

1. Objective:

Steps to Complete the Task:

- Download the Kali Linux ISO from the official website: **Kali Linux Download**.
- Install Kali Linux either on a physical machine, in a virtual environment (using VMware or VirtualBox), or as a dual boot with another OS.

After installation, we need to make sure to update the system by running:

```

hassnaee@hassnae: ~/Pictures
$ sudo apt update && sudo apt upgrade -y

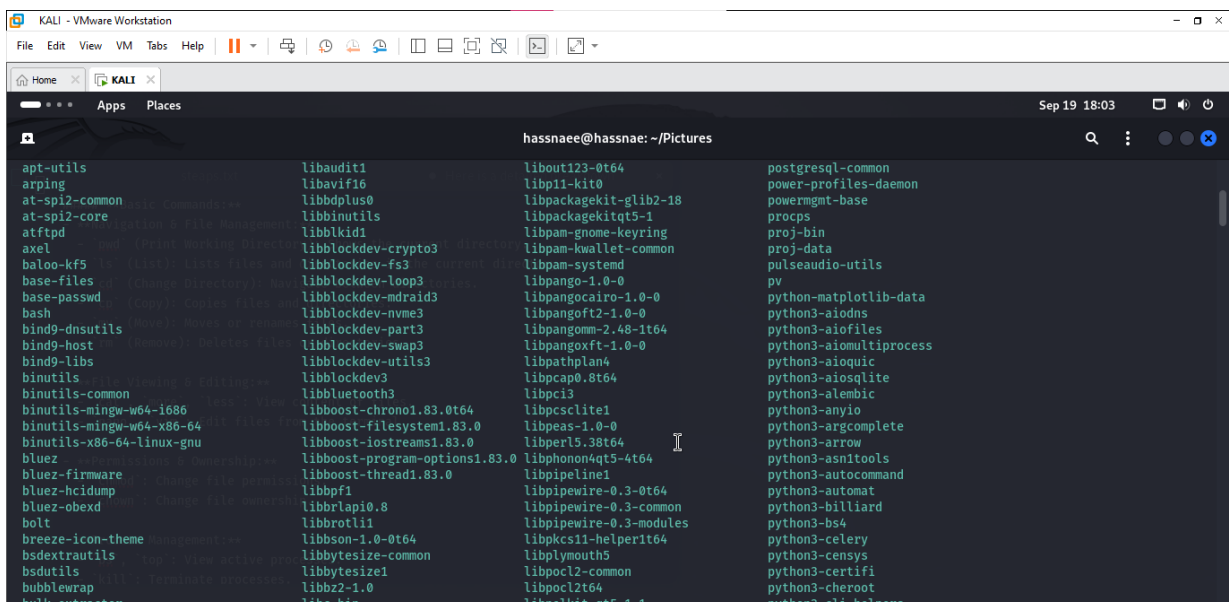
[sudo] password for hassnaee:
Get:1 http://kali.download/kali kali-rolling InRelease [41.5 kB]
Get:2 http://kali.download/kali kali-rolling/main amd64 Packages [20.1 MB]
Get:3 http://kali.download/kali kali-rolling/main amd64 Contents (deb) [49.1 MB]
Get:4 http://kali.download/kali kali-rolling/contrib amd64 Packages [110 kB]
Get:5 http://kali.download/kali kali-rolling/contrib amd64 Contents (deb) [269 kB]
Fetched 69.6 MB in 1min 25s (935 kB/s)
1660 packages can be upgraded. Run 'apt list --upgradable' to see them.

The following packages were automatically installed and are no longer required:
 fonts-liberation2 libcephfs2 libglusterfs0 libk5spuisealioqt4 libproxy1-plugin-gsettings libusbmuxd6 python3-pendulum
 gkdb-capplet libdaxctl1 libgnomekbd-common libk5fsmkgui-bin libproxy1-plugin-networkmanager openjdk-17-jdk python3-pytzdata
 ibverbs-providers libdisplay-info1 libgnomekbd8 libindctl6 libproxy1-plugin-webkit openjdk-17-jdk-headless rwho
 kirigami-addons-data libgeos3.12.1t64 liblibverbs1 libplacebo338 librados2 openjdk-17-jre
 libhassnae liblftp0 liblibmbedtls liblpl13 liblvmcmnt64 openjdk-17-jre-headless
 libkfilter9 liblfrp0 libjsoncpp25 liblvm1 liblzo0 libpython3-diskache python3-mistune0
 libboost-iostreams1.83.0 libgfxdr0 libk5iconthemes-bin libpostproc57 libu2f-udev python3-mistune0

Use 'sudo apt autoremove' to remove them.

Upgrading:
7zip libaprutil1t64 libnma0 pipewire-alsa
accountsservice libapt-pkg6.0t64 libnss-myhostname pipewire-audio
adwaita-icon-theme libarchivet1t64 libnss-systemd pipewire-bin
aircrack-ng libbarack2t64 libnss3 pipewire-pulse
alsa-topology-conf libbasan8 libntfs-3g89t64 plasma-firewall
alsa-ucm-conf libbasound2-data libnvm1t64 plasma-framework

