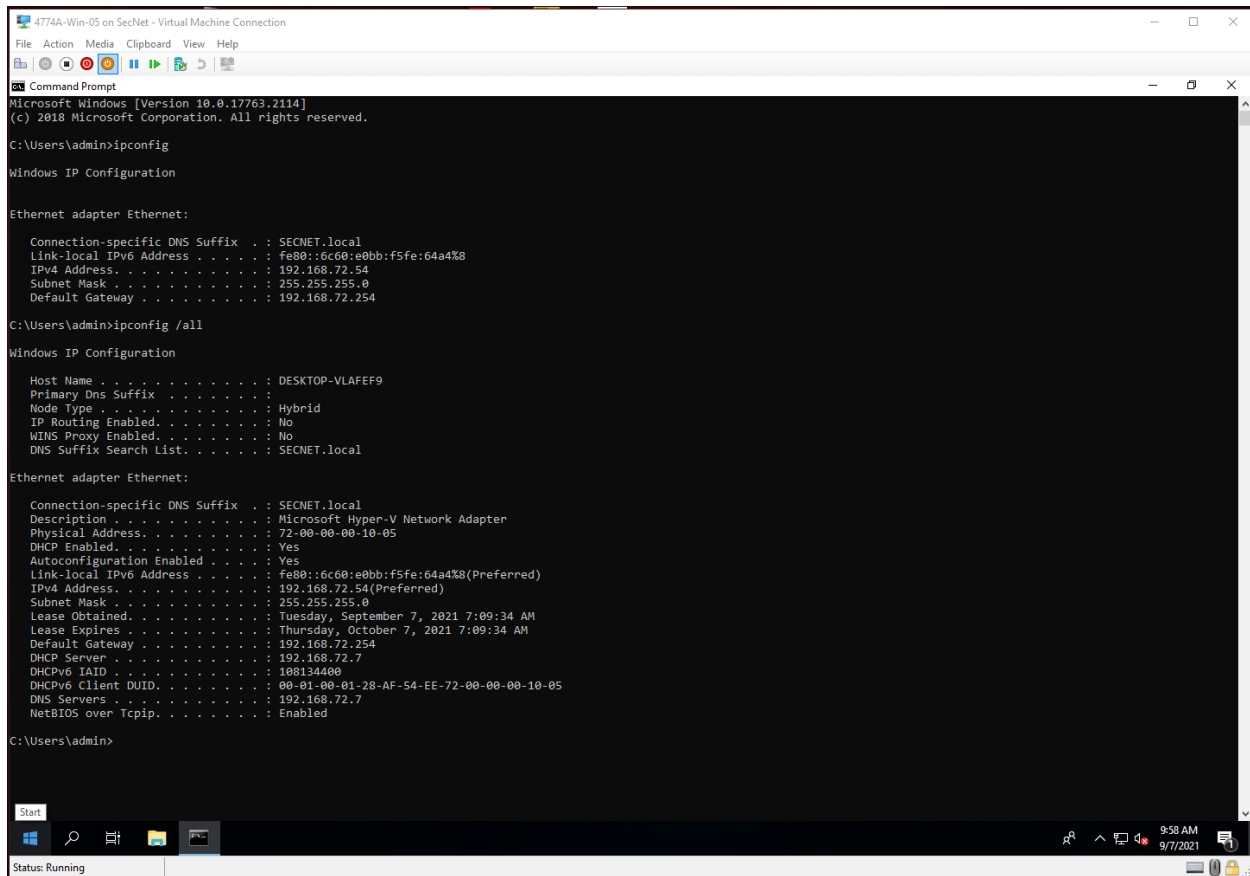


Jamel Douglas
JED18C
Lab 1 - DOS
9/7/2021

1.2 IP Config

Step 8



The screenshot shows a Windows 10 virtual machine window titled "4774A-Win-OS on SecNet - Virtual Machine Connection". Inside, a Command Prompt window displays the output of the `ipconfig` command. The output shows the configuration for the Ethernet adapter Ethernet, including the IPv4 address 192.168.72.54, subnet mask 255.255.255.0, and default gateway 192.168.72.254. The `ipconfig /all` command is also executed, showing detailed configuration for the same adapter, including the physical address, DHCP status, and lease information. The taskbar at the bottom shows the Start button, task view icon, search icon, and several pinned applications. The system tray on the right shows the time as 9:58 AM on 9/7/2021.

```
Microsoft Windows [Version 10.0.17763.2114]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\admin>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : SECNET.local
    Link-local IPv6 Address . . . . . : fe80::6c60:e0bb:f5fe:64a4%8
    IPv4 Address. . . . . : 192.168.72.54
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.72.254

C:\Users\admin>ipconfig /all

Windows IP Configuration

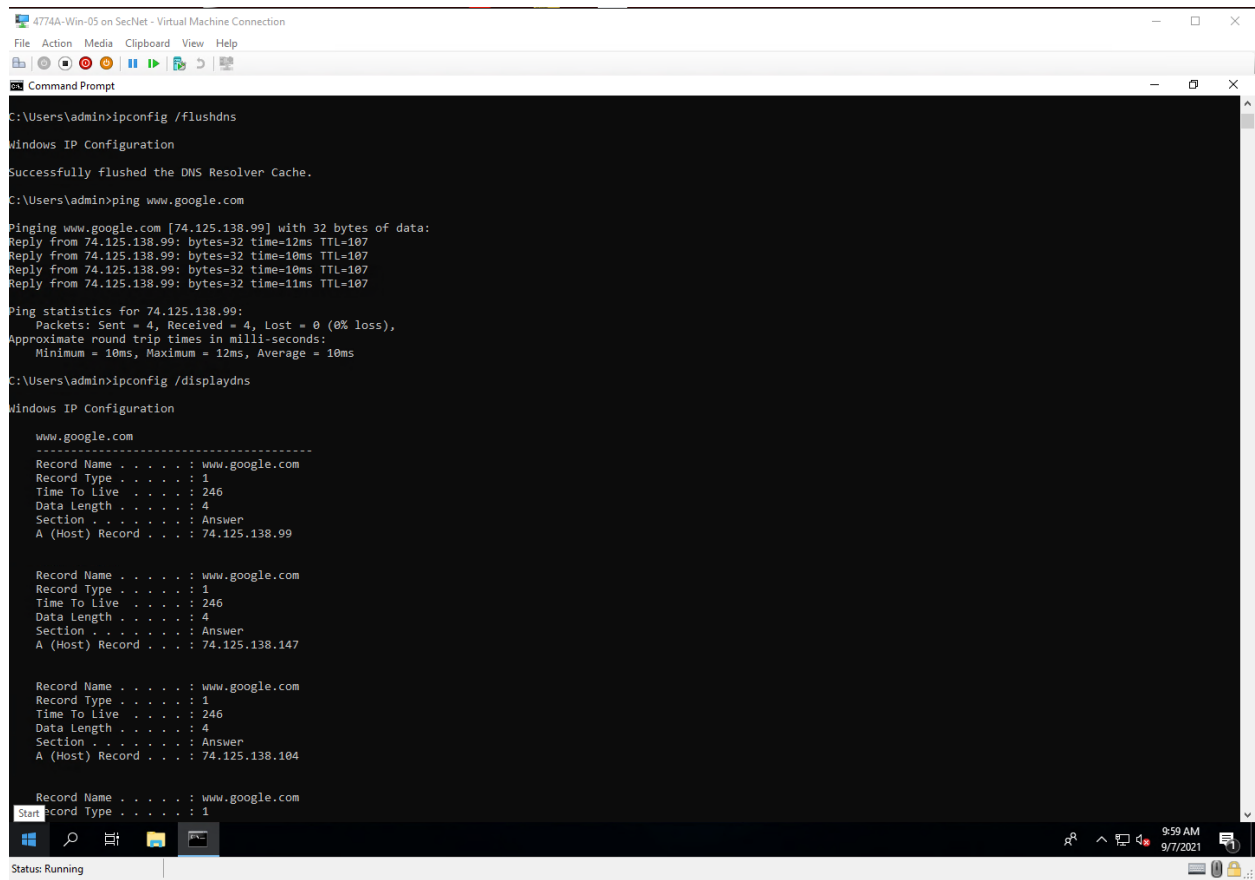
    Host Name . . . . . : DESKTOP-VLAFF9
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Hybrid
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No
    DNS Suffix Search List. . . . . : SECNET.local

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : SECNET.local
    Description . . . . . : Microsoft Hyper-V Network Adapter
    Physical Address. . . . . : 72-00-00-00-10-05
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::6c60:e0bb:f5fe:64a4%8(Preferr
    IPv4 Address. . . . . : 192.168.72.54(Preferr
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Tuesday, September 7, 2021 7:09:34 AM
    Lease Expires . . . . . : Thursday, October 7, 2021 7:09:34 AM
    Default Gateway . . . . . : 192.168.72.254
    DHCP Server . . . . . : 192.168.72.7
    DHCPv6 IAID . . . . . : 108134400
    DHCPv6 Client DUID. . . . . : 00-01-00-01-28-AF-54-EE-72-00-00-00-10-05
    DNS Servers . . . . . : 192.168.72.7
    NetBIOS over Tcpip. . . . . : Enabled

C:\Users\admin>
```

