

INSTALL AND CONFIGURE IPTABLES FIREWALL

Aim:

To install iptables and configure it for a 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.
```

7. Whois

```
[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>

#

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.

[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 ~]#

8. 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 ~]#
```

9. Save IPtables rules to a file

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

```
[root@localhost ~]# vi iptables.rules
```

```
[root@localhost ~]#
```

10. 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
```

11. Disable outgoing mails through IPtables

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

```
[root@localhost ~]#
```

12. Flush IPtables Firewall chains or rules

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

```
[root@localhost ~]#
```

OUTPUT:

```
Applications Places System [Icons] [System] [MATE Terminal] Tue Apr 29, 11:03
MATE Terminal
File Edit View Search Terminal Help

NetRange: 157.248.0.0 - 157.248.255.255
CIDR: 157.248.0.0/16
NetName: THEFA-3
NetHandle: NET-157-248-0-0-1
Parent: NET157 (NET-157-0-0-0-0)
NetType: Direct Allocation
OriginAS:
Organization: Facebook, Inc. (THEFA-3)
RegDate: 2015-05-14
Updated: 2021-12-14
Ref: https://rdap.arin.net/registry/ip/157.248.0.0

OrgName: Facebook, Inc.
OrgId: THEFA-3
Address: 1601 Willow Rd.
City: Menlo Park
StateProv: CA
PostalCode: 94025
Country: US
RegDate: 2004-08-11
Updated: 2024-02-14
Ref: https://rdap.arin.net/registry/entity/THEFA-3

OrgAbuseHandle: OPERAB2-ARIN
OrgAbuseName: Operations
OrgAbusePhone: +1-650-543-4800
OrgAbuseEmail: nocfb.com
OrgAbuseRef: https://rdap.arin.net/registry/entity/OPERAB2-ARIN

OrgTechHandle: OPERAB2-ARIN
OrgTechName: Operations
OrgTechPhone: +1-650-543-4800
OrgTechEmail: nocfb.com
OrgTechRef: https://rdap.arin.net/registry/entity/OPERAB2-ARIN

#
# 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 1997-2025, American Registry for Internet Numbers, Ltd.
#

root@fedora: /home/student# iptables-save > /iptables.rules
root@fedora: /home/student# vi /iptables.rules
MATE Terminal [Inbox (3,914) - 220] [MATE Terminal]
```

```
Applications Places System [Icons] [System] [MATE Terminal] Tue Apr 29, 11:02
MATE Terminal
File Edit View Search Terminal Help

student@fedora:~$ su
Password:
su: Authentication failure
student@fedora:~$ su
Password:
root@fedora: /home/student# systemctl start firewalld
root@fedora: /home/student# systemctl restart firewalld
root@fedora: /home/student# host facebook.com
facebook.com has address 157.248.192.35
facebook.com has IPv6 address 2a03:2880:f137:182:face:b80c::25de
facebook.com mail is handled by 10 smtpin.vw.facebook.com.
root@fedora: /home/student# whois 157.248.24.35 | grep CIDR
CIDR: 157.248.0.0/16
root@fedora: /home/student# whois 157.248.24.35

#
# 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 1997-2025, American Registry for Internet Numbers, Ltd.
#

NetRange: 157.248.0.0 - 157.248.255.255
CIDR: 157.248.0.0/16
NetName: THEFA-3
NetHandle: NET-157-248-0-0-1
Parent: NET157 (NET-157-0-0-0-0)
NetType: Direct Allocation
OriginAS:
Organization: Facebook, Inc. (THEFA-3)
RegDate: 2015-05-14
Updated: 2021-12-14
Ref: https://rdap.arin.net/registry/ip/157.248.0.0

OrgName: Facebook, Inc.
OrgId: THEFA-3
Address: 1601 Willow Rd.
City: Menlo Park
StateProv: CA
PostalCode: 94025
Country: US
RegDate: 2004-08-11
Updated: 2024-02-14
Ref: https://rdap.arin.net/registry/entity/THEFA-3

MATE Terminal
```

RESULT:

To install and configure iptables and firewall is executed successfully.