```



```
hassnaee@hassnaee: ~/Pictures
libkf5iconthemes5 libqt5waylandclient5 python3-udev-tools python3-pyqt5 qt5-mousetouchwebengine
libkf5iconthemes5 libqt5waylandcomposer5 python3-tables-data python3-pycurl qt5-gtk-platformtheme
libkf5skirigami2-5 libqt5webchannel5 python3 python3-pydatanic qt5-image-formats-plugins
libkf5purpose-bin libqt5webengine-data python3-aiohttp python3-pygame qt5-qt5ct
libkf5purpose5 libqt5webengine5 python3-apt python3-pygraphviz qt6-base-dev-tools
libkf5swallet-bin libqt5webenginecore5 python3-arc4 python3-pylibacl qt6-gtk-platformtheme
libkf5swallet-data libqt5webenginewidgets5 python3-bcrypt python3-pymssql qt6-gpa-plugins
libkf5swallet5 libqt5webkit5 python3-bitstruct python3-pyrsrp qt6-wayland
libkf5swaylandclient5 libqt5webview5 python3-bottleneck python3-pyqt5 qt6ct
libkf5xmlgui5 libqt5widgets5t64 python3-brlapi python3-pyqt5.qtopengl qtbase5-dev-tools
libkf5fontinst5 libqt5x11extras5 python3-brotli python3-pyqt5.sip qtspeech5-speechd-plugin
libkf5fontinstui5 libqt5xml5t64 python3-cairo python3-pyqt6 python3-pyqt6.sip qtwayland5
libksscreenlocker5 libqt6core5compat6 python3-cap-ng python3-pyqt6.sip samba
libkwineffects14 libqt6core6t64 python3-cbor python3-pyxdm samba-common
libkwinglutils14 libqt6dbus6t64 python3-cffi python3-rpds-py python3-rpds-py samba-common-bin
libkworkspaces-5 libqt6gui6t64 python3-cffi-backend python3-ruamel.yaml.clib samba-dsdb-modules
liblayershellqtinterface5 libqt6multimedia6 python3-cffi python3-samba samba-libs
libldb2 libqt6network6t64 python3-contourpy python3-scipy smbclient
libnautilus-extension4 libqt6opengl6t64 python3-cryptography python3-setproctitle sylzye
libnew0.52 libqt6openglwidgets6t64 python3-cups python3-simplejson systemssettings
libnode-dev libqt6printsupport6t64 python3-dbus python3-smbc python3-smbc tshark
libnotificationmanager1 libqt6qml6 python3-dev python3-snappy winexe
libpam-kwallet5 libqt6qmlmodels6 python3-ephem python3-sqlalchemy wirex
libplasma-geolocation-interface5 libqt6quick6 python3-flask-sqlalchemy python3-sqlalchemy-ext wireshark
libpowerdevilcore2 libqt6sql6-sqlite python3-fonttools python3-tables wireshark-common
libpowerdevilui5 libqt6sql6t64 python3-frozenset python3-tables-lib xdg-desktop-portal-kde
libpython3-dev libqt6svg6 python3-fuse python3-tallic python3-tallic
libpython3-stdlib libqt6test6t64 python3-gdal python3-tdb
```

2. Practice Basic to Advanced Linux Commands:

We start by familiarizing with essential Linux commands. Here are categories of commands that we should practice:

Basic Commands:

- **Navigation & File Management:**
 - pwd (Print Working Directory): Shows the current directory.
 - ls (List): Lists files and directories in the current directory.
 - cd (Change Directory): Navigate between directories.
 - cp (Copy): Copies files and directories.
 - mv (Move): Moves or renames files.
 - rm (Remove): Deletes files or directories.
- **File Viewing & Editing:**
 - cat, more, less: View content of files.
 - nano, vim: Edit files from the terminal.
- **Permissions & Ownership:**
 - Chmod: Change file permissions.
 - Chown: Change file ownership.
- **Process Management:**
 - ps, top: View active processes.
 - Kill: Terminate processes.

Intermediate Commands:

- **Networking:**
 - ifconfig or ip a: Check network configuration.
 - ping: Test network connectivity.
 - netstat: Check open ports and network connections.
- **System Information:**
 - df -h: Check disk space usage.
 - free -h: Check memory usage.
 - uname -a: View system information.
- **Archiving & Compression:**
 - tar, gzip, gunzip: Archive and compress files.

