

Designing a Secure Network Topology (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 03

Student:

Valeria Brochero

Email:

v0broc01@louisville.edu

Time on Task:

4 hours, 44 minutes

Progress:

83%

Report Generated: Sunday, July 13, 2025 at 3:39 PM

Section 1: Hands-On Demonstration

Part 1: Design a Simple Network Topology

34. Make a screen capture showing the results of the ping attempt from PC4 to PC3.

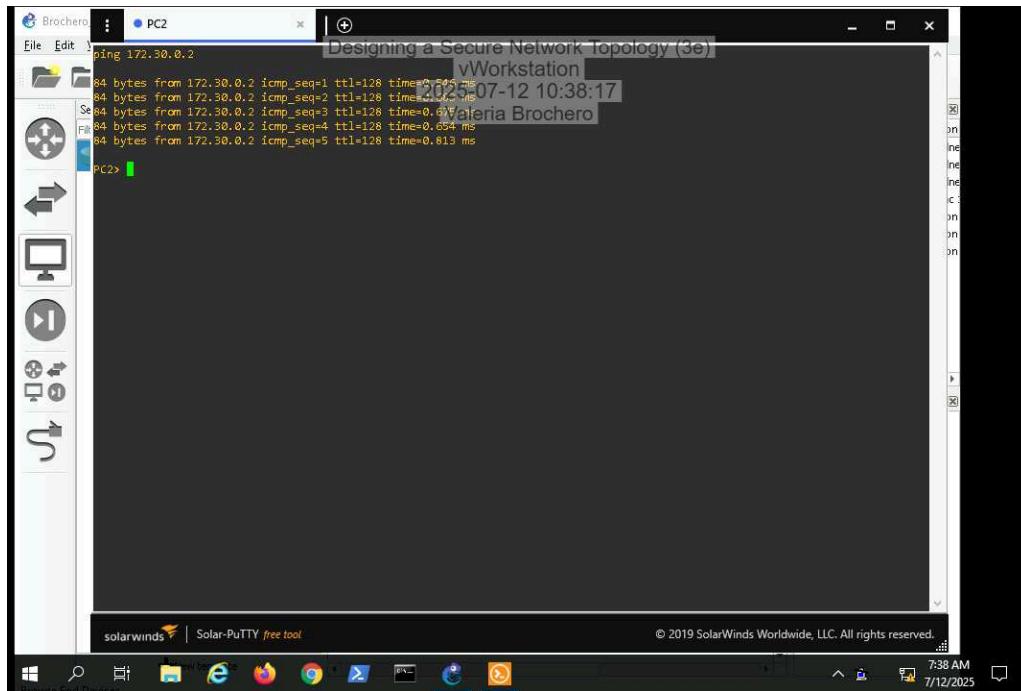
The screenshot shows a Solar-PuTTY terminal window titled "PC4". The window displays the command "ping 172.30.1.2" and its output. The output shows five ICMP echo requests sent to 172.30.1.2, each with a TTL of 64 and a time of approximately 0.54 ms. The terminal window has a dark background and light-colored text. The title bar includes the session name "PC4", the host name "vWorkstation", and the date and time "2025-07-12 10:37:38". The Solarwinds logo and "Solar-PuTTY free tool" are visible at the bottom of the window. The taskbar at the bottom of the screen shows various icons for Windows applications like File Explorer, Internet Explorer, and Edge.

```
Brochner [PC4] ping 172.30.1.2
Designing a Secure Network Topology (3e)
vWorkstation
2025-07-12 10:37:38
84 bytes from 172.30.1.2 icmp_seq=1 ttl=64 time=0.54 ms
84 bytes from 172.30.1.2 icmp_seq=2 ttl=64 time=0.54 ms
84 bytes from 172.30.1.2 icmp_seq=3 ttl=64 time=0.54 ms
84 bytes from 172.30.1.2 icmp_seq=4 ttl=64 time=0.690 ms
84 bytes from 172.30.1.2 icmp_seq=5 ttl=64 time=0.740 ms
PC4>
```

