

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

IP of the client is 10.0.2.15

```
sec@kali:~$ sudo ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
            RX packets 27 bytes 4371 (4.2 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 31 bytes 3081 (3.0 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
            loop txqueuelen 1000 (Local Loopback)
            RX packets 12 bytes 556 (556.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 12 bytes 556 (556.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

sec@kali:~\$ sudo -i ————— Switch to the user (root) of the client

root@kali:~# ls -l

No files or folders under the user (root) of the client

root@kali:~#

Kali-server [Running] - Oracle VM VirtualBox

Reboot Both Client and Server

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

IP of the server is 10.0.2.4

```
sec@kali:~$ sudo ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.4 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe2a:173b prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:2a:17:3b txqueuelen 1000 (Ethernet)
            RX packets 9 bytes 2290 (2.2 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 31 bytes 3081 (3.0 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
            loop txqueuelen 1000 (Local Loopback)
            RX packets 12 bytes 556 (556.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 12 bytes 556 (556.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

sec@kali:~\$ ls -l ————— List all files and folders under the user (sec) of the server

```
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
```

sec@kali:~\$

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser... — X

VM Testing Machine

File Machine View Input Devices Help sec@kali:~ 01:28 AM 79% Right Ctrl

File Actions Edit View Help sec@kali:~ Request for Remote Login (ssh) Service - Refused 01:28 AM 79% Right Ctrl

sec@kali:~\$ sudo ifconfig

eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::a00:27ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
RX packets 27 bytes 4371 (4.2 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 31 bytes 3081 (3.0 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 12 bytes 556 (556.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 556 (556.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

Switch from **sec** account to **root** account.

This is to prevent the confusion when we try to login into the **sec** account 10.0.2.4 from the **sec** account at 10.0.12.15

Trying to ssh (remote login) to the account (**sec**) on the server machine with IP address 10.0.2.4

ssh: connect to host 10.0.2.4 port 22: Connection refused

ssh (remote login) request is refused by the server (10.0.2.4) because the ssh service is inactive (dead).

Kali-server [Running] - Oracle VM VirtualBox

VM Server Machine

File Machine View Input Devices Help sec@kali:~ 01:28 AM 79% Right Ctrl

File Actions Edit View Help sec@kali:~ Request for Remote Login (ssh) Service - Refused 01:28 AM 79% Right Ctrl

sec@kali:~\$ sudo ifconfig

eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.4 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::a00:27ff:fe2a:173b prefixlen 64 scopeid 0x20<link>
ether 08:00:27:2a:17:3b txqueuelen 1000 (Ethernet)
RX packets 9 bytes 2290 (2.2 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
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TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 12 bytes 556 (556.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 556 (556.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~\$ ls -l

total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt

Check the status of ssh service

● ssh.service - OpenBSD Secure Shell server
 Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
 Active: inactive (dead)
 Docs: man:sshd(8)
 man:sshd_config(5)

sec@kali:~\$ sec@kali:~\$

File Machine View Input Devices Help sec@kali:~ 01:28 AM 79% Right Ctrl

File Actions Edit View Help sec@kali:~ Request for Remote Login (ssh) Service - Refused 01:28 AM 79% Right Ctrl

sec@kali:~\$ sudo ifconfig

eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.4 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::a00:27ff:fe2a:173b prefixlen 64 scopeid 0x20<link>
ether 08:00:27:2a:17:3b txqueuelen 1000 (Ethernet)
RX packets 9 bytes 2290 (2.2 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 31 bytes 3081 (3.0 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 12 bytes 556 (556.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 556 (556.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~\$ ls -l

total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt

Check the status of ssh service

● ssh.service - OpenBSD Secure Shell server
 Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
 Active: inactive (dead)
 Docs: man:sshd(8)
 man:sshd_config(5)

sec@kali:~\$ sec@kali:~\$

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006)

File Machine View Input Devices Help

sec@kali:~

sec@kali:~\$ sudo ifconfig

```
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
          ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
            RX packets 27 bytes 4371 (4.2 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 31 bytes 3081 (3.0 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
        inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
          loop txqueuelen 1000 (Local Loopback)
            RX packets 12 bytes 556 (556.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 12 bytes 556 (556.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

sec@kali:~\$ sudo -i

root@kali:~# ls -l

```
total 0
```

No files/folders under root account at 10.0.2.15 (client)

root@kali:~# ssh sec@10.0.2.4

ssh: connect to host 10.0.2.4 port 22: Connection refused

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

Request to ssh (remote login) into sec@10.0.2.4's password: Password of sec at 10.0.2.4 is required

Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

The programs included with the Kali GNU/Linux system are free software; the exact distribution terms for each program are described in the individual files in /usr/share/doc/*copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

Last login: Mon Mar 6 19:58:33 2023 from 10.0.2.15

sec@kali:~\$ ls -l

```
total 44
```

Successfully ssh (remote login) to the sec account

Able to display files and directories under sec account

```
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
```

sec@kali:~\$

sec@kali:~\$

The screenshot shows a Kali Linux desktop environment with a terminal window open. The terminal title is "Request for Remote Login (ssh) Service - Accepted". The terminal content shows the user has logged in as "sec@kali: ~" and is viewing system logs. The logs indicate the SSH service was started at 01:31:33 on March 07, 2023, and is currently active (running). The terminal also shows the user has run an "ls -l" command, listing files in the current directory, and an "ls target_hashes.txt" command.

```
Kali-server [Running] - Oracle VM VirtualBox
Request for Remote Login (ssh) Service - Accepted
File Watcher View Input Devices Help
1:33 AM 79% | sec@kali: ~
File Actions Edit View Help

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
            loop txqueuelen 1000 (Local Loopback)
            RX packets 12 bytes 556 (556.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 12 bytes 556 (556.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
    Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
    Active: inactive (dead)
      Docs: man:sshd(8)
             man:sshd_config(5)
sec@kali:~$ sudo service ssh start
● ssh.service - OpenBSD Secure Shell server
    Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
    Active: active (running) since Tue 2023-03-07 01:31:33 EST; 17s ago
      Docs: man:sshd(8)
             man:sshd_config(5)
    Process: 1304 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
   Main PID: 1305 (sshd)
      Tasks: 1 (limit: 2308)
     Memory: 2.5M
    CGroup: /system.slice/ssh.service
            └─1305 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Mar 07 01:31:33 kali systemd[1]: Starting OpenBSD Secure Shell server ...
Mar 07 01:31:33 kali sshd[1305]: Server listening on 0.0.0.0 port 22.
Mar 07 01:31:33 kali sshd[1305]: Server listening on :: port 22.
Mar 07 01:31:33 kali systemd[1]: Started OpenBSD Secure Shell server.
sec@kali:~$
```

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
RX packets 27 bytes 4371 (4.2 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 31 bytes 3081 (3.0 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 12 bytes 556 (556.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 556 (556.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~$ sudo -i
root@kali:~# ls -l
total 0
root@kali:~# ssh sec@10.0.2.4
ssh: connect to host 10.0.2.4 port 22: Connection refused
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

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permitted by applicable law.
Last login: Mon Mar  6 19:58:33 2023 from 10.0.2.15
sec@kali:~$
```

sec@kali:~\$ ls -l

```
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$
```

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 12 bytes 556 (556.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 556 (556.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$
```

Add a rule to block any request from the source (10.0.2.4)

Note: Block the wrong virtual machine (10.0.2.4)

