Ex. No.: 11 **Date:**

INSTALL AND CONFIGURE IPTABLES FIREWALL

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 exitsting 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 specifig 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]

#
```

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If you see inaccuracies in the results, please report at
https://www.arin.net/resources/registry/whois/inaccuracy_reporting/
#

#

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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#
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#

[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 ~]#

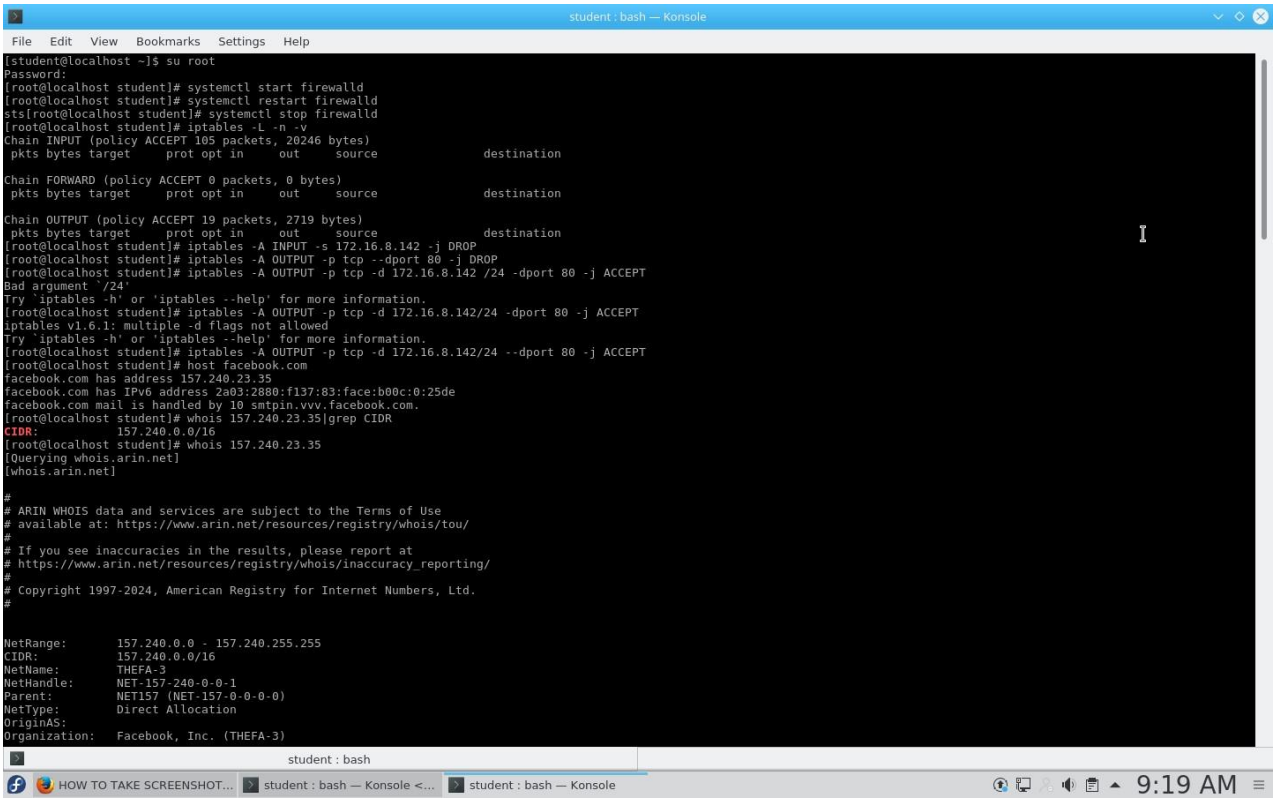
6. **Block Access to your system from specific MAC Address(say 0F:22:1E:00:02:30)**
[root@localhost ~]# iptables -A INPUT -m mac --mac-source 0F:22:1E:00:02:30 -j
DROP [root@localhost ~]#

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 ~]#


student : bash — Konsole
File Edit View Bookmarks Settings Help
[student@localhost ~]$ su root
Password:
[root@localhost student]# systemctl start firewalld
[root@localhost student]# systemctl restart firewalld
sts[root@localhost student]# systemctl stop firewalld
[root@localhost student]# iptables -L -n -v
Chain INPUT (policy ACCEPT 105 packets, 20246 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 19 packets, 2719 bytes)
pkts bytes target prot opt in out source destination
[root@localhost student]# iptables -A INPUT -s 172.16.8.142 -j DROP
[root@localhost student]# iptables -A OUTPUT -p tcp --dport 80 -j DROP
[root@localhost student]# iptables -A OUTPUT -p tcp -d 172.16.8.142 /24 -dport 80 -j ACCEPT
Bad argument `/24'
Try `iptables -h' or 'iptables --help' for more information.
