



LNJN National Institute Of Criminology  
And Forensic Science



NATIONAL FORENSICS SCIENCE UNIVERSITY



PYTHON AND SCRIPTING

SUBJECT CODE: CTMSDFIS S1 P4

SUBMITTED BY

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ROLL No. :

M.SC. DIGITAL FORENSICS AND INFORMATION SECURITY

# LAB 04

15-09-2022

**AIM:** Practical on package management, Storage and networking using BASH shell.

**SOFTWARE REQUIRED:** UBUNTU OS.

**INTRODUCTION:** Ubuntu is a Linux distribution based on Debian and composed mostly of free and open-source software. Ubuntu is officially released in three editions: Desktop, Server, and Core for Internet of things devices and robots. All the editions can run on the computer alone, or in a virtual machine.

*“Bash is a Unix shell and command language written by Brian Fox for the GNU Project as a free software replacement for the Bourne shell. First released in 1989, it has been used as the default login shell for most Linux distributions. Bash was one of the first programs Linus Torvalds ported to Linux, alongside GCC.”*

# UBUNTU COMMANDS

- **Package Management**

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu 15 Sep 2022 09:03:54 AM EDT
root@kali:~# sudo apt update
Get:1 http://kali.download/kali kali-rolling InRelease [30.6 kB]
Get:2 http://kali.download/kali kali-rolling/contrib Sources [73.0 kB]
Get:3 http://kali.download/kali kali-rolling/main Sources [14.8 MB]
Get:4 http://kali.download/kali kali-rolling/non-free Sources [129 kB]
Get:5 http://kali.download/kali kali-rolling/main amd64 Packages [18.3 MB]
Get:6 http://kali.download/kali kali-rolling/main i386 Packages [18.1 MB]
Get:7 http://kali.download/kali kali-rolling/main i386 Contents (deb) [41.5 MB]
Get:8 http://kali.download/kali kali-rolling/main amd64 Contents (deb) [42.7 MB]
Get:9 http://kali.download/kali kali-rolling/non-free i386 Packages [180 kB]
Get:10 http://kali.download/kali kali-rolling/non-free amd64 Packages [221 kB]
Get:11 http://kali.download/kali kali-rolling/non-free amd64 Contents (deb) [897 kB]
Get:12 http://kali.download/kali kali-rolling/non-free i386 Contents (deb) [846 kB]
Get:13 http://kali.download/kali kali-rolling/contrib i386 Packages [96.7 kB]
Get:14 http://kali.download/kali kali-rolling/contrib amd64 Packages [109 kB]
Get:15 http://kali.download/kali kali-rolling/contrib amd64 Contents (deb) [158 kB]
Get:16 http://kali.download/kali kali-rolling/contrib i386 Contents (deb) [128 kB]
Fetched 138 MB in 49s (2,827 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
2254 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@kali:~#

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu 15 Sep 2022 09:06:25 AM EDT
root@kali:~# apt search firefox
Sorting... Done
Full Text Search... Done
amule-gnome-support/kali-rolling,kali-rolling 1:2.3.3-2 all
  ed2k links handling support for GNOME web browsers

bleachbit/kali-rolling,kali-rolling 4.4.2-1 all
  delete unnecessary files from the system

buku/kali-rolling,kali-rolling 4.6+ds-1 all
  Powerful command-line bookmark manager

cbindgen/kali-rolling 0.24.3-1 amd64
  Generates C bindings from Rust code

chrome-gnome-shell/kali-rolling,kali-rolling 10.1-5 all
  GNOME Shell extensions integration for web browsers

dh-cargo/kali-rolling,kali-rolling 28 all
  debhelper buildsystem for Rust crates using Cargo

dumpzilla/kali-rolling,kali-rolling 20180324-0kali1 all
  Mozilla browser forensic tool

elpa-atomic-chrome/kali-rolling,kali-rolling 2.0.0-3 all
  edit a web-browser text entry area with Emacs

