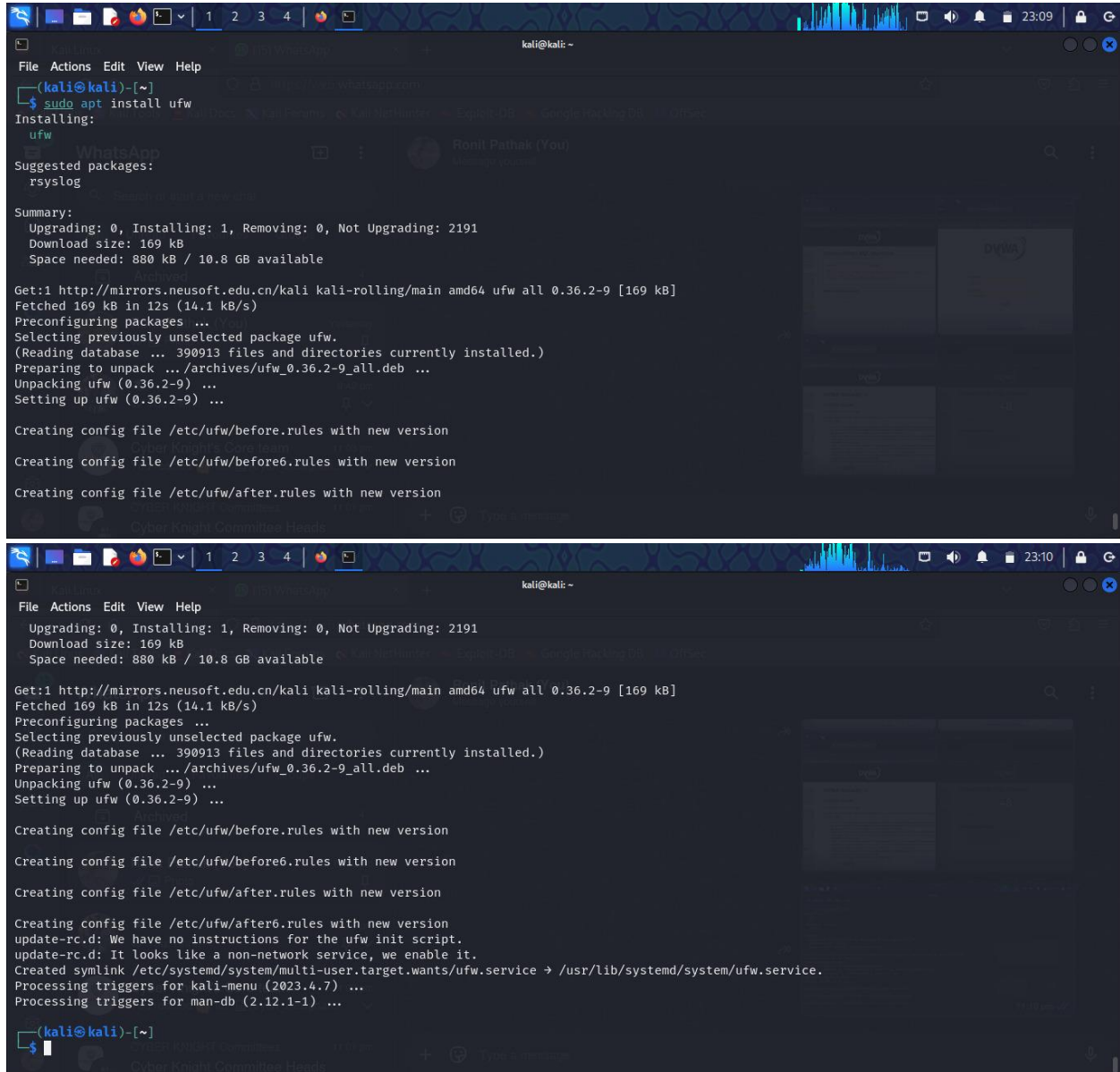


TASK-2

Objective :- Set up a basic firewall using UFW (Uncomplicated Firewall) on a Linux system.