```
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
    Active: inactive (dead)
      Docs: man:sshd(8)
             man:sshd_config(5)
sec@kali:~$ sec@kali:~$ sudo service ssh start
sec@kali:~$ sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
    Active: active (running) since Tue 2023-03-07 01:31:33 EST; 17s ago
      Docs: man:sshd(8)
             man:sshd_config(5)
            Process: 1304 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
           Main PID: 1305 (sshd)
             Tasks: 1 (limit: 2308)
            Memory: 2.5M
           CGroup: /system.slice/ssh.service
                     └─1305 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Mar 07 01:31:33 kali systemd[1]: Starting OpenBSD Secure Shell server...
Mar 07 01:31:33 kali sshd[1305]: Server listening on 0.0.0.0 port 22.
Mar 07 01:31:33 kali sshd[1305]: Server listening on :: port 22.
Mar 07 01:31:33 kali systemd[1]: Started OpenBSD Secure Shell server.

sec@kali:~$ sec@kali:~$ sudo iptables -A INPUT -s 10.0.2.4 -j DROP
sec@kali:~$ sec@kali:~$
```

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
total 0
root@kali:~# ssh sec@10.0.2.4
ssh: connect to host 10.0.2.4 port 22: Connection refused
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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permitted by applicable law.
Last login: Mon Mar  6 19:58:33 2023 from 10.0.2.15
sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$ exit
Exit from sec account at 10.0.2.4 (server).
logout
Connection to 10.0.2.4 closed.
root@kali:~#
```

Request to ssh (remote login) to sec@10.0.2.4

sec@10.0.2.4's password: **Request for the password of sec@10.0.2.4**

Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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individual files in /usr/share/doc/*copyright.

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permitted by applicable law.
Last login: Tue Mar 7 01:32:44 2023 from 10.0.2.15
sec@kali:~\$ exit
logout
Connection to 10.0.2.4 closed.
root@kali:~#

Successfully login

Logout from sec@10.0.2.4, and return to root@10.0.2.15 again.

Kali-server [Running] - Oracle VM VirtualBox

File Actions Edit View Help

```
loop txqueuelen 1000 (Local Loopback)
RX packets 12 bytes 556 (556.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 556 (556.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
  Active: inactive (dead)
    Docs: man:sshd(8)
          man:sshd_config(5)
sec@kali:~$ sudo service ssh start
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
  Active: active (running) since Tue 2023-03-07 01:31:33 EST; 17s ago
    Docs: man:sshd(8)
          man:sshd_config(5)
  Process: 1304 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
  Main PID: 1305 (sshd)
    Tasks: 1 (limit: 2308)
   Memory: 2.5M
  CGroup: /system.slice/ssh.service
          └─1305 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Mar 07 01:31:33 kali systemd[1]: Starting OpenBSD Secure Shell server...
Mar 07 01:31:33 kali sshd[1305]: Server listening on 0.0.0.0 port 22.
Mar 07 01:31:33 kali sshd[1305]: Server listening on :: port 22.
Mar 07 01:31:33 kali systemd[1]: Started OpenBSD Secure Shell server.

sec@kali:~$ sudo iptables -A INPUT -s 10.0.2.4 -j DROP
sec@kali:~$
```

Mistake: Block wrong source VM (10.0.2.4)

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

Block A Source VM Using A Rule of IPTABLES - Correct

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
total 0
root@kali:~# ssh sec@10.0.2.4
ssh: connect to host 10.0.2.4 port 22: Connection refused
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Mon Mar  6 19:58:33 2023 from 10.0.2.15
sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$ exit
Exit from sec account at 10.0.2.4 (server).
logout
Return to root account at 10.0.2.15 (client).
Connection to 10.0.2.4 closed.
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

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permitted by applicable law.
Last login: Tue Mar  7 01:32:44 2023 from 10.0.2.15
sec@kali:~# exit
ssh (remote login) to sec@10.0.2.4
logout
Connection to 10.0.2.4 closed.
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
^C
The process hangs. Use CTRL C to break it.
root@kali:~#
```

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
loop txqueuelen 1000 (Local Loopback)
RX packets 12 bytes 556 (556.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 556 (556.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
  Active: inactive (dead)
    Docs: man:sshd(8)
          man:sshd_config(5)
sec@kali:~$ sudo service ssh start
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
  Active: active (running) since Tue 2023-03-07 01:31:33 EST; 17s ago
    Docs: man:sshd(8)
          man:sshd_config(5)
        Process: 1304 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
      Main PID: 1305 (sshd)
        Tasks: 1 (limit: 2308)
       Memory: 2.5M
      CGroup: /system.slice/ssh.service
              └─1305 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Mar 07 01:31:33 kali systemd[1]: Starting OpenBSD Secure Shell server...
Mar 07 01:31:33 kali sshd[1305]: Server listening on 0.0.0.0 port 22.
Mar 07 01:31:33 kali sshd[1305]: Server listening on :: port 22.
Mar 07 01:31:33 kali systemd[1]: Started OpenBSD Secure Shell server.

sec@kali:~$ sudo iptables -A INPUT -s 10.0.2.4 -j DROP
sec@kali:~$ sudo iptables -A INPUT -s 10.0.2.15 -j DROP
sec@kali:~$ Add a correct rule to block any access from the client with IP address 10.0.2.15
```

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

Inspect and Delete Rules in IPTABLES

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
total 0
root@kali:~# ssh sec@10.0.2.4
ssh: connect to host 10.0.2.4 port 22: Connection refused
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali2-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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permitted by applicable law.
Last login: Mon Mar  6 19:58:33 2023 from 10.0.2.15
sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$ exit
logout
Connection to 10.0.2.4 closed.
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali2-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Tue Mar  7 01:32:44 2023 from 10.0.2.15
sec@kali:~$ exit
logout
Connection to 10.0.2.4 closed.
root@kali:~#
root@kali:~# ssh sec@10.0.2.4
^C
root@kali:~#
```

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
Tasks: 1 (limit: 2308)
Memory: 2.5M Home
CGroup: /system.slice/ssh.service
└─1305 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Mar 07 01:31:33 kali systemd[1]: Starting OpenBSD Secure Shell server...
Mar 07 01:31:33 kali sshd[1305]: Server listening on 0.0.0.0 port 22.
Mar 07 01:31:33 kali sshd[1305]: Server listening on :: port 22.
Mar 07 01:31:33 kali systemd[1]: Started OpenBSD Secure Shell server.

sec@kali:~$ sudo iptables -A INPUT -s 10.0.2.4 -j DROP
sec@kali:~$ sudo iptables -A INPUT -s 10.0.2.15 -j DROP
sec@kali:~$ sudo iptables -L --line-numbers
Chain INPUT (policy ACCEPT)
num  target     prot opt source          destination
1    DROP       all   --  10.0.2.4        anywhere
2    DROP       all   --  10.0.2.15       anywhere
                                         These two rules were added previously

Chain FORWARD (policy ACCEPT)
num  target     prot opt source          destination

Chain OUTPUT (policy ACCEPT)
num  target     prot opt source          destination
sec@kali:~$ sudo iptables -D INPUT 1
sec@kali:~$
```

Delete Rule 1 of INPUT chain (i.e., the rule to block 10.0.2.4)

```
sec@kali:~$ sudo iptables -L --line-numbers
Chain INPUT (policy ACCEPT)
num  target     prot opt source          destination
1    DROP       all   --  10.0.2.15       anywhere
                                         Only one rule left

Chain FORWARD (policy ACCEPT)
num  target     prot opt source          destination

Chain OUTPUT (policy ACCEPT)
num  target     prot opt source          destination
sec@kali:~$ sudo iptables -D INPUT 1
sec@kali:~$ sudo iptables -L --line-numbers
Chain INPUT (policy ACCEPT)
num  target     prot opt source          destination
                                         No more rule in the table

Chain FORWARD (policy ACCEPT)
num  target     prot opt source          destination

Chain OUTPUT (policy ACCEPT)
num  target     prot opt source          destination
sec@kali:~$
```

List rules with line numbers

Delete Rule 1 of INPUT chain (i.e., the rule to block 10.0.2.15)

List rules with line numbers

No more rule in the table

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

Remote Login to the Server Using ssh

File Machine View Input Devices Help

sec@kali: ~

File Actions Edit View Help

```
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$
```

sec@kali:~\$ exit

logout

Connection to 10.0.2.4 closed.