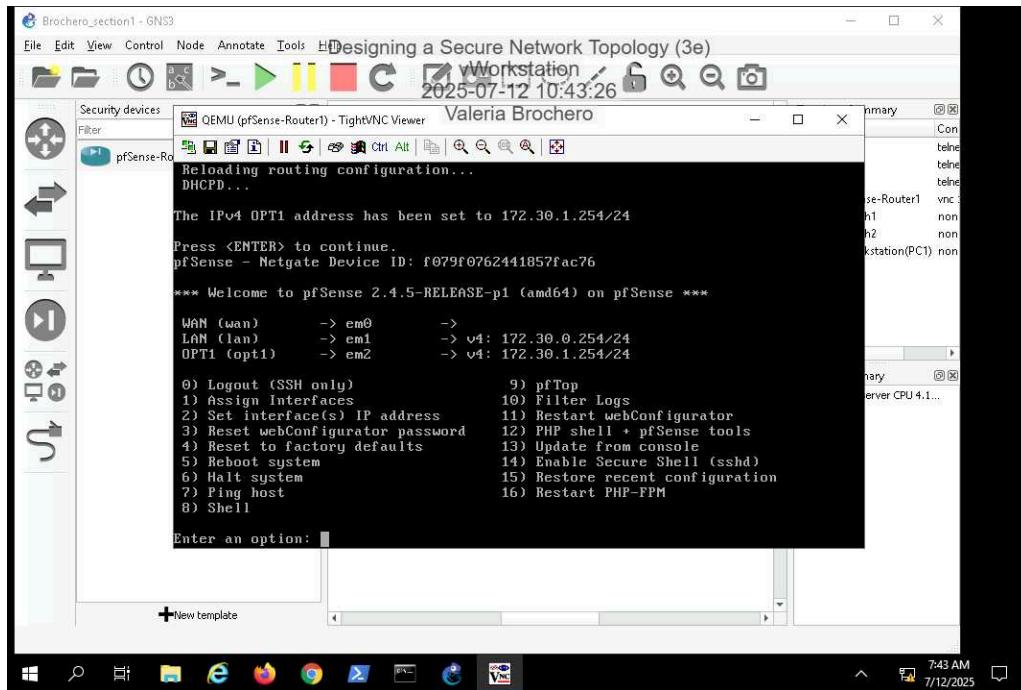
Designing a Secure Network Topology (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 03

37. Make a screen capture showing the results of the ping attempt from PC2 to the vWorkstation (172.30.0.2).



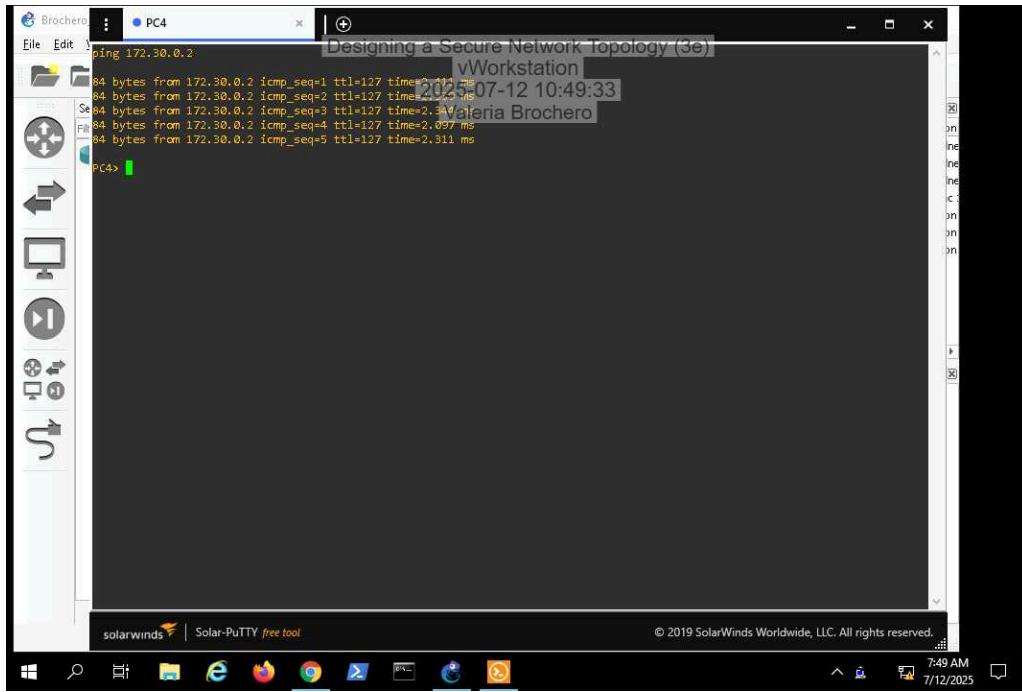
49. Make a screen capture showing the IP address assignments in the pfSense console.