STEP 1 :- Installing UFW on a linux system.



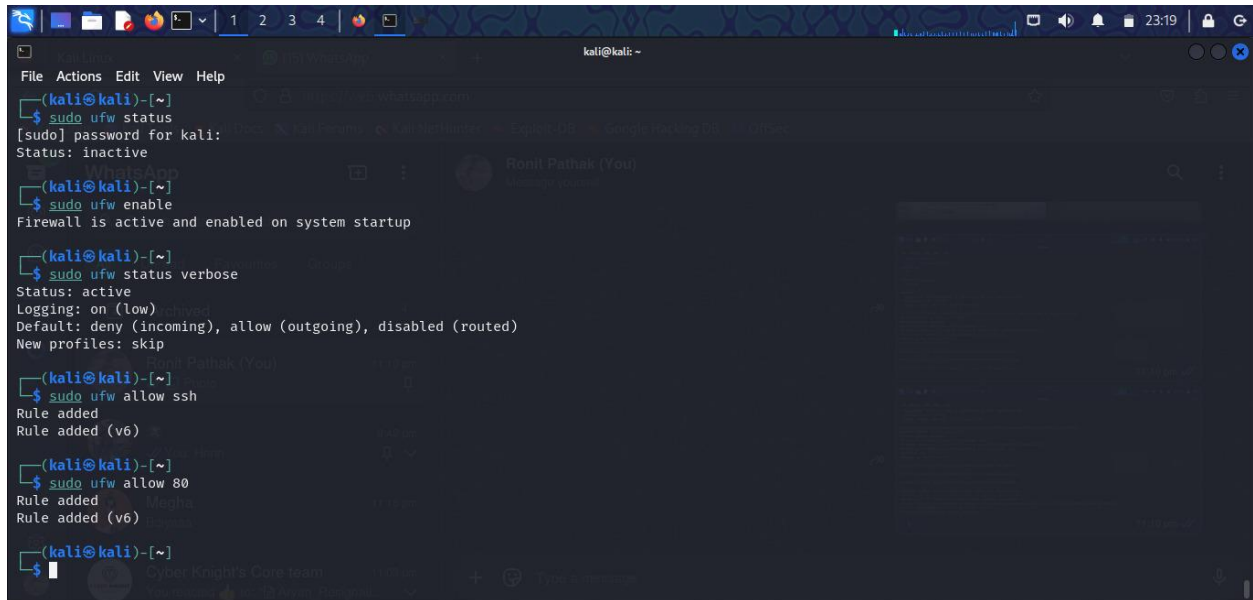
```
(kali@kali)~]$ sudo apt install ufw
Installing:
  ufw
Suggested packages:
  rsyslog
Summary:
  Upgrading: 0, Installing: 1, Removing: 0, Not Upgrading: 2191
  Download size: 169 kB
  Space needed: 880 kB / 10.8 GB available
Get:1 http://mirrors.neusoft.edu.cn/kali kali-rolling/main amd64 ufw all 0.36.2-9 [169 kB]
Fetched 169 kB in 12s (14.1 kB/s)
Preconfiguring packages ...
Selecting previously unselected package ufw.
(Reading database ... 390913 files and directories currently installed.)
Preparing to unpack .../archives/ufw_0.36.2-9_all.deb ...
Unpacking ufw (0.36.2-9) ...
Setting up ufw (0.36.2-9) ...

Creating config file /etc/ufw/before.rules with new version
Creating config file /etc/ufw/before6.rules with new version
Creating config file /etc/ufw/after.rules with new version

Creating config file /etc/ufw/after6.rules with new version
update-rc.d: We have no instructions for the ufw init script.
update-rc.d: It looks like a non-network service, we enable it.
Created symlink /etc/systemd/system/multi-user.target.wants/ufw.service → /usr/lib/systemd/system/ufw.service.
Processing triggers for kali-menu (2023.4.7) ...
Processing triggers for man-db (2.12.1-1) ...

(kali@kali)~]$
```

STEP 2 :- Activating UFW, checking status, allowing ssh and http traffic.