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

sec@10.0.2.4's password:

Linux kali 5.7.0-kali2-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

The programs included with the Kali GNU/Linux system are free software; the exact distribution terms for each program are described in the individual files in /usr/share/doc/*copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

Last login: Tue Mar 7 01:32:44 2023 from 10.0.2.15

sec@kali:~\$ exit

logout

Connection to 10.0.2.4 closed.

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

^C

root@kali:~# ssh sec@10.0.2.4

Request for password

sec@10.0.2.4's password:

ssh (remote login) to sec@10.0.2.4

Successfully login to sec@10.0.2.4

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

Last login: Tue Mar 7 01:43:35 2023 from 10.0.2.15

sec@kali:~\$ ls -l

total 44

```
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$
```

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali: ~

File Actions Edit View Help

Tasks: 1 (limit: 2308)

Memory: 2.5M Home

CGroup: /system.slice/sshd.service

└─1305 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Mar 07 01:31:33 kali systemd[1]: Starting OpenBSD Secure Shell server...
Mar 07 01:31:33 kali sshd[1305]: Server listening on 0.0.0.0 port 22.
Mar 07 01:31:33 kali sshd[1305]: Server listening on :: port 22.
Mar 07 01:31:33 kali systemd[1]: Started OpenBSD Secure Shell server.

sec@kali:~\$

sec@kali:~\$ sudo iptables -A INPUT -s 10.0.2.4 -j DROP

sec@kali:~\$

sec@kali:~\$ sudo iptables -A INPUT -s 10.0.2.15 -j DROP

sec@kali:~\$

sec@kali:~\$ sudo iptables -L --line-numbers

Chain	policy	target	prot	opt	source	destination	
INPUT (policy ACCEPT)	ACCEPT	num	target	prot	opt	source	
		1	DROP	all	--	10.0.2.4	anywhere
		2	DROP	all	--	10.0.2.15	anywhere

Chain FORWARD (policy ACCEPT)

Chain	policy	target	prot	opt	source	destination	
FORWARD (policy ACCEPT)	ACCEPT	num	target	prot	opt	source	destination

Chain OUTPUT (policy ACCEPT)

Chain	policy	target	prot	opt	source	destination	
OUTPUT (policy ACCEPT)	ACCEPT	num	target	prot	opt	source	destination

sec@kali:~\$

sec@kali:~\$ sudo iptables -D INPUT 1

sec@kali:~\$ sudo iptables -D INPUT 2

iptables: Index of deletion too big.

sec@kali:~\$

sec@kali:~\$ sudo iptables -L --line-numbers

Chain	policy	target	prot	opt	source	destination	
INPUT (policy ACCEPT)	ACCEPT	num	target	prot	opt	source	
		1	DROP	all	--	10.0.2.15	anywhere

Chain FORWARD (policy ACCEPT)

Chain	policy	target	prot	opt	source	destination
-------	--------	--------	------	-----	--------	-------------

Chain OUTPUT (policy ACCEPT)

Chain	policy	target	prot	opt	source	destination
-------	--------	--------	------	-----	--------	-------------

sec@kali:~\$

sec@kali:~\$ sudo iptables -L --line-numbers

Chain	policy	target	prot	opt	source	destination
-------	--------	--------	------	-----	--------	-------------

Chain INPUT (policy ACCEPT)

Chain	policy	target	prot	opt	source	destination
-------	--------	--------	------	-----	--------	-------------

sec@kali:~\$

All rules for blocking access to 10.0.2.4 have been removed.

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

Stop ssh Service at the Server and Test It By ssh Request from the Client

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
Connection to 10.0.2.4 closed.
root@kali:~# 
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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individual files in /usr/share/doc/*copyright.

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permitted by applicable law.
Last login: Tue Mar  7 01:32:44 2023 from 10.0.2.15
sec@kali:~$ exit
logout
Connection to 10.0.2.4 closed.
root@kali:~# 
root@kali:~# ssh sec@10.0.2.4
^C
root@kali:~# ssh sec@10.0.2.4
sec@10.0.2.4's password:
Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Tue Mar  7 01:43:35 2023 from 10.0.2.15
sec@kali:~$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~$ 
sec@kali:~$ exit
Logout from sec@10.0.2.4 and return to root@10.0.2.15
ssh (remote login) to sec@10.0.2.4
ssh service request was refused
```

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~

File Actions Edit View Help

```
num target prot opt source destination
Chain OUTPUT (policy ACCEPT)
num target prot opt source destination
sec@kali:~$ 
sec@kali:~$ sudo iptables -D INPUT 1
sec@kali:~$ sudo iptables -D INPUT 2
iptables: Index of deletion too big.
sec@kali:~$ 
sec@kali:~$ sudo iptables -L --line-numbers
Chain INPUT (policy ACCEPT)
num target prot opt source destination
1 DROP all -- 10.0.2.15 anywhere
Chain FORWARD (policy ACCEPT)
num target prot opt source destination
Chain OUTPUT (policy ACCEPT)
num target prot opt source destination
sec@kali:~$ sudo iptables -D INPUT 1
sec@kali:~$ sudo iptables -L --line-numbers
Chain INPUT (policy ACCEPT)
num target prot opt source destination
Chain FORWARD (policy ACCEPT)
num target prot opt source destination
Chain OUTPUT (policy ACCEPT)
num target prot opt source destination
sec@kali:~$ 
sec@kali:~$ sudo service ssh stop
[sudo] password for sec:
sec@kali:~$ 
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
  Active: inactive (dead)
    Docs: man:sshd(8)
          man:sshd_config(5)

