Task 2 : Basic Firewall Configuration with UFW

Introduction

UFW (Uncomplicated Firewall) is a user friendly command-line tool for managing the firewall on Linux systems, particularlt Ubuntu. It acts as an interface for the more complex iptables firewall, simplifying the process of creating rules to allow or deny network traffic based on criteria like ports, IP addresses or services.

This task focuses on configuring a basic firewall using UFW(Uncomplicated Firewall) to control incoming network traffic.

Objectives

-Install UFW
-Allow SSH
-Deny HTTP
-Enable firewall
-Verify rules

Tools used

-UFW
-Kali Linux
-Terminal

Methodology

1. Installation of UFW :

```
sudo apt install ufw
```

2. Allow SSH :

```
sudo ufw allow ssh
```

3. Deny HTTP :

```
sudo ufw deny http
```

4. Enable Firewall :

```
sudo ufw enable
```

5. Check Rules :

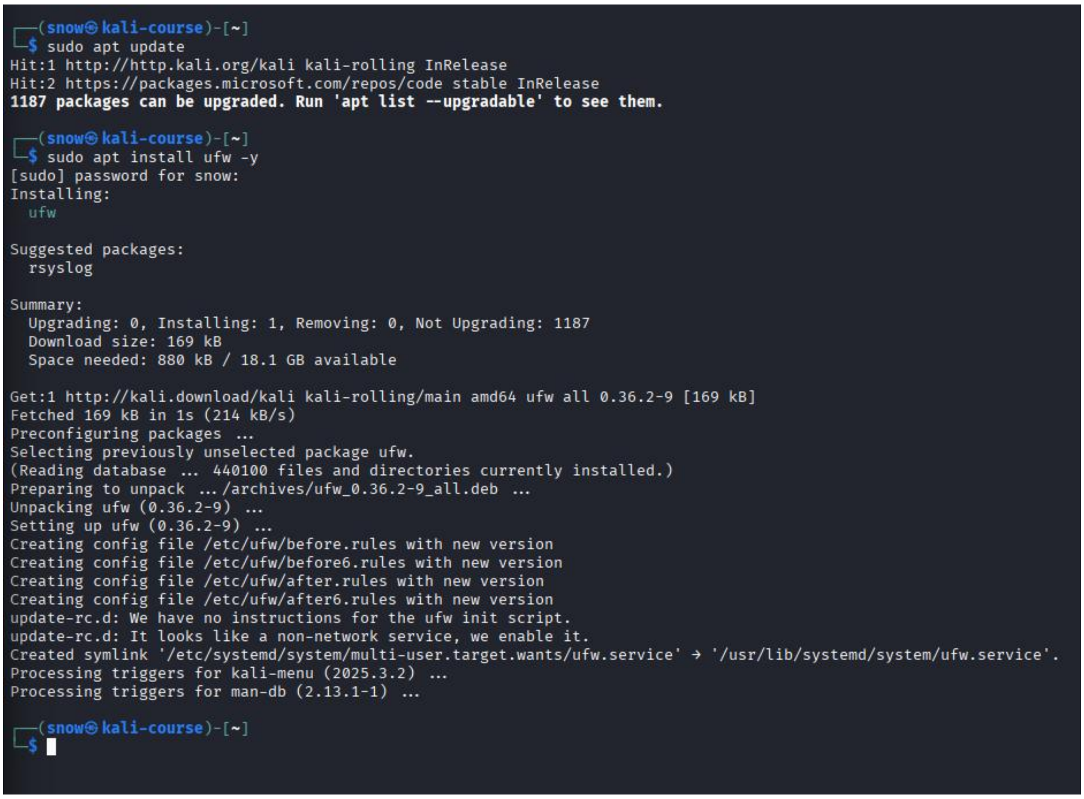
```
sudo ufw status numbered
```

Findings

- SSH allowed (port 22)
- HTTP blocked(port 80)
-Firewall active
-Rules applied successfully

