

# Configuring a Layer 2 Network with the Spanning Tree Protocol

Fundamentals of Communications and Networking, Third Edition - Lab 04

Student:

Enrique Mejia

Email:

enriquem2260@gmail.com

Time on Task:

2 hours, 9 minutes

Progress:

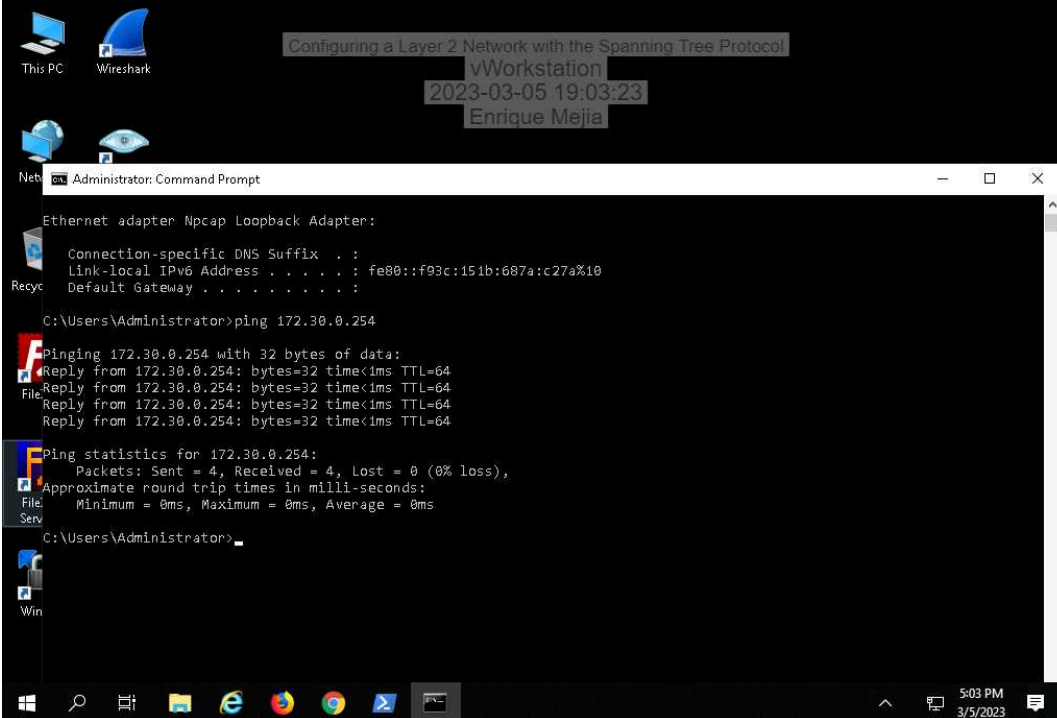
100%

Report Generated: Sunday, March 5, 2023 at 9:25 PM

## Section 1: Hands-On Demonstration

### Part 1: Assess the Layer 2 Network Configuration

4. **Make a screen capture** showing the **responses from your ICMP echo request to 172.30.0.254**.



The screenshot shows a Windows 10 desktop environment. At the top, a semi-transparent banner displays the lab title "Configuring a Layer 2 Network with the Spanning Tree Protocol", the user's name "vWorkstation", the date and time "2023-03-05 19:03:23", and the user's name "Enrique Mejia". On the desktop, there are icons for "This PC", "Wireshark", "Net", and "Win". A Command Prompt window is open, showing the following text:

```
Ethernet adapter Npcap Loopback Adapter:  
Connection-specific DNS Suffix . :  
Link-local IPv6 Address . . . . . : fe80::f93c:151b:687a:c27a%10  
Default Gateway . . . . . :  
  
C:\Users\Administrator>ping 172.30.0.254  
  
Pinging 172.30.0.254 with 32 bytes of data:  
Reply from 172.30.0.254: bytes=32 time<1ms TTL=64  
Reply from 172.30.0.254: bytes=32 time<1ms TTL=64  
Reply from 172.30.0.254: bytes=32 time<1ms TTL=64  
Reply from 172.30.0.254: bytes=32 time<1ms TTL=64  
  
Ping statistics for 172.30.0.254:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms  
  
C:\Users\Administrator>
```

The taskbar at the bottom shows the Windows Start button, a search icon, and several application icons. The system tray on the right indicates the time is 5:03 PM on 3/5/2023.

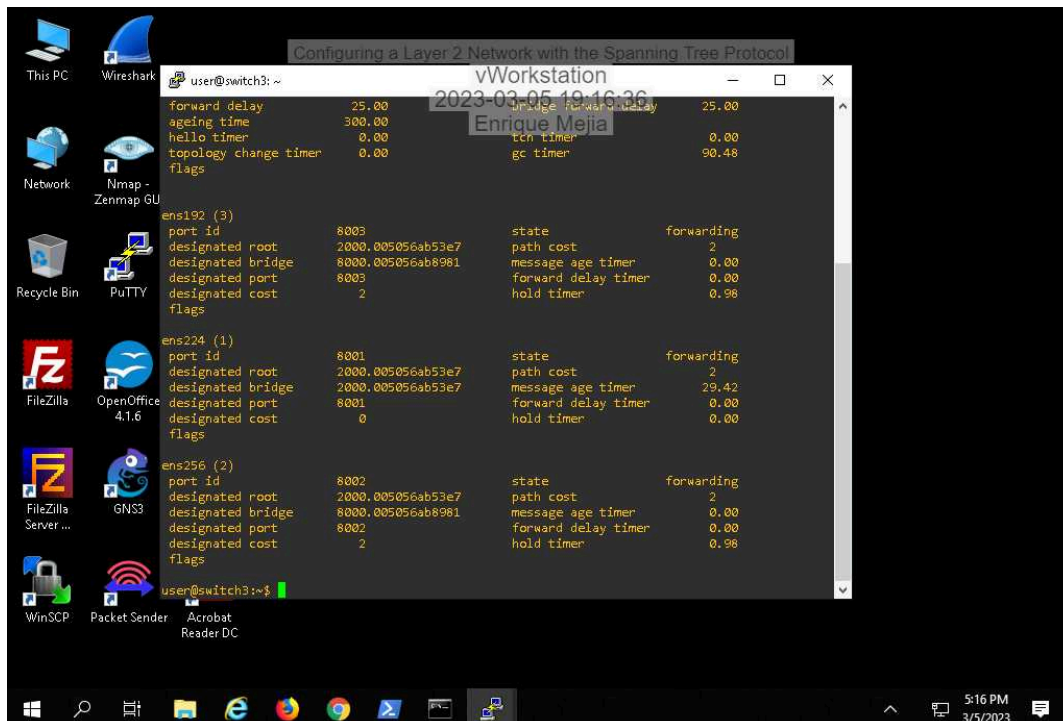
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18. Make a screen capture showing the matching bridge ID and designated root bridge values on Switch2.

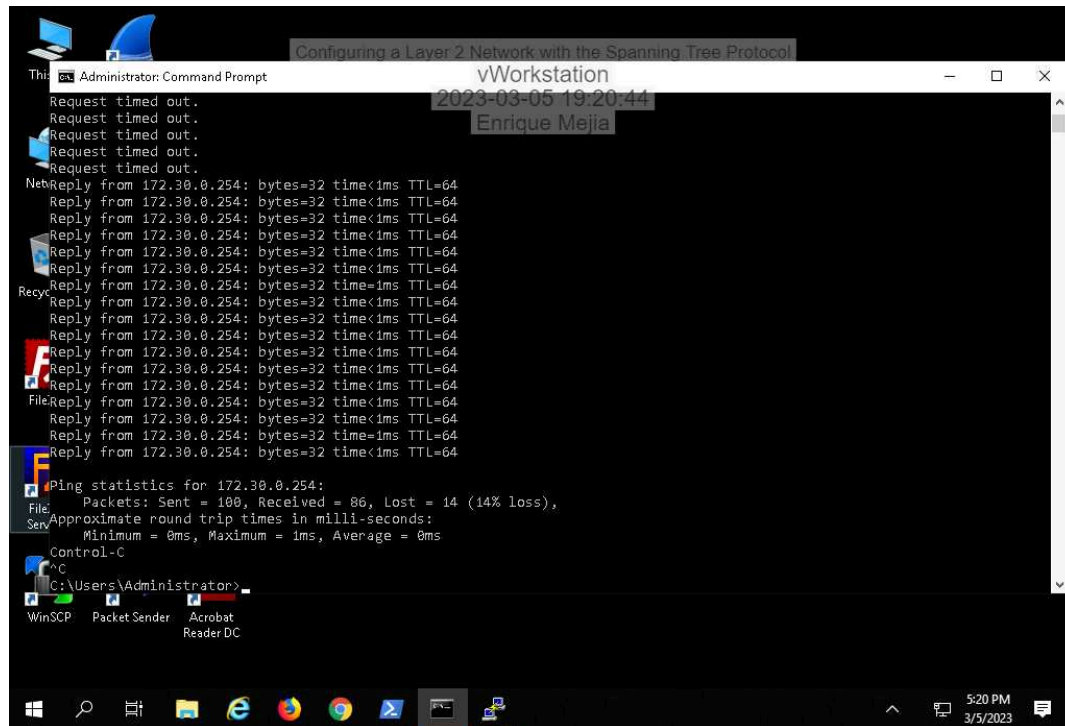


21. Make a screen capture showing all three ports in forwarding mode on Switch3.

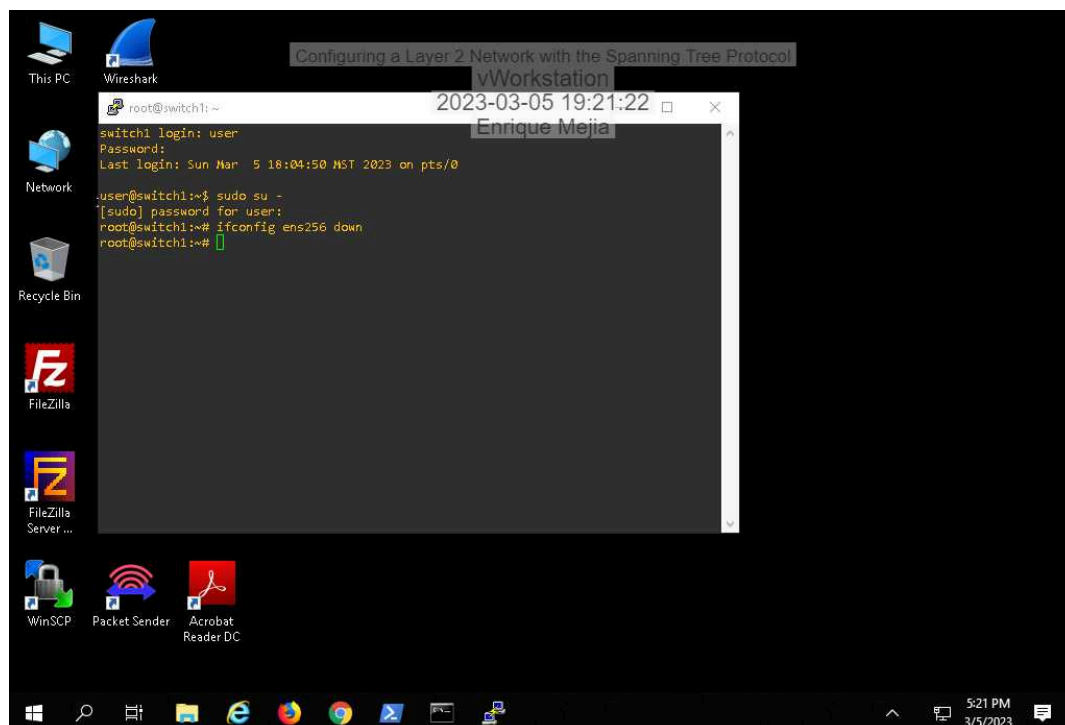


### Part 2: Redirect Network Traffic using STP

14. Make a screen capture showing the number of Lost packets under Ping statistics.



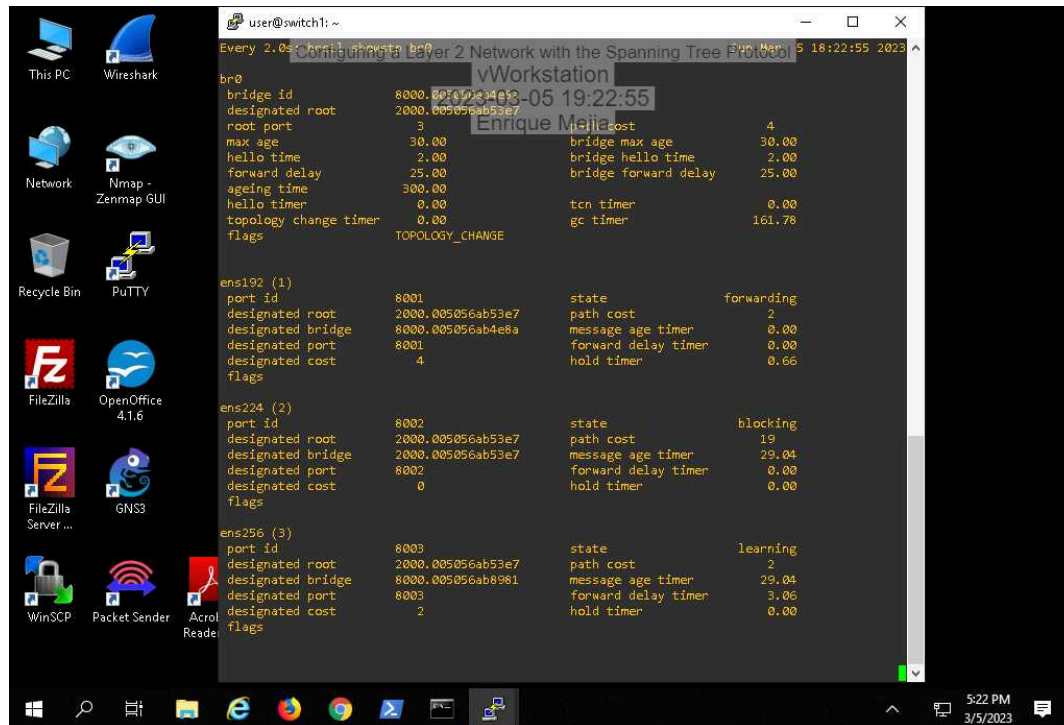
17. Make a screen capture showing port ens256 in a disabled state.



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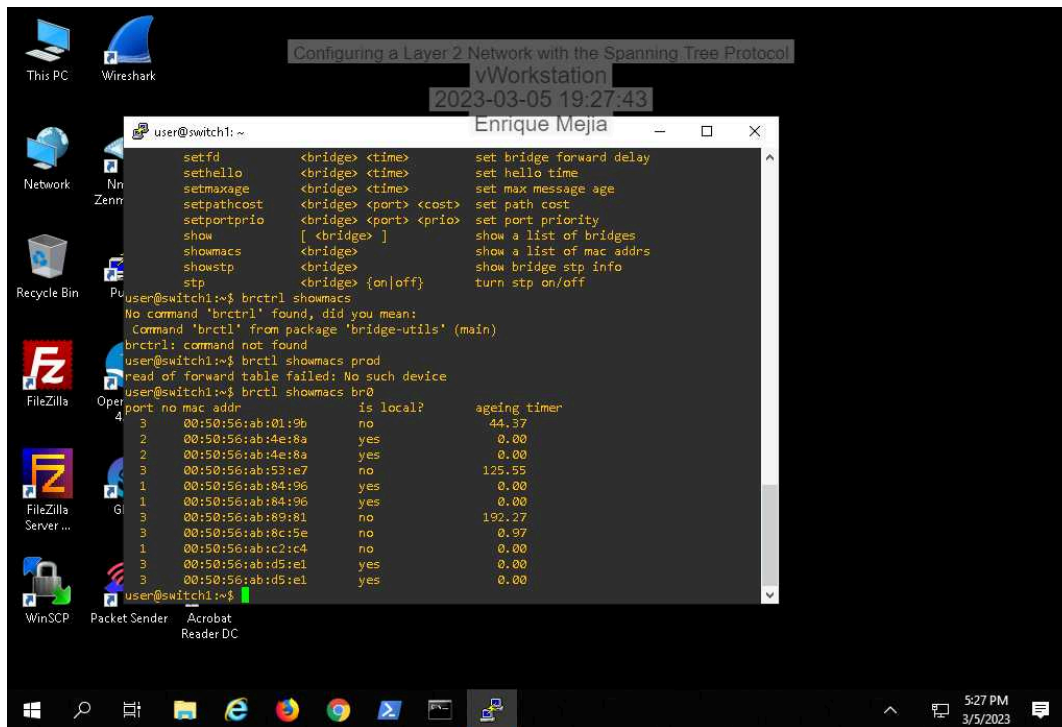
22. Make a screen capture showing port ens256 back in a forwarding state.



### Section 2: Applied Learning

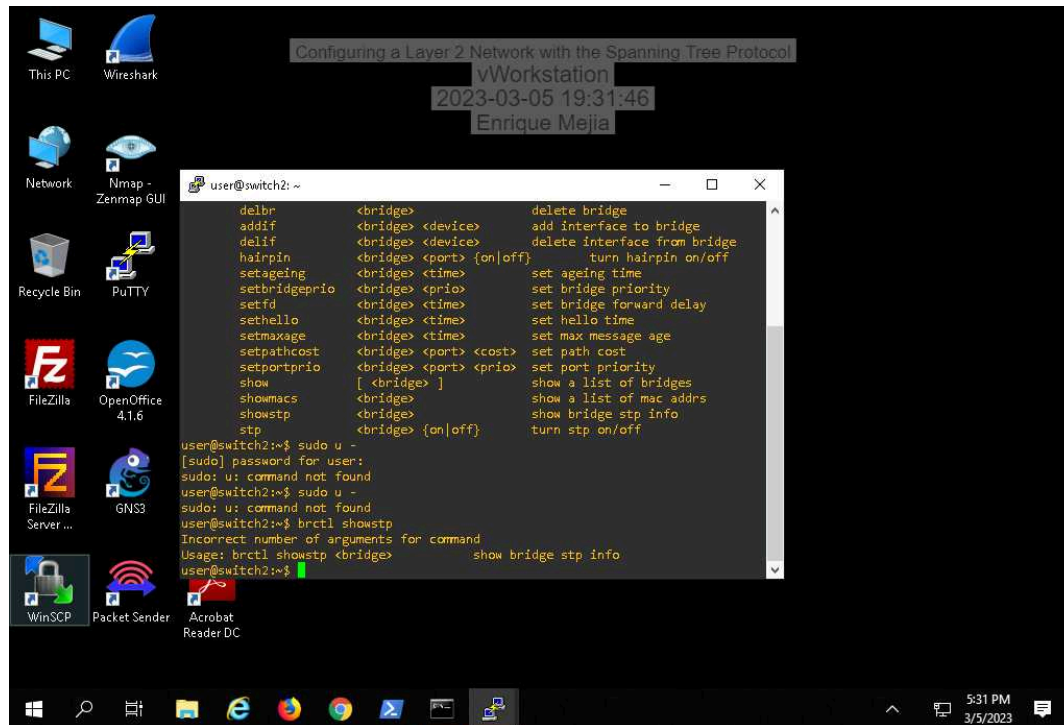
#### Part 1: Review STP Parameters and MAC Address Tables

7. Make a screen capture showing the list of MAC addresses known by Switch1.



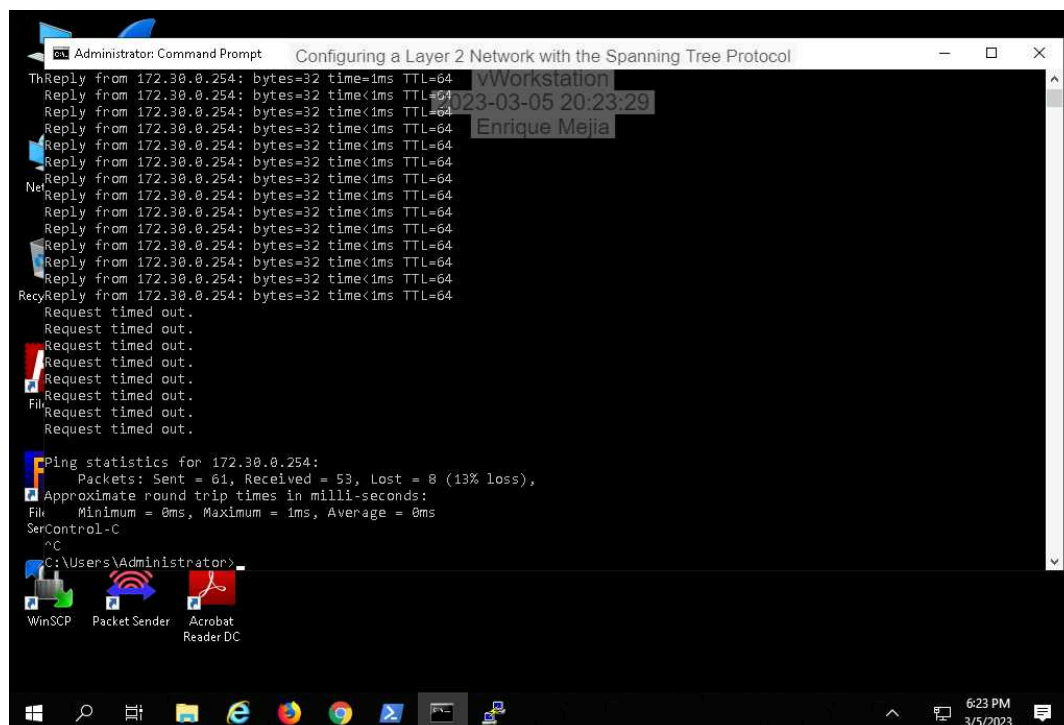
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14. **Make a screen capture** showing the **current Forward Delay** value for br0 on Switch2.



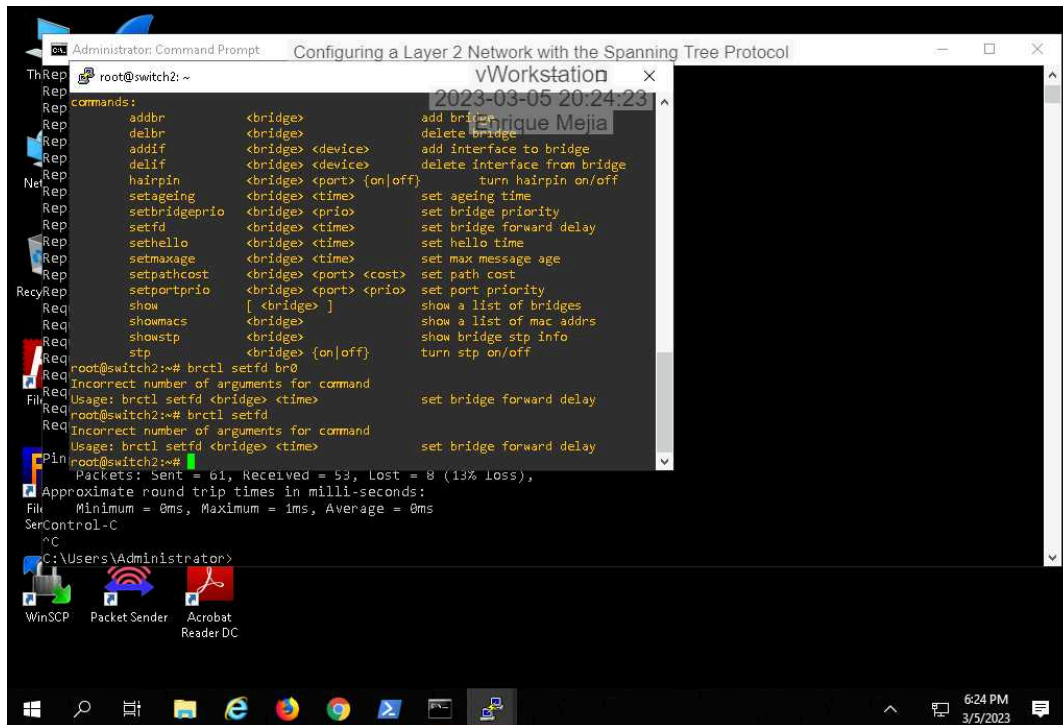
## Part 2: Alter STP Timer Values

15. **Make a screen capture** showing the **number of Lost packets** from your ping test.

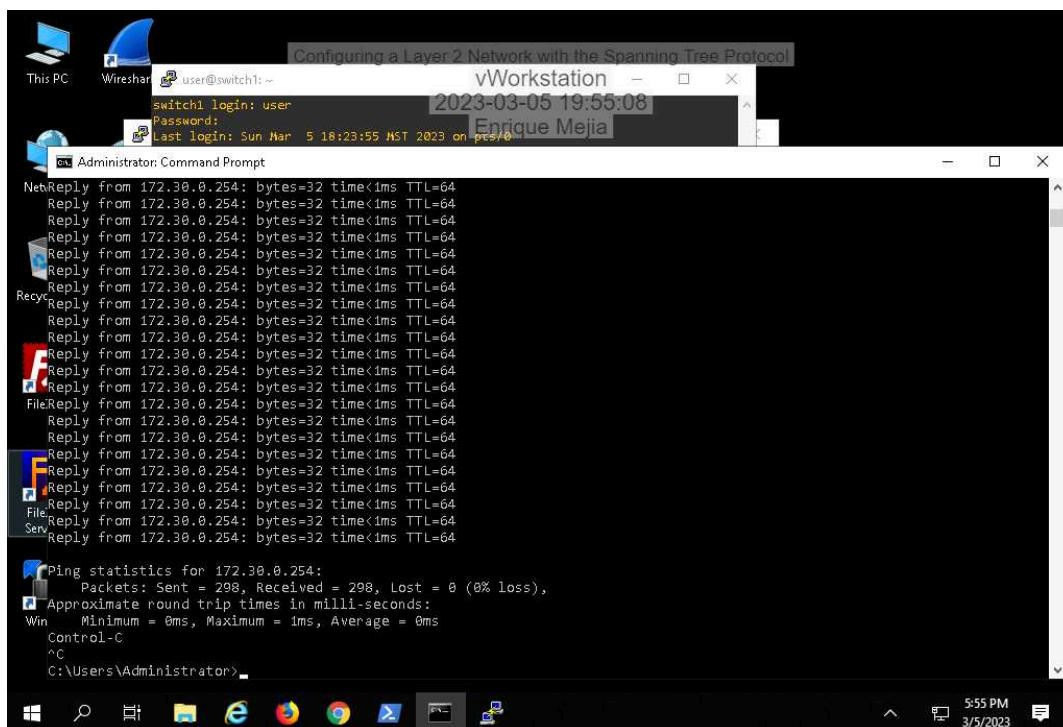




## 21. Make a screen capture showing the new Forward Delay value on br0.



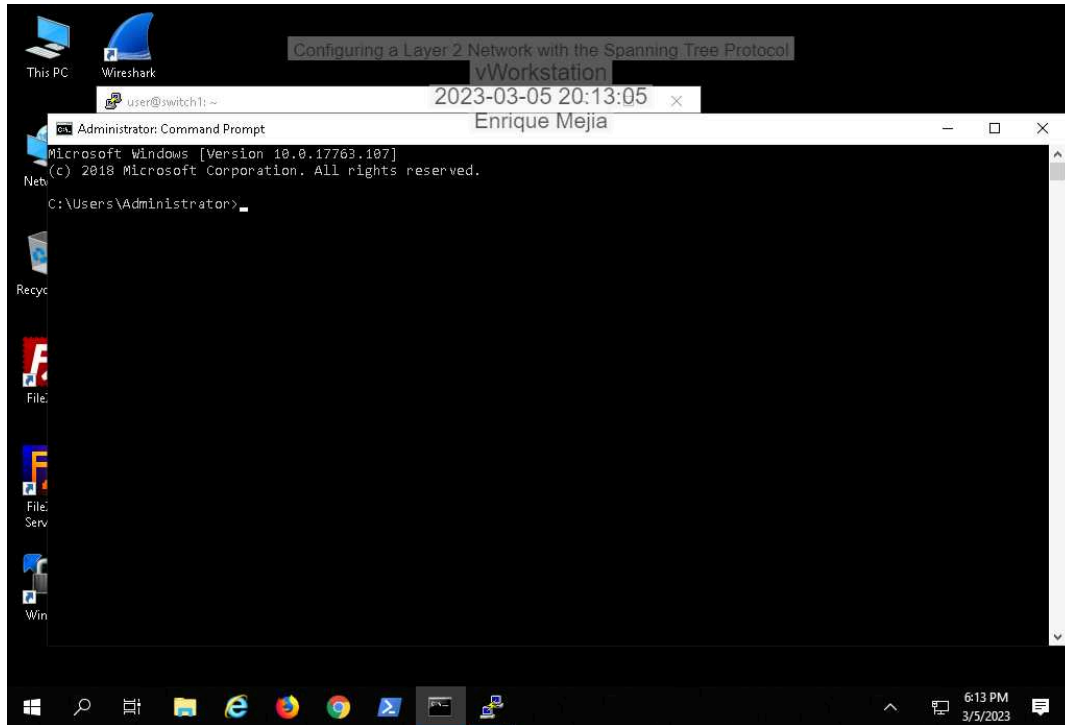
## 29. Make a screen capture showing the number of Lost packets from your second ping test.



### Section 3: Challenge and Analysis

#### Part 1: Edit Path Cost Values

Make a screen capture showing the output of the `showstp` command with the new path cost on the `ens224` port.



#### Part 2: Assign a New Root Bridge



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**Make a screen capture showing the output of the showstp command with the new bridge ID value.**

The bridge ID and the designated root value should be identical, indicating Switch3 is now the root bridge.

