```
ALLOWED] Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60
Packet details: {}
ALLOWED] Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: fe80::20c:29ff:fe1d:
Packet details: {'src_ip': '192.168.1.3', 'dst_ip': '192.168.1.255', 'protocol': 17, 'src_port': 44420
ALLOWED] Ether / IP / UDP 192.168.1.3:44420 > 192.168.1.255:15600 / Raw
█ Stats — Allowed: 777 | Blocked: 73
Packet details: {}
ALLOWED] Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60
Packet details: {}
ALLOWED] Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882c:8c69:
Packet details: {}
ALLOWED] Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60
Packet details: {}
ALLOWED] Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882c:8c69:
Packet details: {}
ALLOWED] 60:bd:2c:67:31:c0 > 01:80:c2:00:00:13 (0×893a) / Raw
Packet details: {'src_port': 42638, 'dst_port': 80, 'layer': 'TCP'}
ALLOWED] Ether / IPv6 / TCP 2401:4900:882c:8c69:e003:2072:b457:487b:42638 > 2600:1901:0:38d7:::http A
Packet details: {'src_ip': '192.168.1.7', 'dst_ip': '34.107.221.82', 'protocol': 6, 'src_port': 55786,
ALLOWED] Ether / IP / TCP 192.168.1.7:55786 > 34.107.221.82:http A
Packet details: {'src_ip': '34.107.221.82', 'dst_ip': '192.168.1.7', 'protocol': 6, 'src_port': 80, 'd
WARNING:root:BLOCKED: Ether / IP / TCP 34.107.221.82:http > 192.168.1.7:55786 A
BLOCKED] Ether / IP / TCP 34.107.221.82:http > 192.168.1.7:55786 A
Packet details: {'src_port': 80, 'dst_port': 42638, 'layer': 'TCP'}
WARNING:root:BLOCKED: Ether / IPv6 / TCP 2600:1901:0:38d7:::http > 2401:4900:882c:8c69:e003:2072:b457:
BLOCKED] Ether / IPv6 / TCP 2600:1901:0:38d7:::http > 2401:4900:882c:8c69:e003:2072:b457:487b:42638 A
C
```

```python
# Packet callback
def packet_callback(packet):
    if match_rules(packet, rules):
        logging.info(f"ALLOWED: {packet.summary()}")
        print(f"[ALLOWED] {packet.summary()}")
    else:
        logging.warning(f"BLOCKED: {packet.summary()}")
        print(f"[BLOCKED] {packet.summary()}")


if __name__ == "__main__":
    logging.basicConfig(filename="firewall.log",
                        level=logging.INFO,
                        format="%(asctime)s %(levelname)s: %(message)s")

    print("🚀 Personal Firewall started. Press Ctrl+C to stop.")
    rules = load_rules()
```

```
  Session  Actions  Edit  View  Help

┌──(kali㉿kali)-[~/Desktop/personal_firewall]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
└─# curl http://192.168.1.7

curl: (7) Failed to connect to 192.168.1.7 port 80 after 0 ms: Could not connect to server

┌──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
└─#
```

```
Session  Actions  Edit  View  Help

Every 1.0s: sudo iptables -L -v -n

Chain INPUT (policy ACCEPT 0 packets, 0 bytes)
 pkts bytes target     prot opt in      out      source                  destination

Chain FORWARD (policy ACCEPT 0 packets, 0 bytes)
 pkts bytes target     prot opt in      out      source                  destination

Chain OUTPUT (policy ACCEPT 2 packets, 100 bytes)
 pkts bytes target     prot opt in      out      source                  destination
  159 13356 DROP       icmp --  *       *        0.0.0.0/0               0.0.0.0/0
```

```
──(kali㊭kali)-[~/Desktop/personal_firewall]
─$ sudo su
sudo] password for kali:
──(root㊭kali)-[/home/kali/Desktop/personal_firewall]
─# sudo iptables -A OUTPUT -p icmp -j DROP
ing -4 8.8.8.8

ING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
```

| Start Monitoring | Stop Monitoring | Apply Rules (from JSON) | Flush rules added by script | Exit |