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu 15 Sep 2022 09:07:34 AM EDT
root@kali:~# sudo apt install cmatrix
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libapt-pkg-perl libexporter-tiny-perl liblist-moreutils-perl liblist-moreutils-xs-perl libregexp-assemble-perl
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  cmatrix-xfont
The following NEW packages will be installed:
  cmatrix
0 upgraded, 1 newly installed, 0 to remove and 2254 not upgraded.
Need to get 17.5 kB of archives.
After this operation, 53.2 kB of additional disk space will be used.
Get:1 http://kali.download/kali kali-rolling/main amd64 cmatrix amd64 2.0-3 [17.5 kB]
Fetched 17.5 kB in 6s (3,061 B/s)
Selecting previously unselected package cmatrix.
(Reading database ... 334717 files and directories currently installed.)
Preparing to unpack .../cmatrix_2.0-3_amd64.deb ...
Unpacking cmatrix (2.0-3) ...
Setting up cmatrix (2.0-3) ...
Processing triggers for kali-menu (2020.2.1) ...
Processing triggers for desktop-file-utils (0.24-1) ...
Processing triggers for mime-support (3.64) ...
Processing triggers for man-db (2.9.1-1) ...
root@kali:~# cmatrix

```

```

      8  > 0 - b
      Z  *  P %
      %  j  P 5
      R l  R l , v
      . 4  M J &
      %  S ;
      Y f j [ * l @
      * j  " u (
      e c  v @ S Q
      # g  h c M
      I %  " , V
      v T  a 4 H @
      ) 0  g < . o F
      * -  ^ S D I "
      # w  ) ( < G 5 y
      ) ^  a @ L b d
      @ #  < S L V e
      * U  h $ K E
      d U  H : C c
      e V  b K a y
      < ,  J q s
      ? B g e ? G
      E X ; o P
      L V  U / Y 9
      1  l 5 e L

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu 15 Sep 2022 09:11:24 AM EDT
root@kali:~# sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libapt-pkg-perl libexporter-tiny-perl liblist-moreutils-perl liblist-moreutils-xs-perl libregexp-assemble-perl
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1 libcb-bin libc-dev-bin libc-l10n libc6 libc6:i386 libc6-dbg libc6-dev libc6-i386 l
  libgnutls30:i386 libjansson4 libldap-2.5-0 libnsl-dev libnsl2 libnsl2:i386 libnsl2-modules libnsl2-modules:i386
  libtirpc-common libtirpc-dev libtirpc3 locales rpcsvc-proto
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom libc-dev libc6-dev libc6-i386 libc6-dbg libc6-dev libc6-i386 l
  gnutls-bin:i386 libnsl2-modules-gssapi-mit | libnsl2-modules-gssapi-heimdal libnsl2-modules-ldap libnsl2-modules-otp libnsl
  | libnsl2-modules-gssapi-heimdal:i386 libnsl2-modules-ldap:i386 libnsl2-modules-otp:i386 libnsl2-modules-sql:i386
Recommended packages:
  manpages-dev libc-devtools
The following NEW packages will be installed:
  libldap-2.5-0 libnsl-dev libnsl2 libss3 libss3:i386 libtirpc-dev rpcsvc-proto
The following packages will be upgraded:
  apache2 apache2-bin apache2-data apache2-utils libapr1 libc-bin libc-dev-bin libc-l10n libc6 libc6:i386 libc6-dbg libc6-dev libc
  libgnutls30 libgnutls30:i386 libjansson4 libnsl2 libnsl2-2:i386 libnsl2-modules libnsl2-modules:i386 libnsl2-modules-db l
  30 upgraded, 7 newly installed, 0 to remove and 2224 not upgraded.

```



- Storage command / damage disk

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:03:14 AM EDT 2022
root@kali:~# sudo apt autoremove
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages will be REMOVED:
  libapt-pkg-perl libexporter-tiny-perl liblist-moreutils-perl liblist-moreutils-xs-perl libregexp-assembly-perl
0 upgraded, 0 newly installed, 5 to remove and 2238 not upgraded.
After this operation, 809 kB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 336980 files and directories currently installed.)
Removing libapt-pkg-perl (0.1.39) ...
Removing liblist-moreutils-perl (0.430-2) ...
Removing libexporter-tiny-perl (1.002002-1) ...
Removing liblist-moreutils-xs-perl (0.430-2) ...
Removing libregexp-assembly-perl (0.36-1.1) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for kali-menu (2020.2.1) ...
root@kali:~#
```

