CYBER SECURITY INTERNSHIP REPORT

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Date & Time: 29-09-2025, 09:45 AM (IST)
Task 4: Setup and Use a Firewall on Windows/Linux

Objective

Configure and test basic firewall rules to allow or block traffic using either Windows Firewall or UFW (Uncomplicated Firewall) on Linux.

Tools Used

- **Linux Firewall (UFW)**
- nc (netcat) for testing
- Command-line interface (Kali Linux)

Key Concepts

- **Firewall Configuration**: Defining rules to allow or deny network traffic.
- **Traffic Filtering**: Blocking insecure services (Telnet on port 23) while allowing secure ones (SSH on port 22).
- **Ports**: Logical endpoints used for communication (e.g., 22 = SSH, 23 = Telnet).
- **UFW**: A simple interface for managing iptables in Linux.

Steps Performed

1.Installed UFW (if not present): **sudo apt update && sudo apt install ufw -y**

2.Enabled UFW:sudo ufw enable

3.Allowed SSH (Port 22) to ensure secure access:**sudo ufw allow 22/tcp**

Listed current firewall rules:sudo ufw status numbered

1. **Blocked Telnet (Port 23)**:sudo ufw deny 23/tcp

2. **Tested blocked port** using Netcat: nc -zv 127.0.0.1 23

   Result: Connection refused/blocked.

3. **Removed the test rule** to restore original state: sudo ufw delete deny 23/tcp

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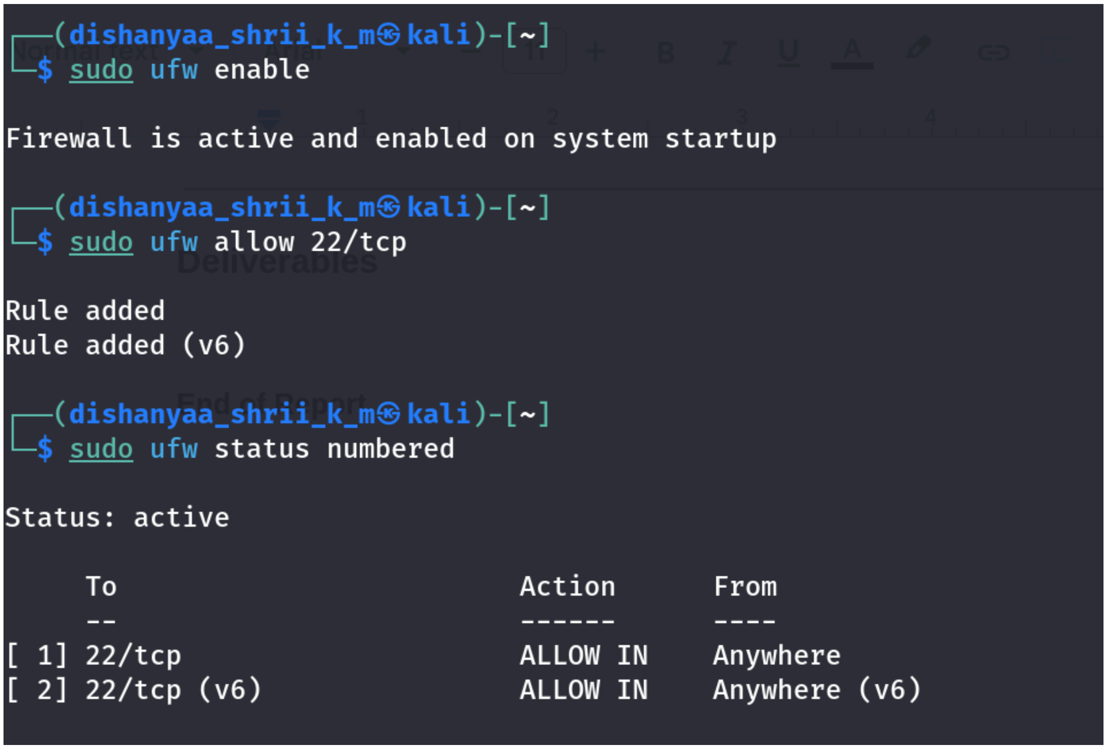
Summary