Advanced Commands:

- **Scripting:**
 - Write and execute simple shell scripts (.sh).
- **Firewall & Security:**
 - ufw: Manage the firewall.
 - iptables: Advanced network traffic control.
- **User Management:**
 - useradd, passwd, usermod, userdel: Manage users.
 - groupadd, groupdel, gpasswd: Manage groups.

```
hassnaee@hassnae: ~  
$ ls  
Desktop  Downloads  Pictures  Templates  captured_packets.pcap  'sniffer (1).py'  sniffer.zip  spotbugs-4.7.3.tgz  
Documents  Music  Public  Videos  captured_packets.zip  sniffer.py  sniffer_assignment.zip  spotbugs-4.7.3.tgz.1  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer (1).py  
rm: cannot remove 'sniffer': No such file or directory  
rm: cannot remove '(1).py': No such file or directory  
  
(hassnaee@hassnae)-[~]  
$ sudo rm sniffer (1).py  
[sudo] password for hassnaee:  
rm: cannot remove 'sniffer': No such file or directory  
rm: cannot remove '(1).py': No such file or directory  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer (1).py  
rm: cannot remove 'sniffer': No such file or directory  
rm: cannot remove '(1).py': No such file or directory  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer_assignment.zip  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer.zip
```

```
hassnaee@hassnae: ~  
$ rm sniffer_assignment.zip  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer.zip  
  
(hassnaee@hassnae)-[~]  
$ rm spotbugs-4.7.3.tgz  
  
(hassnaee@hassnae)-[~]  
$ rm spotbugs-4.7.3.tgz.1  
  
(hassnaee@hassnae)-[~]  
$ rm captured_packets.pcap  
rm: remove write-protected regular file 'captured_packets.pcap'? yes  
  
(hassnaee@hassnae)-[~]  
$ rm captured_packets.zip  
  
(hassnaee@hassnae)-[~]  
$ rm spotbugs-4.7.3.tgz.1  
rm: cannot remove 'spotbugs-4.7.3.tgz.1': No such file or directory  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer.zip  
rm: cannot remove 'sniffer.zip': No such file or directory
```

```
hassnaee@hassnae: ~  
$ rm spotbugs-4.7.3.tgz.1  
  
(hassnaee@hassnae)-[~]  
$ rm captured_packets.pcap  
rm: remove write-protected regular file 'captured_packets.pcap'? yes  
  
(hassnaee@hassnae)-[~]  
$ rm captured_packets.zip  
  
(hassnaee@hassnae)-[~]  
$ rm spotbugs-4.7.3.tgz.1  
rm: cannot remove 'spotbugs-4.7.3.tgz.1': No such file or directory  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer.zip  
rm: cannot remove 'sniffer.zip': No such file or directory  
  
(hassnaee@hassnae)-[~]  
$ ls  
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos  'sniffer (1).py'  sniffer.py  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer.py  
  
(hassnaee@hassnae)-[~]  
$ rm sniffer (1).py
```

```
hassnaee@hassnae: ~  
$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos 'sniffer (1).py' sniffer.py  
$ rm sniffer.py  
rm: cannot remove 'sniffer': No such file or directory  
rm: cannot remove '(1).py': No such file or directory  
$ rm 'sniffer (1).py'  
rm: cannot remove 'sniffer (1).py': No such file or directory  
$ cd Desktop  
$ ls  
$ cd ..
```

```
hassnaee@hassnae: ~/Desktop/test  
$ ls -la  
total 144  
drwxr-xr-x 16 hassnaee hassnaee 4096 Sep 19 18:21 .  
drwxr-xr-x  3 root      root      4096 Aug 18 17:18 ..  
-rw-r--r--  1 hassnaee hassnaee 220 Aug 18 17:18 .bash_logout  
-rw-r--r--  1 hassnaee hassnaee 5689 Aug 21 17:49 .bashrc  
-rw-r--r--  1 hassnaee hassnaee 3526 Aug 18 17:18 .bashrc.original  
drwxrwxr-x 13 hassnaee hassnaee 4096 Aug 18 17:39 .cache  
drwxr-xr-x 19 hassnaee hassnaee 4096 Sep 19 16:05 .config  
-rw-r--r--  1 hassnaee hassnaee 11759 Aug 18 17:18 .face  
lrwxrwxrwx  1 hassnaee hassnaee  5 Aug 18 17:18 .face.icon -> .face  
drwxr-xr-x  3 hassnaee hassnaee 4096 Aug 18 17:18 .java  
drwxr-xr-x  4 hassnaee hassnaee 4096 Aug 18 17:21 .local  
drwxr-xr-x  4 hassnaee hassnaee 4096 Aug 18 17:39 .mozilla  
drwxrwxr-x  4 hassnaee hassnaee 4096 Aug 21 17:58 .npm  