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:06:22 AM EDT 2022
root@kali:~# sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  android-libbct1 bsdmainutils crda cryptsetup-run fastjar gir1.2-gst-plugins-base-1.0 gir1.2-gst-
  libavcodec58:i386 libavresample4 libavresample4:i386 libavutil56:i386 libcapstone3 libcbor0 lib
  libgdk-pixbuf-xlib-2.0-0:i386 libgdk-pixbuf2.0-0:i386 libgeos-3.8.1 libglib2.0-bin libgsf-1-114
  libidn11 libigdgmm11 libigdgmm11:i386 libilmbase24 libisl10 libjs-uglify libjsoncpp1 libllvm10:
  libpgm-5.2-0 libplymouth4 libradare2-4.3.1 libreadline6 librest-0.7-0 libssl1.0.2 libswresample
  libx265-192:i386 libxcb-util0 lua-bitop lua-cjson ocaml-base-nox perl-modules-5.32 php7.4-commo
  python-gobject-2 python-gtk2 python-gtksourceview2 python-numpy python3-babel python3-chameleon
  python3-singledispatch python3-stem python3-twisted-bin python3-waitress python3-webtest python
  ruby-chunky-png ruby-connection-pool ruby-molinillo ruby-net-http-persistent ruby-rqrcode ruby-
  xfce4-statusnotifier-plugin xfce4-weather-plugin
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  bsdextrautils cpp-11 cpp-12 cron-daemon-common dbus-bin dbus-daemon dbus-session-bus-common dbu
  fonts-texgyre g++-12 g++-mingw-w64-i686-posix g++-mingw-w64-i686-win32 g++-mingw-w64-x86_64-pos
  gcc-mingw-w64-i686-posix-runtime gcc-mingw-w64-i686-win32 gcc-mingw-w64-i686-win32-runtime gcc-
  gcc-mingw-w64-x86_64-win32-runtime gfortran-mingw-w64-i686-posix gfortran-mingw-w64-i686-win32
  gnat-mingw-w64-i686-posix gnat-mingw-w64-i686-win32 gnat-mingw-w64-x86_64-posix gnat-mingw-w64-
```

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:07:37 AM EDT 2022
root@kali:~# df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev            1501004        0   1501004    0% /dev
tmpfs           306812        912    305900    1% /run
/dev/sda1       29799396 22970236   5292392   82% /
tmpfs           1534048    66464   1467584    5% /dev/shm
tmpfs           5120          0      5120    0% /run/lock
tmpfs           1534048          0   1534048    0% /sys/fs/cgroup
tmpfs           306808          8    306800    1% /run/user/0
root@kali:~#
```

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:08:17 AM EDT 2022
root@kali:~# du -s
4495332 .
```

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:09:44 AM EDT 2022
root@kali:~# sudo fdisk -l
Disk /dev/sda: 32 GiB, 34359738368 bytes, 67108864 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0xa3a25c43

Device      Boot      Start      End  Sectors  Size Id Type
/dev/sda1   *          2048 60817407 60815360  29G 83 Linux
/dev/sda2             60819454 67106815 6287362    3G  5 Extended
/dev/sda5             60819456 67106815 6287360    3G 82 Linux swap / Solaris
root@kali:~#
```

```
root@kali:~# sudo fdisk -l /dev/sda
Disk /dev/sda: 32 GiB, 34359738368 bytes, 67108864 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0xa3a25c43

Device      Boot      Start      End  Sectors  Size Id Type
/dev/sda1   *          2048 60817407 60815360  29G 83 Linux
/dev/sda2             60819454 67106815 6287362    3G  5 Extended
/dev/sda5             60819456 67106815 6287360    3G 82 Linux swap / Solaris
root@kali:~#
```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:11:34 AM EDT 2022
root@kali:~# sudo fdisk /dev/sda

