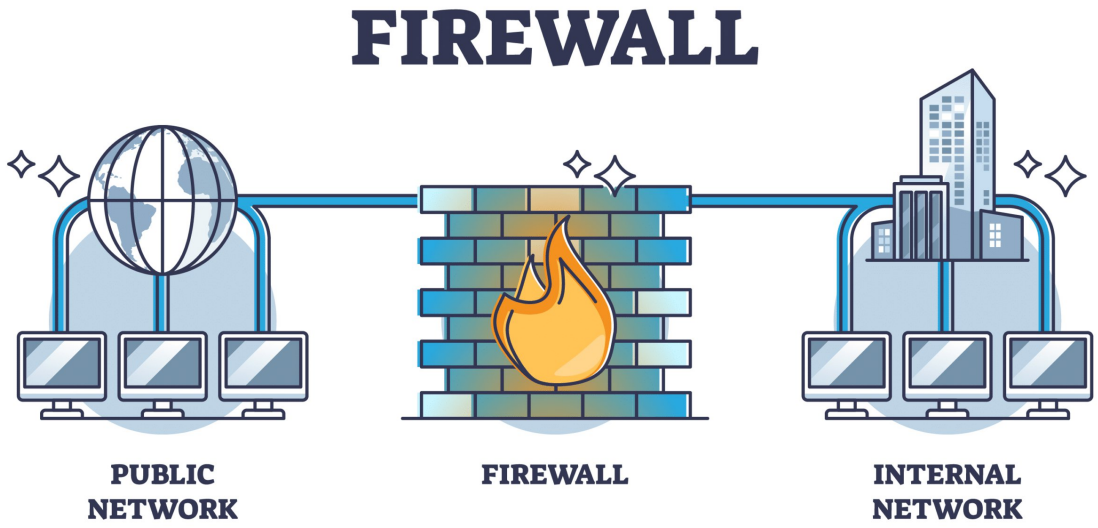
Setup and Use a Firewall on Windows/Linux



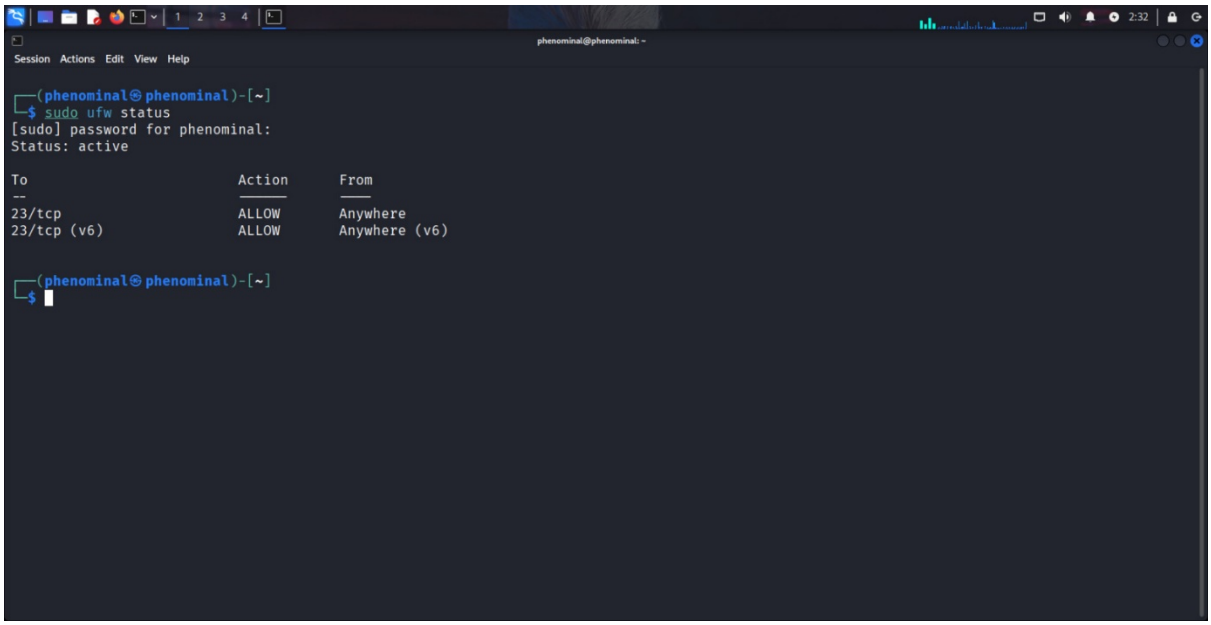
We setup and use firewall on Linux .

