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EXERCISE-9

Install and Configure Firewalls for a variety of options using iptables

Aim:

To install iptables and configure it for variety of options.

Common Configurations & outputs:

1. Start/stop/restart firewalls

```
[root@localhost ~]# systemctl start firewalld  
[root@localhost ~]# systemctl restart  
firewalld [root@localhost ~]# systemctl stop  
firewalld [root@localhost ~]#
```

2. Check all existing IPTables Firewall

Rules [root@localhost ~]# iptables -L -n -v
[root@localhost ~]#

3. Block specific IP Address(eg. 172.16.8.10) in IPTables

Firewall [root@localhost ~]# iptables -A INPUT -s 172.16.8.10 -j
DROP [root@localhost ~]#

4. Block specific port on IPTables Firewall

```
[root@localhost ~]# iptables -A OUTPUT -p tcp --dport xxx -j  
DROP [root@localhost ~]#
```

5. Allow specific network range on particular port on iptables

```
[root@localhost ~]# iptables -A OUTPUT -p tcp -d 172.16.8.0/24 --dport xxx -j ACCEPT  
[root@localhost ~]#
```

6. Block Facebook on IPTables

```
[root@localhost ~]# host facebook.com  
facebook.com has address  
157.240.24.35  
facebook.com has IPv6 address  
2a03:2880:f10c:283:face:b00c:0:25de facebook.com mail is handled  
by 10 smtpin.vvv.facebook.com.
```

```
[root@localhost ~]# whois 157.240.24.35 | grep  
CIDR CIDR: 157.240.0.0/16  
[root@localhost ~]#
```

```
[root@localhost ~]# whois  
157.240.24.35 [Querying whois.arin.net]  
[whois.arin.net]
```

```
#  
# ARIN WHOIS data and services are subject to the Terms of  
Use # available at:  
https://www.arin.net/resources/registry/whois/tou/ #  
# If you see inaccuracies in the results, please report at  
#  
https://www.arin.net/resources/registry/whois/inaccuracy\_reporting/  
#  
# Copyright 1997-2019, American Registry for Internet Numbers, Ltd.  
#
```

NetRange: 157.240.0.0 -
157.240.255.255 CIDR: 157.240.0.0/16
NetName: THEFA-3
NetHandle:
NET-157-240-0-0-1
Parent: NET157 (NET-157-0-0-0-0)
NetType: Direct
Assignment OriginAS:
Organization: Facebook, Inc. (THEFA-3)
RegDate: 2015-05-14
Updated: 2015-05-14
Ref: <https://rdap.arin.net/registry/ip/157.240.0.0>

OrgName: Facebook,
Inc. OrgId: THEFA-3
Address: 1601 Willow
Rd. City: Menlo Park
StateProv: CA
PostalCode: 94025
Country: US
RegDate:
2004-08-11
Updated: 2012-04-17
Ref: <https://rdap.arin.net/registry/entity/THEFA-3>

OrgTechHandle: OPERA82-ARIN
OrgTechName: Operations
OrgTechPhone: +1-650-543-4800
OrgTechEmail: domain@facebook.com
OrgTechRef: <https://rdap.arin.net/registry/entity/OPERA82-ARIN>

OrgAbuseHandle: OPERA82-ARIN
OrgAbuseName: Operations
OrgAbusePhone: +1-650-543-4800
OrgAbuseEmail: domain@facebook.com
OrgAbuseRef: <https://rdap.arin.net/registry/entity/OPERA82-ARIN>

```
#  
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https://www.arin.net/resources/registry/whois/inaccuracy_reporting/  
#  
# Copyright 1997-2019, American Registry for Internet Numbers, Ltd.  
#
```

[root@localhost ~]# iptables -A OUTPUT -p tcp -d 157.240.0.0/16 -j DROP
Open browser and check whether http://facebook.com is accessible

To allow facebook use -D instead of -A option

```
[root@localhost ~]# iptables -D OUTPUT -p tcp -d 157.240.0.0/16 -j DROP  
[root@localhost ~]#
```

6. Block Access to your system from specific MAC Address(say 0F:22:1E:00:02:30) [root@localhost ~]# iptables -A INPUT -m mac --mac-source 0F:22:1E:00:02:30 -j DROP [root@localhost ~]#

7. Save IPTables rules to a file

```
[root@localhost ~]# iptables-save > ~/iptables.rules  
[root@localhost ~]# vi iptables.rules  
[root@localhost ~]#
```

8. Restrict number of concurrent connections to a Server(Here restrict to 3 connections only)

```
[root@localhost ~]# iptables -A INPUT -p tcp --syn --dport 22 -m connlimit --connlimit-above 3 -j REJECT
```

9. Disable outgoing mails through IPTables

```
[root@localhost ~]# iptables -A OUTPUT -p tcp --dport 25 -j REJECT [root@localhost ~]#
```

10. Flush IPTables Firewall chains or rules

```
[root@localhost ~]# iptables -F  
[root@localhost ~]#
```

Result: Thus, the iptables has been installed successfully and it has been configured for variety of options.