Welcome to fdisk (util-linux 2.34).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

0 upgraded, 1 newly installed, 0 to remove and 2254 not upgraded.
3.2 kB of additional disk space will be used.
Command (m for help): m

Help:
DOS (MBR)
a toggle a bootable flag
b edit nested BSD disklabel
c toggle the dos compatibility flag

Generic
d delete a partition
F list free unpartitioned space
l list known partition types
n add a new partition
p print the partition table
t change a partition type
v verify the partition table
i print information about a partition

Misc
m print this menu
u change display/entry units
x extra functionality (experts only)

Script
I load disk layout from sfdisk script file
O dump disk layout to sfdisk script file

Save & Exit
w write table to disk and exit
q quit without saving changes

Create a new label
g create a new empty GPT partition table
G create a new empty SGI (IRIX) partition table
o create a new empty DOS partition table
s create a new empty Sun partition table

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:13:42 AM EDT 2022
root@kali:~# sudo mkfs.vfat /dev/sda1
mkfs.fat 4.1 (2017-01-24)
mkfs.vfat: /dev/sda1 contains a mounted filesystem.

```



```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:23:43 AM EDT 2022
root@kali:~# umount /dev/sda
sda  sda1  sda2  sda5
root@kali:~# umount /dev/sda1
umount: /: target is busy.
root@kali:~# umount -f /dev/sda1
umount: /: target is busy.
root@kali:~# umount -l /dev/sda1
root@kali:~#

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:25:29 AM EDT 2022
root@kali:~# fsck /dev/sda1
fsck from util-linux 2.34
e2fsck 1.45.6 (20-Mar-2020)
ext2fs_check_if_mount: Can't check if filesystem is mounted due to missing mtab file while determining whether /dev/sda1 is mounted.
fsck.ext2: No such file or directory while trying to open /dev/sda1
Possibly non-existent device?

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 10:20:56 AM EDT 2022
root@kali:~# fsck /dev/sda
sda  sda1  sda2  sda5
root@kali:~# fsck /dev/sda1
fsck from util-linux 2.34
e2fsck 1.45.6 (20-Mar-2020)
/dev/sda1 is mounted.
e2fsck: Cannot continue, aborting.

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 12:25:24 PM EDT 2022
root@kali:~# lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
sda   8:0    0  32G  0 disk
├─sda1 8:1    0  29G  0 part /
├─sda2 8:2    0   1K  0 part
└─sda5 8:5    0   3G  0 part [SWAP]
sr0   11:0   1 1024M  0 rom
root@kali:~#

```



- **Networking Commands**

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 12:27:47 PM EDT 2022
root@kali:~# hostname -i
127.0.1.1
root@kali:~# █
```

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 12:27:18 PM EDT 2022
root@kali:~# ifconfig -a
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.6 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::a00:27ff:fee3:2815 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:e3:28:15 txqueuelen 1000 (Ethernet)
    RX packets 7 bytes 1480 (1.4 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 38 bytes 3317 (3.2 KiB)
    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 12 bytes 556 (556.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12 bytes 556 (556.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@kali:~# █
```

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 12:28:56 PM EDT 2022
root@kali:~# ifconfig eth0
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.6 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::a00:27ff:fee3:2815 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:e3:28:15 txqueuelen 1000 (Ethernet)
    RX packets 7 bytes 1480 (1.4 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 38 bytes 3317 (3.2 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 12:30:28 PM EDT 2022
root@kali:~# sudo ifup lo
ifup: interface lo already configured
root@kali:~# sudo ifdown lo
root@kali:~# █
```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:05:57 PM EDT 2022
root@kali:~# wget https://www.amazon.in
--2022-09-15 13:06:03-- https://www.amazon.in/
Resolving www.amazon.in (www.amazon.in)... 23.215.197.66, 2606:2cc0:476, 2606:2cc0:1::476, ...
Connecting to www.amazon.in (www.amazon.in)[23.215.197.66]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html                                     [ 338.59K  106KB/s   in 3.2s