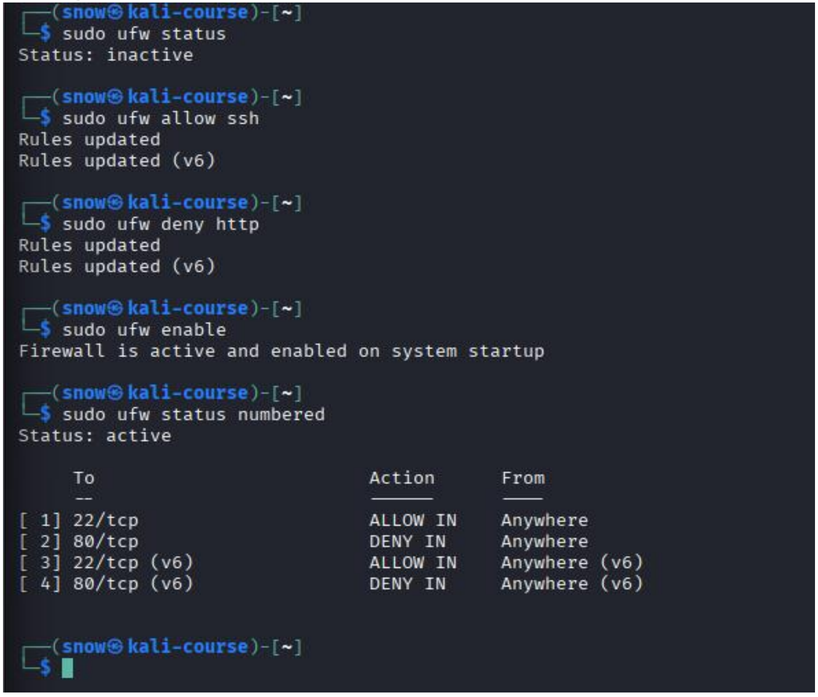
Screenshots

Installation of ufw:



```
┌──(snow㉿kali-course)-[~]
└─$ sudo apt update
Hit:1 http://http.kali.org/kali kali-rolling InRelease
Hit:2 https://packages.microsoft.com/repos/code stable InRelease
1187 packages can be upgraded. Run 'apt list --upgradable' to see them.

┌──(snow㉿kali-course)-[~]
└─$ sudo apt install ufw -y
[sudo] password for snow:
Installing:
  ufw

Suggested packages:
  rsyslog

Summary:
  Upgrading: 0, Installing: 1, Removing: 0, Not Upgrading: 1187
  Download size: 169 kB
  Space needed: 880 kB / 18.1 GB available

Get:1 http://kali.download/kali kali-rolling/main amd64 ufw all 0.36.2-9 [169 kB]
Fetched 169 kB in 1s (214 kB/s)
Preconfiguring packages ...
Selecting previously unselected package ufw.
(Reading database ... 440100 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 (2025.3.2) ...
Processing triggers for man-db (2.13.1-1) ...

┌──(snow㉿kali-course)-[~]
└─$
```

Configuration and final status:



```
┌──(snow㉿kali-course)-[~]
└─$ sudo ufw status
Status: inactive

┌──(snow㉿kali-course)-[~]
└─$ sudo ufw allow ssh
Rules updated
Rules updated (v6)

┌──(snow㉿kali-course)-[~]
└─$ sudo ufw deny http
Rules updated
Rules updated (v6)

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

┌──(snow㉿kali-course)-[~]
└─$ sudo ufw status numbered
Status: active

     To                         Action      From
     --                         ------      ----
[ 1] 22/tcp                     ALLOW IN    Anywhere
[ 2] 80/tcp                     DENY IN     Anywhere
[ 3] 22/tcp (v6)                ALLOW IN    Anywhere (v6)
[ 4] 80/tcp (v6)                DENY IN     Anywhere (v6)


┌──(snow㉿kali-course)-[~]
└─$
```

Conclusion:

UFW was configured successfully with correct access control rules. The firewall now enforces basic protections by allowing SSH and denying HTTP traffic.