-rw-r--r--  1 hassnaee hassnaee 807 Aug 18 17:18 .profile  
-rw-r--r--  1 hassnaee hassnaee 12288 Aug 18 18:26 .sniffer.py.swo  
-rw-r--r--  1 hassnaee hassnaee  0 Aug 18 17:25 .sudo_as_admin_successful  
-rw-r--r--  1 hassnaee hassnaee 7594 Aug 18 18:38 .viminfo  
-rw-rw-r--r  1 hassnaee hassnaee 165 Aug 21 17:31 .wget-hsts  
-rw-r--r--  1 hassnaee hassnaee 9791 Sep 18 16:00 .zsh_history  
-rw-r--r--  1 hassnaee hassnaee 10868 Aug 18 17:18 .zshrc  
drwxr-xr-x  2 hassnaee hassnaee 4096 Aug 18 17:21 Desktop  
drwxr-xr-x  2 hassnaee hassnaee 4096 Aug 18 17:21 Documents  
drwxr-xr-x  2 hassnaee hassnaee 4096 Sep 19 18:02 Downloads  
drwxr-xr-x  2 hassnaee hassnaee 4096 Aug 18 17:21 Music  
drwxr-xr-x  2 hassnaee hassnaee 4096 Aug 18 17:21 Pictures
```

```
hassnaee@hassnae: ~/Desktop/test  
$ cd /dev  
$ ls  
autofs      cpu_dma_latency  hpet      loop2    net      rtc      snd      tty12  tty21  tty30  tty4    tty49  tty58  tty50  vcs2  vcsa5  vga_arbiter  
block       cuse            hugepages loop3    null     rtc0     sr0      tty13  tty22  tty31  tty40  tty5   tty59  tty51  vcs3  vcsa6  vhci  
bsg         disk           hwrng     loop4    nvram    sda      stderr   tty14  tty23  tty32  tty41  tty50  tty6   tty52  vcs4  vcsu   vhost-net  
btfs-control dmide           initctl   loop5    port     sda1     stdin   tty15  tty24  tty33  tty42  tty51  tty60  tty53  vcs5  vcsu1  vhost-vsock  
bus         dri            input     loop6    ppp      sda2     stdout   tty16  tty25  tty34  tty43  tty52  tty61  tty54  vcs6  vcsu2  vmci  
cdrom       fb0            kmsg      loop7    psaux    sda5     tty      tty17  tty26  tty35  tty44  tty53  tty62  tty55  vcsa  vcsu3  vsock  
char        fd             log        loop8    pts      sg1      tty0     tty18  tty27  tty36  tty45  tty54  tty63  tty56  vcsa1 vcsu4  zero  
console     full          loop-control mem       pts      sg1      tty1     tty19  tty28  tty37  tty46  tty55  tty7   userfaultfd vcsa2 vcsu5  
core        fuse          loop0     midi     random   shm      tty10    tty2   tty29  tty38  tty47  tty56  tty8   vcs   vcsa3  vcsu6  
cpu         hidraw0       loop1     from     queue    rfkill   snapshot tty11   tty20  tty3   tty39  tty48  tty57  tty9   vcs1   vcsa4  vfio
```



```
(hassnaee@hassnae)-[~]
$ rmdir test
(hassnaee@hassnae)-[~]
$ cd Desktop
(hassnaee@hassnae)-[~/Desktop]
$ mkdir test
(hassnaee@hassnae)-[~/Desktop]
$ ls
test
```

```
(hassnaee@hassnae)-[~/Desktop]
$ ls
test
(hassnaee@hassnae)-[~/Desktop]
$ mkdir -p test1/testsup
(hassnaee@hassnae)-[~/Desktop]
$ ls
test
test1
(hassnaee@hassnae)-[~/Desktop]
$ cd test 1
cd: string not in pwd: test
(hassnaee@hassnae)-[~/Desktop]
$ cd test1
(hassnaee@hassnae)-[~/Desktop/test1]
$ ls
testsup
(hassnaee@hassnae)-[~/Desktop/test1]
$ cd
(hassnaee@hassnae)-[~]
$ cd Desktop
```

```
hassnaee@hassnae: ~/Desktop
(hassnaee@hassnae)-[~/Desktop]
$ ls
test test1
(hassnaee@hassnae)-[~/Desktop]
$ cd
(hassnaee@hassnae)-[~]
$ cd Desktop
(hassnaee@hassnae)-[~/Desktop]
$ touch file.txt
(hassnaee@hassnae)-[~/Desktop]
$ ls
file.txt test test1
(hassnaee@hassnae)-[~/Desktop]
$ rm file.txt
(hassnaee@hassnae)-[~/Desktop]
$ ls
test test1
(hassnaee@hassnae)-[~/Desktop]
$ rm -r test
```

```
hassnaee@hassnae: ~/Desktop
(hassnaee@hassnae)-[~/Desktop]
$ rm -r test
(hassnaee@hassnae)-[~/Desktop]
$ ls
test1
(hassnaee@hassnae)-[~/Desktop]
$ cd ..
(hassnaee@hassnae)-[~]
$ touch file.txt
(hassnaee@hassnae)-[~]
$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos file.txt
(hassnaee@hassnae)-[~]
$ cp file.txt Desktop
(hassnaee@hassnae)-[~]
$ cd Desktop
(hassnaee@hassnae)-[~/Desktop]
$ ls
file.txt test1
```

```
(hassnaee@ hassnae)-[~/Desktop]
$ nano file.txt
(hassnaee@ hassnae)-[~/Desktop]
$ cat file.txt
Hi !
My name is hassne elkabir
```

```
GNU nano 8.0 file.txt *
Hi !
My name is hassne elkabir
```