Mar 07 01:32:43 kali sshd[1320]: Accepted password for sec from 10.0.2.15 port 41856 ssh2
Mar 07 01:32:43 kali sshd[1320]: pam_unix(sshd:session): session opened for user sec by (uid=0)
Mar 07 01:43:35 kali sshd[1411]: Accepted password for sec from 10.0.2.15 port 41858 ssh2
Mar 07 01:43:35 kali sshd[1411]: pam_unix(sshd:session): session opened for user sec by (uid=0)
Mar 07 02:09:47 kali sshd[1590]: Accepted password for sec from 10.0.2.15 port 41862 ssh2
Mar 07 02:09:47 kali sshd[1590]: pam_unix(sshd:session): session opened for user sec by (uid=0)
Mar 07 08:22:24 kali sshd[1305]: Received signal 15; terminating.
Mar 07 08:22:24 kali systemd[1]: Stopping OpenBSD Secure Shell server...
Mar 07 08:22:24 kali systemd[1]: ssh.service: Succeeded.
Mar 07 08:22:24 kali systemd[1]: Stopped OpenBSD Secure Shell server.
sec@kali:~$ 
sec@kali:~$ 
```

Stop the ssh service

Checking current status of ssh service

ssh service is currently inactive (dead)

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64-COMP3006 and Kali-ser...)

Enable http Server & Start http Service

File Machine View Input Devices Help

sec@kali:~#

File Actions Edit View Help

Connection to 10.0.2.4 closed.

root@kali:~# ssh sec@10.0.2.4

sec@10.0.2.4's password:

Linux kali 5.7.0-kalii-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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Last login: Tue Mar 7 01:32:44 2023 from 10.0.2.15

sec@kali:~\$ exit

logout

Connection to 10.0.2.4 closed.

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

^C

root@kali:~# ssh sec@10.0.2.4

sec@10.0.2.4's password:

Linux kali 5.7.0-kalii-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

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Last login: Tue Mar 7 01:43:35 2023 from 10.0.2.15

sec@kali:~\$ ls -l

total 44

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents

drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1

drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2

drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3

drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7

-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt

sec@kali:~\$

sec@kali:~\$ exit

logout

Connection to 10.0.2.4 closed.

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

ssh: connect to host 10.0.2.4 port 22: Connection refused

root@kali:~#

root@kali:~#

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~#

File Actions Edit View Help

sec@kali:~\$ sudo service ssh stop

[sudo] password for sec:

sec@kali:~\$

sec@kali:~\$ sudo service ssh status

● ssh.service - OpenBSD Secure Shell server

 Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)

 Active: inactive (dead)

 Docs: man:sshd(8)

 File system man:sshd_config(5)

Mar 07 01:32:43 kali sshd[1320]: Accepted password for sec from 10.0.2.15 port 41856 ssh2

Mar 07 01:32:43 kali sshd[1320]: pam_unix(sshd:session): session opened for user sec by (uid=0)

Mar 07 01:43:35 kali sshd[1411]: Accepted password for sec from 10.0.2.15 port 41858 ssh2

Mar 07 01:43:35 kali sshd[1411]: pam_unix(sshd:session): session opened for user sec by (uid=0)

Mar 07 02:09:47 kali sshd[1590]: Accepted password for sec from 10.0.2.15 port 41862 ssh2

Mar 07 02:09:47 kali sshd[1590]: pam_unix(sshd:session): session opened for user sec by (uid=0)

Mar 07 08:22:24 kali sshd[1305]: Received signal 15; terminating.

Mar 07 08:22:24 kali systemd[1]: Stopping OpenBSD Secure Shell server ...

Mar 07 08:22:24 kali systemd[1]: ssh.service: Succeeded.

Mar 07 08:22:24 kali systemd[1]: Stopped OpenBSD Secure Shell server.

sec@kali:~\$

sec@kali:~\$ sudo systemctl enable apache2

Enable http server at server side (10.0.2.4)

[sudo] password for sec:

Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemv-install.

Executing: /lib/systemd/systemv-install enable apache2

Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.

sec@kali:~\$

sec@kali:~\$ sudo systemctl start apache2

Start http service at server side (10.0.2.4)

sec@kali:~\$

sec@kali:~\$ sudo service apache2 status

● apache2.service - The Apache HTTP Server

 Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)

 Active: active (running) since Tue 2023-03-07 08:58:56 EST; 1min 57s ago

 Docs: https://httpd.apache.org/docs/2.4/

 Process: 3553 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)

 Main PID: 3564 (apache2)

 Tasks: 6 (limit: 2308)

 Memory: 18.0M

 CGroup: /system.slice/apache2.service

 └─3564 /usr/sbin/apache2 -k start

 └─3565 /usr/sbin/apache2 -k start

 └─3566 /usr/sbin/apache2 -k start

 └─3567 /usr/sbin/apache2 -k start