[root@localhost student]# iptables -A OUTPUT -p tcp -d 172.16.8.142/24 -dport 80 -j ACCEPT
iptables v1.6.1: multiple -d flags not allowed
Try `iptables -h' or 'iptables --help' for more information.
[root@localhost student]# iptables -A OUTPUT -p tcp -d 172.16.8.142/24 --dport 80 -j ACCEPT
[root@localhost student]# host facebook.com
facebook.com has address 157.240.23.35
facebook.com has IPv6 address 2a03:2880:f137:83:face:b00c:0:25de
facebook.com mail is handled by 10 smtpin.vvv.facebook.com.
[root@localhost student]# whois 157.240.23.35|grep CIDR
CIDR: 157.240.0.0/16
[root@localhost student]# whois 157.240.23.35
[Querying whois.arin.net]
[whois.arin.net]
#
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https://www.arin.net/resources/registry/whois/inaccuracy_reporting/
#
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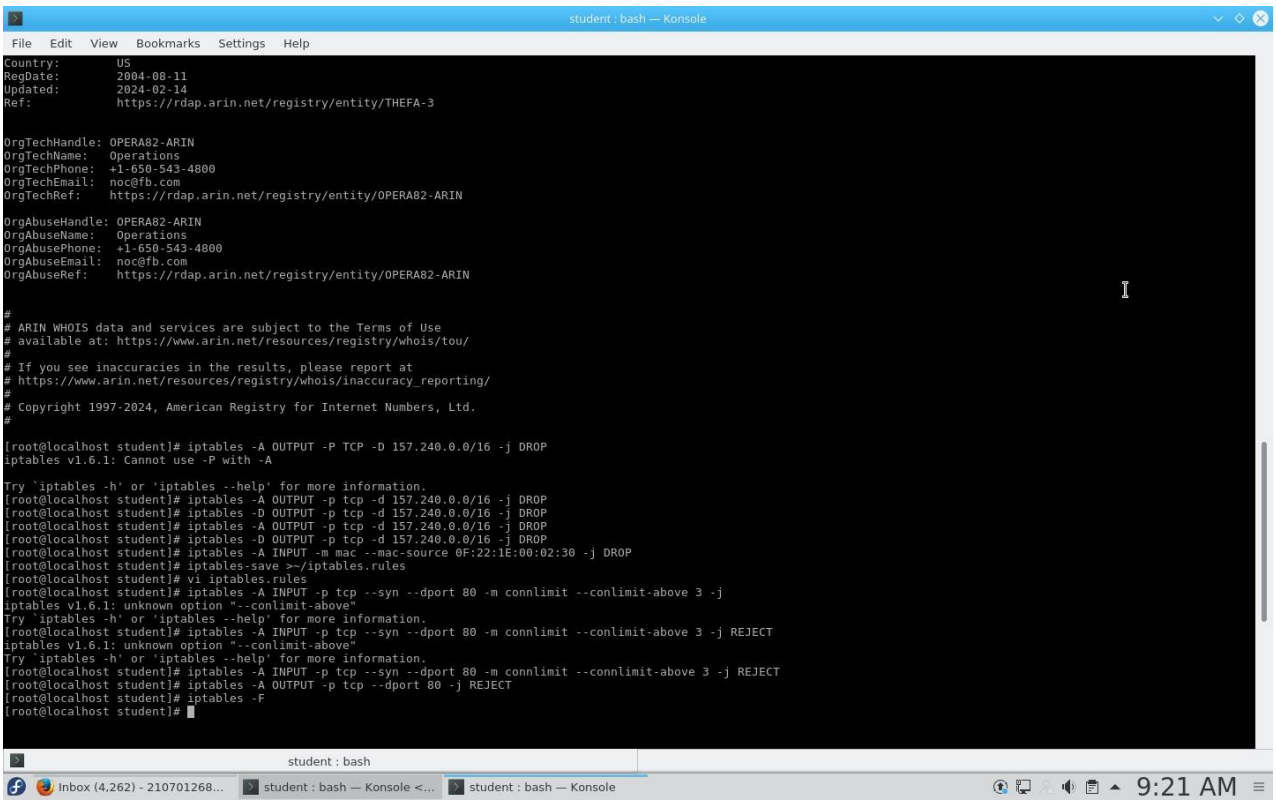
#
NetRange: 157.240.0.0 - 157.240.255.255
CIDR: 157.240.0.0/16
NetName: THEFA-3
NetHandle: NET-157-240-0-0-1
Parent: NET157 (NET-157-0-0-0-0)
NetType: Direct Allocation
OriginAS:
Organization: Facebook, Inc. (THEFA-3)
student : bash
HOW TO TAKE SCREENSHOT...
student : bash — Konsole <...
student : bash — Konsole
9:19 AM


student : bash — Konsole
File Edit View Bookmarks Settings Help
Country: US
RegDate: 2004-08-11
Updated: 2024-02-14
Ref: https://rdap.arin.net/registry/entity/THEFA-3
OrgTechHandle: OPERA82-ARIN
OrgTechName: Operations
OrgTechPhone: +1-650-543-4800
OrgTechEmail: noc@fb.com
OrgTechRef: https://rdap.arin.net/registry/entity/OPERA82-ARIN
OrgAbuseHandle: OPERA82-ARIN
OrgAbuseName: Operations
OrgAbusePhone: +1-650-543-4800
OrgAbuseEmail: noc@fb.com
OrgAbuseRef: https://rdap.arin.net/registry/entity/OPERA82-ARIN