Step 16



```
C:\Users\admin>ipconfig /flushdns

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

C:\Users\admin>ping www.google.com

Pinging www.google.com [74.125.138.99] with 32 bytes of data:
Reply from 74.125.138.99: bytes=32 time=12ms TTL=107
Reply from 74.125.138.99: bytes=32 time=10ms TTL=107
Reply from 74.125.138.99: bytes=32 time=10ms TTL=107
Reply from 74.125.138.99: bytes=32 time=11ms TTL=107

Ping statistics for 74.125.138.99:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 12ms, Average = 10ms

C:\Users\admin>ipconfig /displaydns

Windows IP Configuration

    www.google.com
    -----
    Record Name . . . . . : www.google.com
    Record Type . . . . . : 1
    Time To Live . . . . . : 246
    Data Length . . . . . : 4
    Section . . . . . : Answer
    A (Host) Record . . . : 74.125.138.99

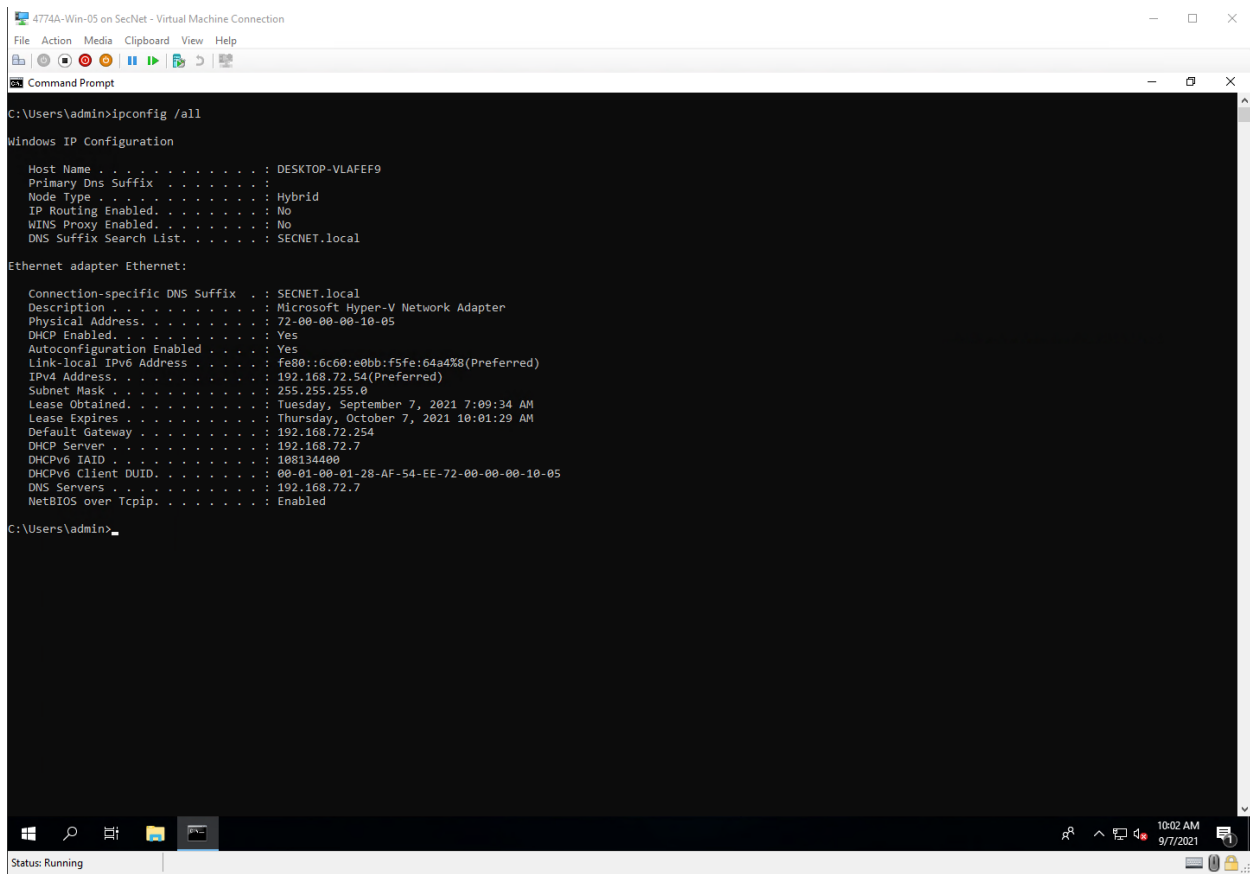
    Record Name . . . . . : www.google.com
    Record Type . . . . . : 1
    Time To Live . . . . . : 246
    Data Length . . . . . : 4
    Section . . . . . : Answer
    A (Host) Record . . . : 74.125.138.147

    Record Name . . . . . : www.google.com
    Record Type . . . . . : 1
    Time To Live . . . . . : 246
    Data Length . . . . . : 4
    Section . . . . . : Answer
    A (Host) Record . . . : 74.125.138.104

    Record Name . . . . . : www.google.com
    Record Type . . . . . : 1
```

Status: Running

Step 19



The screenshot shows a Windows Command Prompt window titled ".4774A-Win-05 on SecNet - Virtual Machine Connection". The command prompt is running the command `ipconfig /all`. The output displays the Windows IP Configuration for the host `DESKTOP-VLAFF9`. It shows the Ethernet adapter Ethernet configuration, including the connection-specific DNS suffix `SECNET.local`, the physical address `72-00-00-00-10-05`, and the IPv4 address `192.168.72.54`. The DHCP server is `192.168.72.7`, and the lease expires on Thursday, October 7, 2021 10:01:29 AM. The DNS servers are `192.168.72.7`. The NetBIOS over Tcpip is enabled.

```
C:\Users\admin>ipconfig /all

Windows IP Configuration

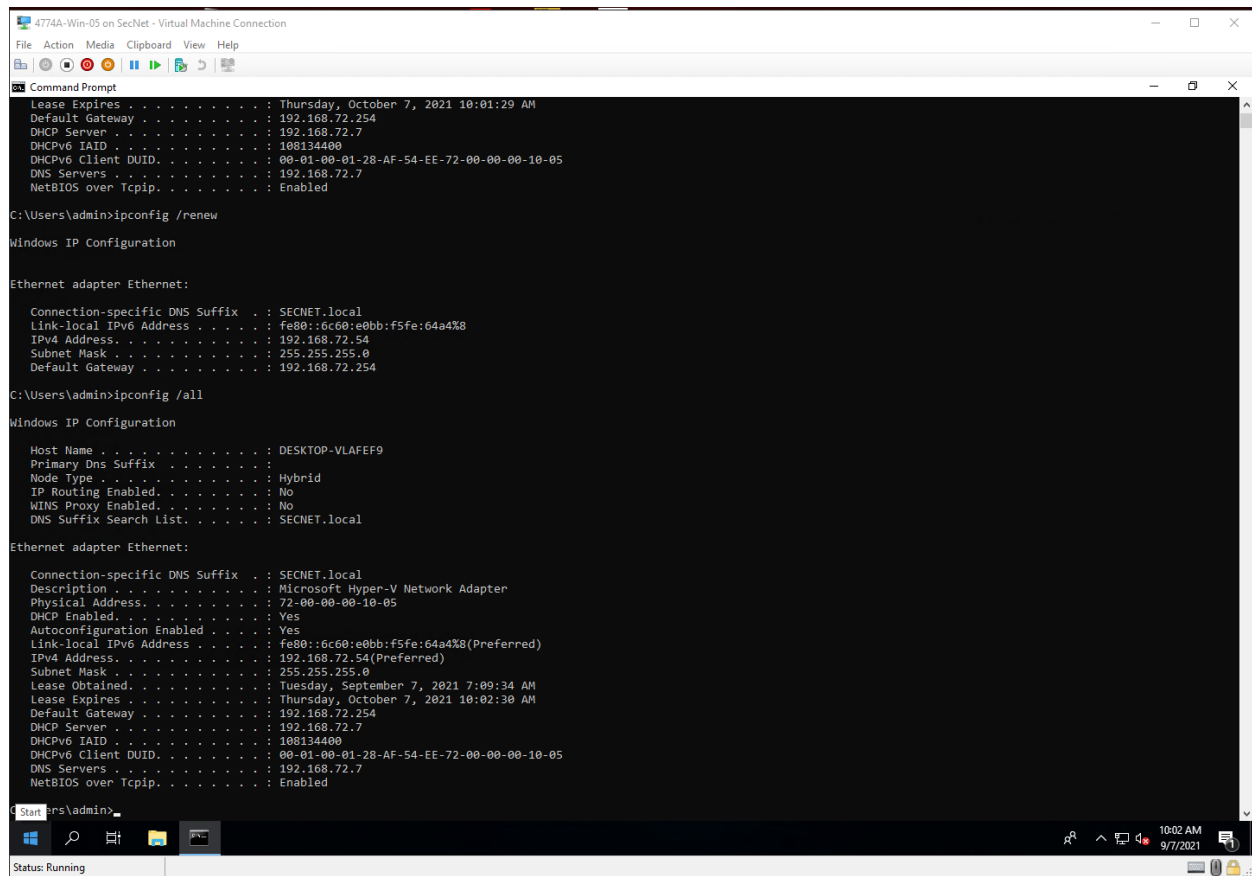
Host Name . . . . . : DESKTOP-VLAFF9
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : SECNET.local

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : SECNET.local
    Description . . . . . : Microsoft Hyper-V Network Adapter
    Physical Address. . . . . : 72-00-00-00-10-05
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::6c60:e0bb:f5fe:64a4%8(Preferred)
    IPv4 Address. . . . . : 192.168.72.54(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Tuesday, September 7, 2021 7:09:34 AM
    Lease Expires . . . . . : Thursday, October 7, 2021 10:01:29 AM
    Default Gateway . . . . . : 192.168.72.254
    DHCP Server . . . . . : 192.168.72.7
    DHCPv6 IAID . . . . . : 100134400
    DHCPv6 Client DUID. . . . . : 00-01-00-01-28-AF-54-EE-72-00-00-00-10-05
    DNS Servers . . . . . : 192.168.72.7
    NetBIOS over Tcpip. . . . . : Enabled

C:\Users\admin>
```