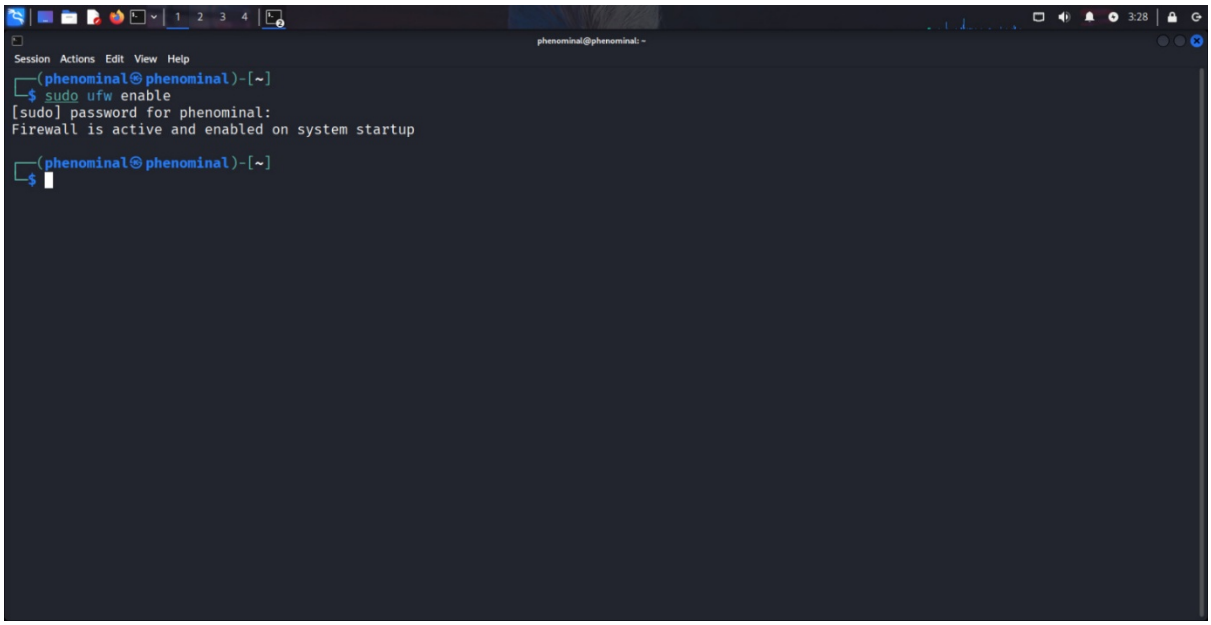
1. Open Firewall Configuration Tool

- ***On Linux (UFW):***

  Open firewall configuration tool (Windows Firewa l or terminal for UFW)

Open a terminal and run “**sudo ufw status**” to check if it's active. If not, enable it with “**sudo ufw enable**”



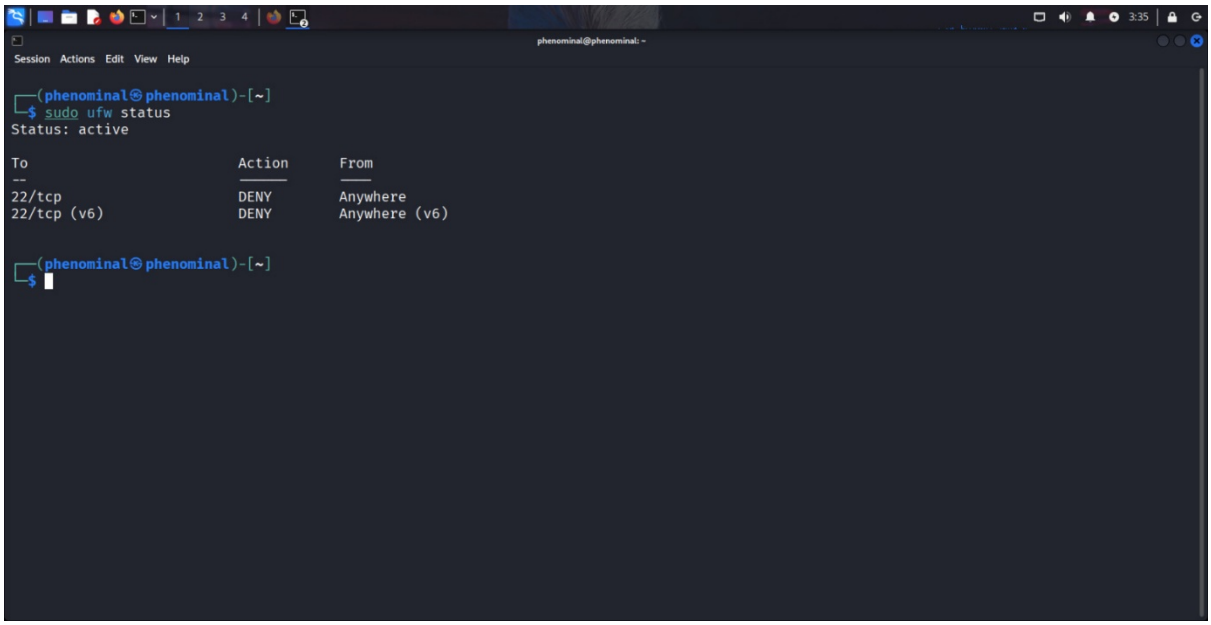


2. List Current Firewall Rules

- ***On Linux (UFW):***

  *Run "**sudo ufw status verbose**" in the terminal. This lists active rules, including allowed/denied ports and directions (e.g., "22/tcp ALLOW IN Anywhere").*