Rules (edit & apply)

Blocked IPs:

```
192.168.1.7
```

Blocked Ports:

```
80
```

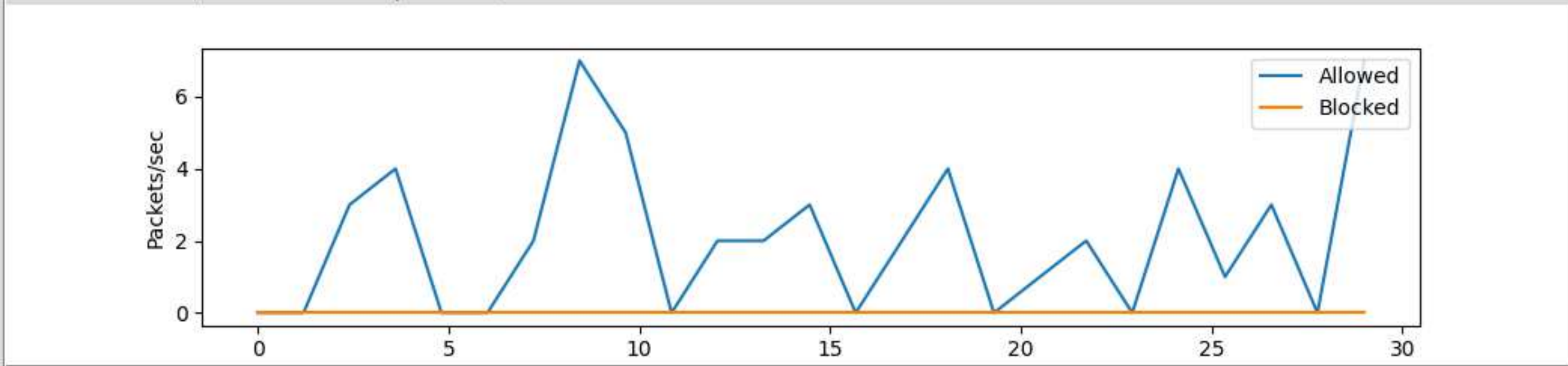| | Add IP | Remove IP |

| | Add Port | Remove Port |

■ Block ICMP (ping)

| Reload rules.json |

Live Log

```
- Neighbor Advertisement (tgt: 2401:4900:882d:75e6:25c6:b9f0:f19b:d6cd)
2025-10-09 13:48:07  [ALLOWED] unknown Ether / IPv6 / TCP 2401:4900:882d:75e6:cc
ea:ab5c:99bb:1a52:42875 > 2600:1417:2c::6011:b66b:https PA / Raw
2025-10-09 13:48:08  [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neigh
bor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 13:48:08  [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery
- Neighbor Advertisement (tgt: 2401:4900:882d:75e6:20c:29ff:fe1d:5b3d)
2025-10-09 13:48:08  [ALLOWED] unknown Ether / IP / UDP 192.168.1.3:60340 > 192.
168.1.255:15600 / Raw
2025-10-09 13:48:10  [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neigh
bor Discovery Option - Source Link-Layer Address 00:0c:29:1d:5b:3d
2025-10-09 13:48:10  [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery
- Neighbor Advertisement (tgt: fe80::1)
2025-10-09 13:48:10  [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neigh
bor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 13:48:10  [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neigh
bor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 13:48:10  [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery
- Neighbor Advertisement (tgt: fe80::20c:29ff:fe1d:5b3d)
2025-10-09 13:48:10  [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery
- Neighbor Advertisement (tgt: 2401:4900:882d:75e6:25c6:b9f0:f19b:d6cd)
2025-10-09 13:48:10  [ALLOWED] unknown Ether / IPv6 / TCP 2401:4900:882d:75e6:cc
ea:ab5c:99bb:1a52:12771 > 2600:1417:2c::6011:b603:https PA / Raw
```

