Domain Blocker Task

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The Link to the Github Repo

Blocking a Domain Using `iptables` and `ip6tables` (Step-by-Step with Explanations)

Step-by-Step Domain Blocking Script

1. Create the Script File

```
nano DNStask.sh
```

Paste the following content:

```
#!/bin/bash
read -p "Enter Domain Name: " domain
for ip4 in $(dig +short "$domain" A); do
    echo "Blocking IPv4: $ip4"
    sudo iptables -A OUTPUT -d "$ip4" -j DROP
done
for ip6 in $(dig +short "$domain" AAAA); do
    echo "Blocking IPv6: $ip6"
    sudo ip6tables -A OUTPUT -d "$ip6" -j DROP
done

sudo iptables-save > /etc/rules.v4
sudo ip6tables-save > /etc/rules.v6

echo "Disallowed forwarding traffic to $domain"
cat /etc/rules.v6
cat /etc/rules.v4
```

2. Make the Script Executable

```
chmod +x DNStask.sh
```

Explanation of the Script Components

`read -p "Enter Domain Name: " domain`

- Prompts the user to enter the domain name to block.

Resolving and Blocking IPv4 Addresses

```
for ip4 in $(dig +short "$domain" A); do
    echo "Blocking IPv4: $ip4"
    sudo iptables -A OUTPUT -d "$ip4" -j DROP
done
```

- `dig +short "$domain" A`: Resolves all **IPv4** addresses of the domain.
- `iptables -A OUTPUT -d "$ip4" -j DROP`: Blocks outgoing traffic to each resolved IPv4 address.
  - `A OUTPUT`: Appends the rule to the OUTPUT chain (used for traffic from this machine).
  - `d "$ip4"`: Specifies the destination IP address.
  - `j DROP`: Silently drops matching packets.

Resolving and Blocking IPv6 Addresses

```
for ip6 in $(dig +short "$domain" AAAA); do
    echo "Blocking IPv6: $ip6"
    sudo ip6tables -A OUTPUT -d "$ip6" -j DROP
done
```

- `dig +short "$domain" AAAA`: Resolves all **IPv6** addresses of the domain.
- `ip6tables -A OUTPUT -d "$ip6" -j DROP`: Blocks outgoing IPv6 traffic to each resolved address.

Saving the Firewall Rules

```
sudo iptables-save > /etc/rules.v4
sudo ip6tables-save > /etc/rules.v6
```

- Saves the current IPv4 and IPv6 rules to files.
- These files can be reloaded later or used with `iptables-persistent`.

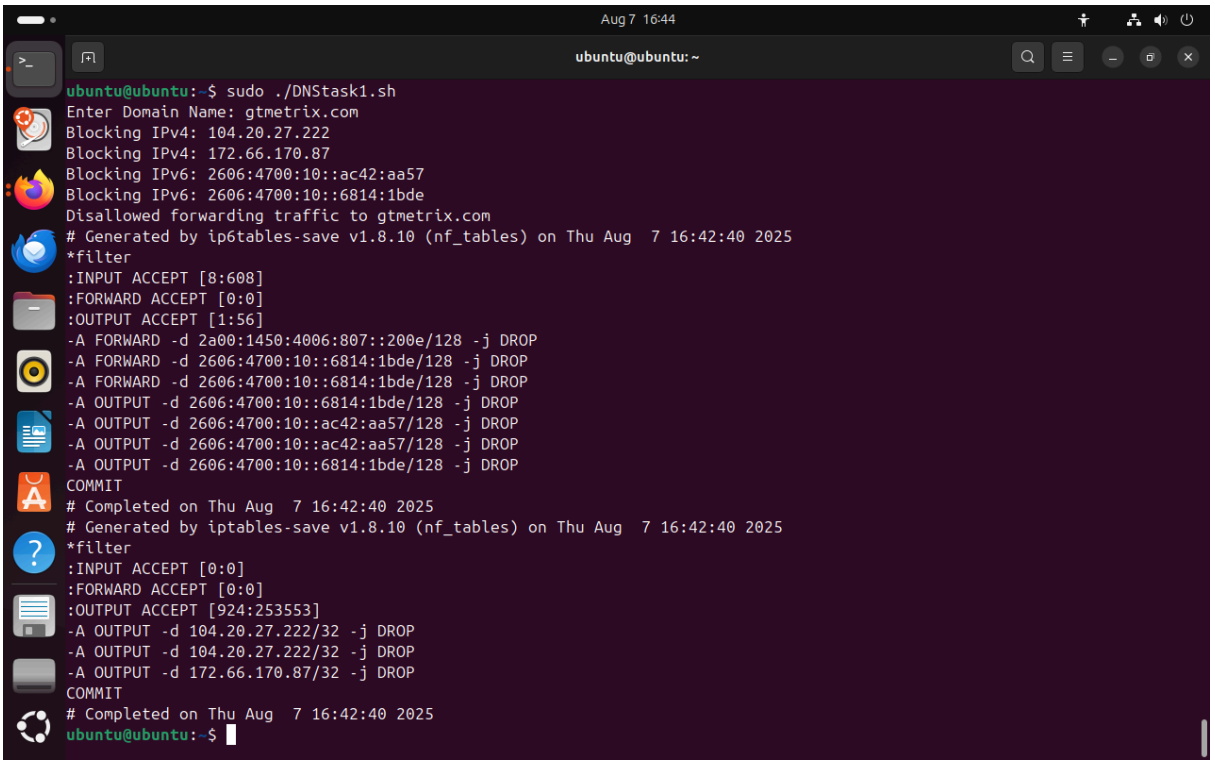
Verifying the Rules

```
cat /etc/rules.v4
cat /etc/rules.v6
```

Running the Script

```
sudo ./DNStask.sh
```

Output:



Verifying the Block

```
ubuntu@ubuntu:~$ ping gtmetrix.com
PING gtmetrix.com (104.20.27.222) 56(84) bytes of data.
^C
--- gtmetrix.com ping statistics ---
14 packets transmitted, 0 received, 100% packet loss, time 13330ms
```

you can find the testing video here

Challenges that faced me

- I kept editing the script but visiting the website worked then I figured out that I had to do a for loop and get all IPs because some websites' DNS are hosted on multiple IPs for load balancing.