Step 24



```
4774A-Win-05 on SecNet - Virtual Machine Connection
File Action Media Clipboard View Help
Command Prompt
Lease Expires . . . . . : Thursday, October 7, 2021 10:01:29 AM
Default Gateway . . . . . : 192.168.72.254
DHCP Server . . . . . : 192.168.72.7
DHCPv6 IAID . . . . . : 108134400
DHCPv6 Client DUID. . . . . : 00-01-00-01-28-AF-54-EE-72-00-00-00-10-05
DNS Servers . . . . . : 192.168.72.7
NetBIOS over Tcpip. . . . . : Enabled

C:\Users\admin>ipconfig /renew

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : SECNET.local
    Link-local IPv6 Address . . . . . : fe80::6c60:e0bb:f5fe:64a4%8
    IPv4 Address. . . . . : 192.168.72.54
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.72.254

C:\Users\admin>ipconfig /all

Windows IP Configuration

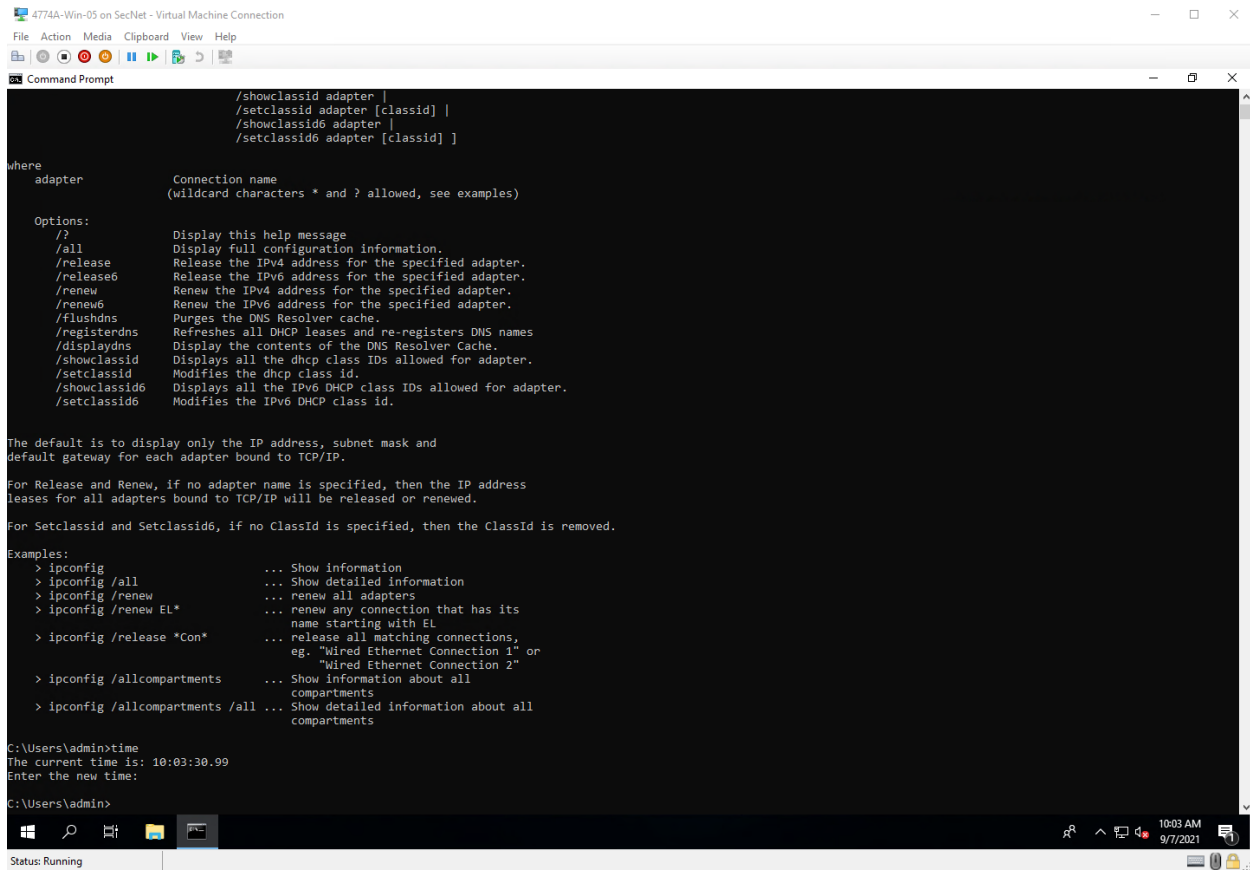
    Host Name . . . . . : DESKTOP-VLAFEF9
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Hybrid
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No
    DNS Suffix Search List. . . . . : SECNET.local

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : SECNET.local
    Description . . . . . : Microsoft Hyper-V Network Adapter
    Physical Address. . . . . : 72-00-00-00-10-05
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::6c60:e0bb:f5fe:64a4%8(Preferred)
    IPv4 Address. . . . . : 192.168.72.54(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Tuesday, September 7, 2021 7:09:34 AM
    Lease Expires . . . . . : Thursday, October 7, 2021 10:02:30 AM
    Default Gateway . . . . . : 192.168.72.254
    DHCP Server . . . . . : 192.168.72.7
    DHCPv6 IAID . . . . . : 108134400
    DHCPv6 Client DUID. . . . . : 00-01-00-01-28-AF-54-EE-72-00-00-00-10-05
    DNS Servers . . . . . : 192.168.72.7
    NetBIOS over Tcpip. . . . . : Enabled

Start | C:\Users\admin>
Status: Running
```

Step 28



```
.4774A-Win-05 on SecNet - Virtual Machine Connection
File Action Media Clipboard View Help

Command Prompt

        /showclassid adapter [ ]
        /setclassid adapter [classid] [ ]
        /showclassid6 adapter [ ]
        /setclassid6 adapter [classid] [ ]

where
    adapter          Connection name
                     (wildcard characters * and ? allowed, see examples)

Options:
/?                Display this help message
/all              Display full configuration information.
/release          Release the IPv4 address for the specified adapter.
/release6         Release the IPv6 address for the specified adapter.
/renew            Renew the IPv4 address for the specified adapter.
/renew6           Renew the IPv6 address for the specified adapter.
/flushdns         Purges the DNS Resolver cache.
/registerdns      Refreshes all DHCP leases and re-registers DNS names
/displaydns       Display the contents of the DNS Resolver Cache.
/showclassid      Displays all the dhcp class IDs allowed for adapter.
/setclassid       Modifies the dhcp class id.
/showclassid6     Displays all the IPv6 DHCP class IDs allowed for adapter.
/setclassid6      Modifies the IPv6 DHCP class id.

The default is to display only the IP address, subnet mask and
default gateway for each adapter bound to TCP/IP.

For Release and Renew, if no adapter name is specified, then the IP address
leases for all adapters bound to TCP/IP will be released or renewed.

For Setclassid and Setclassid6, if no Classid is specified, then the Classid is removed.

Examples:
> ipconfig          ... Show information
> ipconfig /all      ... Show detailed information
> ipconfig /renew     ... renew all adapters
> ipconfig /renew EL* ... renew any connection that has its
                        name starting with EL
> ipconfig /release *Con* ... release all matching connections,
                        eg. "Wired Ethernet Connection 1" or
                        "Wired Ethernet Connection 2"
> ipconfig /allcompartments ... Show information about all
                        compartments
> ipconfig /allcompartments /all ... Show detailed information about all
                        compartments

C:\Users\admin>time
The current time is: 10:03:30.99
Enter the new time:

C:\Users\admin>
```

Project Questions

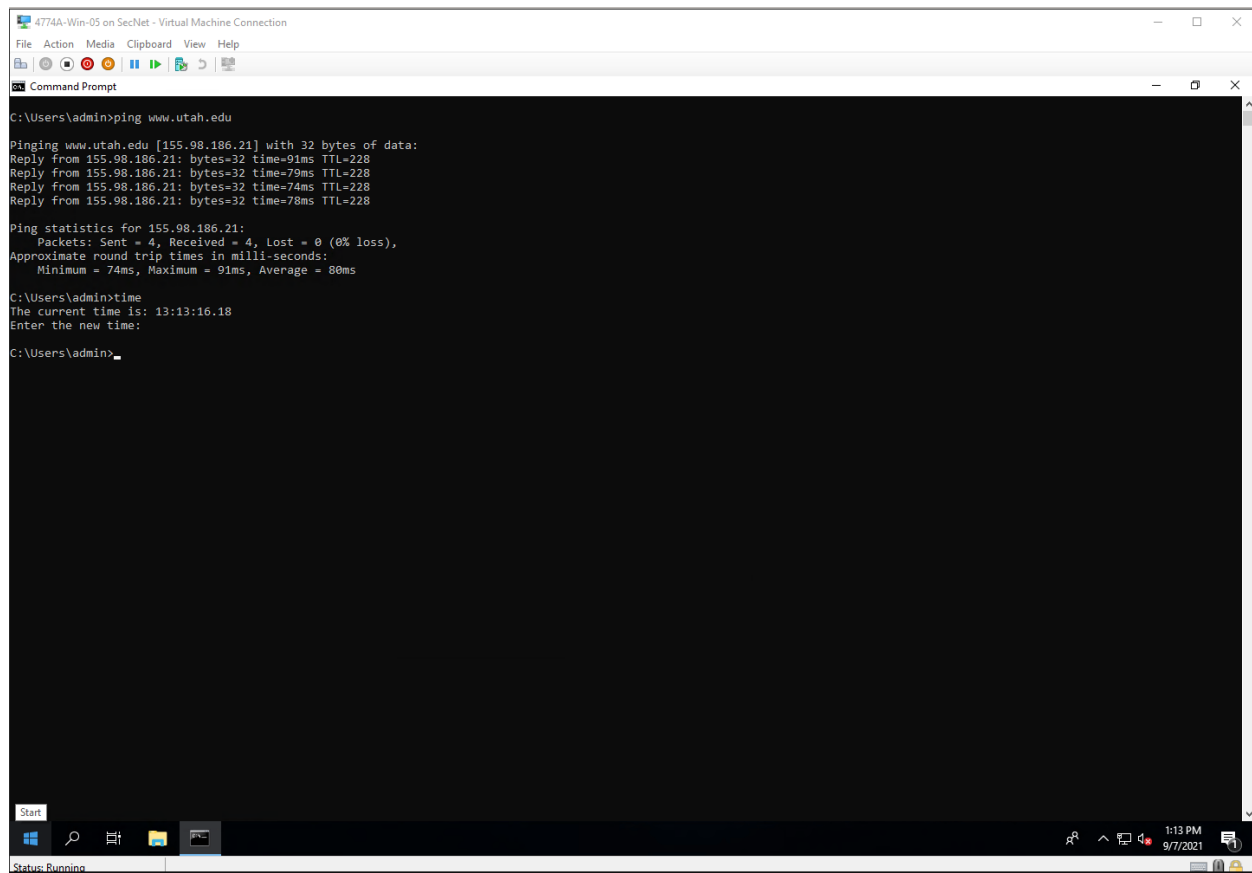
1. My IP address is 192.168.72.54
2. My MAC address is 72:00:00:00:10:05
3. My default gateway is at 192.168.72.254
4. My subnet mask is 255.255.255.0 or /24

Thought Questions

1. The MAC addresses are specific to the device and doesn't change. IP addresses are network specific meaning that they can vary depending on what network the device is on.
2. The default gateway is how devices on this network connect to devices outside this network
3. DNS servers translate domain names into IP addresses.
4. Subnet mask defines how a network is divided.