Navigation & File Management:-

- pwd (Print working Directory): Shows the current directory.
- ls (List): Lists files and directories in the current directory.
- cd (Change Directory): Navigate between directories.
- cp (Copy): Copies files and directories.
- mv (Move): Moves or renames files.
- rm (Remove): Deletes files or directories.

File Viewing & Editing:-

- cat, more, less: View content of files.
- nano, vim: Edit files from the terminal.

Permissions & Ownership:-

- chmod: Change file permissions.
- chown: Change file ownership.

```
(hassnaee@ hassnae)-[~/Desktop]
$ touch newfile.txt
(hassnaee@ hassnae)-[~/Desktop]
$ ls
file.txt  newfile.txt  test1
(hassnaee@ hassnae)-[~/Desktop]
$ cat newfile.txt
(hassnaee@ hassnae)-[~/Desktop]
$ nano newfile.txt
(hassnaee@ hassnae)-[~/Desktop]
$ cat newfile.txt
Hello again
(hassnaee@ hassnae)-[~/Desktop]
$ touch script.sh
(hassnaee@ hassnae)-[~/Desktop]
$ nano script.sh
```

```
GNU nano 8.0 script.sh
/bin/bash
mkdir NewFolder
cd NewFolder
ls
```

Navigation & File Management:-

- pwd (Print working Directory): Shows the current directory.
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File Viewing & Editing:-

- cat, more, less: View content of files.
- nano, vim: Edit files from the terminal.

Permissions & Ownership:-

- chmod: Change file permissions.
- chown: Change file ownership.

Process Management:-

- top, htop: View active processes.