 └─3568 /usr/sbin/apache2 -k start

 └─3569 /usr/sbin/apache2 -k start

http service is currently active (running)

Mar 07 08:58:55 kali systemd[1]: Starting The Apache HTTP Server ...

Mar 07 08:58:55 kali apachectl[3563]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 10.0.2.4. You probably need to update your server's configuration.

Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.

sec@kali:~\$

sec@kali:~\$

Right Ctrl

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64-COMP3006 and Kali-ser...)

Enable http Server & Start http Service

File Machine View Input Devices Help

sec@kali:~#

File Actions Edit View Help

Connection to 10.0.2.4 closed.

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

sec@10.0.2.4's password:

Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

Last login: Tue Mar 7 01:32:44 2023 from 10.0.2.15

sec@kali:~\$ exit

logout

Connection to 10.0.2.4 closed.

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

^C

root@kali:~# ssh sec@10.0.2.4

sec@10.0.2.4's password:

Linux kali 5.7.0-kali1-amd64 #1 SMP Debian 5.7.6-1kali2 (2020-07-01) x86_64

The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

Last login: Tue Mar 7 01:43:35 2023 from 10.0.2.15

sec@kali:~\$ ls -l

total 44

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents

drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1

drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2

drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3

drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7

-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt

sec@kali:~\$

sec@kali:~\$ exit

logout

Connection to 10.0.2.4 closed.

root@kali:~#

root@kali:~# ssh sec@10.0.2.4

ssh: connect to host 10.0.2.4 port 22: Connection refused

root@kali:~#

root@kali:~#

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~#

File Actions Edit View Help

sec@kali:~\$ sudo service ssh stop

[sudo] password for sec:

sec@kali:~\$

sec@kali:~\$ sudo service ssh status

● ssh.service - OpenBSD Secure Shell server

 Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)

 Active: inactive (dead)

 Docs: man:sshd(8)

 File system man:sshd_config(5)

Mar 07 01:32:43 kali sshd[1320]: Accepted password for sec from 10.0.2.15 port 41856 ssh2

Mar 07 01:32:43 kali sshd[1320]: pam_unix(sshd:session): session opened for user sec by (uid=0)

Mar 07 01:43:35 kali sshd[1411]: Accepted password for sec from 10.0.2.15 port 41858 ssh2

Mar 07 01:43:35 kali sshd[1411]: pam_unix(sshd:session): session opened for user sec by (uid=0)

Mar 07 02:09:47 kali sshd[1590]: Accepted password for sec from 10.0.2.15 port 41862 ssh2

Mar 07 02:09:47 kali sshd[1590]: pam_unix(sshd:session): session opened for user sec by (uid=0)

Mar 07 08:22:24 kali sshd[1305]: Received signal 15; terminating.

Mar 07 08:22:24 kali systemd[1]: Stopping OpenBSD Secure Shell server ...

Mar 07 08:22:24 kali systemd[1]: ssh.service: Succeeded.

Mar 07 08:22:24 kali systemd[1]: Stopped OpenBSD Secure Shell server.

sec@kali:~\$

sec@kali:~\$ sudo systemctl enable apache2

Enable http server at server side (10.0.2.4)

[sudo] password for sec:

Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemv-install.

Executing: /lib/systemd/systemv-install enable apache2

Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.

sec@kali:~\$

sec@kali:~\$ sudo systemctl start apache2

Start http service at server side (10.0.2.4)

sec@kali:~\$

sec@kali:~\$ sudo service apache2 status

● apache2.service - The Apache HTTP Server

 Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)

 Active: active (running) since Tue 2023-03-07 08:58:56 EST; 1min 57s ago

 Docs: https://httpd.apache.org/docs/2.4/

 Process: 3553 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)

 Main PID: 3564 (apache2)

 Tasks: 6 (limit: 2308)

 Memory: 18.0M

 CGroup: /system.slice/apache2.service

 └─3564 /usr/sbin/apache2 -k start

 ├─3565 /usr/sbin/apache2 -k start

 ├─3566 /usr/sbin/apache2 -k start

 ├─3567 /usr/sbin/apache2 -k start

 ├─3568 /usr/sbin/apache2 -k start

 └─3569 /usr/sbin/apache2 -k start

http service is currently active (running)

Mar 07 08:58:55 kali systemd[1]: Starting The Apache HTTP Server ...

Mar 07 08:58:55 kali apachectl[3563]: AH00558: apache2: Could not reliably determine the server's fully qualified d

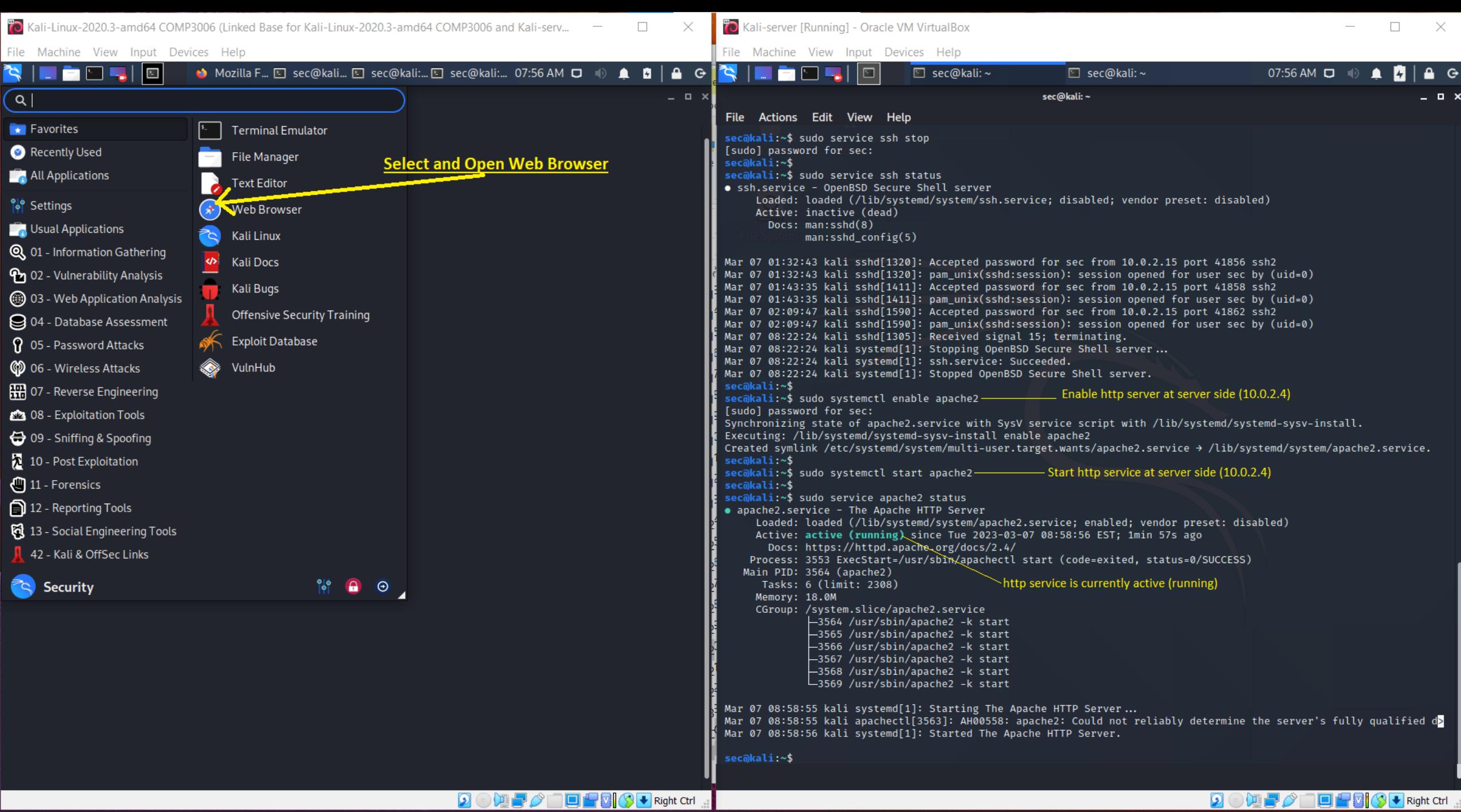
Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.

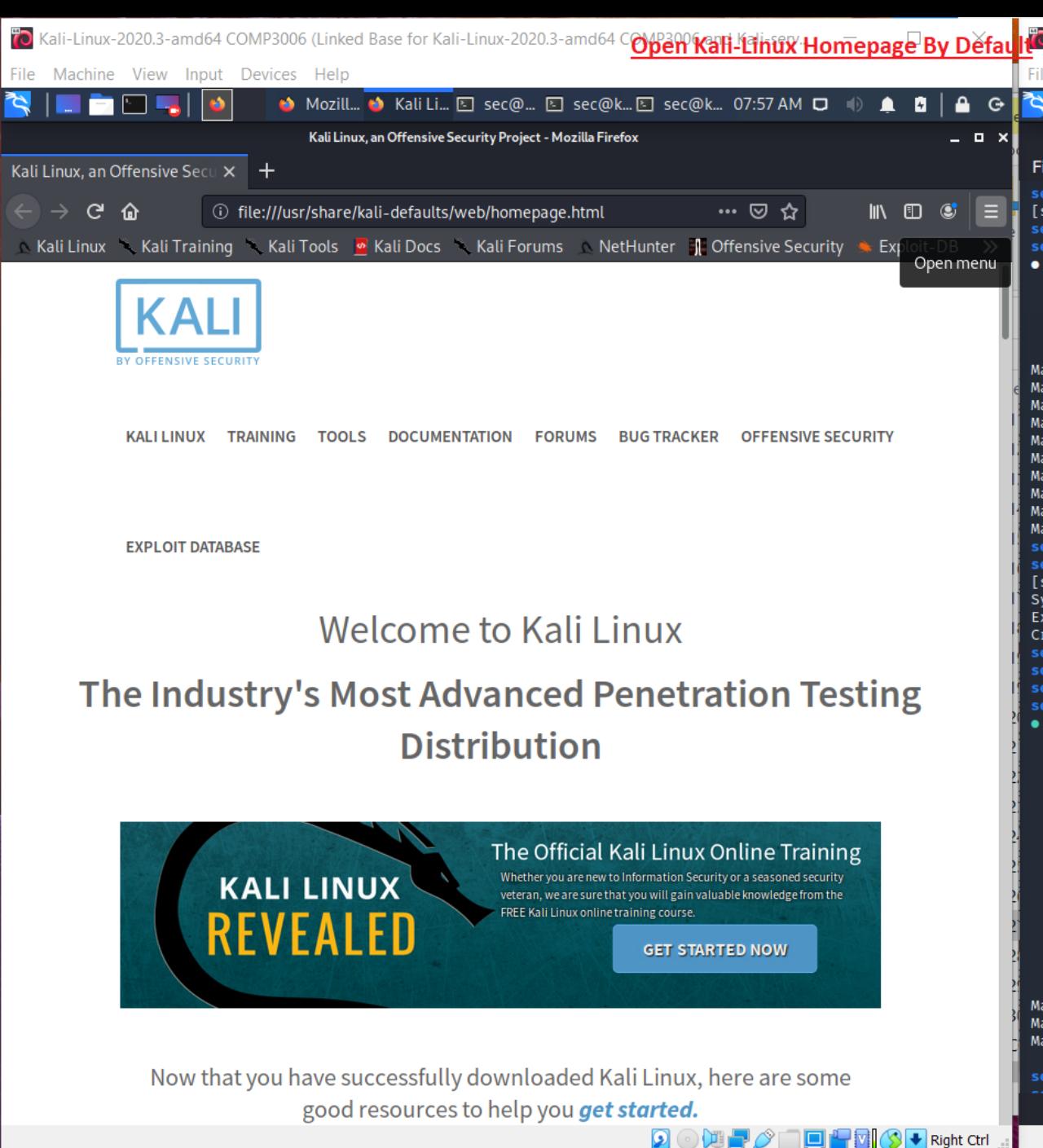
sec@kali:~\$

sec@kali:~\$

Right Ctrl

Right Ctrl





Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~ sec@kali:~ sec@kali:~

File Actions Edit View Help