First status 22/tcp Deny



Then Allow 22/tcp

```
┌──(phenominal㉿phenominal)-[~]
└─$ sudo ufw allow 22/tcp
Rule updated
Rule updated (v6)

┌──(phenominal㉿phenominal)-[~]
└─$ sudo ufw status
Status: active

To                         Action      From
--                         ------      ----
22/tcp                     ALLOW       Anywhere
22/tcp (v6)                ALLOW       Anywhere (v6)


┌──(phenominal㉿phenominal)-[~]
└─$
```

3. Add a Rule to Block Inbound Traffic on a Specific Port (e.g., 23 for Telnet)

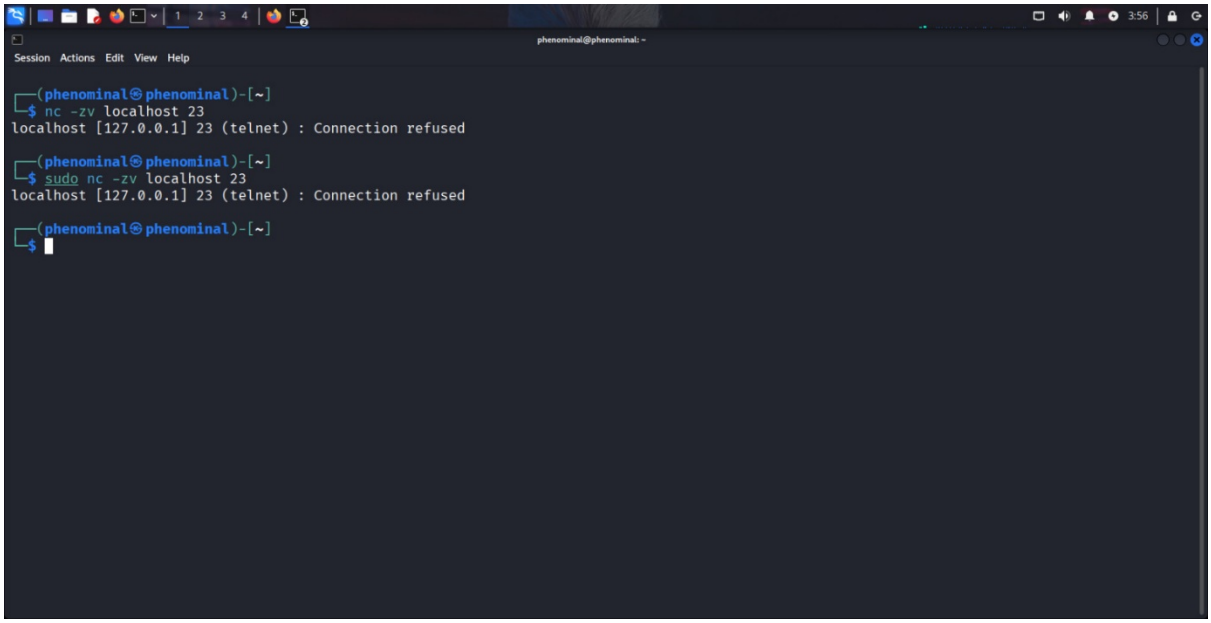
- **On Linux (UFW):**

```
┌──(phenominal㉿phenominal)-[~]
└─$ sudo ufw allow 23/tcp
Rule added
Rule added (v6)

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

To                         Action      From
--                         ------      ----
23/tcp                     ALLOW IN    Anywhere
23/tcp (v6)                ALLOW IN    Anywhere (v6)


┌──(phenominal㉿phenominal)-[~]
└─$
```

Run “**sudo ufw deny 23/tcp”** (this blocks inbound on port 23). To confirm, run “**sudo ufw status**”

4. Test the Rule by Attempting to Connect to That Port Locally or Remotely

- **Local Test (on the same machine):**
- **Using Netcat on Linux & Try to connect.**



- Reports:

Expected result: Connection should fail (e.g., "Connection refused" or timeout), confirming the block.