A terminal window on a Kali Linux system showing the steps to activate UFW and allow SSH and HTTP traffic. The user runs 'sudo ufw status', which shows it's inactive. Then 'sudo ufw enable' is run, and a message confirms it's active and enabled on startup. Next, 'sudo ufw status verbose' is run, showing logging is on and the default policy is deny for incoming and allow for outgoing. Then 'sudo ufw allow ssh' and 'sudo ufw allow 80' are run, adding rules for SSH and HTTP traffic respectively. The terminal output is as follows:

```
(kali@kali)-[~]
└─$ sudo ufw status
[sudo] password for kali:
Status: inactive

(kali@kali)-[~]
└─$ sudo ufw enable
Firewall is active and enabled on system startup

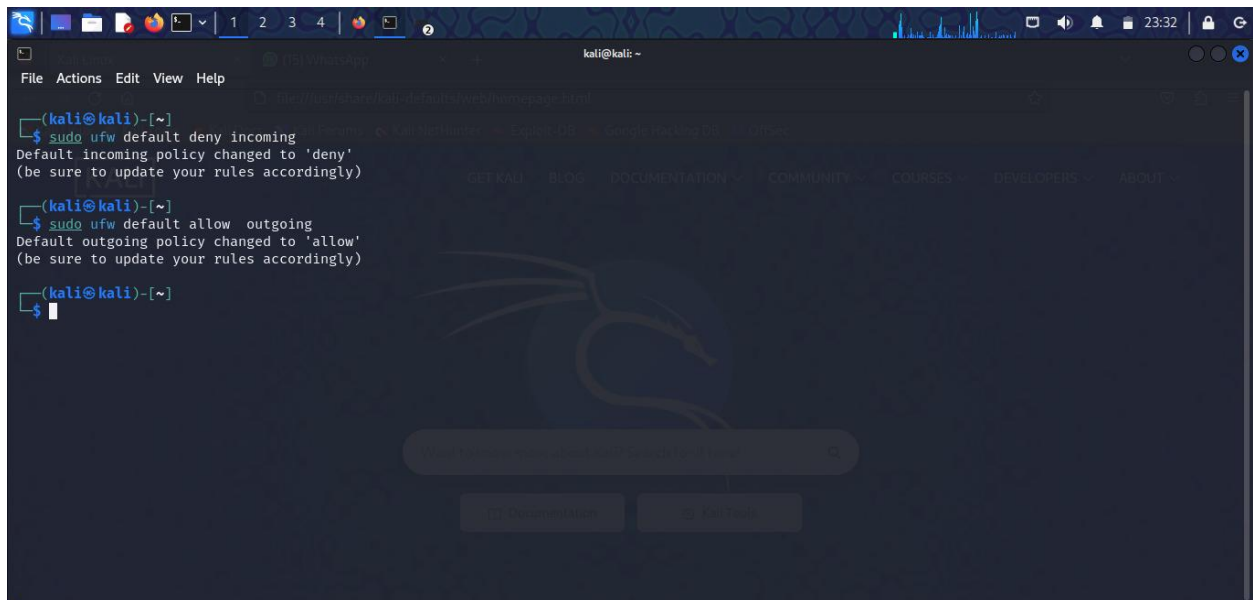
(kali@kali)-[~]
└─$ sudo ufw status verbose
Status: active
Logging: on (low)
Default: deny (incoming), allow (outgoing), disabled (routed)
New profiles: skip

(kali@kali)-[~]
└─$ sudo ufw allow ssh
Rule added
Rule added (v6)

(kali@kali)-[~]
└─$ sudo ufw allow 80
Rule added
Rule added (v6)

(kali@kali)-[~]
└─$
```

