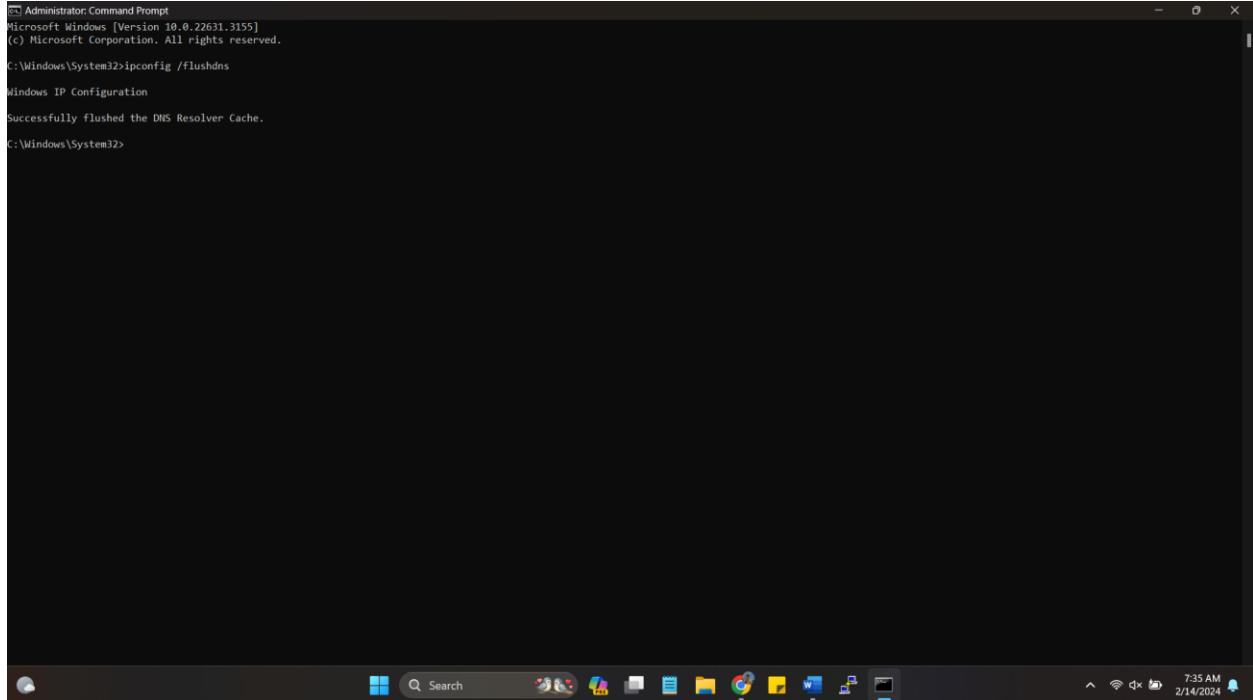


1. Flush DNS Resolve Cache

- Include screenshot showing command to flush the cache and command used to display the empty cache.



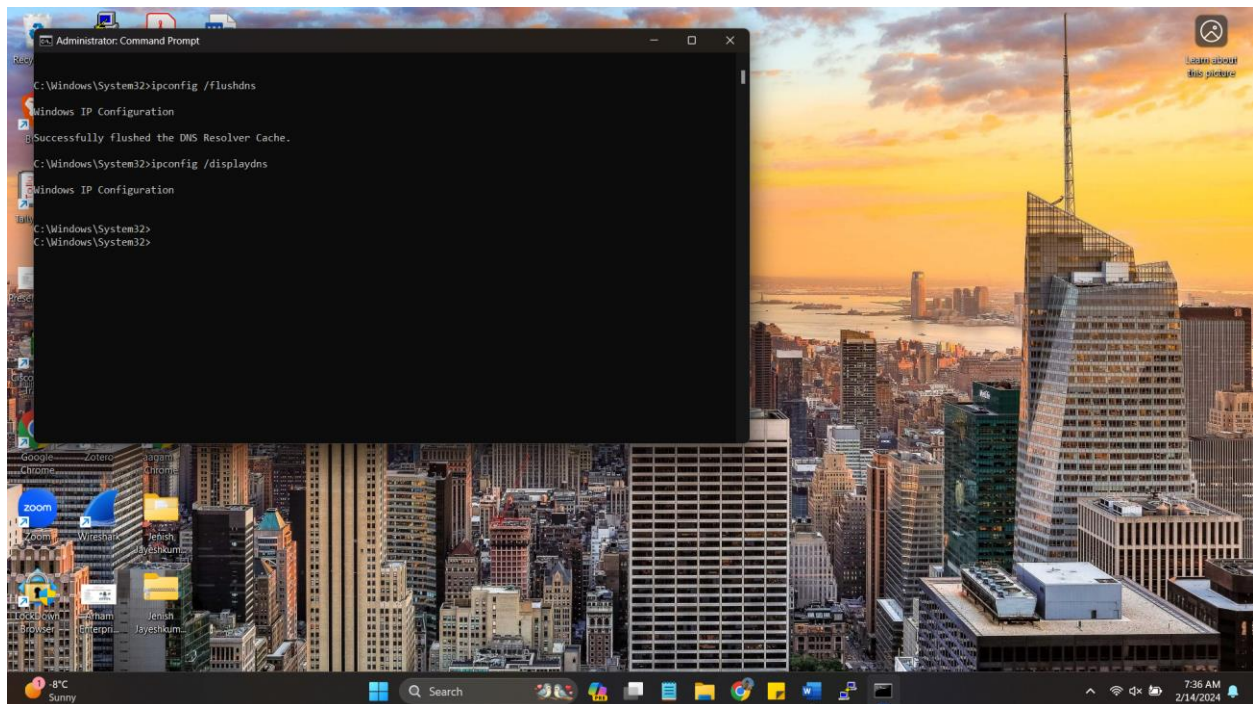
```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.22631.3155]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\System32>ipconfig /flushdns

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

C:\Windows\System32>
```



```
Administrator: Command Prompt

C:\Windows\System32>ipconfig /flushdns

Windows IP Configuration

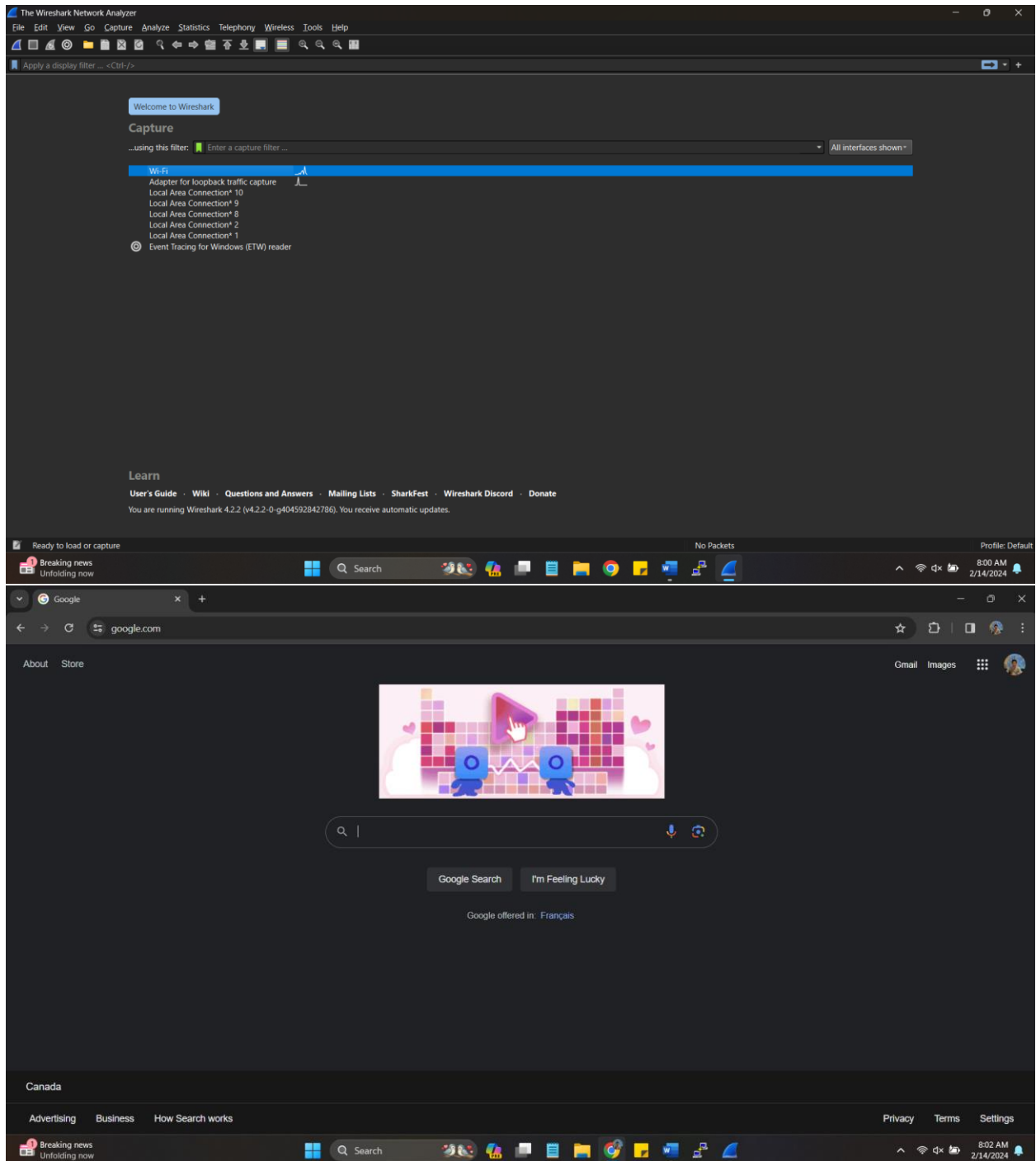
Successfully flushed the DNS Resolver Cache.