```
sec@kali:~$ sudo service ssh stop
[sudo] password for sec:
sec@kali:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/lib/systemd/system/ssh.service; disabled; vendor preset: disabled)
  Active: inactive (dead)
    Docs: man:sshd(8)
      File System man:sshd_config(5)

Mar 07 01:32:43 kali sshd[1320]: Accepted password for sec from 10.0.2.15 port 41856 ssh2
Mar 07 01:32:43 kali sshd[1320]: pam_unix(sshd:session): session opened for user sec by (uid=0)
Mar 07 01:43:35 kali sshd[1411]: Accepted password for sec from 10.0.2.15 port 41858 ssh2
Mar 07 01:43:35 kali sshd[1411]: pam_unix(sshd:session): session opened for user sec by (uid=0)
Mar 07 02:09:47 kali sshd[1590]: Accepted password for sec from 10.0.2.15 port 41862 ssh2
Mar 07 02:09:47 kali sshd[1590]: pam_unix(sshd:session): session opened for user sec by (uid=0)
Mar 07 08:22:24 kali sshd[1305]: Received signal 15; terminating.
Mar 07 08:22:24 kali systemd[1]: Stopping OpenBSD Secure Shell server ...
Mar 07 08:22:24 kali systemd[1]: ssh.service: Succeeded.
Mar 07 08:22:24 kali systemd[1]: Stopped OpenBSD Secure Shell server.
```

sec@kali:~\$

sec@kali:~\$ sudo systemctl enable apache2 ————— Enable http server at server side (10.0.2.4)

[sudo] password for sec:

```
Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
```

sec@kali:~\$

sec@kali:~\$ sudo systemctl start apache2 ————— Start http service at server side (10.0.2.4)

sec@kali:~\$

sec@kali:~\$ sudo service apache2 status

```
● apache2.service - The Apache HTTP Server
  Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)
  Active: active (running) since Tue 2023-03-07 08:58:56 EST; 1min 57s ago
    Docs: https://httpd.apache.org/docs/2.4/
 Process: 3553 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 3564 (apache2)
   Tasks: 6 (limit: 2308)
  Memory: 18.0M
 CGroup: /system.slice/apache2.service
         └─3564 /usr/sbin/apache2 -k start
             ├─3565 /usr/sbin/apache2 -k start
             ├─3566 /usr/sbin/apache2 -k start
             ├─3567 /usr/sbin/apache2 -k start
             ├─3568 /usr/sbin/apache2 -k start
             └─3569 /usr/sbin/apache2 -k start
```

http service is currently active (running)

```
Mar 07 08:58:55 kali systemd[1]: Starting The Apache HTTP Server ...
Mar 07 08:58:55 kali apachectl[3563]: AH00558: apache2: Could not reliably determine the server's fully qualified d
Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.
```

sec@kali:~\$

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

File Machine View Input Devices Help

Mozilla Firefox

10.0.2.4/

10.0.2.4

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Apache on Kali Linux

Type the IP address of the server (10.0.2.4) which provides http service

The message "Apache on Kali Linux" in the index.html will be displayed.

Client (10.0.2.15) Requests for HTTP Service from the Server (10.0.2.4)

sec@kali:~\$ sudo systemctl enable apache2
[sudo] password for sec:
Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
sec@kali:~\$ sudo systemctl start apache2
sec@kali:~\$ sudo service apache2 status
● apache2.service - The Apache HTTP Server
 Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)
 Active: active (running) since Tue 2023-03-07 08:58:56 EST; 1min 57s ago
 Docs: https://httpd.apache.org/docs/2.4/
 Process: 3553 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 3564 (apache2)
 Tasks: 6 (limit: 2308)
 Memory: 18.0M
 CGroup: /system.slice/apache2.service
 └─3564 /usr/sbin/apache2 -k start
 ├─3565 /usr/sbin/apache2 -k start
 ├─3566 /usr/sbin/apache2 -k start
 ├─3567 /usr/sbin/apache2 -k start
 ├─3568 /usr/sbin/apache2 -k start
 └─3569 /usr/sbin/apache2 -k start

Mar 07 08:58:55 kali systemd[1]: Starting The Apache HTTP Server ...
Mar 07 08:58:55 kali apachectl[3563]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using kali. You probably need to
Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.

sec@kali:~\$ echo Apache on Kali Linux > index.html
sec@kali:~\$ cat index.html
Apache on Kali Linux
sec@kali:~\$
sec@kali:~\$ sudo mv index.html /var/www/html
sec@kali:~\$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~\$
sec@kali:~\$

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

File Machine View Input Devices Help

Problem loading page - ... Mozilla Firefox

Problem loading page - Mozilla Firefox

10:51 AM 79% Right Ctrl

Problem loading page - Mozilla Firefox

10.0.2.4

Kali Linux Kali Training Kali Tools Kali Docs Kali Forums NetHunter Offensive Security

http://10.0.2.4 followed by ENTER

Failed to connect (http) to the server 10.0.2.4

The connection has timed out

The server at 10.0.2.4 is taking too long to respond.

- The site could be temporarily unavailable or too busy. Try again in a few moments.
- If you are unable to load any pages, check your computer's network connection.
- If your computer or network is protected by a firewall or proxy, make sure that Firefox is permitted to access the Web.

Try Again

Connecting to 10.0.2.4...

Adding IPTABLES Rule to Block HTTP Service Request to the Server

sec@kali:~

File Actions Edit View Help

Executing: /lib/systemd/systemd-sysv-install enable apache2
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
sec@kali:~\$
sec@kali:~\$ sudo systemctl start apache2
sec@kali:~\$
sec@kali:~\$ sudo service apache2 status
● apache2.service - The Apache HTTP Server
 Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)
 Active: active (running) since Tue 2023-03-07 08:58:56 EST; 1min 57s ago
 Docs: https://httpd.apache.org/docs/2.4/
 Process: 3553 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 3564 (apache2)
 Tasks: 6 (limit: 2308)
 Memory: 18.0M
 CGroup: /system.slice/apache2.service
 └─3564 /usr/sbin/apache2 -k start
 ├─3565 /usr/sbin/apache2 -k start
 ├─3566 /usr/sbin/apache2 -k start
 ├─3567 /usr/sbin/apache2 -k start
 ├─3568 /usr/sbin/apache2 -k start
 └─3569 /usr/sbin/apache2 -k start

Failed because iptables command requires super user privilege (sudo)

Rule in INPUT chain
Option -i for checking incoming service request
Through Network Adapter 1
TCP not UDP protocol
HTTP service is TCP, not UDP

Mar 07 08:58:55 kali systemd[1]: Starting The Apache HTTP Server ...
Mar 07 08:58:55 kali apachectl[3563]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 10.0.2.4. Your server number may be wrong.
Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.

sec@kali:~\$
sec@kali:~\$ echo Apache on Kali Linux > index.html
sec@kali:~\$ cat index.html
Apache on Kali Linux
sec@kali:~\$
sec@kali:~\$ sudo mv index.html /var/www/html
sec@kali:~\$
sec@kali:~\$ ls -l
total 44
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1
drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2
drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3
drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
sec@kali:~\$
sec@kali:~\$ iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP
bash: iptables: command not found
sec@kali:~\$ sudo iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP
[sudo] password for sec: Password for user (sec) is required
sec@kali:~\$

Successful after adding sudo
Password for user (sec) is required

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

Delete Rule for Blocking HTTP Request from Client

Mozilla Firefox 10:57 AM 79% sec@kali: ~

File Machine View Input Devices Help

10.0.2.4/ + Mozilla Firefox

10.0.2.4 Kali Linux Kali Training Kali Tools Kali Docs Kali Forums NetHunter Offensive Security

Apache on Kali Linux

http://10.0.2.4 followed by ENTER

Display message "Apache on Kali Linux", which is in the index.html

Kali-server [Running] - Oracle VM VirtualBox 10:57 AM 79% sec@kali: ~

File Machine View Input Devices Help

sec@kali:~\$ Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.

sec@kali:~\$ echo Apache on Kali Linux > index.html

sec@kali:~\$ cat index.html

Apache on Kali Linux

sec@kali:~\$

sec@kali:~\$ sudo mv index.html /var/www/html

sec@kali:~\$

sec@kali:~\$ ls -l

total 44

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Desktop

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 Documents

drwxr-xr-x 2 sec sec 4096 Nov 18 2020 Downloads

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab1

drwxr-xr-x 4 sec sec 4096 Nov 18 2020 lab2

drwxr-xr-x 2 sec sec 4096 Nov 18 2020 lab3

drwxr-xr-x 6 sec sec 4096 Nov 17 2020 lab4

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab5

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6

drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7

-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt

sec@kali:~\$

sec@kali:~\$ iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP

bash: iptables: command not found

sec@kali:~\$ sudo iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP

[sudo] password for sec:

sec@kali:~\$

sec@kali:~\$ sudo iptables -L --line-numbers

List rules with line numbers in the table

Chain INPUT (policy ACCEPT)

num	target	prot	opt	source	destination
1	DROP	tcp	--	anywhere	anywhere

tcp dpt:http Only one rule added previously to block http service request

Chain FORWARD (policy ACCEPT)

num	target	prot	opt	source	destination

Chain OUTPUT (policy ACCEPT)

num	target	prot	opt	source	destination

sec@kali:~\$

sec@kali:~\$ sudo iptables -D INPUT 1

Delete Rule 1, which is the rule added earlier for blocking http service request

sec@kali:~\$

sec@kali:~\$ sudo iptables -L --line-numbers

List the rules again

Chain INPUT (policy ACCEPT)

num	target	prot	opt	source	destination

Chain FORWARD (policy ACCEPT)

num	target	prot	opt	source	destination

No more rule in the table

Chain OUTPUT (policy ACCEPT)

num	target	prot	opt	source	destination

sec@kali:~\$

sec@kali:~\$

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-ser...)

File Machine View Input Devices Help

Stop HTTP Service & Test HTTP Request at Client

Problem loading page - ... 11:00 AM 79% Right Ctrl

Problem loading page - Mozilla Firefox

File Machine View Input Devices Help

Problem loading page - Mozilla Firefox 11:00 AM 79% Right Ctrl

Problem loading page x + 10.0.2.4 sec@kali: ~

Kali Linux Kali Training Kali Tools Kali Docs Kali Forums NetHunter Offensive Security

http://10.0.2.4

Unable to connect

Firefox can't establish a connection to the server at 10.0.2.4.

- The site could be temporarily unavailable or too busy. Try again in a few moments.
- If you are unable to load any pages, check your computer's network connection.
- If your computer or network is protected by a firewall or proxy, make sure that Firefox is permitted to access the Web.

Try Again

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali: ~

File Actions Edit View Help