1.3 Ping

Step 8



The screenshot shows a Windows Command Prompt window titled "4774A-Win-05 on SecNet - Virtual Machine Connection". The window has a menu bar with "File", "Action", "Media", "Clipboard", "View", and "Help". Below the menu bar is a toolbar with icons for file operations. The command prompt shows the following text:

```
C:\Users\admin>ping www.utah.edu

Pinging www.utah.edu [155.98.186.21] with 32 bytes of data:
Reply from 155.98.186.21: bytes=32 time=91ms TTL=228
Reply from 155.98.186.21: bytes=32 time=79ms TTL=228
Reply from 155.98.186.21: bytes=32 time=74ms TTL=228
Reply from 155.98.186.21: bytes=32 time=78ms TTL=228

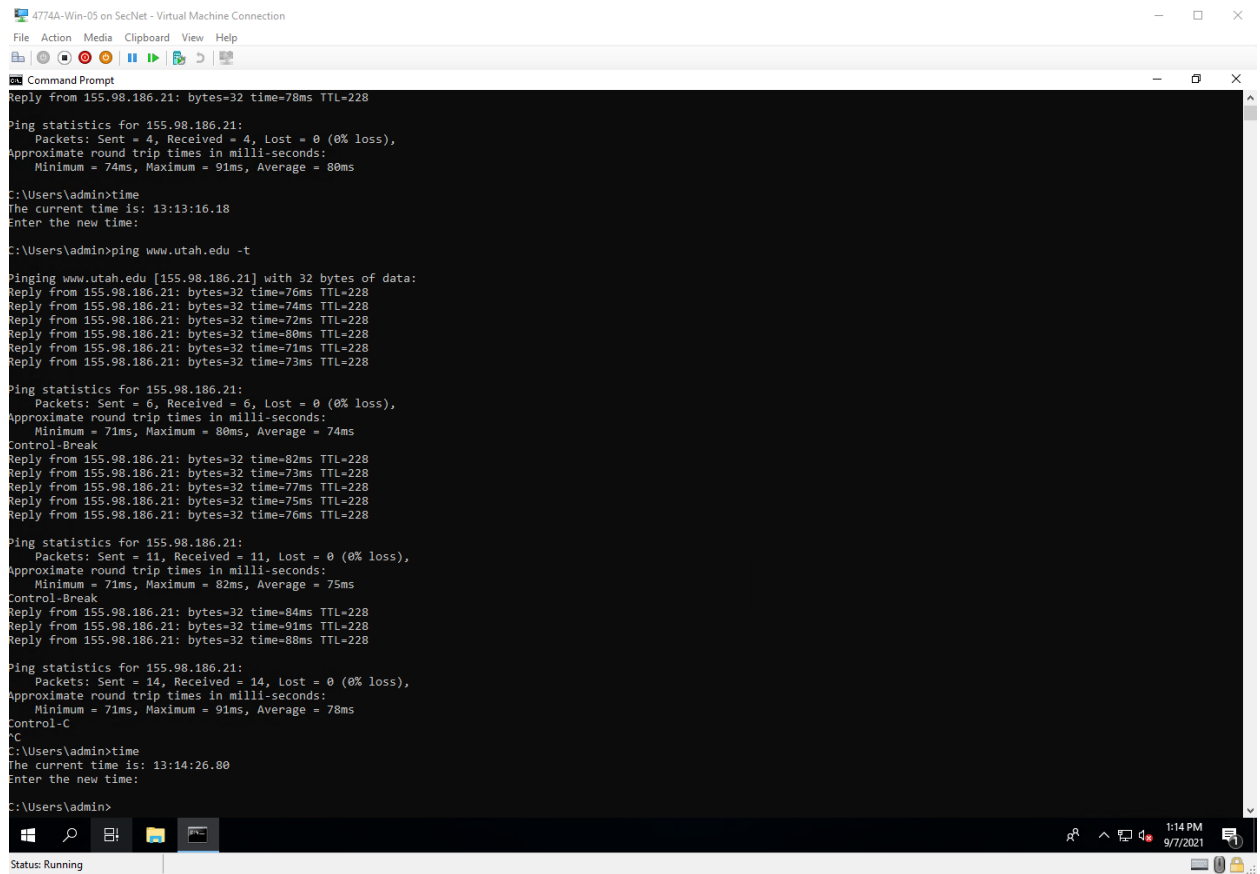
Ping statistics for 155.98.186.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 74ms, Maximum = 91ms, Average = 80ms

C:\Users\admin>time
The current time is: 13:13:16.18
Enter the new time:

C:\Users\admin>
```

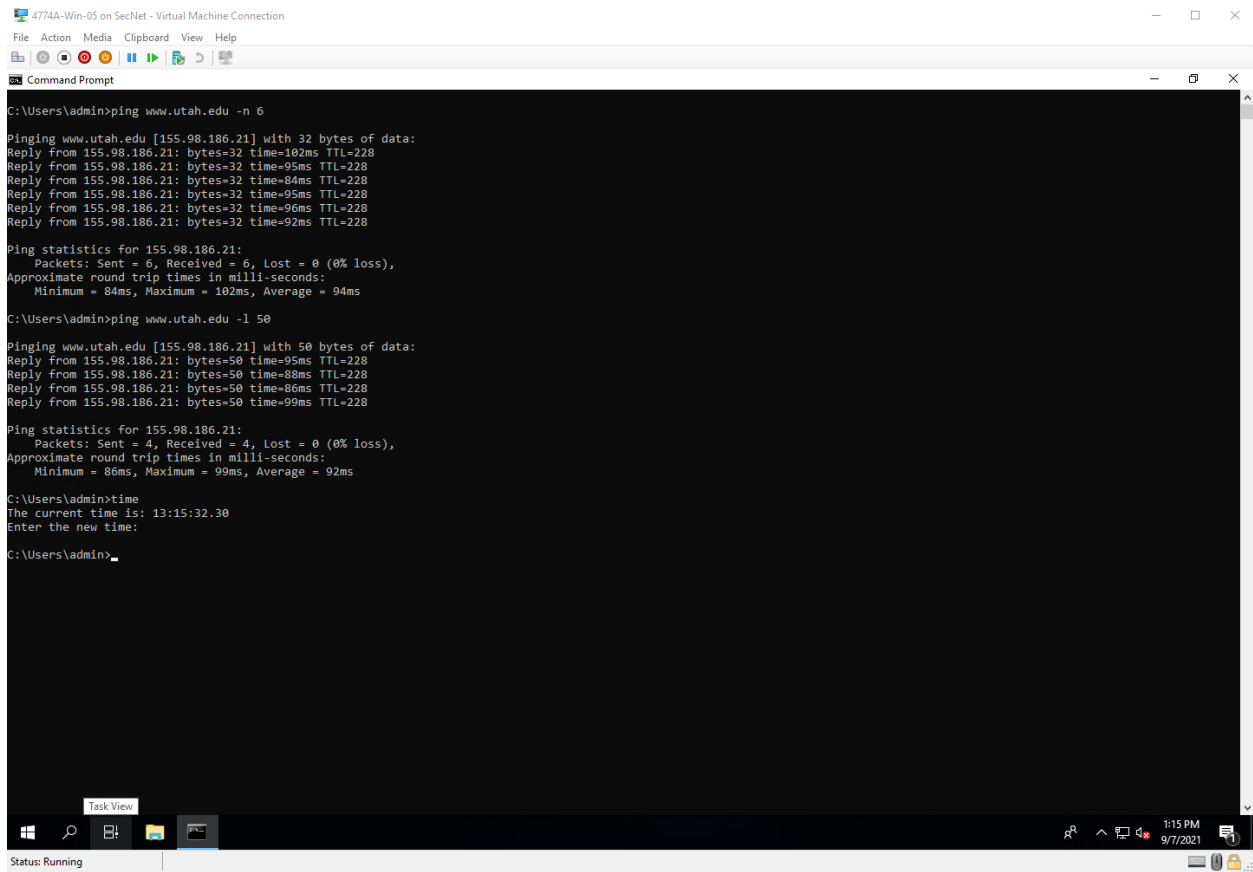
The taskbar at the bottom shows the Start button, a search icon, and several pinned application icons. The system tray on the right shows the time as 1:13 PM on 9/7/2021, along with network and volume icons.

Step 16



```
4774A-Win-05 on SecNet - Virtual Machine Connection
File Action Media Clipboard View Help
Command Prompt
Reply from 155.98.186.21: bytes=32 time=78ms TTL=228
Ping statistics for 155.98.186.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 74ms, Maximum = 91ms, Average = 80ms
C:\Users\admin>time
The current time is: 13:13:16.18
Enter the new time:
C:\Users\admin>ping www.utah.edu -t
Pinging www.utah.edu [155.98.186.21] with 32 bytes of data:
Reply from 155.98.186.21: bytes=32 time=76ms TTL=228
Reply from 155.98.186.21: bytes=32 time=74ms TTL=228
Reply from 155.98.186.21: bytes=32 time=72ms TTL=228
Reply from 155.98.186.21: bytes=32 time=80ms TTL=228
Reply from 155.98.186.21: bytes=32 time=71ms TTL=228
Reply from 155.98.186.21: bytes=32 time=73ms TTL=228
Ping statistics for 155.98.186.21:
    Packets: Sent = 6, Received = 6, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 71ms, Maximum = 80ms, Average = 74ms
Control-Break
Reply from 155.98.186.21: bytes=32 time=82ms TTL=228
Reply from 155.98.186.21: bytes=32 time=73ms TTL=228
Reply from 155.98.186.21: bytes=32 time=77ms TTL=228
Reply from 155.98.186.21: bytes=32 time=75ms TTL=228
Reply from 155.98.186.21: bytes=32 time=76ms TTL=228
Ping statistics for 155.98.186.21:
    Packets: Sent = 11, Received = 11, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 71ms, Maximum = 82ms, Average = 75ms
Control-Break
Reply from 155.98.186.21: bytes=32 time=84ms TTL=228
Reply from 155.98.186.21: bytes=32 time=91ms TTL=228
Reply from 155.98.186.21: bytes=32 time=88ms TTL=228
Ping statistics for 155.98.186.21:
    Packets: Sent = 14, Received = 14, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 71ms, Maximum = 91ms, Average = 78ms
Control-C
^C
C:\Users\admin>time
The current time is: 13:14:26.80
Enter the new time:
C:\Users\admin>
```