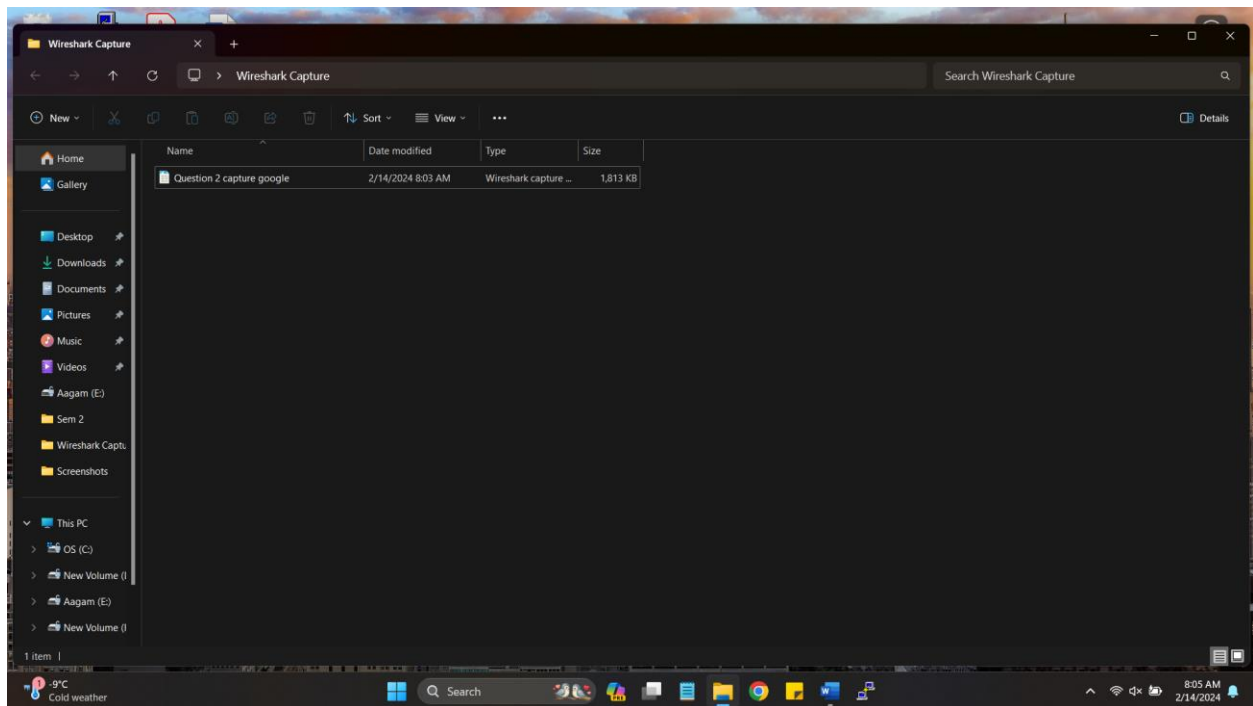
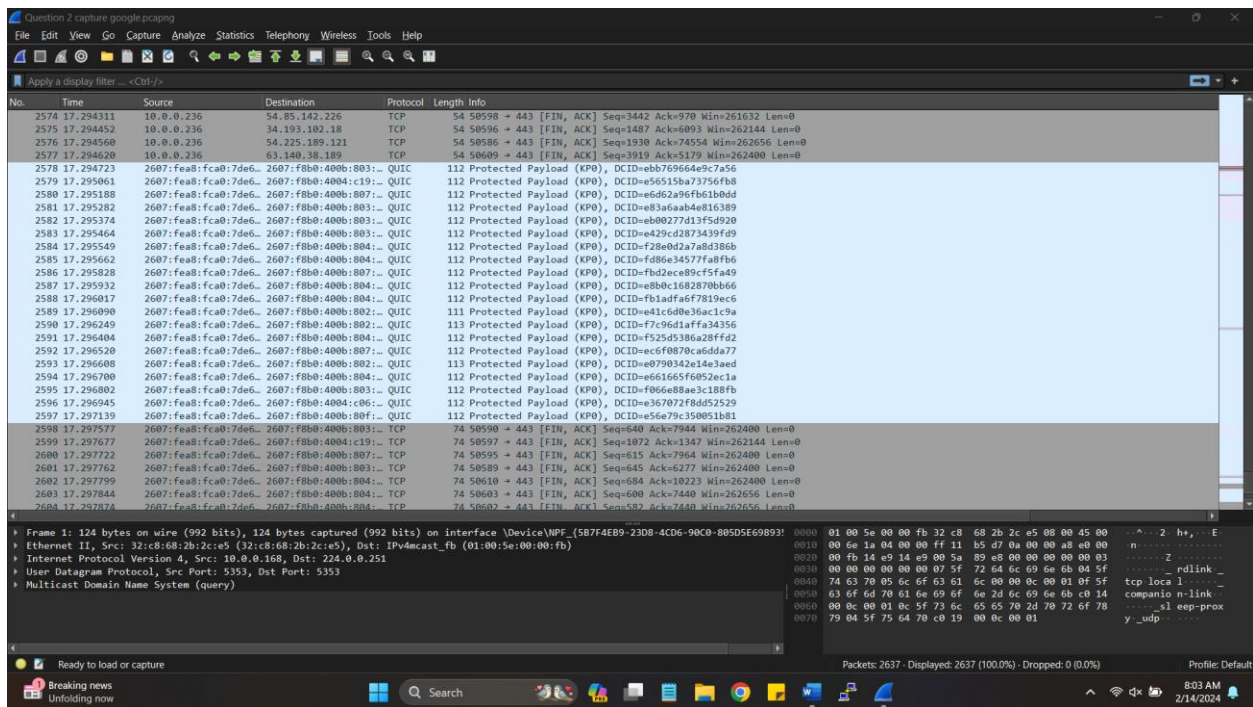
C:\Windows\System32>ipconfig /displaydns

Windows IP Configuration

C:\Windows\System32>
C:\Windows\System32>
```

2. Start Wireshark and browse to WWW.GOOGLE.COM