```
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6  
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7  
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt
```

```
sec@kali:~$  
sec@kali:~$ iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP  
bash: iptables: command not found  
sec@kali:~$ sudo iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP  
[sudo] password for sec:  
sec@kali:~$  
sec@kali:~$ sudo iptables -L --line-numbers  
Chain INPUT (policy ACCEPT)  
num target prot opt source destination  
1 DROP tcp -- anywhere anywhere tcp dpt:http  
  
Chain FORWARD (policy ACCEPT)  
num target prot opt source destination  
  
Chain OUTPUT (policy ACCEPT)  
num target prot opt source destination  
sec@kali:~$  
sec@kali:~$ sudo iptables -D INPUT 1  
sec@kali:~$  
sec@kali:~$ sudo iptables -L --line-numbers  
Chain INPUT (policy ACCEPT)  
num target prot opt source destination  
  
Chain FORWARD (policy ACCEPT)  
num target prot opt source destination  
  
Chain OUTPUT (policy ACCEPT)  
num target prot opt source destination  
sec@kali:~$  
sec@kali:~$ sudo systemctl stop apache2 Stop http service at the server (10.0.2.4)  
sec@kali:~$  
sec@kali:~$ sudo service apache2 status Check the status of the http service  
● apache2.service - The Apache HTTP Server  
    Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)  
    Active: inactive (dead) since Tue 2023-03-07 10:59:31 EST; 28s ago  
      Docs: https://httpd.apache.org/docs/2.4/  
    Process: 3553 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)  
    Process: 4298 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCESS)  
   Main PID: 3564 (code=exited, status=0/SUCCESS) http service is currently inactive (dead)  
  
Mar 07 08:58:55 kali systemd[1]: Starting The Apache HTTP Server ...  
Mar 07 08:58:55 kali apachectl[3563]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name  
Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.  
Mar 07 10:59:31 kali systemd[1]: Stopping The Apache HTTP Server ...  
Mar 07 10:59:31 kali apachectl[4300]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name  
Mar 07 10:59:31 kali systemd[1]: apache2.service: Succeeded.  
Mar 07 10:59:31 kali systemd[1]: Stopped The Apache HTTP Server.
```

sec@kali:~\$

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kal)

File Machine View Input Devices Help

Problem loading page - ... 11:00 AM 79% 🔒 ⌛

Problem loading page - Mozilla Firefox

Problem loading page x + 10.0.2.4 Kali Linux Kali Training Kali Tools Kali Docs Kali Forums NetHunter Offensive Security

Shut Down Client and Server

Firefox can't establish a connection to the server at 10.0.2.4.

- The site could be temporarily unavailable or too busy. Try again in a few moments.
- If you are unable to load any pages, check your computer's network connection.
- If your computer or network is protected by a firewall or proxy, make sure that Firefox is permitted to access the Web.

Try Again

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali:~ 11:00 AM 79% 🔒 ⌛

sec@kali:~

File Actions Edit View Help

```
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab6  
drwxr-xr-x 2 sec sec 4096 Nov 17 2020 lab7  
-rw-r--r-- 1 sec sec 198 Jan 27 05:40 target_hashes.txt  
sec@kali:~$  
sec@kali:~$ iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP  
bash: iptables: command not found  
sec@kali:~$ sudo iptables -A INPUT -i eth0 -p tcp --dport 80 -j DROP  
[sudo] password for sec:  
sec@kali:~$  
sec@kali:~$ sudo iptables -L --line-numbers  
Chain INPUT (policy ACCEPT)  
num target prot opt source destination  
1 DROP tcp -- anywhere  
tcp dpt:http  
  
Chain FORWARD (policy ACCEPT)  
num target prot opt source destination  
  
Chain OUTPUT (policy ACCEPT)  
num target prot opt source destination  
sec@kali:~$  
sec@kali:~$ sudo iptables -D INPUT 1  
sec@kali:~$  
sec@kali:~$ sudo iptables -L --line-numbers  
Chain INPUT (policy ACCEPT)  
num target prot opt source destination  
  
Chain FORWARD (policy ACCEPT)  
num target prot opt source destination  
  
Chain OUTPUT (policy ACCEPT)  
num target prot opt source destination  
sec@kali:~$  
sec@kali:~$ sudo systemctl stop apache2  
sec@kali:~$  
sec@kali:~$ sudo service apache2 status  
● apache2.service - The Apache HTTP Server  
    Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)  
    Active: inactive (dead) since Tue 2023-03-07 10:59:31 EST; 28s ago  
  
    Mar 07 08:58:55 kali systemd[1]: Starting The Apache HTTP Server ...  
    Mar 07 08:58:55 kali apachectl[3563]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name  
    Mar 07 08:58:56 kali systemd[1]: Started The Apache HTTP Server.  
    Mar 07 10:59:31 kali systemd[1]: Stopping The Apache HTTP Server ...  
    Mar 07 10:59:31 kali apachectl[4300]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name  
    Mar 07 10:59:31 kali systemd[1]: apache2.service: Succeeded.  
    Mar 07 10:59:31 kali systemd[1]: Stopped The Apache HTTP Server.  
sec@kali:~$
```

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-serv... — □ X

File Machine View Input Devices Help **Client**

Restore Session - Mozilla Firefox sec@kali: ~ 10:26 AM

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:2ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
    RX packets 197 bytes 116343 (113.6 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 184 bytes 17635 (17.2 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 12 bytes 556 (556.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12 bytes 556 (556.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Sorry. We're having trouble getting your pages back.

Restoring your last browsing session. Select Restore Session to try again.

Still not able to restore your session? Sometimes a tab is causing the issue. View previous tabs, remove the checkmark from the tabs you don't need to recover, and then restore.

View Previous Tabs

Reboot Client and Server

Start New Session

Restore Session

Kali-server [Running] - Oracle VM VirtualBox — □ X

File Machine View Input Devices Help **Server**

sec@kali: ~ 10:26 AM

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.4 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:2ff:fe2a:173b prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:2a:17:3b txqueuelen 1000 (Ethernet)
    RX packets 20 bytes 2621 (2.5 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 29 bytes 2697 (2.6 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 12 bytes 556 (556.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12 bytes 556 (556.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

sec@kali:~\$

Right Ctrl

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-serv... - File Machine View Input Devices Help

Restore Session - Mozilla Firefox sec@kali:~ 10:31 AM

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
            RX packets 197 bytes 116343 (113.6 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 184 bytes 17635 (17.2 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
        loop txqueuelen 1000 (Local Loopback)
        RX packets 12 bytes 556 (556.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 12 bytes 556 (556.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Sorry. We're having trouble getting your pages back.

sec@kali:~\$ sudo ping 10.0.2.4

Ping the server (10.0.2.4)

```
PING 10.0.2.4 (10.0.2.4) 56(84) bytes of data.
64 bytes from 10.0.2.4: icmp_seq=1 ttl=64 time=0.742 ms
64 bytes from 10.0.2.4: icmp_seq=2 ttl=64 time=0.456 ms
64 bytes from 10.0.2.4: icmp_seq=3 ttl=64 time=0.489 ms
64 bytes from 10.0.2.4: icmp_seq=4 ttl=64 time=0.515 ms
64 bytes from 10.0.2.4: icmp_seq=5 ttl=64 time=0.483 ms
64 bytes from 10.0.2.4: icmp_seq=6 ttl=64 time=0.479 ms
64 bytes from 10.0.2.4: icmp_seq=7 ttl=64 time=0.447 ms
^C
--- 10.0.2.4 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6153ms
rtt min/avg/max/mdev = 0.447/0.515/0.742/0.094 ms
```

sec@kali:~\$

Kali-server [Running] - Oracle VM VirtualBox - File Machine View Input Devices Help

sec@kali:~ 10:31 AM

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.4 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe2a:173b prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:2a:17:3b txqueuelen 1000 (Ethernet)
            RX packets 20 bytes 2621 (2.5 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 29 bytes 2697 (2.6 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
        loop txqueuelen 1000 (Local Loopback)
        RX packets 12 bytes 556 (556.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 12 bytes 556 (556.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

sec@kali:~\$

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-serv...)

File Machine View Input Devices Help

Restore Session - Mozilla Firefox sec@kali: ~ 10:41 AM

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
            RX packets 197 bytes 116343 (113.6 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 184 bytes 17635 (17.2 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
        loop txqueuelen 1000 (Local Loopback)
        RX packets 12 bytes 556 (556.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 12 bytes 556 (556.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sec@kali:~$ sudo ping 10.0.2.4
PING 10.0.2.4 (10.0.2.4) 56(84) bytes of data.
64 bytes from 10.0.2.4: icmp_seq=1 ttl=64 time=0.742 ms
64 bytes from 10.0.2.4: icmp_seq=2 ttl=64 time=0.456 ms
64 bytes from 10.0.2.4: icmp_seq=3 ttl=64 time=0.489 ms
64 bytes from 10.0.2.4: icmp_seq=4 ttl=64 time=0.515 ms
64 bytes from 10.0.2.4: icmp_seq=5 ttl=64 time=0.483 ms
64 bytes from 10.0.2.4: icmp_seq=6 ttl=64 time=0.479 ms
64 bytes from 10.0.2.4: icmp_seq=7 ttl=64 time=0.447 ms
^C
--- 10.0.2.4 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6153ms
rtt min/avg/max/mdev = 0.447/0.515/0.742/0.094 ms
sec@kali:~$
```

Sorry. We're having trouble getting your pages back.

Restore Session to try again.

Kali-server [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

sec@kali: ~ 10:41 AM

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
            RX packets 20 bytes 2621 (2.5 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 29 bytes 2697 (2.6 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
        loop txqueuelen 1000 (Local Loopback)
        RX packets 12 bytes 556 (556.0 B)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 12 bytes 556 (556.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Add an IPTABLES rule to block (drop) any ICMP Echo Request from a client

```
sec@kali:~$ sudo iptables -A INPUT -p icmp --icmp-type echo-request -j DROP
sec@kali:~$
```

Kali-Linux-2020.3-amd64 COMP3006 (Linked Base for Kali-Linux-2020.3-amd64 COMP3006 and Kali-serv...)

Ping Request Suspended By the IPTABLES Rule

File Machine View Input Devices Help

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe5c:6526 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:5c:65:26 txqueuelen 1000 (Ethernet)
    RX packets 197 bytes 116343 (113.6 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 184 bytes 17635 (17.2 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 12 bytes 556 (556.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12 bytes 556 (556.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Sorry. We're having trouble getting your pages back.

Restore Session to try again.

```
sec@kali:~$ sudo ping 10.0.2.4
PING 10.0.2.4 (10.0.2.4) 56(84) bytes of data.
64 bytes from 10.0.2.4: icmp_seq=1 ttl=64 time=0.742 ms
64 bytes from 10.0.2.4: icmp_seq=2 ttl=64 time=0.456 ms
64 bytes from 10.0.2.4: icmp_seq=3 ttl=64 time=0.489 ms
64 bytes from 10.0.2.4: icmp_seq=4 ttl=64 time=0.515 ms
64 bytes from 10.0.2.4: icmp_seq=5 ttl=64 time=0.483 ms
64 bytes from 10.0.2.4: icmp_seq=6 ttl=64 time=0.479 ms
64 bytes from 10.0.2.4: icmp_seq=7 ttl=64 time=0.447 ms
^C
--- 10.0.2.4 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6153ms
rtt min/avg/max/mdev = 0.447/0.515/0.742/0.094 ms
sec@kali:~$
```

Ping the server (10.0.2.4)

```
sec@kali:~$ sudo ping 10.0.2.4
PING 10.0.2.4 (10.0.2.4) 56(84) bytes of data.
^C
--- 10.0.2.4 ping statistics ---
62 packets transmitted, 0 received, 100% packet loss, time 62461ms
```

Right Ctrl

Kali-server [Running] - Oracle VM VirtualBox

sec@kali:~

File Actions Edit View Help

```
sec@kali:~$ sudo ifconfig
[sudo] password for sec:
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.4 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe2a:173b prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:2a:17:3b txqueuelen 1000 (Ethernet)
    RX packets 20 bytes 2621 (2.5 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 29 bytes 2697 (2.6 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 12 bytes 556 (556.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12 bytes 556 (556.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
sec@kali:~$ sudo iptables -A INPUT -p icmp --icmp-type echo-request -j DROP
sec@kali:~$
```

Right Ctrl

Please Remember to Shut Down the Virtual Machines

Exercise

Read the document

COMP3052.SEC.LAB.03.Firewalls.Port.Scanning prepared by
Mike Pound.

Work on the exercises described under the following sections:

Page 5 – BUILDING A FIREWALL

Page 8 – SSH TUNNELING