Help

Write Out Read File Where Is Replace Cut Paste Execute Justify Location Go To Line W-U Undo W-E Redo M-A Set Mark M-G Copy M-I To Bracket M-B Previous M-F Next

```
(hassnaee@hassnae) ~/Desktop
$ nano script.sh
(hassnaee@hassnae) ~/Desktop
$ cat script.sh
# /bin/bash
mkdir NewFolder
cd NewFolder
ls
(hassnaee@hassnae) ~/Desktop
$ ./script.sh
zsh: permission denied: ./script.sh
(hassnaee@hassnae) ~/Desktop
$ chmod u+x script.sh
(hassnaee@hassnae) ~/Desktop
$ ./script.sh
(hassnaee@hassnae) ~/Desktop
$ ls
NewFolder  file.txt  newfile.txt  script.sh  test1
(hassnaee@hassnae) ~/Desktop
$ echo 'System and Process Management'
System and Process Management
```

```
(hassnaee@hassnae) ~/Desktop
$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1   0.0  0.4  22724  8260 ?        Ss   16:44   0:03 /sbin/init splash
root         2   0.0  0.0      0   0 ?        S    16:44   0:00 [kthreadd]
root         3   0.0  0.0      0   0 ?        S    16:44   0:00 [pool_workqueue_release]
root         4   0.0  0.0      0   0 ?        I<   16:44   0:00 [kworker/R-rcu_g]
root         5   0.0  0.0      0   0 ?        I<   16:44   0:00 [kworker/R-rcu_p]
root         6   0.0  0.0      0   0 ?        I<   16:44   0:00 [kworker/R-slub_]
root         7   0.0  0.0      0   0 ?        I<   16:44   0:00 [kworker/R-netns]
root        12   0.0  0.0      0   0 ?        I<   16:44   0:00 [kworker/R-mm_pe]
root        13   0.0  0.0      0   0 ?        I    16:44   0:00 [rcu_tasks_kthread]
root        14   0.0  0.0      0   0 ?        I    16:44   0:00 [rcu_tasks_rude_kthread]
root        15   0.0  0.0      0   0 ?        I    16:44   0:00 [rcu_tasks_trace_kthread]
root        16   0.0  0.0      0   0 ?        S    16:44   0:05 [ksoftirqd/0]
root        17   0.0  0.0      0   0 ?        I    16:44   0:07 [rcu_preempt]
root        18   0.0  0.0      0   0 ?        S    16:44   0:00 [migration/0]
root        19   0.0  0.0      0   0 ?        S    16:44   0:00 [idle_inject/0]
root        20   0.0  0.0      0   0 ?        S    16:44   0:00 [cpuhp/0]
root        22   0.0  0.0      0   0 ?        S    16:44   0:00 [kdevtmpfs]
root        23   0.0  0.0      0   0 ?        I<   16:44   0:00 [kworker/R-inet_]
root        25   0.0  0.0      0   0 ?        S    16:44   0:00 [kauditd]
root        27   0.0  0.0      0   0 ?        S    16:44   0:00 [khungtaskd]
root        28   0.0  0.0      0   0 ?        S    16:44   0:00 [oom_reaper]
root        30   0.0  0.0      0   0 ?        I<   16:44   0:00 [kworker/R-write]
root        31   0.0  0.0      0   0 ?        S    16:44   0:04 [kcompactd0]
```

```
hassnaee@hassnae: ~/Desktop
hassnaee 2099 0.0 0.8 266300 17140 ? Sl 16:50 0:00 /usr/libexec/ibus-x11
hassnaee 2104 0.0 1.1 823976 23680 ? Sl 16:50 0:01 /usr/libexec/mutter-x11-frames
hassnaee 2121 0.0 0.2 234376 5276 ? Ssl 16:50 0:00 /usr/libexec/gvfsd-metadata
hassnaee 2123 0.0 0.5 636784 10916 ? Ssl 16:50 0:00 /usr/libexec/xdg-desktop-portal
hassnaee 2147 0.0 0.3 608648 6084 ? Ssl 16:50 0:00 /usr/libexec/xdg-document-portal
root 2166 0.0 0.0 2496 1792 ? Ss 16:50 0:00 fusemount3 -o rw,nosuid,nodev,fsname=portal,auto_unmount,subtype=portal -- /run/user/1000/doc
hassnaee 2174 0.0 0.7 419040 14792 ? Ssl 16:50 0:00 /usr/libexec/xdg-desktop-portal-gtk
hassnaee 2265 0.0 3.2 2827452 64288 ? Sl 16:50 0:04 gjs /usr/share/gnome-shell/extensions/ding@rastersoft.com/app/ding.js -E -P /usr/share/gnome-shell/ex
hassnaee 2331 0.5 2.0 569252 40472 ? Ssl 16:51 1:15 /usr/libexec/gnome-terminal-server
hassnaee 2339 0.0 0.1 10520 3028 pts/0 Ss+ 16:51 0:00 zsh
hassnaee 2432 1.0 0.3 14988 7844 pts/1 Ss 16:53 2:41 zsh
root 2750 0.0 0.9 477056 18188 ? Ssl 17:30 0:02 /usr/libexec/fwupd/fwupd
root 2757 0.0 0.0 0 0 ? I< 17:30 0:00 [kworker/0:1H-ttm]
root 3158 0.0 0.3 324764 6516 ? Ssl 18:08 0:00 /usr/sbin/pcscd --foreground --auto-exit
root 3749 0.3 0.0 0 0 ? I 18:12 0:36 [kworker/0:2-ata_sff]
hassnaee 3757 0.6 17.3 1143224 344968 ? Sl 18:12 1:05 /usr/bin/gnome-text-editor --new-window
root 5678 0.0 0.0 0 0 ? I< 19:38 0:00 [kworker/0:0H-kblockd]
root 5752 0.0 0.0 0 0 ? I 20:04 0:02 [kworker/u256:0-events_unbound]
root 6003 0.0 0.0 0 0 ? I 20:13 0:01 [kworker/u256:3-ext4-rsv-conversion]
root 6416 0.3 0.0 0 0 ? I 20:33 0:05 [kworker/0:3-events]
root 6678 0.0 0.0 0 0 ? I 20:45 0:00 [kworker/u256:2-flush-8:0]
root 6683 0.2 0.0 0 0 ? I 20:49 0:01 [kworker/0:1-events]
root 6706 0.0 0.0 0 0 ? I 20:57 0:00 [kworker/u256:1-ext4-rsv-conversion]
root 6707 0.0 0.0 0 0 ? I 20:59 0:00 [kworker/0:0]
hassnaee 6719 400 0.2 11304 4224 pts/1 R+ 21:01 0:00 ps aux
```

```
hassnaee@hassnae: ~/Desktop
$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            929M   0 929M   0% /dev
tmpfs           195M  1.5M  193M   1% /run
/dev/sda1       19G   17G  963M  95% /
tmpfs           971M   0 971M   0% /dev/shm
tmpfs           5.0M   0 5.0M   0% /run/lock
tmpfs           195M  192K  194M   1% /run/user/1000
```



```
hassnaee@hassnae: ~/Desktop
(hassnaee@hassnae)~[/Desktop]
$ du -sh test1
8.0K    test1
(hassnaee@hassnae)~[/Desktop]
$ uname -a
Linux hassnae 6.6.15-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.6.15-2kali1 (2024-05-17) x86_64 GNU/Linux
(hassnaee@hassnae)~[/Desktop]
$ history
1 sudo apt update
2 ^[[200~ sudo apt install python3 python3-pip
3 sudo pip3 install scapy
4 vi sniffer.py
5 clear
6 sudo apt updat
7 sudo apt update
8 vi sniffer.py
9 clear
10 sudo apt update
11 vi sniffer.py
12 sudo apt update
13 vi sniffer.py
14 sudo apt update
15 sudo apt upgrade
16 sudo apt upgrade
17 sudo apt upgrade