Designing a Secure Network Topology (3e)

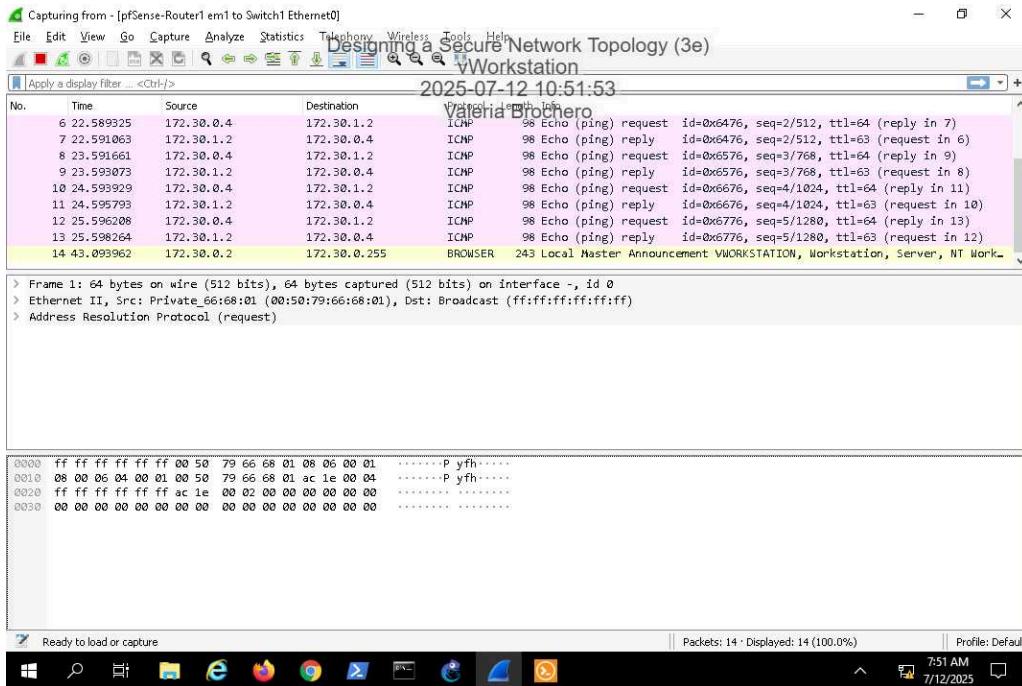
Network Security, Firewalls, and VPNs, Third Edition - Lab 03

72. Make a screen capture showing the successful ping from PC4 to the vWorkstation.



Part 2: Capture Network Traffic to Validate Connectivity

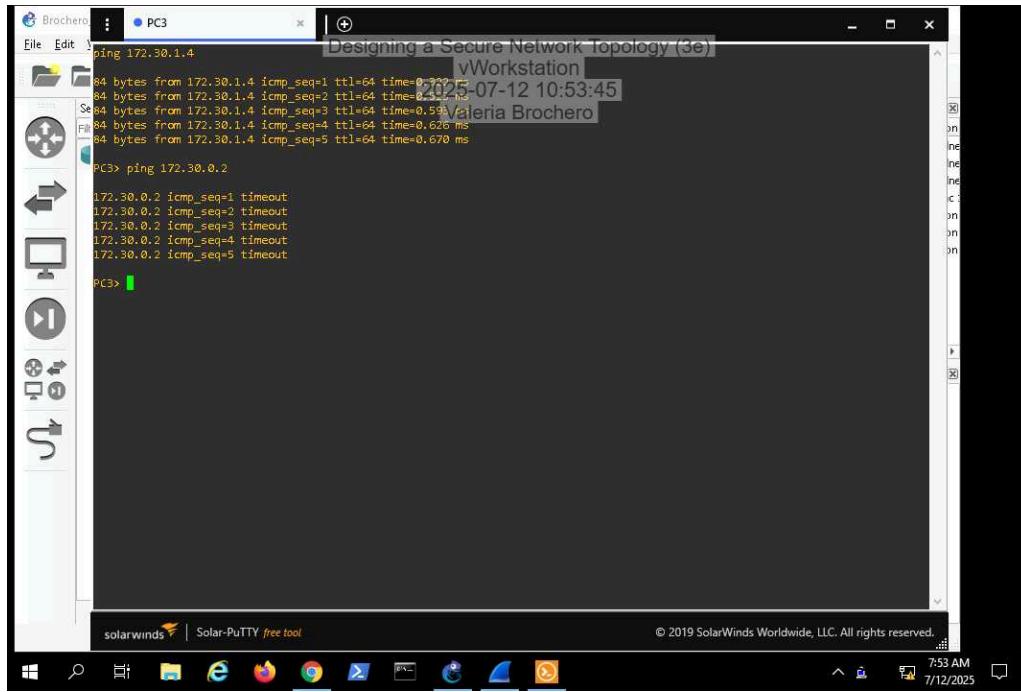
7. Make a screen capture showing the Wireshark capture for the PC2 to PC3 ping request.



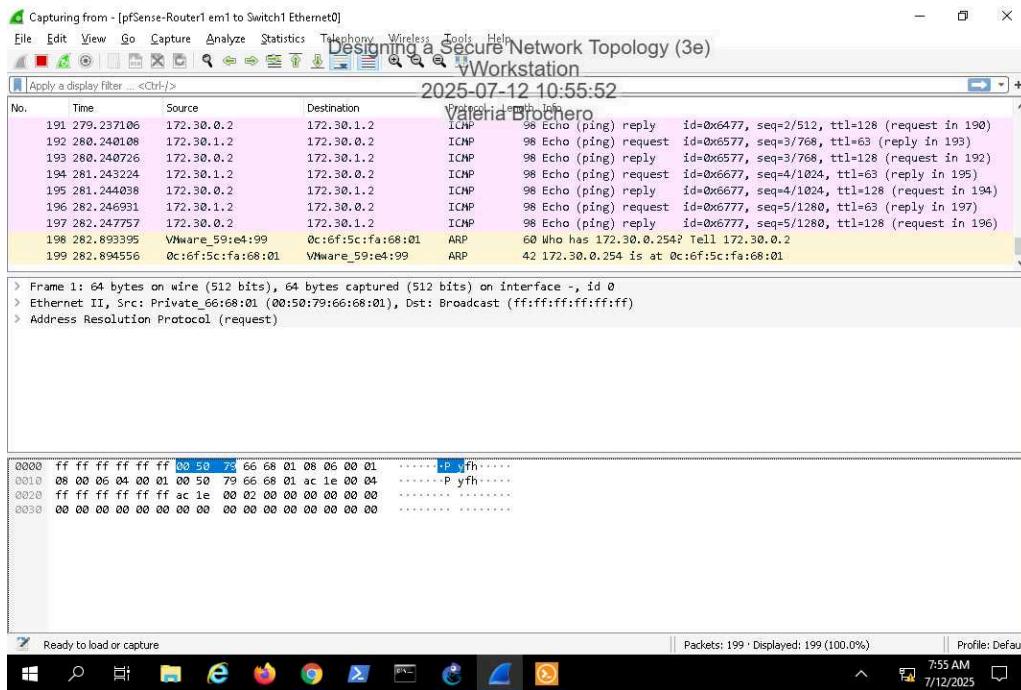
Designing a Secure Network Topology (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 03

17. Make a screen capture showing the timed out ping request.



20. Make a screen capture showing the Wireshark capture for the PC3 to vWorkstation ping request.



Section 2: Applied Learning

Part 1: Design a More Complex Network Topology

14. Make a screen capture showing the **Interface Assignments** page.

The screenshot shows the pfSense localdomain - Interfaces interface. The title bar reads "Designing a Secure Network Topology (3e)" and the URL is "172.30.0.200/interfaces_assign.php". The top navigation bar includes "Interfaces / Interface Assignments", "Interface Assignments" (which is highlighted in red), and other tabs like "Interface Groups", "Wireless", "VLANs", etc. Below the tabs is a table with two columns: "Interface" and "Network port". The table contains five rows:

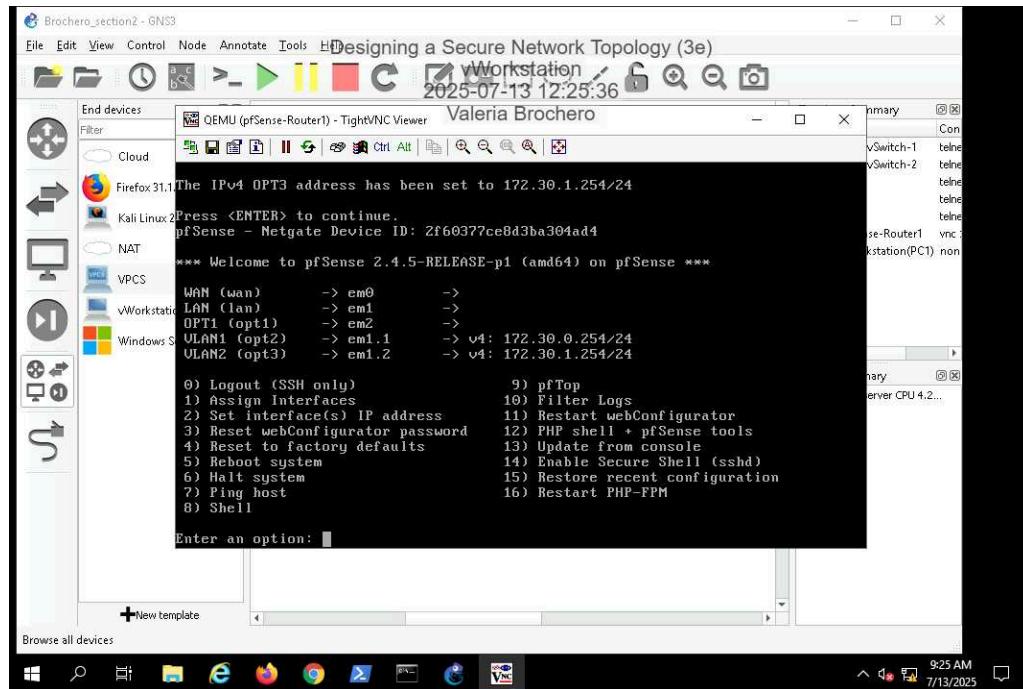
Interface	Network port
WAN	em0 (0c:63:a0:6f:6a:00)
LAN	em1 (0c:63:a0:6f:6a:01)
OPT1	em2 (0c:63:a0:6f:6a:02)
OPT2	VLAN 1 on em1 - lan (Software Development)
OPT3	VLAN 2 on em1 - lan (Human Resources)

Each row has a "Delete" button to its right. At the bottom left is a "Save" button. A note below the table states: "Interfaces that are configured as members of a lagg(4) interface will not be shown. Wireless interfaces must be created on the Wireless tab before they can be assigned." The system status bar at the bottom right shows "8:57 AM 7/13/2025".

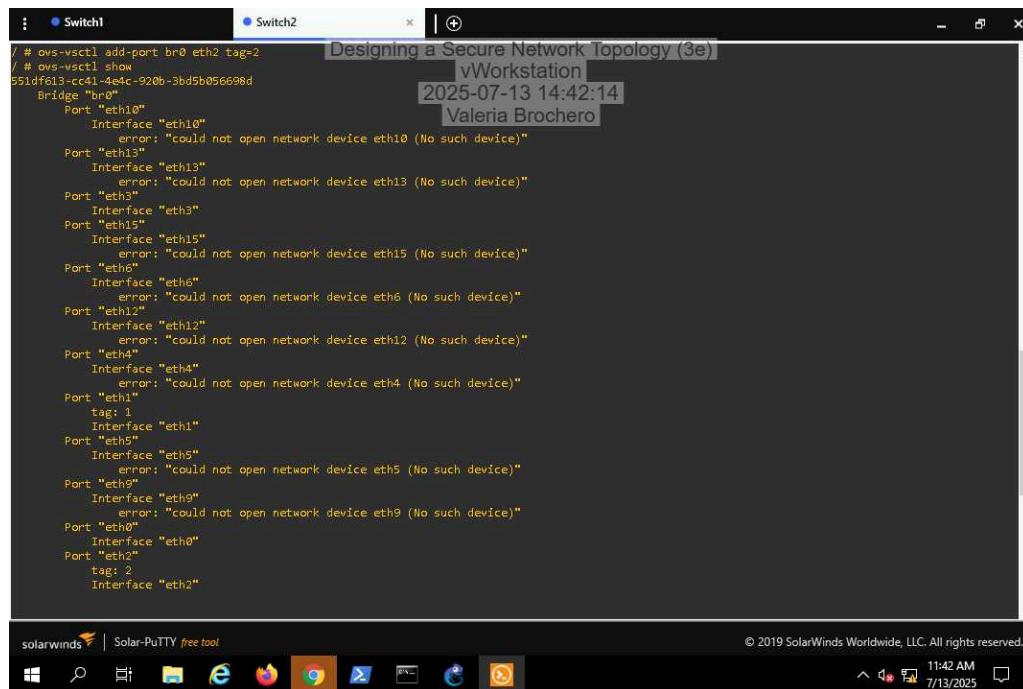
Designing a Secure Network Topology (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 03

28. Make a screen capture showing the updated pfSense router settings with the VLAN IP address assignments.



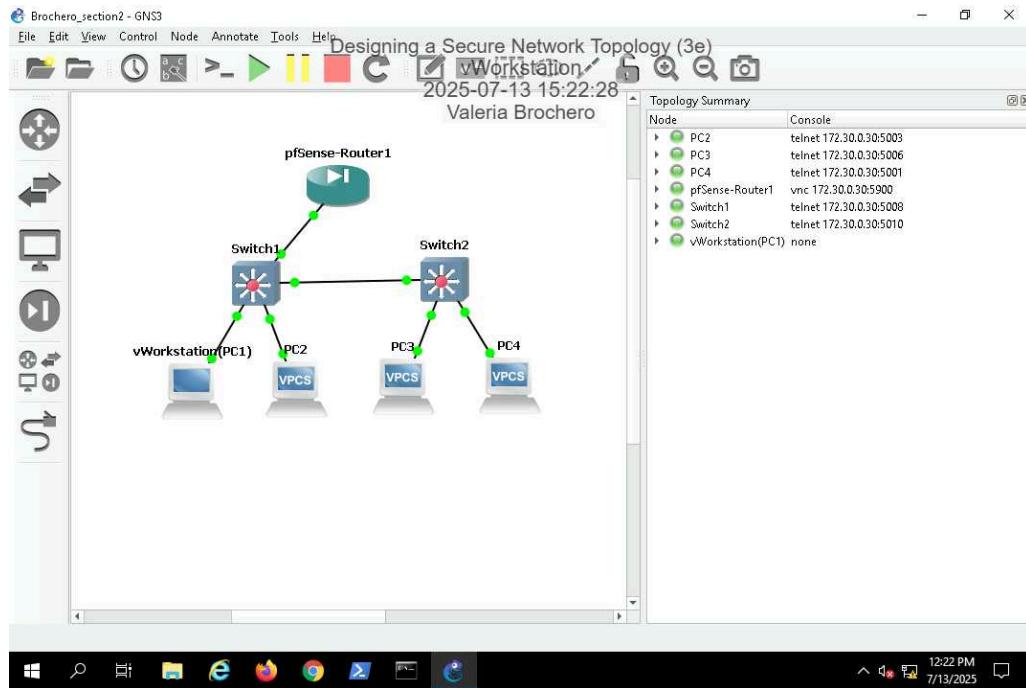
36. Make a screen capture showing the eth1 and eth2 interfaces with their assigned VLAN tags on Switch2.



Designing a Secure Network Topology (3e)

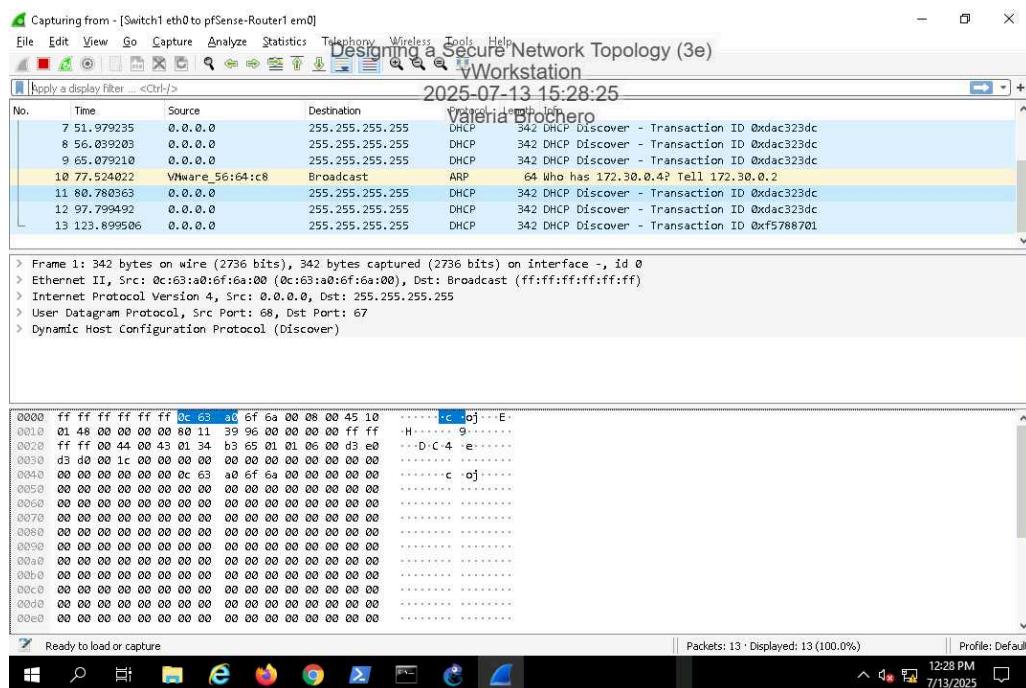
Network Security, Firewalls, and VPNs, Third Edition - Lab 03

39. Make a screen capture showing the completed topology.



Part 2: Capture Network Traffic to Validate Connectivity

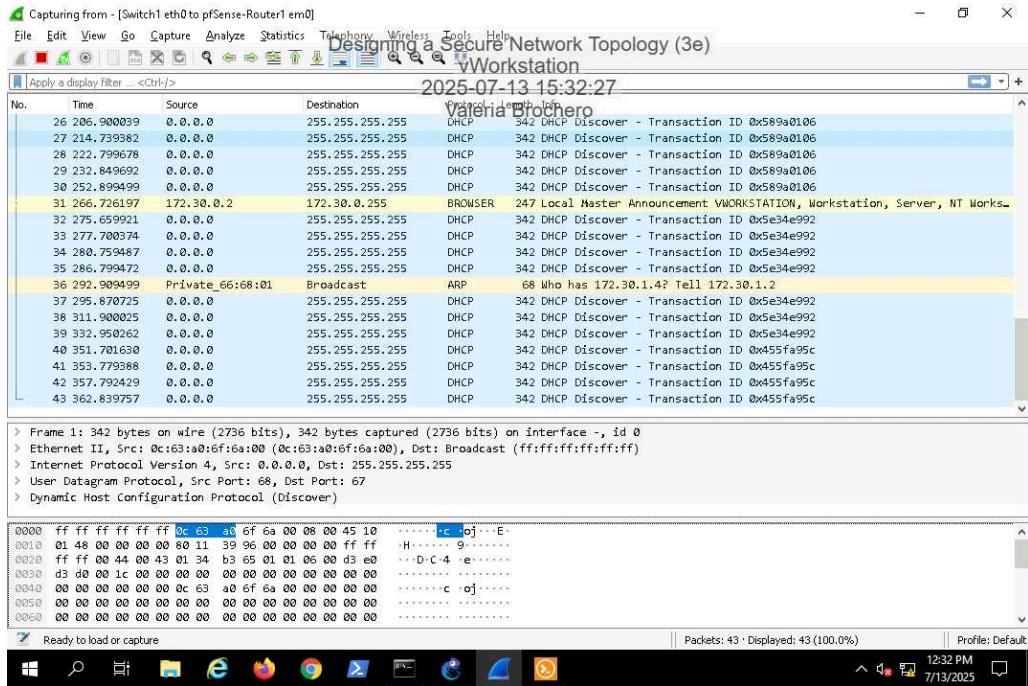
3. Make a screen capture showing the Wireshark capture for the vWorkstation to PC3 ping request.



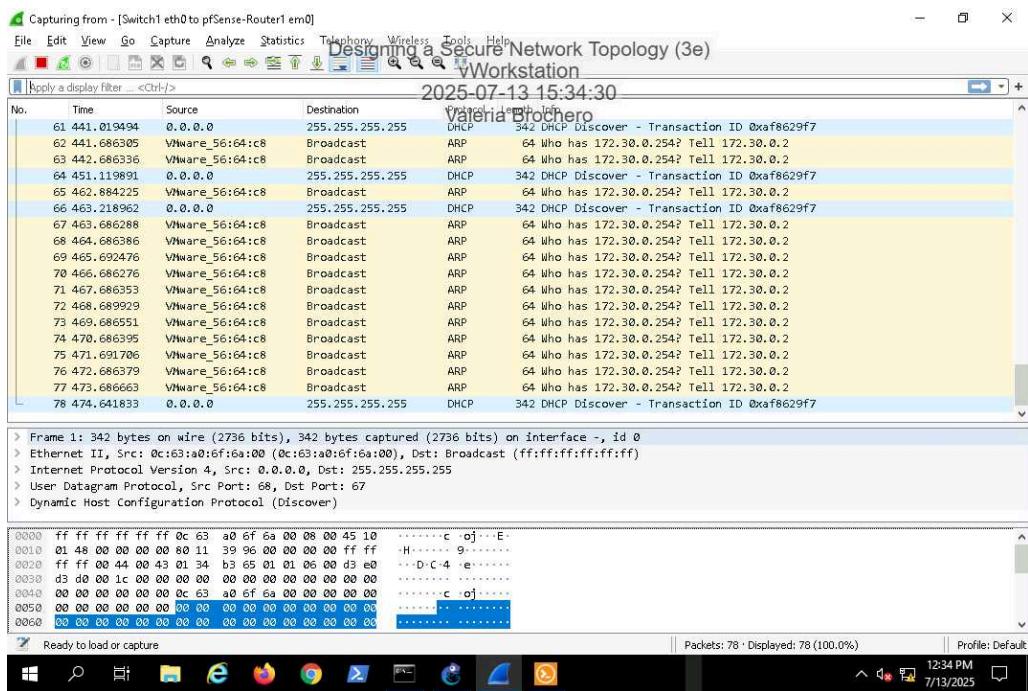
Designing a Secure Network Topology (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 03

5. Make a screen capture showing the Wireshark capture for the PC2 to PC4 ping request.



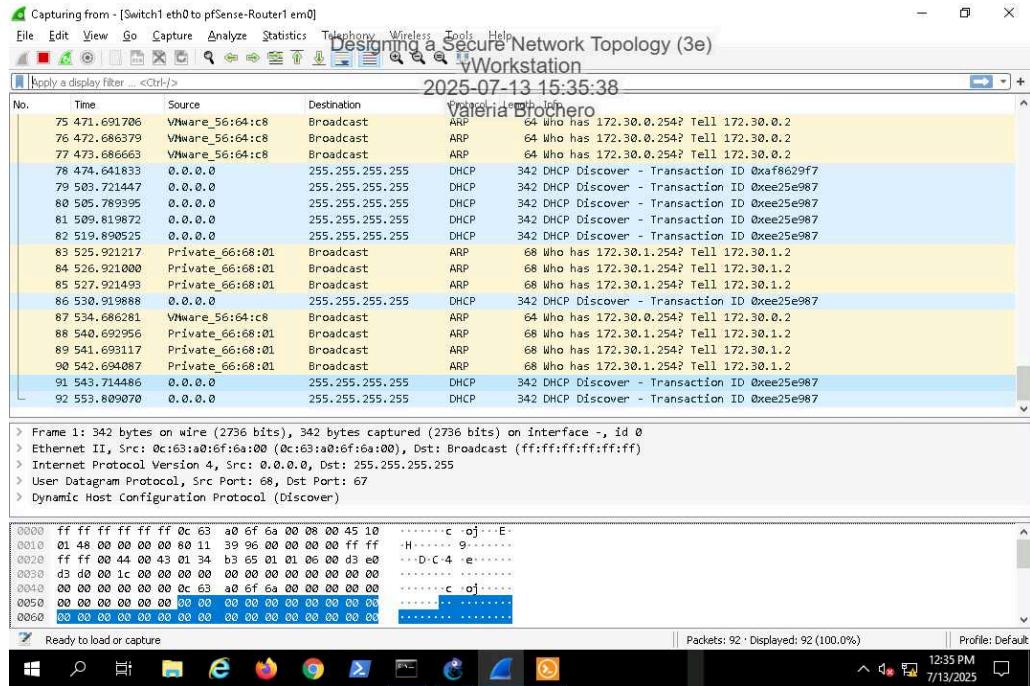
7. Make a screen capture showing the Wireshark capture for the vWorkstation to PC2 ping request.



Designing a Secure Network Topology (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 03

9. Make a screen capture showing the Wireshark capture for the PC2 to PC3 ping request.



Section 3: Challenge and Analysis

Part 1: Enhance the Network Topology with a DMZ

Make a screen capture showing the interface configurations in the pfSense console.

Incomplete

Make a screen capture showing the firewall rule on the WAN interface in the pfSense webConfigurator.

Incomplete

Part 2: Validate DMZ Connectivity

Make a screen capture showing the results of both pings.

Incomplete