5. Add Rule to Allow SSH (Port 22) If on Linux

- **On Linux (UFW):**

Run “**sudo ufw allow 22/tcp**” (allows inbound SSH).
Confirm with “**sudo ufw status**”.

```
┌──(phenominal㉿phenominal)-[~]
└─$ sudo ufw allow 22/tcp && sudo ufw status
[sudo] password for phenominal:
Rule added
Rule added (v6)
Status: active

To                         Action      From
--                         ------      ----
23/tcp                     DENY        Anywhere
22/tcp                     ALLOW       Anywhere
23/tcp (v6)                DENY        Anywhere (v6)
22/tcp (v6)                ALLOW       Anywhere (v6)

┌──(phenominal㉿phenominal)-[~]
└─$
```

Test by connecting via SSH from another machine: **ssh user@<your-IP>**

Result:

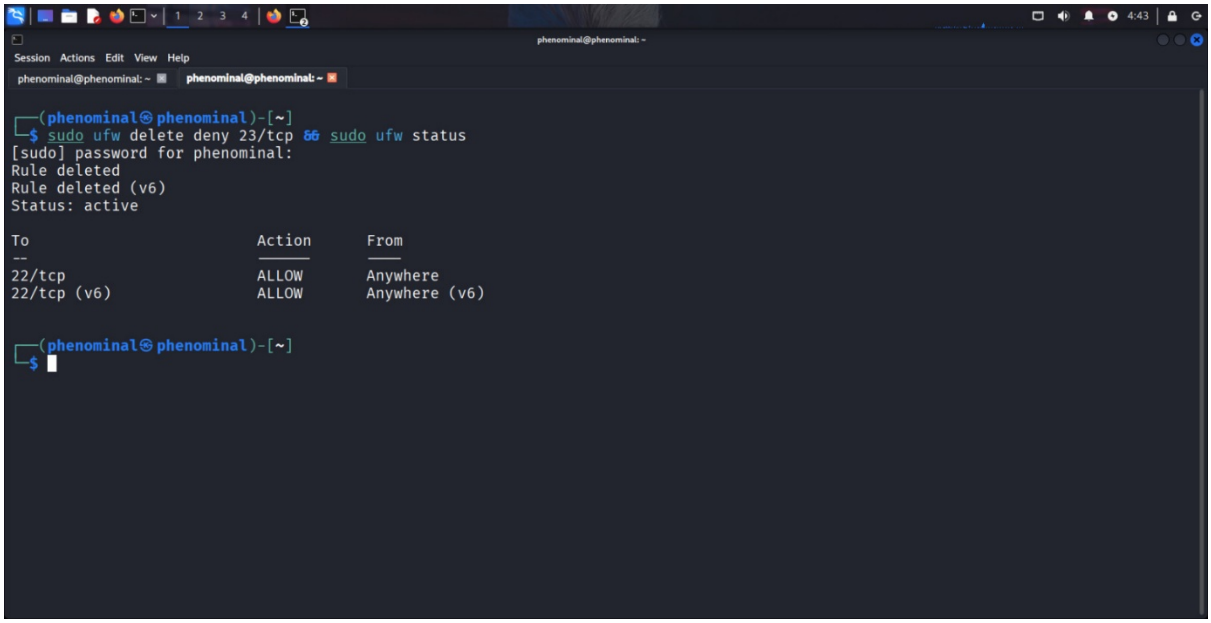
```
┌──(phenominal㉿phenominal)-[~]
└─$ ssh phenominal@127.0.0.1
ssh: connect to host 127.0.0.1 port 22: Connection refused

┌──(phenominal㉿phenominal)-[~]
└─$
```

Connection Refused.

6. Remove the Test Block Rule to Restore Original State

- **On Linux (UFW)**:

Run "**sudo ufw delete deny 23/tcp**". Confirm with "**sudo ufw status**".



7. Document Commands or GUI Steps Used

Create a log file (e.g., text document) and record each step, including exact commands/GUI actions, timestamps, and outcomes. Example:

Step 1: Opened firewall.cpl on Windows.
Step 2: Added inbound rule to block port 23 via GUI.
Step 3: Tested with nc -zv localhost 23; result: Connection refused.

This documentation helps track changes and troubleshoot.

8. *Summarize How Firewall Filters Traffic*

Firewalls act as a barrier between your system and the network, controlling inbound and outbound traffic based on rules. They filter packets by criteria like source/destination IP, port, protocol (e.g., TCP/UDP), and state (e.g., new vs. established connections). For example:

- **Inbound Filtering**: Blocks unwanted incoming connections (e.g., denying port 23 prevents Telnet access).
- **Outbound Filtering**: Restricts what your system can send out (less common but useful for malware prevention).
- **Default Behavior**: Most firewalls deny all inbound by default and allow outbound, requiring explicit "allow" rules for services like SSH.
- **Stateful Inspection**: Tracks connection states, allowing responses to outbound requests while blocking unsolicited inbound traffic. This layered approach enhances security by reducing attack surfaces, but over-restrictive rules can break functionality.

Thankyou ..