18 sudo apt install -vm-tools
```

```
501 top
502 ps aux
503 df -h
504 df -sh
505 df -Sh
506 du -sh test1
507 uname -a
(hassnaee@hassnae)~[/Desktop]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.107 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fe80::20c:29ff:fe56:6a7f prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:56:6a:7f txqueuelen 1000 (Ethernet)
    RX packets 74967 bytes 97970648 (93.4 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 29881 bytes 2466976 (2.3 MiB)
    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 28 bytes 1680 (1.6 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 28 bytes 1680 (1.6 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
hassnaee@hassnae: ~/Desktop
(hassnaee@hassnae)~[/Desktop]
$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data:
64 bytes from 8.8.8.8: icmp_seq=2 ttl=117 time=66.0 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=117 time=54.0 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=117 time=1029 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=117 time=73.7 ms
64 bytes from 8.8.8.8: icmp_seq=7 ttl=117 time=54.9 ms
64 bytes from 8.8.8.8: icmp_seq=8 ttl=117 time=53.8 ms
64 bytes from 8.8.8.8: icmp_seq=9 ttl=117 time=54.2 ms
64 bytes from 8.8.8.8: icmp_seq=10 ttl=117 time=55.3 ms
64 bytes from 8.8.8.8: icmp_seq=11 ttl=117 time=55.1 ms
64 bytes from 8.8.8.8: icmp_seq=12 ttl=117 time=54.9 ms
64 bytes from 8.8.8.8: icmp_seq=13 ttl=117 time=54.7 ms
64 bytes from 8.8.8.8: icmp_seq=15 ttl=117 time=56.1 ms
64 bytes from 8.8.8.8: icmp_seq=16 ttl=117 time=54.4 ms
64 bytes from 8.8.8.8: icmp_seq=17 ttl=117 time=58.4 ms
64 bytes from 8.8.8.8: icmp_seq=18 ttl=117 time=54.9 ms
64 bytes from 8.8.8.8: icmp_seq=19 ttl=117 time=76.6 ms
64 bytes from 8.8.8.8: icmp_seq=20 ttl=117 time=55.3 ms
64 bytes from 8.8.8.8: icmp_seq=21 ttl=117 time=55.0 ms
64 bytes from 8.8.8.8: icmp_seq=22 ttl=117 time=76.8 ms
64 bytes from 8.8.8.8: icmp_seq=23 ttl=117 time=90.5 ms
64 bytes from 8.8.8.8: icmp_seq=25 ttl=117 time=1040 ms
64 bytes from 8.8.8.8: icmp_seq=26 ttl=117 time=55.5 ms
```

```
hassnaee@hassnae: ~/Desktop
$ netstat -tln
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 hassnae:bootpc         _gateway:bootps        ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags     Type       State         I-Node   Path
unix  3      [ ]      STREAM    CONNECTED    19550
unix  3      [ ]      STREAM    CONNECTED    19542
unix  3      [ ]      STREAM    CONNECTED    17889
unix  2      [ ]      DGRAM     CONNECTED    12604
unix  3      [ ]      STREAM    CONNECTED    18432 /run/user/1000/wayland-0
unix  3      [ ]      STREAM    CONNECTED    18212 /run/user/1000/bus
unix  3      [ ]      STREAM    CONNECTED    17917 /run/systemd/journal/stdout
unix  3      [ ]      STREAM    CONNECTED    24418 /run/dbus/system_bus_socket
unix  3      [ ]      STREAM    CONNECTED    18069 /run/user/1000/bus
unix  3      [ ]      STREAM    CONNECTED    17945 /run/dbus/system_bus_socket
unix  3      [ ]      STREAM    CONNECTED    17649 /run/user/1000/bus
unix  3      [ ]      STREAM    CONNECTED    15281 /tmp/sddm-auth-95fcb709-d062-41a8-bb4b-9f94106e6969
unix  3      [ ]      STREAM    CONNECTED    16928
unix  3      [ ]      STREAM    CONNECTED    15654
unix  3      [ ]      STREAM    CONNECTED    19397 /run/user/1000/bus
unix  3      [ ]      STREAM    CONNECTED    18440
unix  3      [ ]      STREAM    CONNECTED    18345
unix  3      [ ]      STREAM    CONNECTED    17424
unix  3      [ ]      STREAM    CONNECTED    13004
unix  3      [ ]      STREAM    CONNECTED    18621 /run/dbus/system_bus_socket
unix  3      [ ]      STREAM    CONNECTED    18470
```

```
hassnaee@hassnae: ~/Desktop
$ whois www.coursera.org
Malformed request.
>>> Last update of WHOIS database: 2024-09-19T19:17:37Z <<<

Terms of Use: Access to Public Interest Registry WHOIS information is provided to assist persons in determining the contents of a domain name registration record in the Public Interest Registry registry database. The data in this record is provided by Public Interest Registry for informational purposes only, and Public Interest Registry does not guarantee its accuracy. This service is intended only for query-based access. You agree that you will use this data only for lawful purposes and that, under no circumstances will you use this data to (a) allow, enable, or otherwise support the transmission by e-mail, telephone, or facsimile of mass unsolicited, commercial advertising or solicitations to entities other than the data recipient's own existing customers; or (b) enable high volume, automated, electronic processes that send queries or data to the systems of Registry Operator, a Registrar, or Identity Digital except as reasonably necessary to register domain names or modify existing registrations. All rights reserved. Public Interest Registry reserves the right to modify these terms at any time. By submitting this query, you agree to abide by this policy. The Registrar of Record identified in this output may have an RDOS service that can be queried for additional information on how to contact the Registrant, Admin, or Tech contact of the queried domain name.
```

```
hassnaee@hassnae: ~/Desktop
$ sudo iptables -L
[sudo] password for hassnae:
Chain INPUT (policy ACCEPT)
target     prot opt source                destination

Chain FORWARD (policy ACCEPT)
target     prot opt source                destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source                destination
```