Step 25



The screenshot shows a Windows Command Prompt window titled "4774A-Win-05 on SecNet - Virtual Machine Connection". The user has executed two ping commands. The first command is `ping www.utah.edu -n 6`, which shows six replies from 155.98.186.21 with varying times (102ms to 92ms) and a TTL of 228. The second command is `ping www.utah.edu -l 50`, which shows four replies with times (95ms to 99ms) and a TTL of 228. The user also typed `time` and `Task View`.

```
C:\Users\admin>ping www.utah.edu -n 6

Pinging www.utah.edu [155.98.186.21] with 32 bytes of data:
Reply from 155.98.186.21: bytes=32 time=102ms TTL=228
Reply from 155.98.186.21: bytes=32 time=95ms TTL=228
Reply from 155.98.186.21: bytes=32 time=84ms TTL=228
Reply from 155.98.186.21: bytes=32 time=95ms TTL=228
Reply from 155.98.186.21: bytes=32 time=96ms TTL=228
Reply from 155.98.186.21: bytes=32 time=92ms TTL=228

Ping statistics for 155.98.186.21:
    Packets: Sent = 6, Received = 6, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 84ms, Maximum = 102ms, Average = 94ms

C:\Users\admin>ping www.utah.edu -l 50

Pinging www.utah.edu [155.98.186.21] with 50 bytes of data:
Reply from 155.98.186.21: bytes=50 time=95ms TTL=228
Reply from 155.98.186.21: bytes=50 time=88ms TTL=228
Reply from 155.98.186.21: bytes=50 time=86ms TTL=228
Reply from 155.98.186.21: bytes=50 time=99ms TTL=228

Ping statistics for 155.98.186.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 86ms, Maximum = 99ms, Average = 92ms

C:\Users\admin>time
The current time is: 13:15:32.30
Enter the new time:

C:\Users\admin>_

Task View
Status: Running
```

Project Questions

1. I pinged www.utah.edu
2. The IP address was 155.98.186.21
3. The ping was 95 ms long
4. It had 228 TTL value

Thought Questions

1. You can change the number of packets sent with the -n flag
2. The -l option changes the size of the packets sent. The -n option changes the number of packets sent. The -t option pings the host until interrupted by user.
3. Packet loss is typically experienced due to network connectivity issues.
4. Sending larger files allow for the user to test the throughput.

1.4 TraceRT

Step 10

```
4774A-Win-05 on SecNet - Virtual Machine Connection
File Action Media Clipboard View Help
C:\Users\admin>tracert www.fsu.edu
Tracing route to www.fsu.edu [146.201.111.62]
over a maximum of 30 hops:
  1  2 ms  2 ms  1 ms  192.168.72.254
  2  4 ms  2 ms  3 ms  be20804-372.a9k.net.fsu.edu [128.186.72.1]
  3  19 ms 19 ms 14 ms  10.1.165.225
  4  24 ms 48 ms 50 ms  vl4007.bfs-dc.net.fsu.edu [128.186.248.58]
  5   9 ms  9 ms  8 ms  webvm.its.fsu.edu [146.201.111.62]
Trace complete.
C:\Users\admin>tracert www.google.com
Tracing route to www.google.com [74.125.138.104]
over a maximum of 30 hops:
  1  2 ms  1 ms  2 ms  192.168.72.254
  2  3 ms  1 ms  2 ms  be20804-372.a9k.net.fsu.edu [128.186.72.1]
  3  11 ms 10 ms  8 ms  10.1.165.225
  4  2 ms  2 ms  2 ms  ae124-4042.rsb-br.net.fsu.edu [128.186.249.9]
  5  6 ms  4 ms  4 ms  tlh-flrcore-asr9010-1-te0203-1903.net.flrnet.org [108.59.27.240]
  6  12 ms 12 ms 10 ms  atl-flrcore-asr9000-1-hu0300-1.net.flrnet.org [108.59.31.19]
  7  14 ms 14 ms 13 ms  flrnatp-flrcore-108-59-28-41.rtr.net.flrnet.org [108.59.28.41]
  8  14 ms 12 ms 14 ms  108.170.249.163
  9  16 ms * 15 ms  142.251.51.225
 10 28 ms 18 ms 19 ms  142.251.51.226
 11 19 ms 18 ms 18 ms  216.239.48.63
 12 * * * Request timed out.
 13 * * * Request timed out.
 14 * * * Request timed out.
 15 * * * Request timed out.
 16 * * * Request timed out.
 17 * * * Request timed out.
 18 * * * Request timed out.
 19 * * * Request timed out.
 20 * * * Request timed out.
 21 33 ms 32 ms 26 ms  yi-in-f104.1e100.net [74.125.138.104]
Trace complete.
C:\Users\admin>time
The current time is: 13:26:35.74
Enter the new time:
C:\Users\admin>
```

Step 17

```
4774A-Win-OS on SecNet - Virtual Machine Connection
File Action Media Clipboard View Help
Command Prompt
C:\Users\admin>tracert -d www.google.com

Tracing route to www.google.com [74.125.138.104]
over a maximum of 30 hops:
  1  1 ms  1 ms  2 ms  192.168.72.254
  2  4 ms  4 ms  3 ms  128.186.72.1
  3  10 ms 18 ms 17 ms 10.1.165.225
  4  21 ms 20 ms 18 ms 128.186.249.9
  5  10 ms 11 ms 9 ms 108.59.27.240
  6  17 ms 17 ms 15 ms 108.59.31.19
  7  11 ms 9 ms 9 ms 108.59.28.41
  8  18 ms 20 ms 24 ms 108.170.249.163
  9  28 ms 22 ms 18 ms 209.85.259.68
 10  13 ms 13 ms 15 ms 209.85.249.47
 11  19 ms 20 ms 18 ms 216.239.51.193
 12  *      *      *      Request timed out.
 13  *      *      *      Request timed out.
 14  *      *      *      Request timed out.
 15  *      *      *      Request timed out.
 16  *      *      *      Request timed out.
 17  *      *      *      Request timed out.
 18  *      *      *      Request timed out.
 19  *      *      *      Request timed out.
 20  *      *      *      Request timed out.
 21 11 ms 9 ms 11 ms 74.125.138.104

Trace complete.

C:\Users\admin>tracert -h 5 www.google.com

Tracing route to www.google.com [74.125.138.105]
over a maximum of 5 hops:
  1  1 ms  2 ms  1 ms  192.168.72.254
  2  3 ms  3 ms  5 ms  be20804-372.a9k.net.fsu.edu [128.186.72.1]
  3  5 ms  4 ms  6 ms  10.1.165.225
  4  13 ms 12 ms 13 ms  ae124-4042.rsb-br.net.fsu.edu [128.186.249.9]
  5  18 ms 17 ms 15 ms  tlh-flrcore-asr9010-1-te0203-1903.net.flrnet.org [108.59.27.240]

Trace complete.

C:\Users\admin>tim
'tim' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\admin>
C:\Users\admin>
The current time is:
Enter the new time:
C:\Users\admin>
```

Step 22

```
4774A-Win-05 on SecNet - Virtual Machine Connection
File Action Media Clipboard View Help

Command Prompt
over a maximum of 5 hops:

 1  1 ms  2 ms  1 ms  192.168.72.254
 2  3 ms  3 ms  5 ms  be20804-372.a9k.net.fsu.edu [128.186.72.1]
 3  5 ms  4 ms  6 ms  10.1.165.225
 4 13 ms 12 ms 13 ms ae124-4042.psb-br.net.fsu.edu [128.186.249.9]
 5 18 ms 17 ms 15 ms tlh-flrcore-asr9010-1-te0203-1903.net.flrnet.org [108.59.27.240]

Trace complete.

C:\Users\admin>tim
'tim' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\admin>
C:\Users\admin>time
The current time is: 13:30:03.04
Enter the new time:

C:\Users\admin>pathping -q 5 -w www.fsu.edu

Tracing route to www.fsu.edu [146.201.111.62]
over a maximum of 30 hops:
 0  DESKTOP-VLAFFEF9.SECNET.local [192.168.72.54]
 1  192.168.72.254
 2  be20804-372.a9k.net.fsu.edu [128.186.72.1]
 3  10.1.165.225
 4  vl4007.bfs-dc.net.fsu.edu [128.186.248.58]
 5  webvm.its.fsu.edu [146.201.111.62]

Computing statistics for 6 seconds...
Source to Here   This Node/Link
Hop  RTT  Lost/Sent = Pct  Lost/Sent = Pct  Address
 0      |           |           |           | DESKTOP-VLAFFEF9.SECNET.local [192.168.72.54]
 1  1ms  0/ 5 = 0%      0/ 5 = 0%      | 192.168.72.254
 2  ---  5/ 5 =100%     5/ 5 =100%     | be20804-372.a9k.net.fsu.edu [128.186.72.1]
 3  9ms  0/ 5 = 0%      0/ 5 = 0%      | 10.1.165.225
 4  8ms  0/ 5 = 0%      0/ 5 = 0%      | vl4007.bfs-dc.net.fsu.edu [128.186.248.58]
 5  8ms  0/ 5 = 0%      0/ 5 = 0%      | webvm.its.fsu.edu [146.201.111.62]

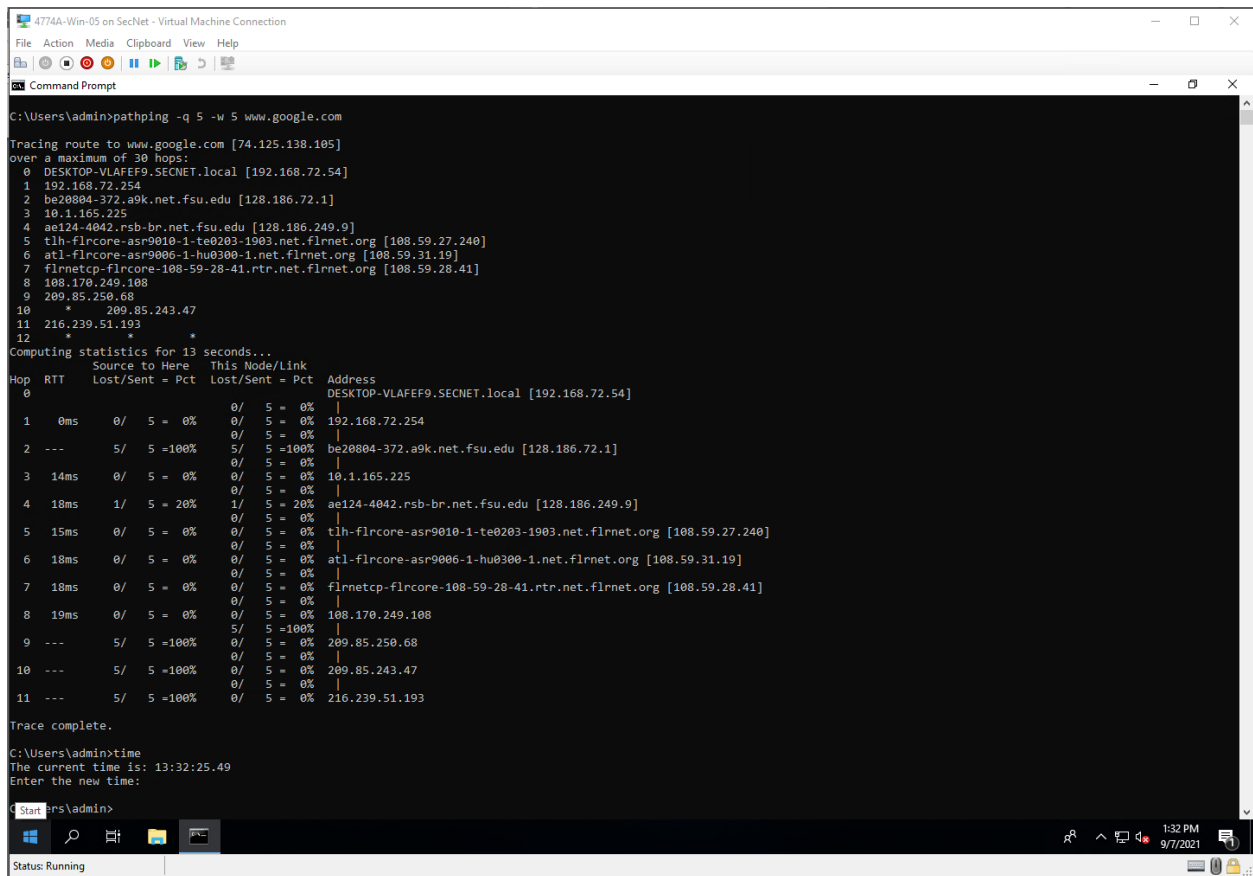
Trace complete.

C:\Users\admin>time
The current time is: 13:31:04.63
Enter the new time:

C:\Users\admin>
```