Live Traffic Chart (Allowed vs Blocked per second)

Rules (edit & apply)

Blocked IPs:

```
192.168.1.7
```

Blocked Ports:

```
80
```

|			
	Add IP	Remove IP	
	Add Port	Remove Port	

■ Block ICMP (ping)

Reload rules.json

Live Log

```
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:20c:29ff:fe1d:5b3d)
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: fe80::20c:29ff:fe1d:5b3d)
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:25c6:b9f0:f19b:d6cd)
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 00:0c:29:1d:5b:3d
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: fe80::1)
2025-10-09 14:18:15   [ALLOWED] unknown Ether / ARP who has 192.168.1.2 says 192.168.1.1 / Padding
2025-10-09 14:18:15   [ALLOWED] unknown Ether / IP / UDP 192.168.1.3:54048 > 192.168.1.255:15600 / Raw
2025-10-09 14:18:16   [ALLOWED] unknown Ether / ARP who has 192.168.1.2 says 192.168.1.1 / Padding
2025-10-09 14:18:17   [ALLOWED] unknown Ether / ARP who has 192.168.1.2 says 192.168.1.1 / Padding
2025-10-09 14:18:18   [ALLOWED] unknown 60:bd:2c:67:31:c0 > 01:80:c2:00:00:13 (0x893a) / Raw
2025-10-09 14:18:18   [ALLOWED] unknown Ether / ARP who has 192.168.1.2 says 192.168.1.1 / Padding
2025-10-09 14:18:19   [ALLOWED] unknown Ether / ARP who has 192.168.1.2 says 192.168.1.1 / Padding
2025-10-09 14:18:20   [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:18:20   [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:20c:29ff:fe1d:5b3d)
2025-10-09 14:18:20   [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:18:20   [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: fe80::20c:29ff:fe1d:5b3d)
2025-10-09 14:18:20   [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:18:20   [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:25c6:b9f0:f19b:d6cd)
2025-10-09 14:18:20   [ALLOWED] unknown Ether / ARP who has 192.168.1.2 says 192.168.1.1 / Padding
2025-10-09 14:18:21   [ALLOWED] unknown 60:bd:2c:67:31:c0 > 01:80:c2:00:00:13 (0x893a) / Raw
2025-10-09 14:18:21   [ALLOWED] unknown Ether / ARP who has 192.168.1.2 says 192.168.1.1 / Padding
2025-10-09 14:18:21   [ALLOWED] unknown Ether / IP / UDP 192.168.1.3:43721 > 192.168.1.255:15600 / Raw
```

Live Traffic Chart (Allowed vs Blocked per second)
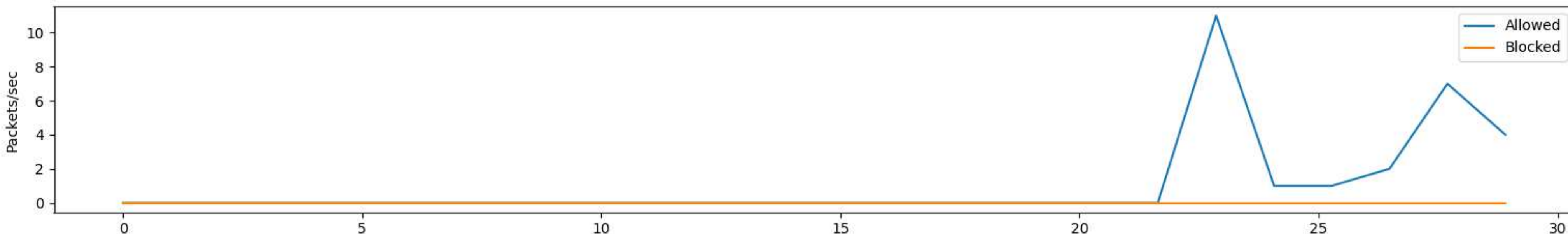
```
Session  Actions  Edit  View  Help

──(kali㉿kali)-[~/Desktop/personal_firewall]
─$ sudo su
[sudo] password for kali:
──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
─# ping -c 4 192.168.1.7
url http://192.168.1.7

PING 192.168.1.7 (192.168.1.7) 56(84) bytes of data.

─── 192.168.1.7 ping statistics ───
 packets transmitted, 0 received, 100% packet loss, time 3076ms

url: (7) Failed to connect to 192.168.1.7 port 80 after 0 ms: Could not connect to server

──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
─# sudo iptables -L -v -n --line-numbers

Chain INPUT (policy ACCEPT 189 packets, 12488 bytes)
um   pkts bytes target     prot opt in      out     source               destination
      0     0 DROP       icmp --  *       *       0.0.0.0/0            0.0.0.0/0

Chain FORWARD (policy ACCEPT 0 packets, 0 bytes)
um   pkts bytes target     prot opt in      out     source               destination

Chain OUTPUT (policy ACCEPT 2 packets, 100 bytes)
um   pkts bytes target     prot opt in      out     source               destination
      4   336 DROP       icmp --  *       *       0.0.0.0/0            0.0.0.0/0

──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
─# █
```