2022-09-15 13:06:07 (106 KB/s) - 'index.html' saved [346720]

root@kali:~#

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:06:37 PM EDT 2022
root@kali:~# nslookup www.google.com
Server:      192.168.43.1
Address:     192.168.43.1#53

Non-authoritative answer:
Name:   www.google.com
Address: 142.250.194.132
Name:   www.google.com
Address: 2404:6800:4009:831::2004

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:07:27 PM EDT 2022
root@kali:~# netstat -a
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 0.0.0.0:ssh             0.0.0.0:*               LISTEN
tcp6       0      0 :::ssh                 :::*                   LISTEN
udp        0      0 10.0.2.6:bootpc        10.0.2.3:bootps        ESTABLISHED
raw6       0      0 :::ipv6-icmp           :::*                   7

Active UNIX domain sockets (servers and established)
Proto RefCnt Flags               Type           State         I-Node   Path
unix   2      [ ACC ] STREAM          LISTENING      19135     /tmp/.X11-unix/X0
unix   2      [ ACC ] STREAM          LISTENING      21357     @/tmp/.ICE-unix/1383
unix   2      [ ACC ] STREAM          LISTENING      22290     /tmp/ssh-UN0mEnpApp3E/agent.1383
unix   2      [ ACC ] STREAM          LISTENING      21358     /tmp/.ICE-unix/1383
unix   2      [ ACC ] STREAM          LISTENING      19134     @/tmp/.X11-unix/X0
unix   2      [ ]       DGRAM           18304        /run/user/0/systemd/notify
unix   2      [ ACC ] STREAM          LISTENING      18308     /run/user/0/systemd/private
unix   2      [ ACC ] STREAM          LISTENING      18314     /run/user/0/bus
unix   2      [ ACC ] STREAM          LISTENING      18317     /run/user/0/gnupg/S.dirmngr
unix   2      [ ACC ] STREAM          LISTENING      18319     /run/user/0/gnupg/S.gpg-agent.browser
unix   2      [ ACC ] STREAM          LISTENING      18321     /run/user/0/gnupg/S.gpg-agent.extra
unix   2      [ ACC ] STREAM          LISTENING      18323     /run/user/0/gnupg/S.gpg-agent.ssh
unix   2      [ ACC ] STREAM          LISTENING      18325     /run/user/0/gnupg/S.gpg-agent
unix   2      [ ACC ] STREAM          LISTENING      18327     /run/user/0/pulse/native
unix   2      [ ACC ] STREAM          LISTENING      18410     @/tmp/dbus-fYL5LdBp6h
unix   3      [ ]       DGRAM           12718       /run/systemd/notify
unix   2      [ ACC ] STREAM          LISTENING      12722     /run/systemd/private
unix   2      [ ACC ] STREAM          LISTENING      12726     /run/systemd/userdb/io.systemd.DynamicUser
unix   2      [ ACC ] STREAM          LISTENING      17853     /run/systemd/journal/io.systemd.journal
unix   2      [ ]       DGRAM           12738     /run/systemd/journal/syslog
unix   2      [ ACC ] STREAM          LISTENING      12742     /run/systemd/fsck.progress
unix   12     [ ]       DGRAM           12750     /run/systemd/journal/dev-log

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:08:10 PM EDT 2022
root@kali:~# netstat -g
IPv6/IPv4 Group Memberships
Interface      RefCnt Group
-----
lo              1      all-systems.mcast.net
eth0            1      all-systems.mcast.net
lo              1      ip6-allnodes
lo              1      ff01::1
eth0            1      ff02::1:ffe3:2815
eth0            1      ip6-allnodes
eth0            1      ff01::1
root@kali:~# █