Status: Running

Step 27



```
C:\Users\admin>pathping -q 5 -w 5 www.google.com

Tracing route to www.google.com [74.125.138.105]
over a maximum of 30 hops:
 0  DESKTOP-VLAFF99.SECNET.local [192.168.72.54]
 1  192.168.72.254
 2  be20804-372.a9k.net.fsu.edu [128.186.72.1]
 3  10.1.165.225
 4  ae124-4042.rsb-br.net.fsu.edu [128.186.249.9]
 5  tlh-flrcore-asr9010-1-te0203-1903.net.flrnet.org [108.59.27.240]
 6  atl-flrcore-asr9006-1-hu0300-1.net.flrnet.org [108.59.31.19]
 7  flrnetcp-flrcore-108-59-28-41.rtr.net.flrnet.org [108.59.28.41]
 8  108.170.249.108
 9  209.85.250.68
10  * 209.85.243.47
11  216.239.51.193
12  * * *

Computing statistics for 13 seconds...
Hop  RTT      Source to Here   This Node/Link   Address
     Lost/Sent = Pct  Lost/Sent = Pct  Lost/Sent = Pct  Address
 0      0ms         0/ 5 = 0%         0/ 5 = 0%         0/ 5 = 0%         DESKTOP-VLAFF99.SECNET.local [192.168.72.54]
 1      0ms         0/ 5 = 0%         0/ 5 = 0%         0/ 5 = 0%         192.168.72.254
 2      ---         5/ 5 =100%        5/ 5 =100%        5/ 5 =100%        be20804-372.a9k.net.fsu.edu [128.186.72.1]
 3     14ms         0/ 5 = 0%         0/ 5 = 0%         0/ 5 = 0%         10.1.165.225
 4     18ms         1/ 5 = 20%        1/ 5 = 20%        1/ 5 = 20%        ae124-4042.rsb-br.net.fsu.edu [128.186.249.9]
 5     15ms         0/ 5 = 0%         0/ 5 = 0%         0/ 5 = 0%         tlh-flrcore-asr9010-1-te0203-1903.net.flrnet.org [108.59.27.240]
 6     18ms         0/ 5 = 0%         0/ 5 = 0%         0/ 5 = 0%         atl-flrcore-asr9006-1-hu0300-1.net.flrnet.org [108.59.31.19]
 7     18ms         0/ 5 = 0%         0/ 5 = 0%         0/ 5 = 0%         flrnetcp-flrcore-108-59-28-41.rtr.net.flrnet.org [108.59.28.41]
 8     19ms         0/ 5 = 0%         0/ 5 = 0%         0/ 5 = 0%         108.170.249.108
 9      ---         5/ 5 =100%        5/ 5 =100%        5/ 5 =100%        209.85.250.68
10      ---         5/ 5 =100%        5/ 5 =100%        5/ 5 =100%        209.85.243.47
11      ---         5/ 5 =100%        5/ 5 =100%        5/ 5 =100%        216.239.51.193

Trace complete.

C:\Users\admin>time
The current time is: 13:32:25.49
Enter the new time:
```

Project Questions

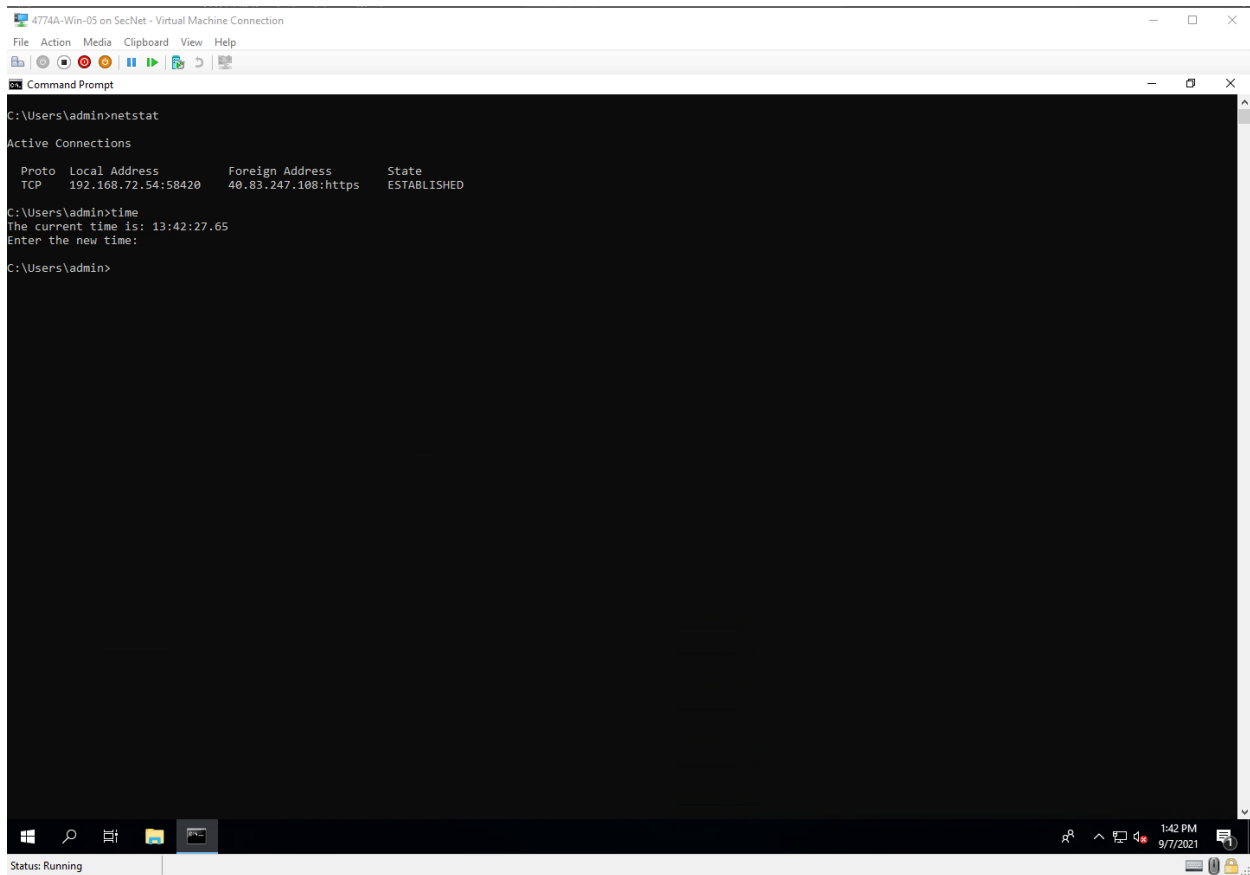
1. There were 5 entries between me and www.fsu.edu
2. There were 21 entries between me and www.google.com
3. The computer after me is 192.168.72.254 (default gateway)
4. Pathpings longest wait for results was round 20 seconds

Thought Questions

1. You would use the -d option when you don't want IP addresses resolved to hostnames.
2. The -w option sets the timeout limit. If a host takes longer than the timeout period to respond, the services skip over it.
3. A network administrator may want to see how traffic is being routed through the networks they have control over.
4. The -q option defines how many queries are made per hop in pathpin. If it is not specified, pathping will just use its default value.

1.5 NETSTAT

Step 8



The screenshot shows a Windows Command Prompt window titled "4774A-Win-05 on SecNet - Virtual Machine Connection". The window has a menu bar with "File", "Action", "Media", "Clipboard", "View", and "Help". Below the menu bar is a toolbar with icons for file operations. The command prompt shows the following commands and output:

```
C:\Users\admin>netstat

Active Connections

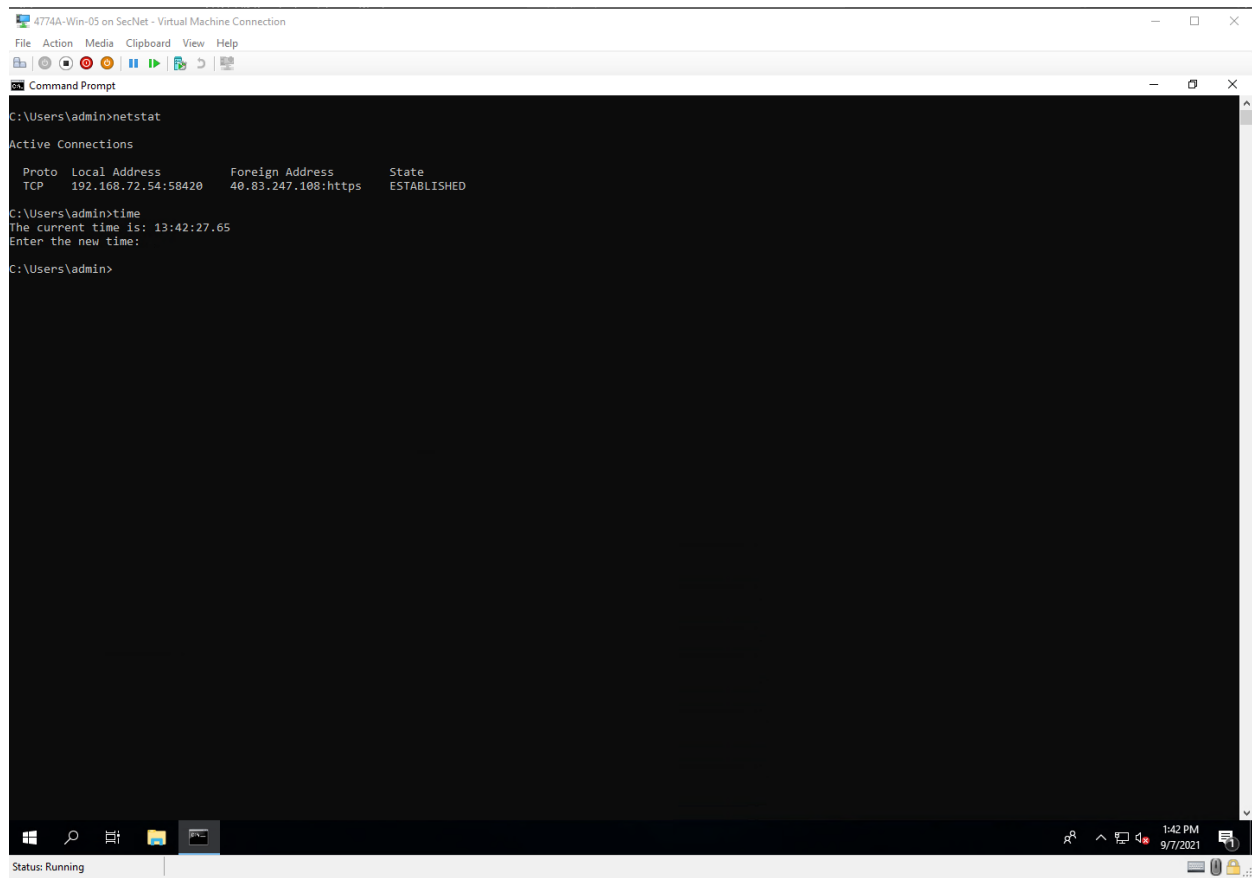
   Proto Local Address           Foreign Address         State
   ----  -
   TCP    192.168.72.54:58420      40.83.247.108:https     ESTABLISHED

C:\Users\admin>time
The current time is: 13:42:27.65
Enter the new time:

C:\Users\admin>
```

The taskbar at the bottom shows the Windows logo, search icon, task view icon, file explorer icon, and the command prompt icon. The system tray on the right shows the time as 1:42 PM on 9/7/2021, along with network and volume icons. The status bar at the bottom left indicates "Status: Running".

Step 13



```
C:\Users\admin>netstat

Active Connections

Proto Local Address Foreign Address State
TCP 192.168.72.54:58420 40.83.247.108:https ESTABLISHED

C:\Users\admin>time
The current time is: 13:42:27.65
Enter the new time:

C:\Users\admin>
```

Step 16

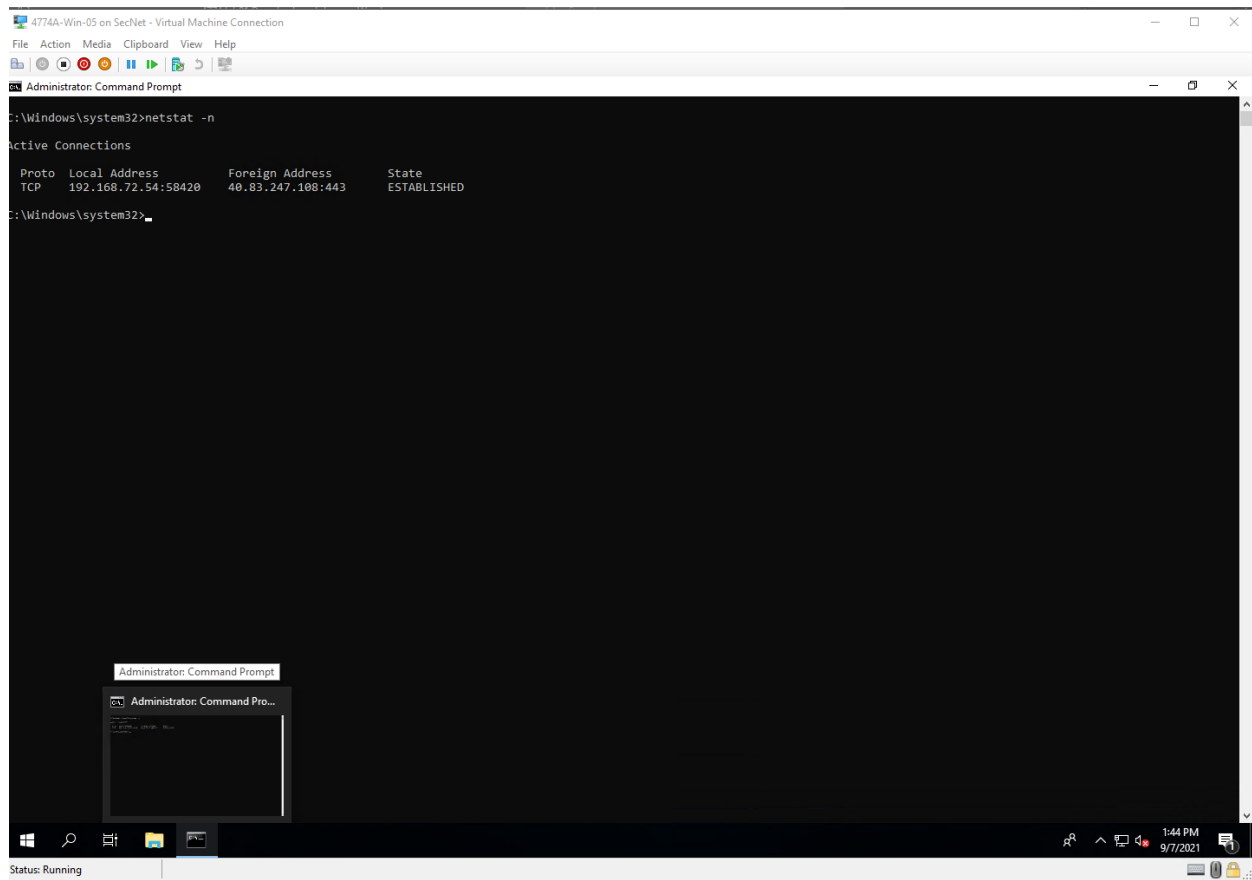
```
4774A-Win-05 on SecNet - Virtual Machine Connection
File Action Media Clipboard View Help
Administrator: Command Prompt
C:\Windows\system32>netstat -a

Active Connections

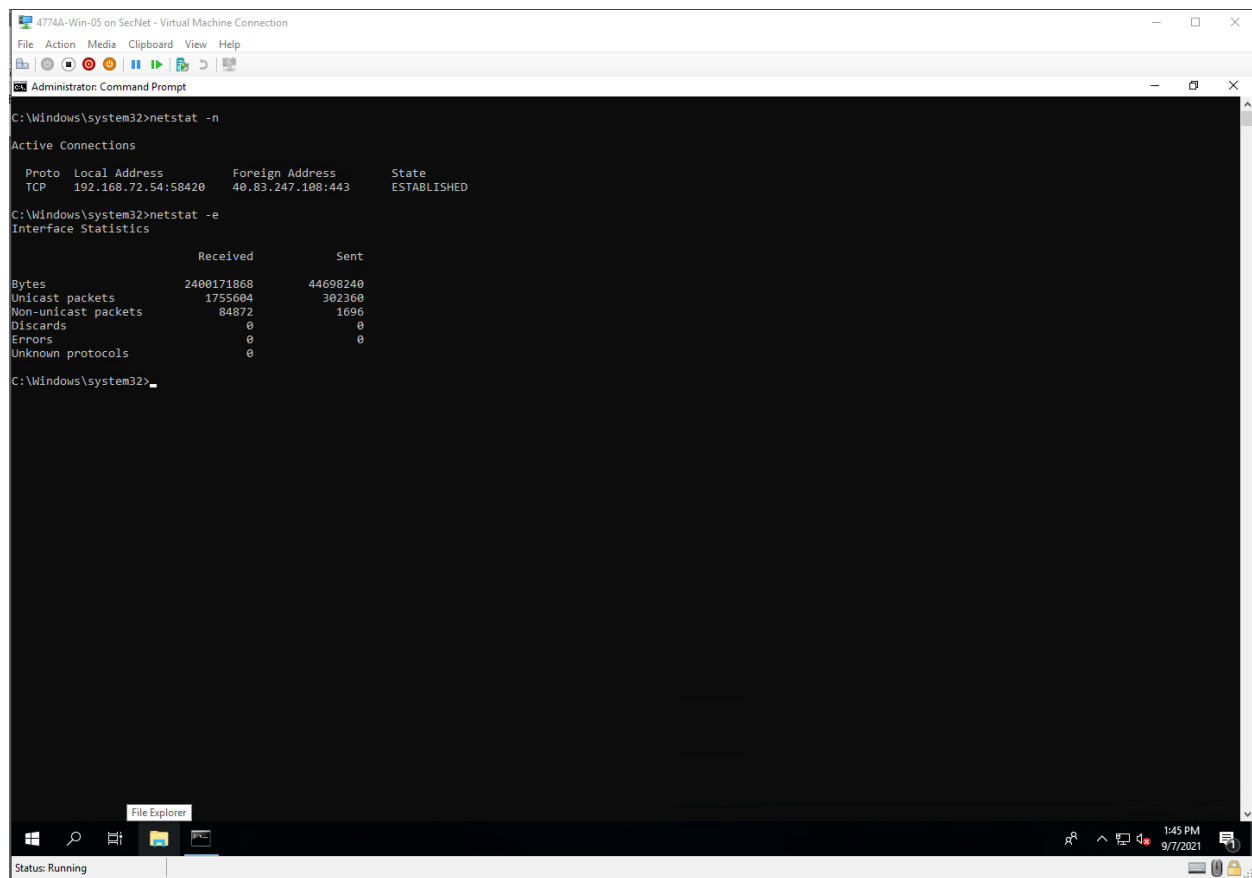
Proto Local Address           Foreign Address         State
TCP    0.0.0.0:80               DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:135              DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:445              DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:5040             DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:5357             DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:49664            DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:49665            DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:49666            DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:49667            DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:49668            DESKTOP-VLAFF9:0       LISTENING
TCP    0.0.0.0:49674            DESKTOP-VLAFF9:0       LISTENING
TCP    192.168.72.54:139        DESKTOP-VLAFF9:0       LISTENING
TCP    192.168.72.54:58420     40.83.247.108:https    ESTABLISHED
TCP    [::]:80                 DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:135                 DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:445                 DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:5357                 DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:49664                DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:49665                DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:49666                DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:49667                DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:49668                DESKTOP-VLAFF9:0       LISTENING
TCP    [::]:49674                DESKTOP-VLAFF9:0       LISTENING
UDP    0.0.0.0:3702             *:                        *:*
UDP    0.0.0.0:3702             *:                        *:*
UDP    0.0.0.0:5050             *:                        *:*
UDP    0.0.0.0:5353             *:                        *:*
UDP    0.0.0.0:5355             *:                        *:*
UDP    0.0.0.0:65287            *:                        *:*
UDP    127.0.0.1:1900            *:                        *:*
UDP    127.0.0.1:55388          *:                        *:*
UDP    127.0.0.1:57462          *:                        *:*
UDP    127.0.0.1:60694          *:                        *:*
UDP    192.168.72.54:137        *:                        *:*
UDP    192.168.72.54:138        *:                        *:*
UDP    192.168.72.54:1900       *:                        *:*
UDP    192.168.72.54:57461     *:                        *:*
UDP    [::]:3702                *:                        *:*
UDP    [::]:3702                *:                        *:*
UDP    [::]:5353                *:                        *:*
UDP    [::]:5355                *:                        *:*
UDP    [::]:65288               *:                        *:*
UDP    [::]:1900                *:                        *:*
UDP    [::]:57460               *:                        *:*
UDP    [fe80::c60:e0bb:f5fe:64a4%8]:1900 *:                        *:*
UDP    [fe80::c60:e0bb:f5fe:64a4%8]:57459 *:                        *:*
```

Status: Running

Step 21



Step 24



```
C:\Windows\system32>netstat -n

Active Connections

Proto Local Address          Foreign Address        State
TCP   192.168.72.54:58420    40.83.247.100:443     ESTABLISHED

C:\Windows\system32>netstat -e

Interface Statistics

              Received              Sent
Bytes          2400171868          44698240
Unicast packets 1755684             302360
Non-unicast packets 84872             1696
Discards        0                   0
Errors          0                   0
Unknown protocols 0                   0

C:\Windows\system32>
```

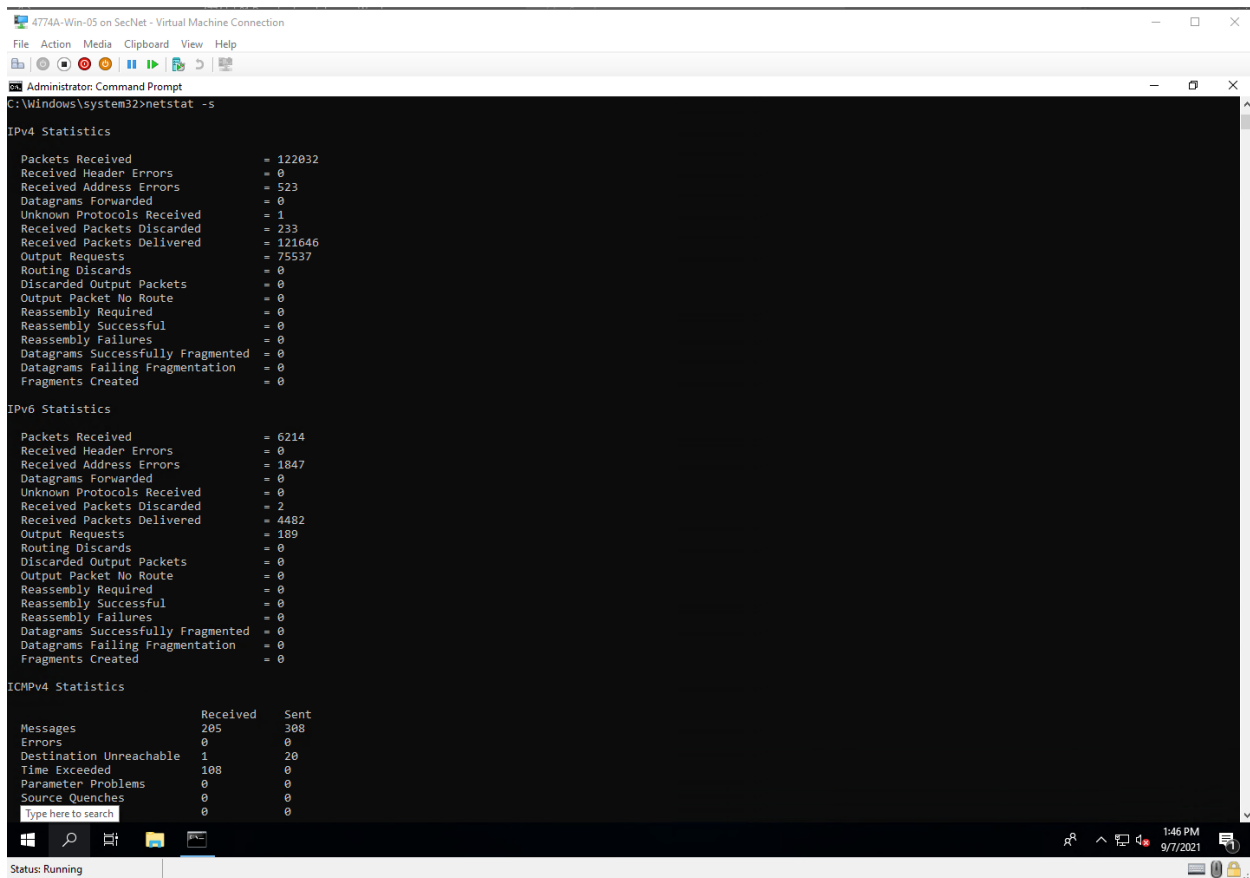
Step 33

```
C:\Windows\system32>netstat -e 5
Interface Statistics
      Received      Sent
Bytes      2400180260    44698240
Unicast packets      1755604    302360
Non-unicast packets      84932    1696
Discards      0      0
Errors      0      0
Unknown protocols      0
Interface Statistics
      Received      Sent
Bytes      2400180260    44698240
Unicast packets      1755604    302360
Non-unicast packets      84932    1696
Discards      0      0
Errors      0      0
Unknown protocols      0
Interface Statistics
      Received      Sent
Bytes      2400189152    44698240
Unicast packets      1755604    302360
Non-unicast packets      84984    1696
Discards      0      0
Errors      0      0
Unknown protocols      0
Interface Statistics
      Received      Sent
Bytes      2400189152    44698240
Unicast packets      1755604    302360
Non-unicast packets      84984    1696
Discards      0      0
Errors      0      0
Unknown protocols      0
C:\Windows\system32>time
The current time is: 13:45:56.11
Enter the new time:

C:\Windows\system32>
```

Status: Running

Step 36



```
Administrator: Command Prompt
C:\Windows\system32>netstat -s

IPv4 Statistics

Packets Received              = 122032
Received Header Errors        = 0
Received Address Errors       = 523
Datagrams Forwarded           = 0
Unknown Protocols Received    = 1
Received Packets Discarded     = 233
Received Packets Delivered     = 121646
Output Requests               = 75537
Routing Discards              = 0
Discarded Output Packets      = 0
Output Packet No Route        = 0
Reassembly Required           = 0
Reassembly Successful         = 0
Reassembly Failures           = 0
Datagrams Successfully Fragmented = 0
Datagrams Failing Fragmentation = 0
Fragments Created             = 0

IPv6 Statistics

Packets Received              = 6214
Received Header Errors        = 0
Received Address Errors       = 1847
Datagrams Forwarded           = 0
Unknown Protocols Received    = 0
Received Packets Discarded     = 2
Received Packets Delivered     = 4482
Output Requests               = 189
Routing Discards              = 0
Discarded Output Packets      = 0
Output Packet No Route        = 0
Reassembly Required           = 0
Reassembly Successful         = 0
Reassembly Failures           = 0
Datagrams Successfully Fragmented = 0
Datagrams Failing Fragmentation = 0
Fragments Created             = 0

ICMPv4 Statistics

      Received      Sent
Messages      205      308
Errors         0         0
Destination Unreachable 1         20
Time Exceeded  108         0
Parameter Problems 0         0
Source Quench   0         0
Type here to search
```

Project Questions

1. The first local port was 58420
2. I had 23 TCP connections
3. I sent out 44698240 bytes
4. I have 94 echo replies

Thought Questions

1. .

1.6 NSLOOKUP

Step 1

Project Questions

1. .

Thought Questions

5. .