STEP 3 :- Denying incoming and allowing outgoing

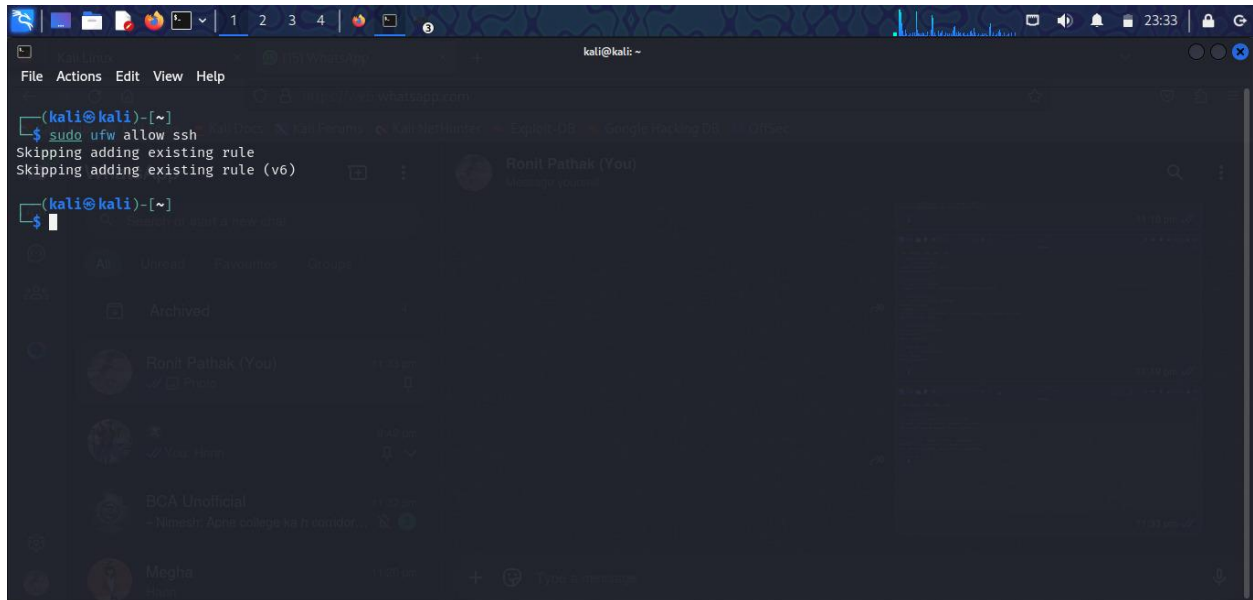
A terminal window on a Kali Linux system showing the changes to UFW default policies. The user runs 'sudo ufw default deny incoming', which changes the default incoming policy to 'deny'. Then 'sudo ufw default allow outgoing' is run, changing the default outgoing policy to 'allow'. The terminal output is as follows:

```
(kali@kali)-[~]
└─$ sudo ufw default deny incoming
Default incoming policy changed to 'deny'
(be sure to update your rules accordingly)

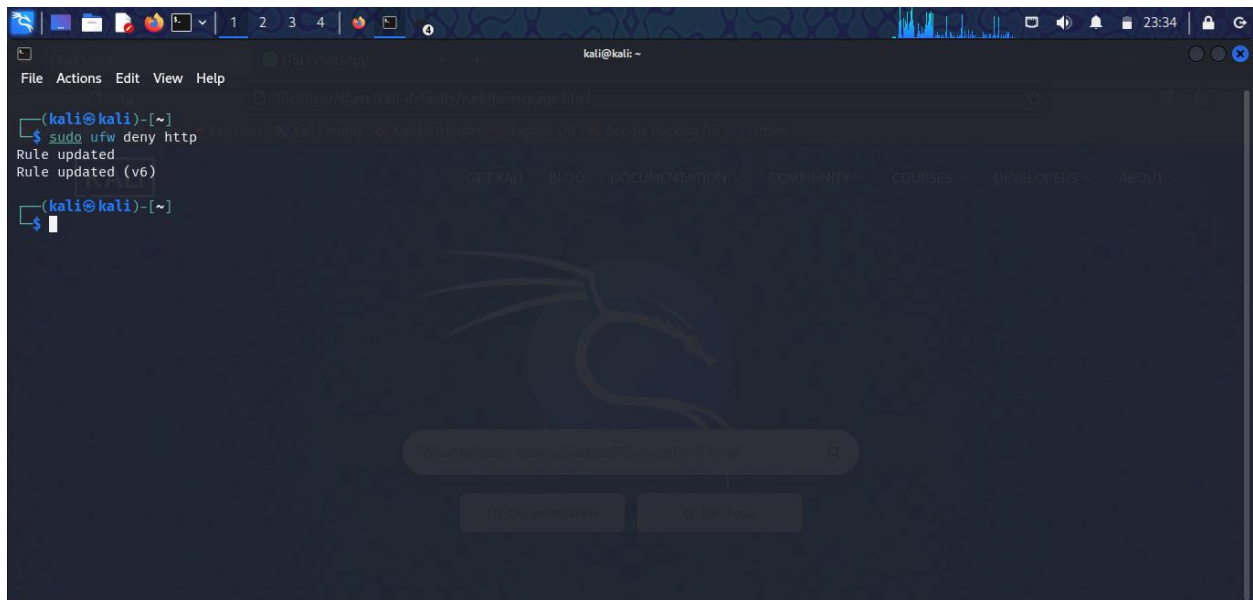
(kali@kali)-[~]
└─$ sudo ufw default allow outgoing
Default outgoing policy changed to 'allow'
(be sure to update your rules accordingly)

(kali@kali)-[~]
└─$
```