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:08:34 PM EDT 2022
root@kali:~# netstat -at
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp      0      0 0.0.0.0:ssh              0.0.0.0:*                LISTEN
tcp6     0      0 [::]:ssh                [::]:*                  LISTEN
root@kali:~# █

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:09:11 PM EDT 2022
root@kali:~# ip address
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 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:e3:28:15 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.6/24 brd 10.0.2.255 scope global dynamic noprefixroute eth0
        valid_lft 319sec preferred_lft 319sec
    inet6 fe80::a00:27ff:fee3:2815/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
root@kali:~# █

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:09:42 PM EDT 2022
root@kali:~# ip a
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 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:e3:28:15 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.6/24 brd 10.0.2.255 scope global dynamic noprefixroute eth0
        valid_lft 587sec preferred_lft 587sec
    inet6 fe80::a00:27ff:fee3:2815/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
root@kali:~# █

```



```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:10:11 PM EDT 2022
root@kali:~# ping google.com
PING google.com (142.250.183.78) 56(84) bytes of data.
64 bytes from bom12s12-in-f14.1e100.net (142.250.183.78): icmp_seq=1 ttl=115 time=190 ms
64 bytes from bom12s12-in-f14.1e100.net (142.250.183.78): icmp_seq=2 ttl=115 time=113 ms
64 bytes from bom12s12-in-f14.1e100.net (142.250.183.78): icmp_seq=3 ttl=115 time=90.9 ms
64 bytes from bom12s12-in-f14.1e100.net (142.250.183.78): icmp_seq=4 ttl=115 time=100 ms
64 bytes from bom12s12-in-f14.1e100.net (142.250.183.78): icmp_seq=5 ttl=115 time=222 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4008ms
rtt min/avg/max/mdev = 90.922/143.248/221.946/52.802 ms
root@kali:~# █

```

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root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:13:48 PM EDT 2022
root@kali:~# traceroute www.google.com
traceroute to www.google.com (142.250.195.4), 30 hops max, 60 byte packets
 1  10.0.2.1 (10.0.2.1)  0.618 ms  0.725 ms  0.458 ms
 2  * * *
 3  * * *
 4  * * *
 5  * * *
 6  * * *
 7  * * *
 8  * * *
 9  * * *
10  * * *
11  * * *
12  * *^C
root@kali:~# █

```

```

root@kali:~# echo "Lab 4 Shubhang Gupta $(date)"
Lab 4 Shubhang Gupta Thu Sep 15 01:15:02 PM EDT 2022
root@kali:~# curl https://www.flipkart.com/ > flipkart.html
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           % Done    0     0     0    188k      0 --:--:--  0:00:04 --:--:-- 189k
root@kali:~# head flipkart.html
<!doctype html><html lang="en"><head><link href="https://rukminim1.flixcart.com" rel="preconnect"/><link rel="st
nk.905c37.css"/><link rel="stylesheet" href="//static-assets-web.flixcart.com/fk-p-linchpin-web/fk-cp-zion/css/a
ttp-equiv="X-UA-Compatible" content="IE=Edge"/><meta property="fb:page_id" content="102988293558"/><meta propert
><link rel="shortcut icon" href="https://static-assets-web.flixcart.com/www/promos/new/20150528-140547-favicon-r
><meta property="og:type" content="website"/><meta name="og_site_name" property="og:site_name" content="Flipkart
apple-touch-icon" sizes="72x72" href="/apple-touch-icon-72x72.png"/><link rel="apple-touch-icon" sizes="114x114"
touch-icon-144x144.png"/><link rel="apple-touch-icon" href="/apple-touch-icon-57x57.png"/><meta name="twitter:ca
ent="@flipkart"><meta name="twitter:title" content="Online Shopping Site for Mobiles, Electronics, Furniture, Gr

```