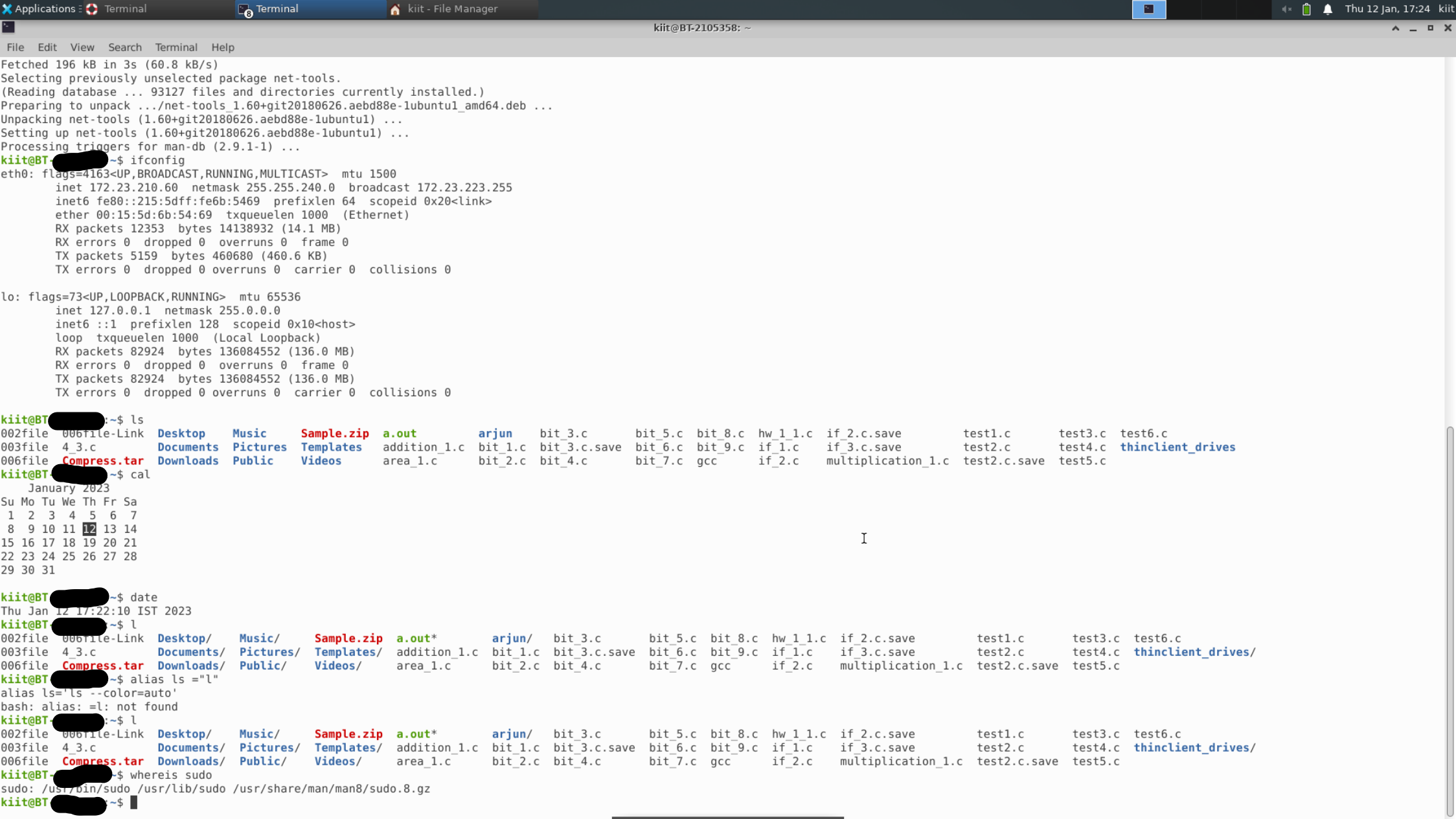
```
top - 17:25:14 up  3:05,  0 users,  load average: 1.59, 0.50, 0.18
Tasks:  68 total,   1 running,  67 sleeping,   0 stopped,   0 zombie
%Cpu(s):  4.4 us,  0.5 sy,  0.0 ni, 94.9 id,  0.0 wa,  0.0 hi,  0.1 si,  0.0 st
MiB Mem :   7632.9 total,   6172.5 free,    719.4 used,    741.0 buff/cache
MiB Swap:   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
```