3. Install Kali Linux Tools from GitHub:

We can install various hacking tools from GitHub on Kali Linux. Here's how you can do it :

- Search for a tool on GitHub, for example, a network scanner or password cracker.

Let's use nmap (network scanning tool) as an example:

Steps:

Clone the repository:

In this example, SQLmap was cloned using this command:

```
git clone --depth 1 https://github.com/sqlmapproject/sqlmap.git
```

This downloaded the SQLmap tool onto the desktop.

Navigate to the tool directory:

Use the cd command to move to the directory:

```
cd sqlmap
```

Run the tool:

To run SQLmap, we need to execute the following:

```
python sqlmap.py
```

Perform a test scan:

Test with a vulnerable URL:

```
sqlmap -u http://testphp.vulnweb.com/login.php --dbs
```

This will initiate SQLmap to scan for databases on the target site.

```
(hassnaee@hassnae)-[~/Desktop]
$ echo "install tools from github"
install tools from github
```

```
(hassnaee@hassnae)-[~/Desktop]
$ git clone --depth 1 https://github.com/sqlmapproject/sqlmap.git
Cloning into 'sqlmap'...
remote: Enumerating objects: 733, done.
remote: Counting objects: 100% (733/733), done.
remote: Compressing objects: 100% (489/489), done.
remote: Total 733 (delta 249), reused 505 (delta 231), pack-reused 0 (from 0)
Receiving objects: 100% (733/733), 7.01 MiB | 158.00 KiB/s, done.
Resolving deltas: 100% (249/249), done.
Updating files: 100% (640/640), done.
```

```
(hassnaee@hassnae)-[~/Desktop]
$ ls
NewFolder  file.txt  newfile.txt  script.sh  sqlmap  sqlmap-dev  test1
```

```
(hassnaee@hassnae)-[~/Desktop]
$ ls
NewFolder  file.txt  newfile.txt  script.sh  sqlmap  sqlmap-dev  test1

(hassnaee@hassnae)-[~/Desktop]
$ cd sqlmap

(hassnaee@hassnae)-[~/Desktop/sqlmap]
$ ls
LICENSE  README.md  data  doc  extra  lib  plugins  sqlmap.conf  sqlmap.py  sqlmapapi.py  sqlmapapi.yaml  tamper  thirdparty

(hassnaee@hassnae)-[~/Desktop/sqlmap]
$ python sqlmap.py
```

```

  ____
 /  __ \
/   /  \
/_____/

{1.8.9#stable}
https://sqlmap.org
```

```
Usage: python sqlmap.py [options]
```

```
sqlmap.py: error: missing a mandatory option (-d, -u, -l, -m, -r, -g, -c, --wizard, --shell, --update, --purge, --list-tampers or --dependencies). Use -h for basic and -hh for advanced help
```

```
(hassnaee@hassnae)-[~/Desktop/sqlmap]
-$ sqlmap -u http://testphp.vulnweb.com/login.php --dbs

      H
     [C] {1.8.5#stable}
    [S]
   [V...] https://sqlmap.org

[!] legal disclaimer: Usage of sqlmap for attacking targets without prior mutual consent is illegal. It is the end user's responsibility to obey all applicable local, state and federal laws. Developers assume no liability and are not responsible for any misuse or damage caused by this program

[*] starting @ 00:46:05 /2024-09-20/

[00:46:07] [INFO] testing connection to the target URL
[00:46:08] [INFO] checking if the target is protected by some kind of WAF/IPs
[00:46:08] [INFO] testing if the target URL content is stable
[00:46:09] [INFO] target URL content is stable
[00:46:09] [CRITICAL] no parameter(s) found for testing in the provided data (e.g. GET parameter 'id' in 'www.site.com/index.php?id=1'). You are advised to rerun with '--forms --crawl=2'

[*] ending @ 00:46:09 /2024-09-20/

(hassnaee@hassnae)-[~/Desktop/sqlmap]
-$
```