

Firewall Configuration and Testing Report

System: Terminal for UFW

Firewall Tool: 192.168.245.131

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Objective

The objective of this task is to configure basic firewall rules to:

- Allow essential traffic (SSH, HTTP/HTTPS, local loopback)
- Block unauthorized access (specific 192.168.245.131, used ports 80,8080)
- Test and verify the effectiveness of these rules

Configuration file showing firewall .

```
[root@kali]# sudo ufw status
Status: active

[root@kali]# sudo ufw status verbose
Logging: on (low)
Default: deny (incoming), allow (outgoing), disabled (routed)
New profiles: skip

[root@kali]# sudo ufw enable
Firewall is active and enabled on system startup (Ethernet)

[root@kali]# sudo ufw allow ssh
Rule added
Rule added (v6)

[root@kali]# sudo ufw allow 80/tcp
Rule added
Rule added (v6)

[root@kali]# sudo ufw allow 443/tcp
Rule added
Rule added (v6)

[root@kali]# sudo ufw allow from fe80::7930:83ec:e478:ea78
Rule added (v6)

[root@kali]# sudo ufw allow 8080/tcp
Rule added
Rule added (v6)
```

Terminal showing GUI.

```
(kali㉿kali)-[~]
└─$ sudo apt install gufw
Solving dependencies... Error!
Some packages could not be installed. This may mean that you have
requested an impossible situation or if you are using the unstable
distribution that some required packages have not yet been created
or been moved out of Incoming.
The following information may help to resolve the situation:

Unsatisfied dependencies:
  gir1.2-soup-3.0 : Depends: libsoup-3.0-0 (= 3.6.4-2) but 3.6.5-1 is to be installed
Error: Unable to correct problems, you have held broken packages.
Error: The following information from --solver 3.0 may provide additional context:
  Unable to satisfy dependencies. Reached two conflicting decisions:
  1. gir1.2-webkit2-4.1:amd64 Depends gir1.2-soup-3.0
     but none of the choices are installable:
      - gir1.2-soup-3.0:amd64 Depends libsoup-3.0-0 (= 3.6.4-2)
        but none of the choices are installable:
          - libsoup-3.0-0:amd64=3.6.4-2 is not selected for install
  2. gir1.2-webkit2-4.1:amd64 is selected for install because:
    1. gufw:amd64=24.04.0-2 is selected for install
    2. gufw:amd64 Depends gir1.2-webkit2-4.1

(kali㉿kali)-[~]
└─$
```

Port Locally Connect .

```

└─(kali㉿kali)-[~]
└─$ sudo ufw allow ssh
└─(root㉿kali)-[/home/kali]
Skipping adding existing rule
Skipping adding existing rule (v6) system startup

└─(kali㉿kali)-[~]● ufw
└─$ sudo ufw allow 22/tcp
# rule added
Skipping adding existing rule
Skipping adding existing rule (v6)
└─(root㉿kali)-[/home/kali]
└─(kali㉿kali)-[~]● ufw
└─$ sudo ufw allow ssh
# rule added by user
Skipping adding existing rule
Skipping adding existing rule (v6)
# rule added by user
└─(kali㉿kali)-[~]
└─$ sudo ufw enable

Firewall is active and enabled on system startup
# rule added from fe80::7930:83ec:e478:ea78
└─(kali㉿kali)-[~]
└─$ sudo ufw status verbose
└─(root㉿kali)-[/home/kali]
Status: active low 8080/tcp
Logging: on (low)
Default: deny (incoming), allow (outgoing), disabled (routed)
New profiles: skip
└─(root㉿kali)-[/home/kali]
To# sudo ufw deny 80/tcp      Action      From
--                                 —          —
22/tcp stated                  ALLOW IN   Anywhere
80/tcp stated (v6)             DENY IN   Anywhere
443/tcp                      ALLOW IN   Anywhere
8080/tcp@ kali)-[/home/kali] ALLOW IN   Anywhere
8080                         ufw deny 8080  DENY IN   Anywhere
22/tcp (v6)                   ALLOW IN   Anywhere (v6)
80/tcp (v6)                   DENY IN   Anywhere (v6)
443/tcp (v6)                 ALLOW IN   Anywhere (v6)
Anywhere (v6)                 ALLOW IN   fe80 :: 7930:83ec:e478:ea78
8080/tcp (v6)                ALLOW IN   Anywhere (v6)
8080 (v6)                     DENY IN   Anywhere (v6)

```

Remove the test block rule to restore original state.

```
(kali㉿kali)-[~]
$ sudo ufw delete deny 8080/tcp
Could not delete non-existent rule
Could not delete non-existent rule (v6)
(kali㉿kali)-[~]
$ sudo ufw delete deny 8080
Rule deleted
Rule deleted (v6) [http://kali1]
```

Local connection.

```
sudo adduser www-data
(kali㉿kali)-[~]
$ nc localhost 8080</kali>
# sudo ufw deny 80/tcp
localhost [127.0.0.1] 8080 (http-alt) : Connection refused
sudo updated
(kali㉿kali)-[~]
$ █
(root㉿kali)-[/home/kali]
# sudo ufw deny 8080
Rule added
Rule added (v6)
```

SSH Access TCP 22 ACCEPT Remote management

HTTP/HTTPS Access TCP 80/443 ACCEPT Web access

Block Specific IP All All DROP Prevents access from attacker



Conclusion

The firewall rules were successfully configured and tested. The system now blocks all unsolicited inbound traffic except for essential services, and malicious IP addresses can be blacklisted effectively.