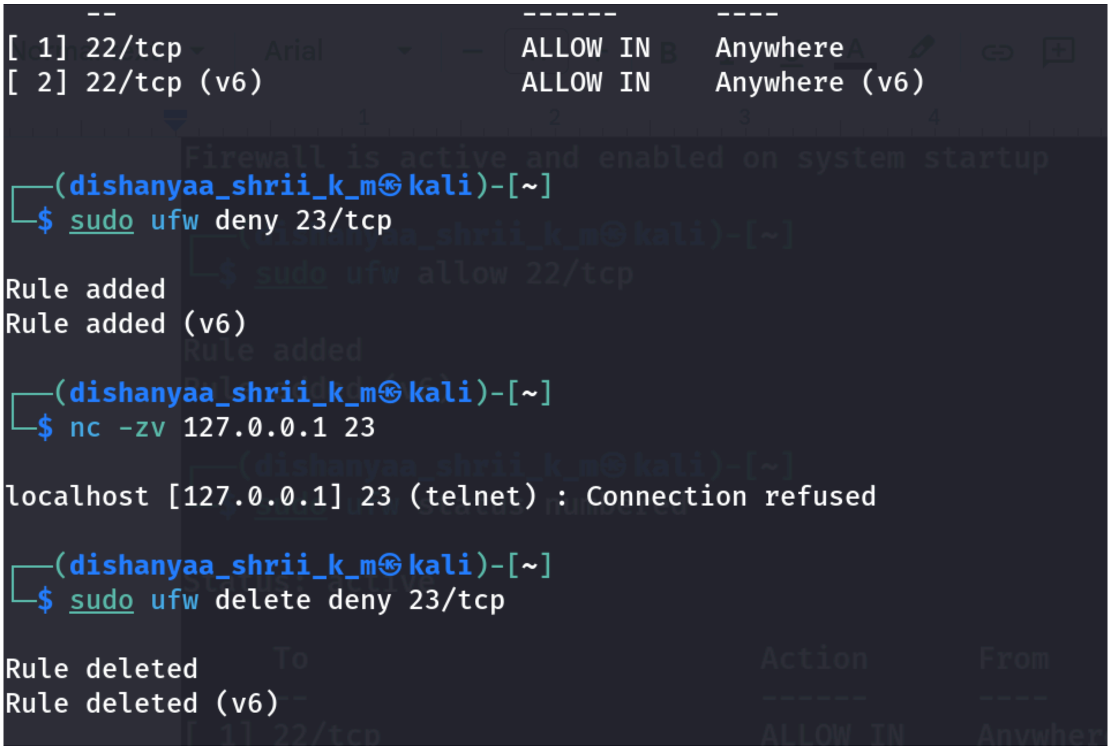
In this task, a firewall was configured using **UFW on Linux**. The process involved enabling UFW, allowing SSH on port 22, and blocking Telnet on port 23 (an insecure protocol). The block was successfully tested using Netcat. Finally, the test rule was removed to restore the firewall's original configuration.

This exercise demonstrated how **firewalls filter traffic** based on defined rules, enhancing system security by preventing unauthorized access while allowing legitimate connections.

Deliverables



```
┌──(dishanyaa_shrii_k_m㉿kali)-[~]
└─$ sudo ufw enable

Firewall is active and enabled on system startup

┌──(dishanyaa_shrii_k_m㉿kali)-[~]
└─$ sudo ufw allow 22/tcp

Rule added
Rule added (v6)

┌──(dishanyaa_shrii_k_m㉿kali)-[~]
└─$ sudo ufw status numbered

Status: active

     To                         Action      From
     --                         ------      ----
[ 1] 22/tcp                     ALLOW IN    Anywhere
[ 2] 22/tcp (v6)                ALLOW IN    Anywhere (v6)
```



```
    --                              ------      ----
[ 1] 22/tcp                         ALLOW IN    Anywhere
[ 2] 22/tcp (v6)                    ALLOW IN    Anywhere (v6)


┌──(dishanyaa_shrii_k_m㉿kali)-[~]
└─$ sudo ufw deny 23/tcp

Rule added
Rule added (v6)

┌──(dishanyaa_shrii_k_m㉿kali)-[~]
└─$ nc -zv 127.0.0.1 23

localhost [127.0.0.1] 23 (telnet) : Connection refused

┌──(dishanyaa_shrii_k_m㉿kali)-[~]
└─$ sudo ufw delete deny 23/tcp

Rule deleted
Rule deleted (v6)
```

End of Report