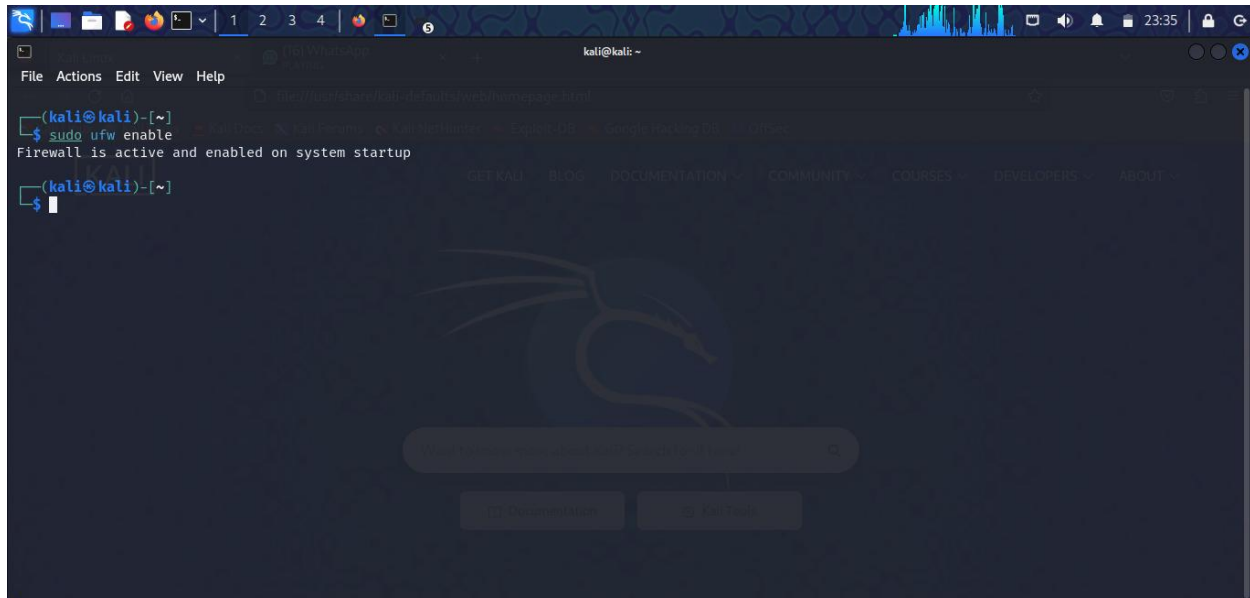
STEP 4 :- Allowing SSH traffic.