Session Actions Edit View Help

(kali㊀kali)-[~/Desktop/personal_firewall]
$ sudo su
[sudo] password for kali:
(root㊀kali)-[/home/kali/Desktop/personal_firewall]
tail -f firewall.log

```
2025-10-09 14:19:04,847 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:19:04,848 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:20c:29ff:fe1d:5b3d)
2025-10-09 14:19:04,848 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:19:04,848 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: fe80::20c:29ff:fe1d:5b3d)
2025-10-09 14:19:04,849 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-101-09 14:19:04,850 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:25c6:b9f0:f19b:d6cd)
2025-10-09 14:19:04,850 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 00:0c:29:1d:5b:3d
2025-101-09 14:19:04,850 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6::1)
2025-10-09 14:19:05,153 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6::1)
2025-10-09 14:19:05,242 INFO: [ALLOWED] unknown Ether / IP / TCP 192.168.1.8:8994 > 23.41.28.28:https PA / Raw
```

```
Session   Actions   Edit   View   Help

  ┌──(kali㉿kali)-[~/Desktop/personal_firewall]
  └─$ sudo su
[sudo] password for kali:
  ┌──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
  └─# tail -f firewall.log

2025-10-09 14:19:04,847 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:19:04,848 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:20c:29ff:fe1d:5b3d)
2025-10-09 14:19:04,848 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:19:04,848 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: fe80::20c:29ff:fe1d:5b3d)
2025-10-09 14:19:04,849 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 60:bd:2c:67:31:c0
2025-10-09 14:19:04,850 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6:25c6:b9f0:f19b:d6cd)
2025-10-09 14:19:04,850 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6ND_NS / ICMPv6 Neighbor Discovery Option - Source Link-Layer Address 00:0c:29:1d:5b:3d
2025-10-09 14:19:04,850 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6::1)
2025-10-09 14:19:05,153 INFO: [ALLOWED] unknown Ether / IPv6 / ICMPv6 Neighbor Discovery - Neighbor Advertisement (tgt: 2401:4900:882d:75e6::1)
2025-10-09 14:19:05,242 INFO: [ALLOWED] unknown Ether / IP / TCP 192.168.1.8:8994 > 23.41.28.28:https PA / Raw
```

```json
{
  "block_ips": [
    "192.168.1.8"
  ],
  "block_ports": [
    22
  ],
  "block_protocols": [
    "ICMP"
  ]
}
```

```
Session   Actions   Edit   View   Help

  ┌──(kali㉿kali)-[~/Desktop/personal_firewall]
  └─$ sudo su
[sudo] password for kali:
  ┌──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
  └─# source venv/bin/activate


  ┌──(venv)-(root㉿kali)-[/home/kali/Desktop/personal_firewall]
  └─# sudo ./venv/bin/python firewall.py4

Error loading rules.json: Expecting ',' delimiter: line 2 column 24 (char 25)
✔  Applied iptables rules from configuration.
🖊  Dynamic Firewall started. Type 'list' to see rules, 'exit' to stop.