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#
If you see inaccuracies in the results, please report at
https://www.arin.net/resources/registry/whois/inaccuracy_reporting/
#
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#
[root@localhost student]# iptables -A OUTPUT -P TCP -D 157.240.0.0/16 -j DROP
iptables v1.6.1: Cannot use -P with -A
Try `iptables -h' or 'iptables --help' for more information.
[root@localhost student]# iptables -A OUTPUT -p tcp -d 157.240.0.0/16 -j DROP
[root@localhost student]# iptables -D OUTPUT -p tcp -d 157.240.0.0/16 -j DROP
[root@localhost student]# iptables -A OUTPUT -p tcp -d 157.240.0.0/16 -j DROP
[root@localhost student]# iptables -D OUTPUT -p tcp -d 157.240.0.0/16 -j DROP
[root@localhost student]# iptables -A INPUT -m mac --mac-source 0F:22:1E:00:02:30 -j DROP
[root@localhost student]# iptables-save >~/iptables.rules
[root@localhost student]# vi iptables.rules
[root@localhost student]# iptables -A INPUT -p tcp --syn --dport 80 -m connlimit --conlimit-above 3 -j
iptables v1.6.1: unknown option "--conlimit-above"
Try `iptables -h' or 'iptables --help' for more information.
[root@localhost student]# iptables -A INPUT -p tcp --syn --dport 80 -m connlimit --conlimit-above 3 -j REJECT
iptables v1.6.1: unknown option "--conlimit-above"
Try `iptables -h' or 'iptables --help' for more information.
[root@localhost student]# iptables -A INPUT -p tcp --syn --dport 80 -m connlimit --connlimit-above 3 -j REJECT
[root@localhost student]# iptables -A OUTPUT -p tcp --dport 80 -j REJECT
[root@localhost student]# iptables -F
[root@localhost student]#
student : bash
Inbox (4,262) - 210701268...
student : bash — Konsole <...
student : bash — Konsole
9:21 AM

Result: