

Stephen Cobb

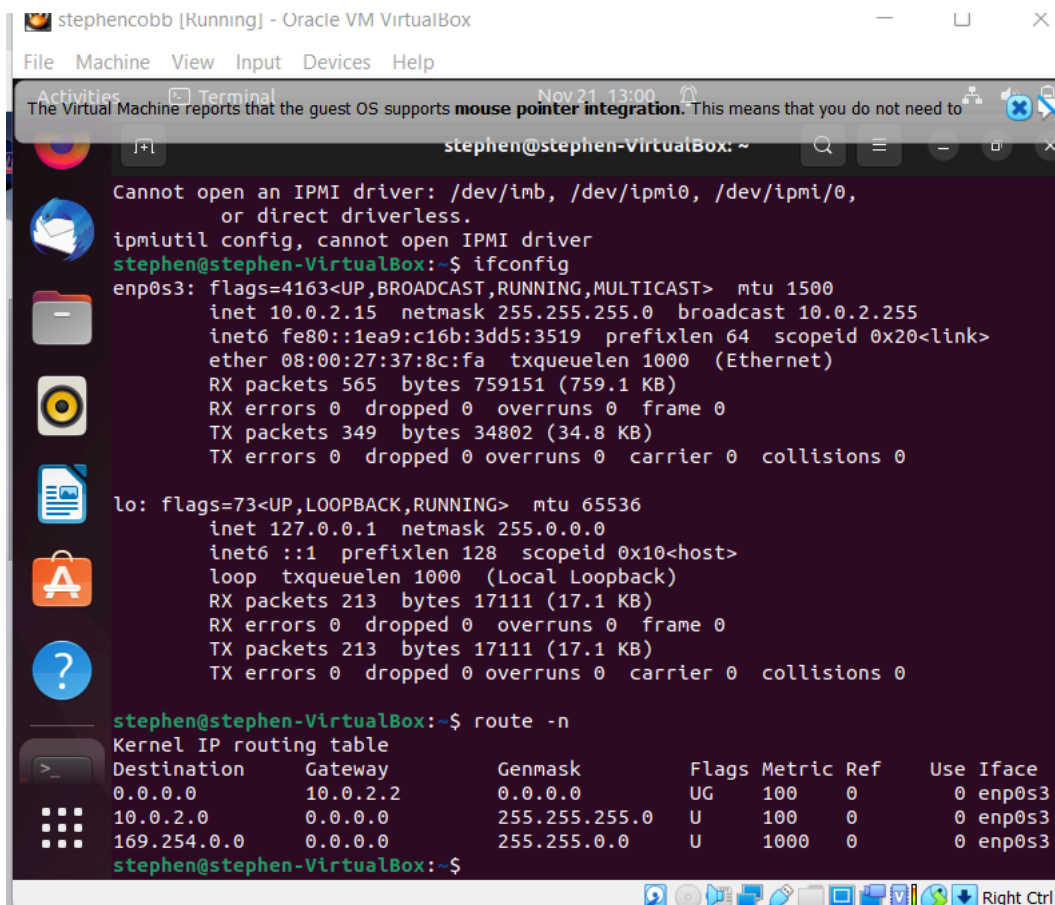
Shobha Vatsa

CYSE 270

21 November 2022

Lab 11

Step 1 and 2



```
stephencobb [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Nov 21 13:00
The Virtual Machine reports that the guest OS supports mouse pointer integration. This means that you do not need to
stephen@stephen-VirtualBox: ~
Cannot open an IPMI driver: /dev/imb, /dev/ipmi0, /dev/ipmi/0,
or direct driverless.
ipmiutil config, cannot open IPMI driver
stephen@stephen-VirtualBox:~$ ifconfig
enp0s3: 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::1ea9:c16b:3dd5:3519 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:37:8c:fa txqueuelen 1000 (Ethernet)
RX packets 565 bytes 759151 (759.1 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 349 bytes 34802 (34.8 KB)
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 213 bytes 17111 (17.1 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 213 bytes 17111 (17.1 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

stephen@stephen-VirtualBox:~$ route -n
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
0.0.0.0 10.0.2.2 0.0.0.0 UG 100 0 0 enp0s3
10.0.2.0 0.0.0.0 255.255.255.0 U 100 0 0 enp0s3
169.254.0.0 0.0.0.0 255.255.0.0 U 1000 0 0 enp0s3
stephen@stephen-VirtualBox:~$
```

Step 3

stephencobb [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Nov 21, 13:01

The Virtual Machine reports that the guest OS supports mouse pointer integration. This means that you do not need to

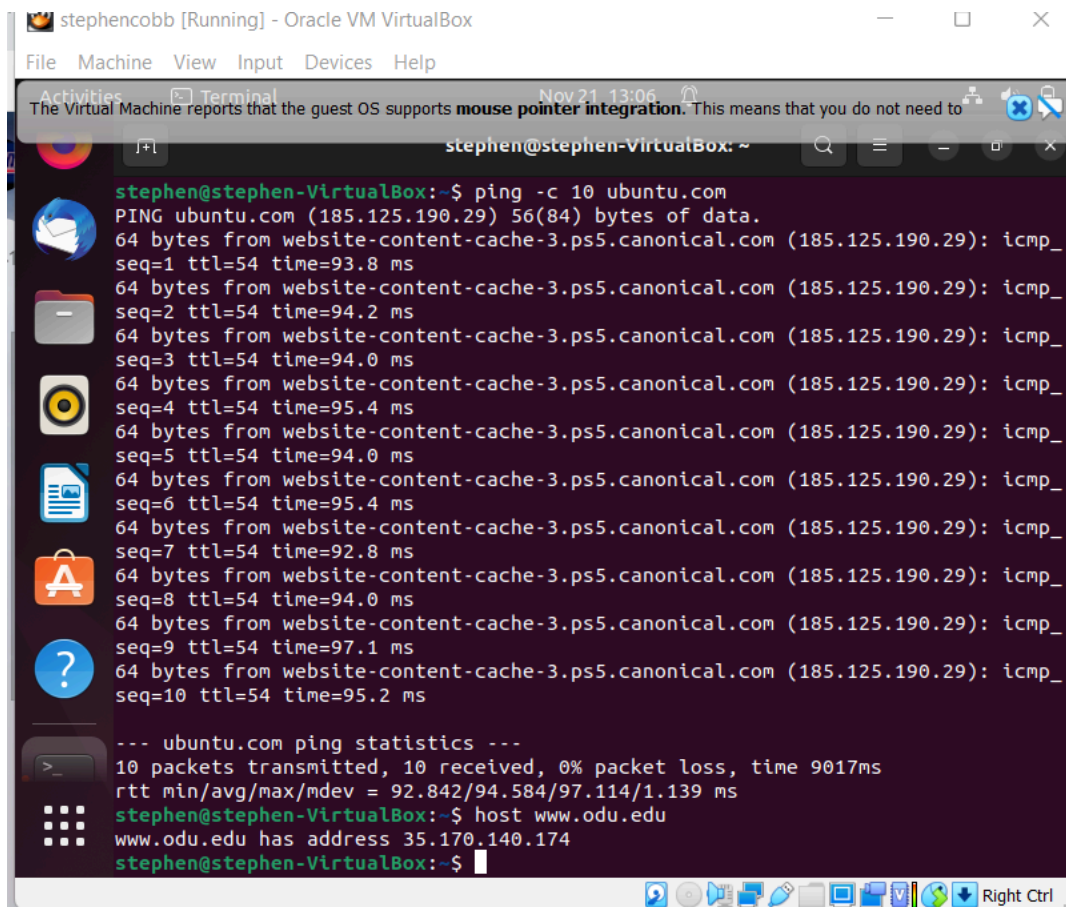
stephen@stephen-VirtualBox: ~

```
169.254.0.0 0.0.0.0 255.255.0.0 U 1000 0 0 enp0s3
stephen@stephen-VirtualBox:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 stephen-VirtualB:bootpc _gateway:bootps        ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags   Type       State           I-Node    Path
unix    2      [ ]     DGRAM      -              21456     /run/user/1000/systemd/notify
unix    3      [ ]     DGRAM      CONNECTED      16666     /run/systemd/notify
unix    2      [ ]     DGRAM      -              16682     /run/systemd/journald
unix    17     [ ]     DGRAM      CONNECTED      16691     /run/systemd/journald
unix    9      [ ]     DGRAM      CONNECTED      16693     /run/systemd/journald
unix    3      [ ]     STREAM     CONNECTED      24554     /run/user/1000/bus
unix    3      [ ]     STREAM     CONNECTED      24651     /run/user/1000/bus
unix    3      [ ]     STREAM     CONNECTED      23284     /run/user/1000/bus
unix    3      [ ]     STREAM     CONNECTED      19820     /run/systemd/journald
unix    3      [ ]     STREAM     CONNECTED      19462     /run/systemd/journald
unix    3      [ ]     STREAM     CONNECTED      24682     /run/systemd/journald
unix    3      [ ]     STREAM     CONNECTED      23134     /run/systemd/journald
unix    3      [ ]     STREAM     CONNECTED      22259     /run/user/1000/bus
unix    2      [ ]     DGRAM      -              18813     /run/user/1000/bus
unix    3      [ ]     STREAM     CONNECTED      24263     /run/user/1000/bus
unix    3      [ ]     STREAM     CONNECTED      24158     @/home/stephen/.cac
```

Right Ctrl

Step 4 an5

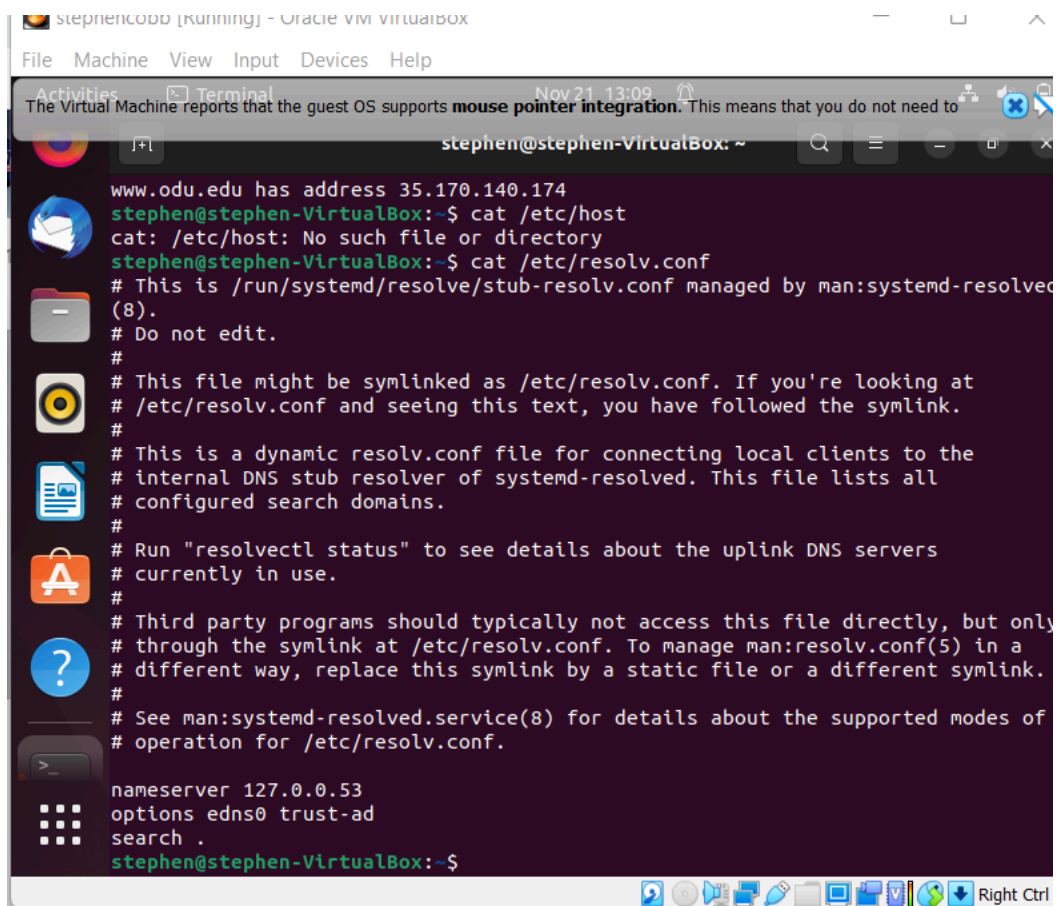


The screenshot shows a terminal window titled "stephencobb [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
stephen@stephen-VirtualBox:~$ ping -c 10 ubuntu.com
PING ubuntu.com (185.125.190.29) 56(84) bytes of data.
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=1 ttl=54 time=93.8 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=2 ttl=54 time=94.2 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=3 ttl=54 time=94.0 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=4 ttl=54 time=95.4 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=5 ttl=54 time=94.0 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=6 ttl=54 time=95.4 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=7 ttl=54 time=92.8 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=8 ttl=54 time=94.0 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=9 ttl=54 time=97.1 ms
64 bytes from website-content-cache-3.ps5.canonical.com (185.125.190.29): icmp_
seq=10 ttl=54 time=95.2 ms

--- ubuntu.com ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9017ms
rtt min/avg/max/mdev = 92.842/94.584/97.114/1.139 ms
stephen@stephen-VirtualBox:~$ host www.odu.edu
www.odu.edu has address 35.170.140.174
stephen@stephen-VirtualBox:~$
```

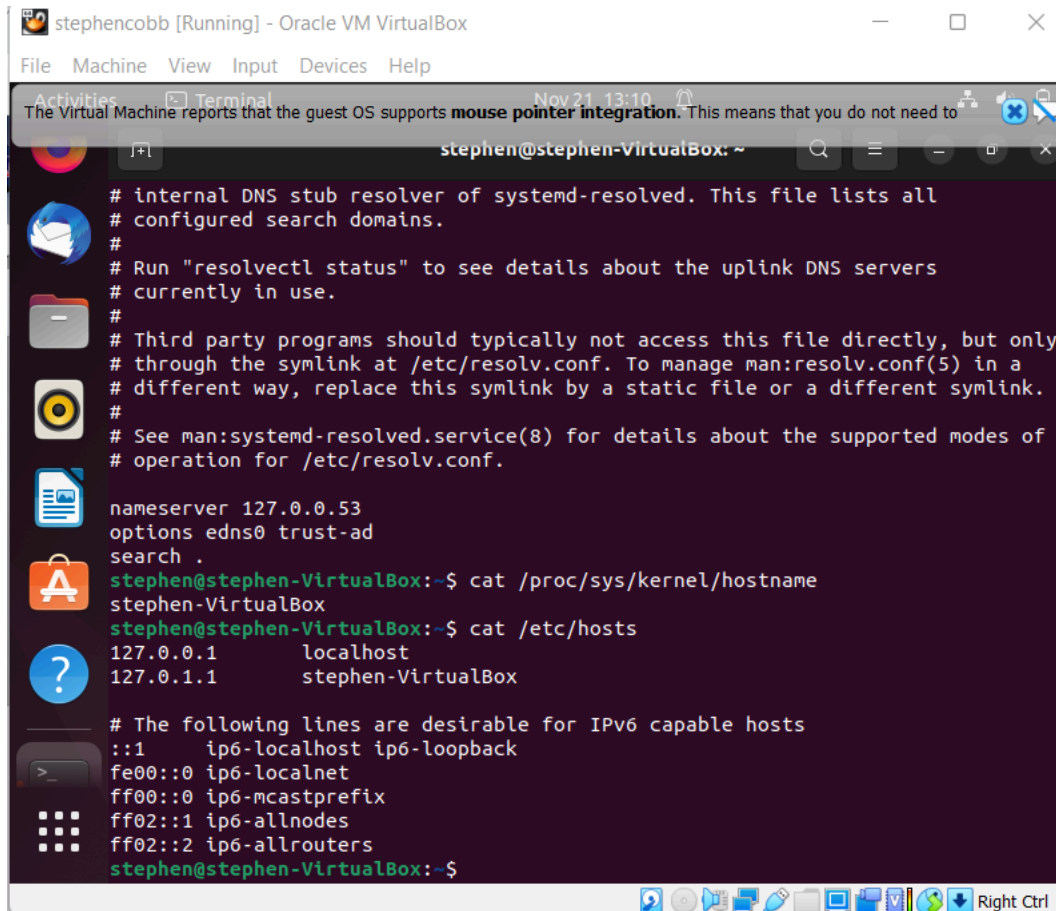
Step 6 and 7



The screenshot shows a terminal window titled "stephencobb [running] - Oracle VM VirtualBox". The terminal output is as follows:

```
www.odu.edu has address 35.170.140.174
stephen@stephen-VirtualBox:~$ cat /etc/host
cat: /etc/host: No such file or directory
stephen@stephen-VirtualBox:~$ cat /etc/resolv.conf
# This is /run/systemd/resolve/stub-resolv.conf managed by man:systemd-resolved
(8).
# Do not edit.
#
# This file might be symlinked as /etc/resolv.conf. If you're looking at
# /etc/resolv.conf and seeing this text, you have followed the symlink.
#
# This is a dynamic resolv.conf file for connecting local clients to the
# internal DNS stub resolver of systemd-resolved. This file lists all
# configured search domains.
#
# Run "resolvectl status" to see details about the uplink DNS servers
# currently in use.
#
# Third party programs should typically not access this file directly, but only
# through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5) in a
# different way, replace this symlink by a static file or a different symlink.
#
# See man:systemd-resolved.service(8) for details about the supported modes of
# operation for /etc/resolv.conf.
nameserver 127.0.0.53
options edns0 trust-ad
search .
stephen@stephen-VirtualBox:~$
```

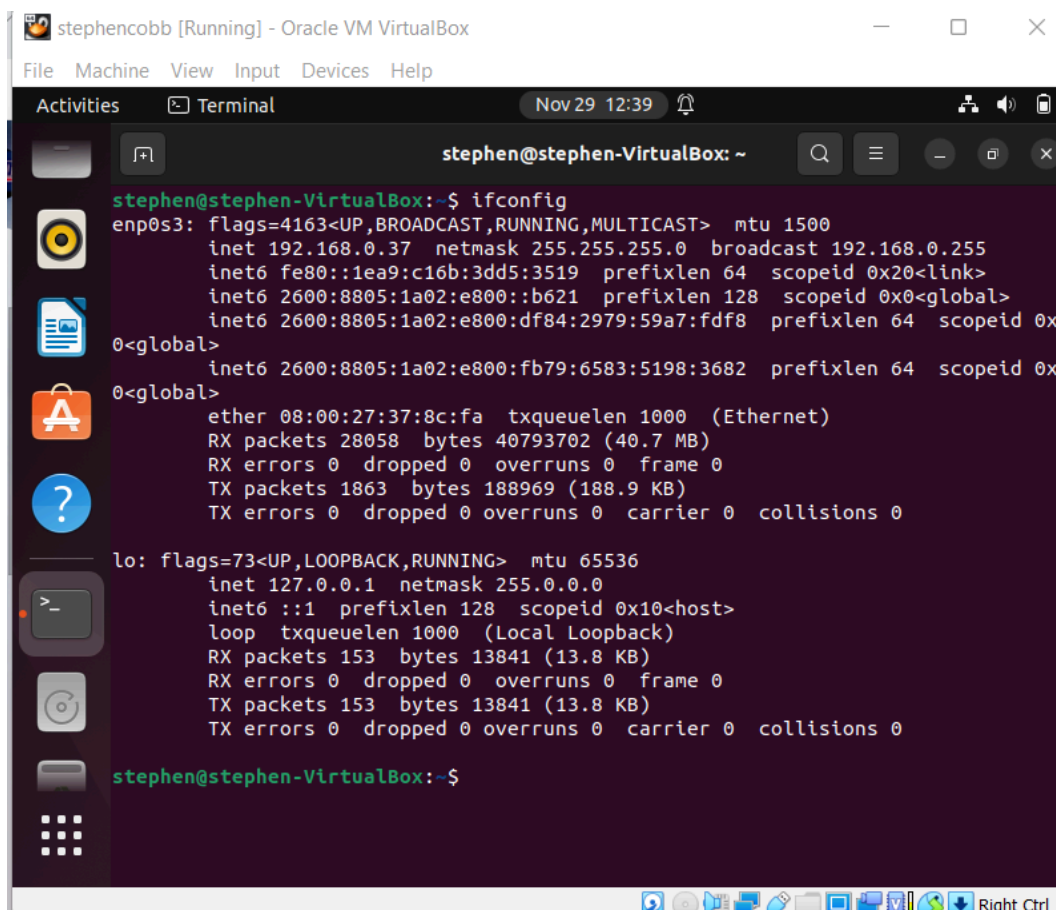
Step 8



The screenshot shows a terminal window titled "stephencobb [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
The Virtual Machine reports that the guest OS supports mouse pointer integration. This means that you do not need to
stephen@stephen-VirtualBox: ~
# internal DNS stub resolver of systemd-resolved. This file lists all
# configured search domains.
#
# Run "resolvectl status" to see details about the uplink DNS servers
# currently in use.
#
# Third party programs should typically not access this file directly, but only
# through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5) in a
# different way, replace this symlink by a static file or a different symlink.
#
# See man:systemd-resolved.service(8) for details about the supported modes of
# operation for /etc/resolv.conf.
nameserver 127.0.0.53
options edns0 trust-ad
search .
stephen@stephen-VirtualBox:~$ cat /proc/sys/kernel/hostname
stephen-VirtualBox
stephen@stephen-VirtualBox:~$ cat /etc/hosts
127.0.0.1    localhost
127.0.1.1    stephen-VirtualBox
# The following lines are desirable for IPv6 capable hosts
::1        ip6-localhost ip6-loopback
fe00::0    ip6-localnet
ff00::0    ip6-mcastprefix
ff02::1    ip6-allnodes
ff02::2    ip6-allrouters
stephen@stephen-VirtualBox:~$
```

Task b 1 and 2



The image shows a terminal window titled "stephencobb [Running] - Oracle VM VirtualBox". The terminal displays the output of the command "ifconfig". The output is as follows:

```
stephen@stephen-VirtualBox:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.0.37 netmask 255.255.255.0 broadcast 192.168.0.255
    inet6 fe80::1ea9:c16b:3dd5:3519 prefixlen 64 scopeid 0x20<link>
    inet6 2600:8805:1a02:e800:b621 prefixlen 128 scopeid 0x0<global>
    inet6 2600:8805:1a02:e800:df84:2979:59a7:fd8 prefixlen 64 scopeid 0x
0<global>
    inet6 2600:8805:1a02:e800:fb79:6583:5198:3682 prefixlen 64 scopeid 0x
0<global>
    ether 08:00:27:37:8c:fa txqueuelen 1000 (Ethernet)
    RX packets 28058 bytes 40793702 (40.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1863 bytes 188969 (188.9 KB)
    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 153 bytes 13841 (13.8 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 153 bytes 13841 (13.8 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

stephen@stephen-VirtualBox:~$
```

stephencobb [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Nov 29 12:41

```
TX packets 153 bytes 13841 (13.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

stephen@stephen-VirtualBox:~$ route -n
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
0.0.0.0 192.168.0.1 0.0.0.0 UG 100 0 0 enp0s3
169.254.0.0 0.0.0.0 255.255.0.0 U 1000 0 0 enp0s3
192.168.0.0 0.0.0.0 255.255.255.0 U 100 0 0 enp0s3

stephen@stephen-VirtualBox:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
udp 0 0 stephen-VirtualB:bootpc _gateway:bootps ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags Type State I-Node Path
unix 2 [ ] DGRAM CONNECTED 21424 /run/user/1000/systemd/notify
unix 3 [ ] DGRAM CONNECTED 15854 /run/systemd/notify
unix 2 [ ] DGRAM CONNECTED 15882 /run/systemd/journal/syslog
unix 17 [ ] DGRAM CONNECTED 15891 /run/systemd/journal/dev-log
unix 9 [ ] DGRAM CONNECTED 15893 /run/systemd/journal/socket
unix 3 [ ] STREAM CONNECTED 23405
unix 3 [ ] STREAM CONNECTED 23377 /run/user/1000/bus
unix 3 [ ] STREAM CONNECTED 24218
unix 3 [ ] STREAM CONNECTED 23092
unix 3 [ ] STREAM CONNECTED 21503
```

Right Ctrl

stephencobb [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Nov 29 12:41

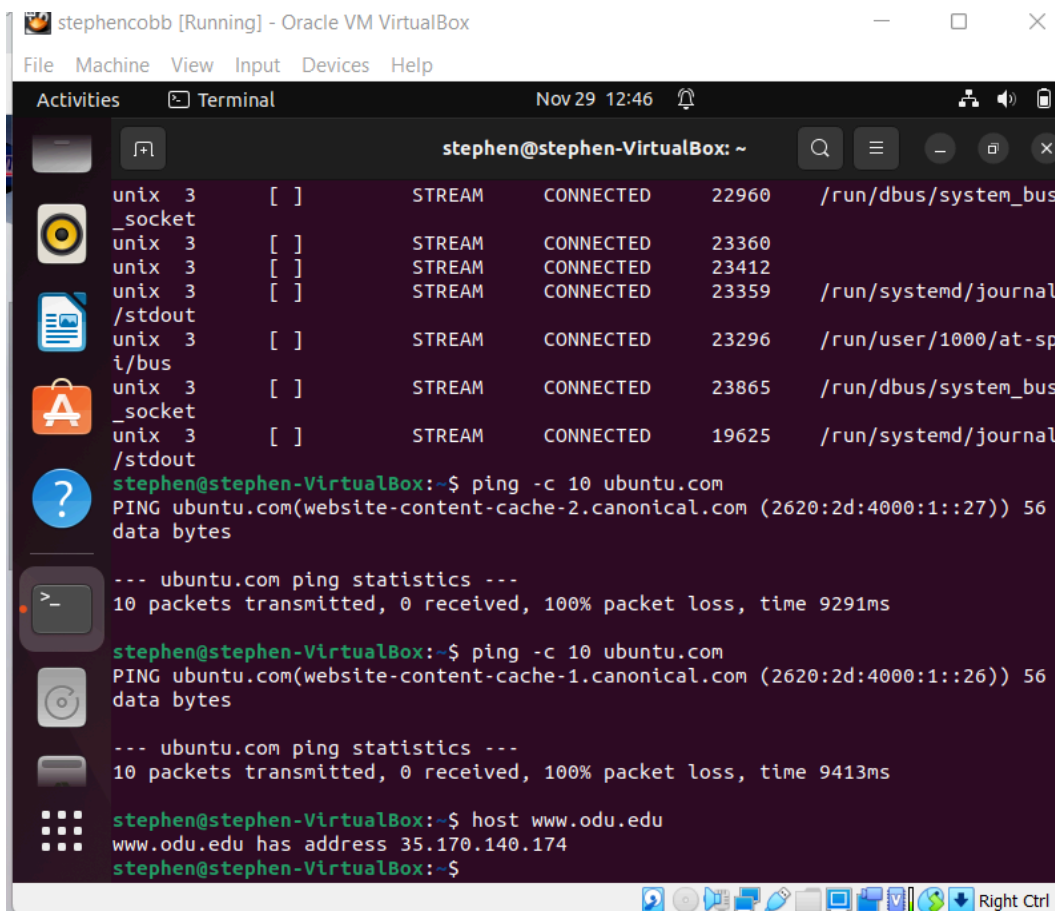
```
TX packets 153 bytes 13841 (13.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

stephen@stephen-VirtualBox:~$ route -n
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
0.0.0.0 192.168.0.1 0.0.0.0 UG 100 0 0 enp0s3
169.254.0.0 0.0.0.0 255.255.0.0 U 1000 0 0 enp0s3
192.168.0.0 0.0.0.0 255.255.255.0 U 100 0 0 enp0s3

stephen@stephen-VirtualBox:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address Foreign Address State
udp 0 0 stephen-VirtualB:bootpc _gateway:bootps ESTABLISHED

Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags Type State I-Node Path
unix 2 [ ] DGRAM CONNECTED 21424 /run/user/1000/systemd/notify
unix 3 [ ] DGRAM CONNECTED 15854 /run/systemd/notify
unix 2 [ ] DGRAM CONNECTED 15882 /run/systemd/journal/syslog
unix 17 [ ] DGRAM CONNECTED 15891 /run/systemd/journal/dev-log
unix 9 [ ] DGRAM CONNECTED 15893 /run/systemd/journal/socket
unix 3 [ ] STREAM CONNECTED 23405
unix 3 [ ] STREAM CONNECTED 23377 /run/user/1000/bus
unix 3 [ ] STREAM CONNECTED 24218
unix 3 [ ] STREAM CONNECTED 23092
unix 3 [ ] STREAM CONNECTED 21503
```

Right Ctrl



The screenshot shows a terminal window titled "stephencobb [Running] - Oracle VM VirtualBox". The terminal output displays network statistics for various processes and the results of two ping tests to ubuntu.com and a host command for www.odu.edu.

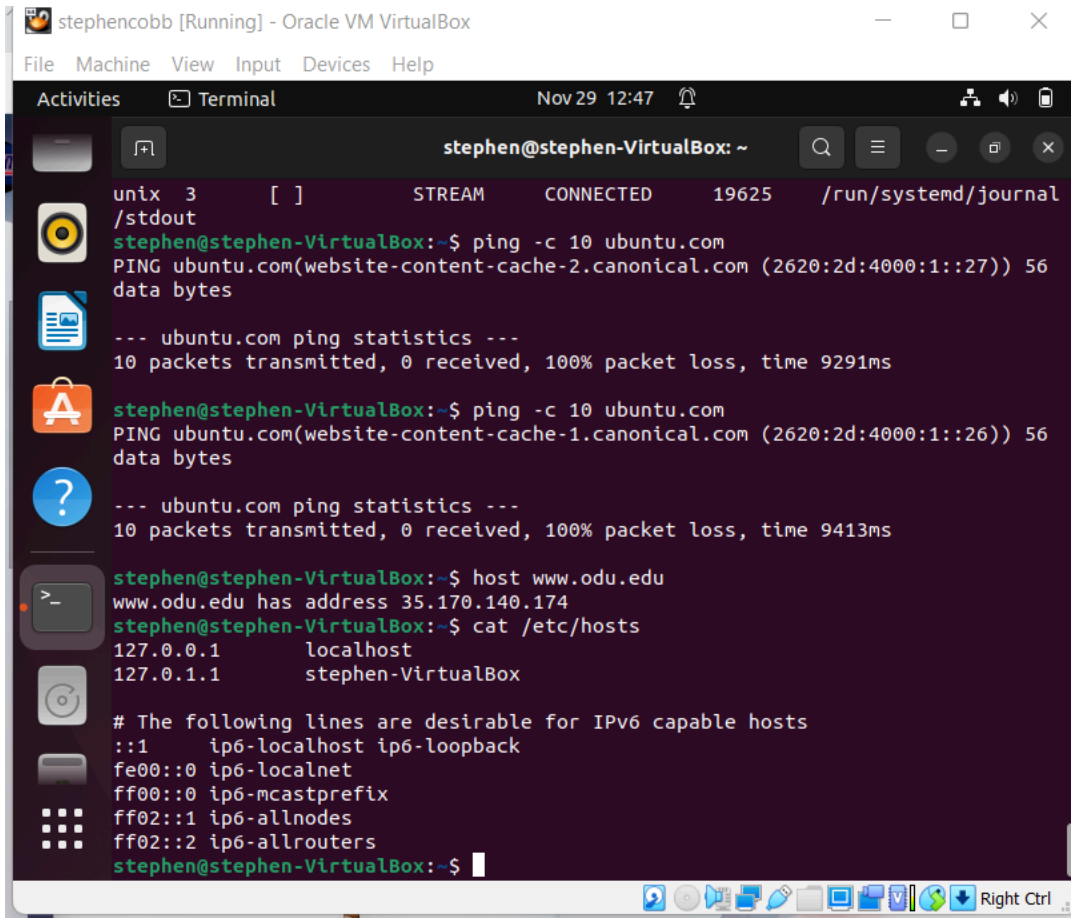
```
unix 3 [ ] STREAM CONNECTED 22960 /run/dbus/system_bus
_socket
unix 3 [ ] STREAM CONNECTED 23360
unix 3 [ ] STREAM CONNECTED 23412
unix 3 [ ] STREAM CONNECTED 23359 /run/systemd/journal
/stdout
unix 3 [ ] STREAM CONNECTED 23296 /run/user/1000/at-sp
i/bus
unix 3 [ ] STREAM CONNECTED 23865 /run/dbus/system_bus
_socket
unix 3 [ ] STREAM CONNECTED 19625 /run/systemd/journal
/stdout
stephen@stephen-VirtualBox:~$ ping -c 10 ubuntu.com
PING ubuntu.com(website-content-cache-2.canonical.com (2620:2d:4000:1::27)) 56
data bytes

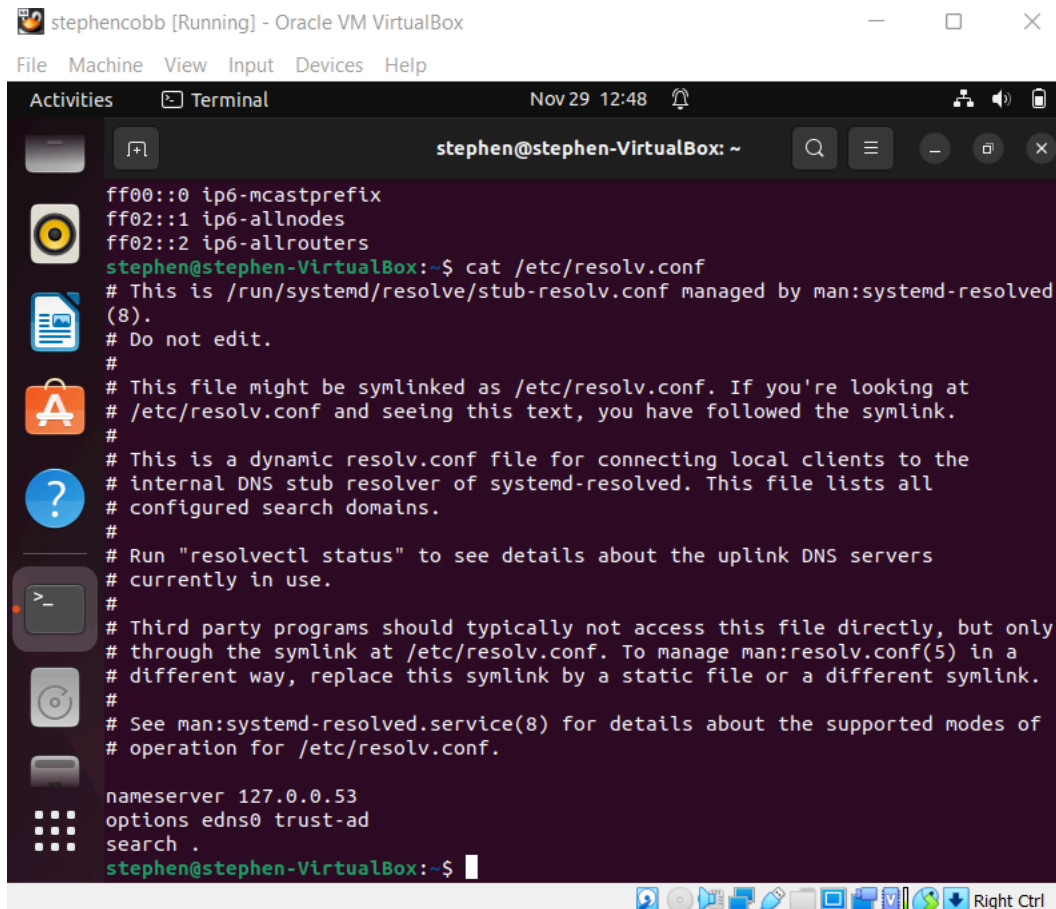
--- ubuntu.com ping statistics ---
10 packets transmitted, 0 received, 100% packet loss, time 9291ms

stephen@stephen-VirtualBox:~$ ping -c 10 ubuntu.com
PING ubuntu.com(website-content-cache-1.canonical.com (2620:2d:4000:1::26)) 56
data bytes

--- ubuntu.com ping statistics ---
10 packets transmitted, 0 received, 100% packet loss, time 9413ms

stephen@stephen-VirtualBox:~$ host www.odu.edu
www.odu.edu has address 35.170.140.174
stephen@stephen-VirtualBox:~$
```





The image shows a terminal window titled "stephencobb [Running] - Oracle VM VirtualBox". The terminal displays the output of the command `cat /etc/resolv.conf`. The output includes IPv6 multicast prefixes, a warning that the file is managed by `man:systemd-resolved(8)`, and a nameserver entry for `127.0.0.53`. The terminal prompt is `stephen@stephen-VirtualBox:~$`.

```
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
stephen@stephen-VirtualBox:~$ cat /etc/resolv.conf
# This is /run/systemd/resolve/stub-resolv.conf managed by man:systemd-resolved
(8).
# Do not edit.
#
# This file might be symlinked as /etc/resolv.conf. If you're looking at
# /etc/resolv.conf and seeing this text, you have followed the symlink.
#
# This is a dynamic resolv.conf file for connecting local clients to the
# internal DNS stub resolver of systemd-resolved. This file lists all
# configured search domains.
#
# Run "resolvectl status" to see details about the uplink DNS servers
# currently in use.
#
# Third party programs should typically not access this file directly, but only
# through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5) in a
# different way, replace this symlink by a static file or a different symlink.
#
# See man:systemd-resolved.service(8) for details about the supported modes of
# operation for /etc/resolv.conf.
nameserver 127.0.0.53
options edns0 trust-ad
search .
stephen@stephen-VirtualBox:~$
```

A lot of things changed like the IP address.