STEP 5 :- Denying HTTP traffic

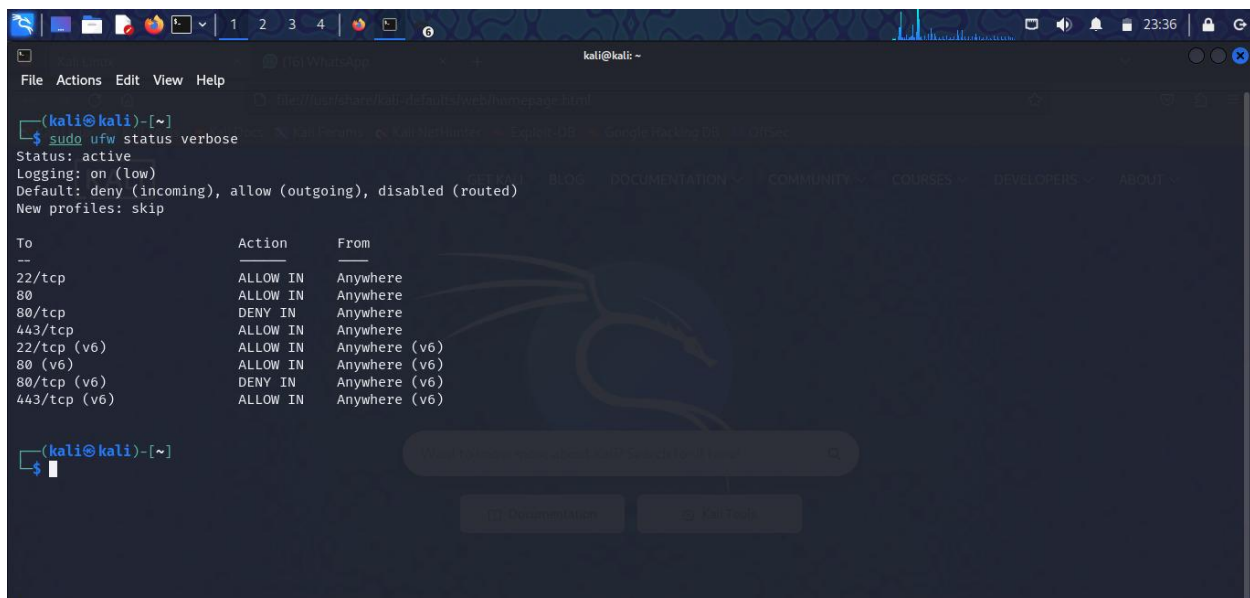


STEP 6 :- Activating Uncomplicated Firewall(UFW)

A terminal window on a Kali Linux system. The prompt is (kali@kali)-[~]. The user enters the command 'sudo ufw enable'. The output is 'Firewall is active and enabled on system startup'. The terminal background shows a blurred Kali Linux desktop with a terminal window and a file manager.

```
(kali@kali)-[~]  
$ sudo ufw enable  
Firewall is active and enabled on system startup  
  
(kali@kali)-[~]  
$
```

STEP 7 :- Checking UFW Status

A terminal window on a Kali Linux system. The prompt is (kali@kali)-[~]. The user enters the command 'sudo ufw status verbose'. The output shows the status of the firewall, including logging, default settings, and a list of rules. The terminal background shows a blurred Kali Linux desktop with a terminal window and a file manager.

```
(kali@kali)-[~]  
$ sudo ufw status verbose  
Status: active  
Logging: on (low)  
Default: deny (incoming), allow (outgoing), disabled (routed)  
New profiles: skip  
  
To Action From  
--  
22/tcp ALLOW IN Anywhere  
80 ALLOW IN Anywhere  
80/tcp DENY IN Anywhere  
443/tcp ALLOW IN Anywhere  
22/tcp (v6) ALLOW IN Anywhere (v6)  
80 (v6) ALLOW IN Anywhere (v6)  
80/tcp (v6) DENY IN Anywhere (v6)  
443/tcp (v6) ALLOW IN Anywhere (v6)  
  
(kali@kali)-[~]  
$
```