firewall>  list
{
  "block_ips": [],
  "block_ports": [],
  "block_protocols": []
}
firewall> add ip 192.168.1.8
✔  Applied iptables rules from configuration.
✔  Added blocked IP: 192.168.1.8
firewall> add port 22
✔  Applied iptables rules from configuration.
✔  Added blocked port: 22
firewall> add protocol ICMP
✔  Applied iptables rules from configuration.
✔  Blocked ICMP (IPv4).
firewall> █
```

```json
{
  "block_ips": [
    "192.168.1.7",
    "192.168.1.8"
  ],
  "block_ports": [
    80
  ],
  "block_protocols": [
    "ICMP"
  ]
}
```

```json
{
    "block_ips": [
        "192.168.1.7",
        "192.168.1.8"
    ],
    "block_ports": [
        80,
        22
    ],
    "block_protocols": [
        "ICMP"
    ]
}
```

```json
{
    "block_ips": [
        "192.168.1.7",
        "192.168.1.8"
    ],
    "block_ports": [
        80,
        22,
        22
    ],
    "block_protocols": [
        "ICMP"
    ]
}
```

```
──(kali㉿kali)-[~/Desktop/personal_firewall]
─$ sudo su
[sudo] password for kali:
──(root㉿kali)-[/home/kali/Desktop/personal_firewall]
─# source venv/bin/activate


──(venv)─(root㉿kali)-[/home/kali/Desktop/personal_firewall]
─# sudo ./venv/bin/python firewall.py5

≡ Personal Firewall CLI Started ≡
Type 'monitor' to begin sniffing packets.
Type 'list' to view rules, 'exit' to quit.

firewall> list

    "block_ips": [
        "192.168.1.7",
        "192.168.1.8"
    ],
    "block_ports": [
        80,
        22,
        22
    ],
    "block_protocols": [
        "ICMP"
    ]

firewall> moniter
commands:
 list
 add ip <addr>
 add port <num>
 add protocol <name>
 remove ip <addr>
 remove port <num>
 remove protocol <name>
 monitor
 exit
firewall> monitor
Sniffer started ... (Ctrl+C to stop monitoring)
[BLOCKED] Ether / IP / ICMP 192.168.1.7 > 8.8.8.8 echo-request 0 / Raw
[BLOCKED] Ether / IP / ICMP 8.8.8.8 > 192.168.1.7 echo-reply 0 / Raw
[BLOCKED] Ether / IP / ICMP 192.168.1.7 > 8.8.8.8 echo-request 0 / Raw
[BLOCKED] Ether / IP / ICMP 8.8.8.8 > 192.168.1.7 echo-reply 0 / Raw
[BLOCKED] Ether / IP / ICMP 192.168.1.7 > 8.8.8.8 echo-request 0 / Raw
[BLOCKED] Ether / IP / ICMP 8.8.8.8 > 192.168.1.7 echo-reply 0 / Raw
```

```
firewall> remove port 22
Removed port: 22
firewall> list
{
    "block_ips": [
        "192.168.1.7"
    ],
    "block_ports": [
        80,
        22
    ],
    "block_protocols": [
        "ICMP"
    ]
}
firewall> exit
Exiting firewall CLI ...
```
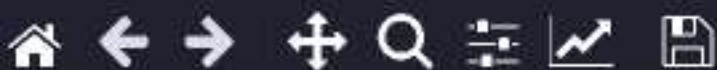
```
    (root kali)-[/home/kali/Desktop/personal_firewall]
 # ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=118 time=21.2 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=118 time=17.1 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=118 time=19.5 ms
^C
--- 8.8.8.8 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 17.138/19.293/21.233/1.678 ms

    (root kali)-[/home/kali/Desktop/personal_firewall]
 #
```

Blocked Packets per IP