HARSH GUPTA

ELEVATE LABS TASK -4

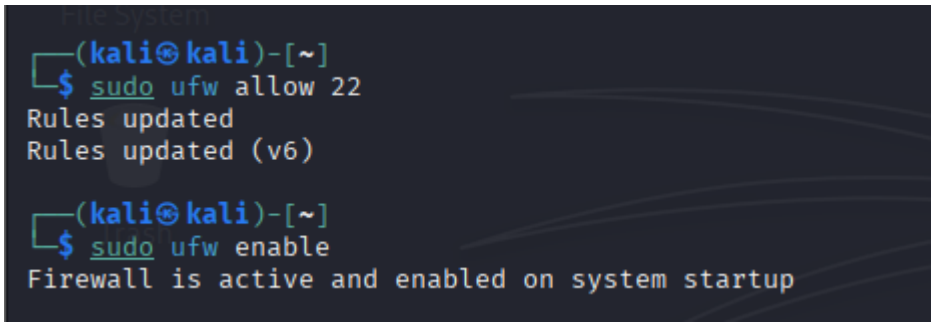
Task 4 : Setup and Use a Firewall on Windows/Linux Objective: Configure and test basic firewall rules to allow or block traffic. Tools: Windows Firewall / UFW (Uncomplicated Firewall) on Linux. Deliverables: Screenshot/configuration file showing firewall rules applied.

TASK Linux (Using UFW)

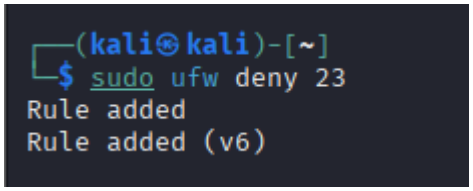
Steps:

1. **Open Terminal & Check Status:**

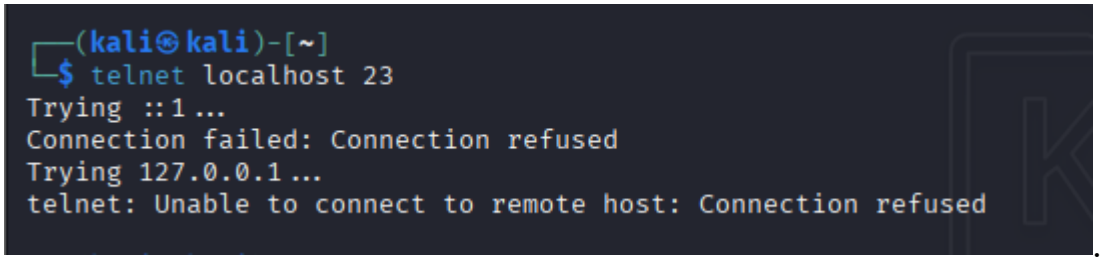
2. **Enable UFW & Allow SSH First:**



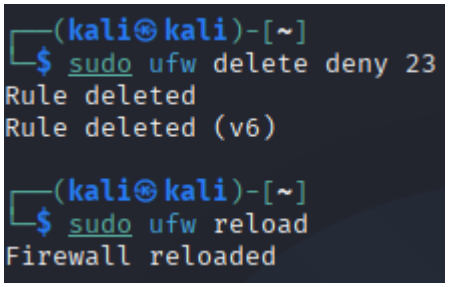
3. **Block Port 23 (Telnet):**



4. **Test the Rule:**
   - **Locally:**



5. **Remove Test Rule:**



6. **Documentation:**

- Enabled UFW: `sudo ufw enable`

- Allowed SSH: `sudo ufw allow 22`

- Blocked Telnet: `sudo ufw deny 23`

- Tested: `telnet localhost 23`

- Deleted rule: `sudo ufw delete deny 23`

Summary: How Firewalls Filter Traffic

Firewalls act as gatekeepers between your device and networks:

1. **Rules-Based Filtering:**
    - **Allow/Deny:** Explicit rules permit/block traffic based on ports, IPs, or protocols.
    - **Direction:** Controls inbound (ingress) or outbound (egress) traffic.
2. **Stateful Inspection:**
    - Tracks active connections (e.g., allows reply traffic for an established SSH session).
3. **Default Policies:**
    - Linux UFW: Default deny (incoming) / allow (outgoing).
    - Windows: Default rules permit common services (e.g., DHCP).

This exercise demonstrated core firewall management:

- Creating/removing rules to control traffic.
- Testing rules to validate security policies.
- Understanding stateful filtering fundamentals.
  Key Takeaway: Firewalls enforce least-privilege access—block everything by default, allow only essential services.