website, stop Wireshark and save capture
 - Include screenshot of saved capture and browser window showing www.google.com

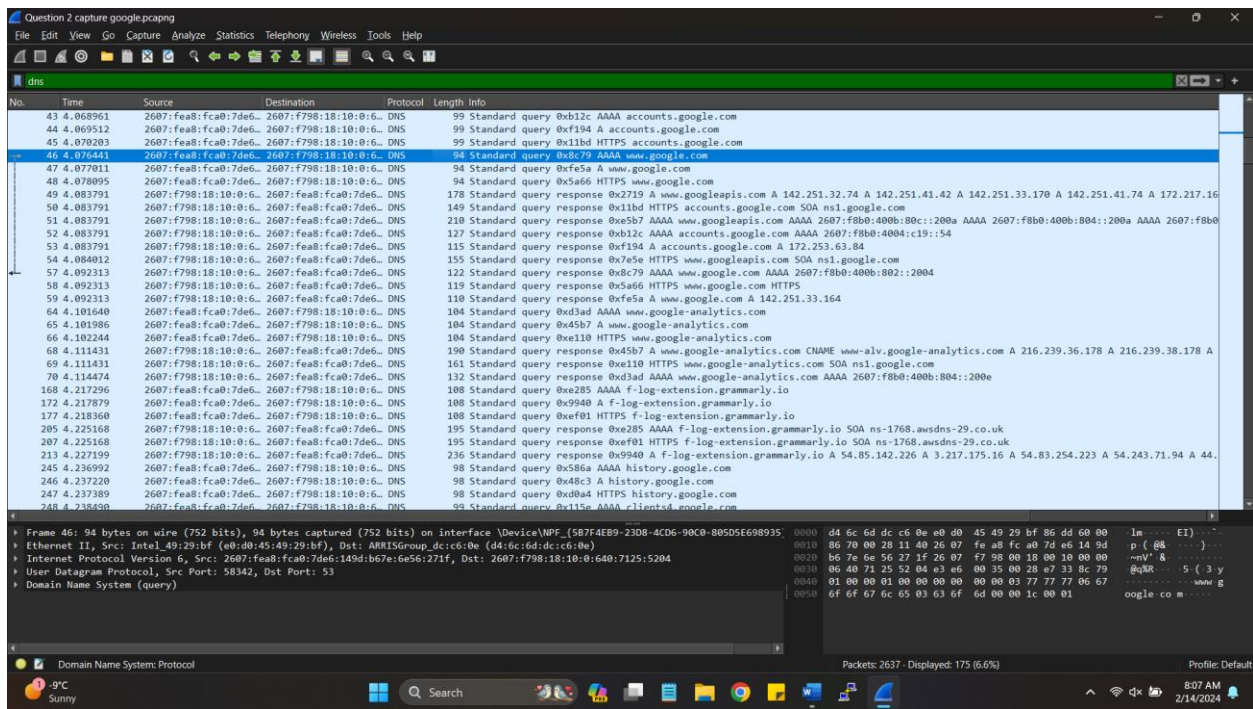




3. Search the packet capture and locate the Frame with the DNS request for the

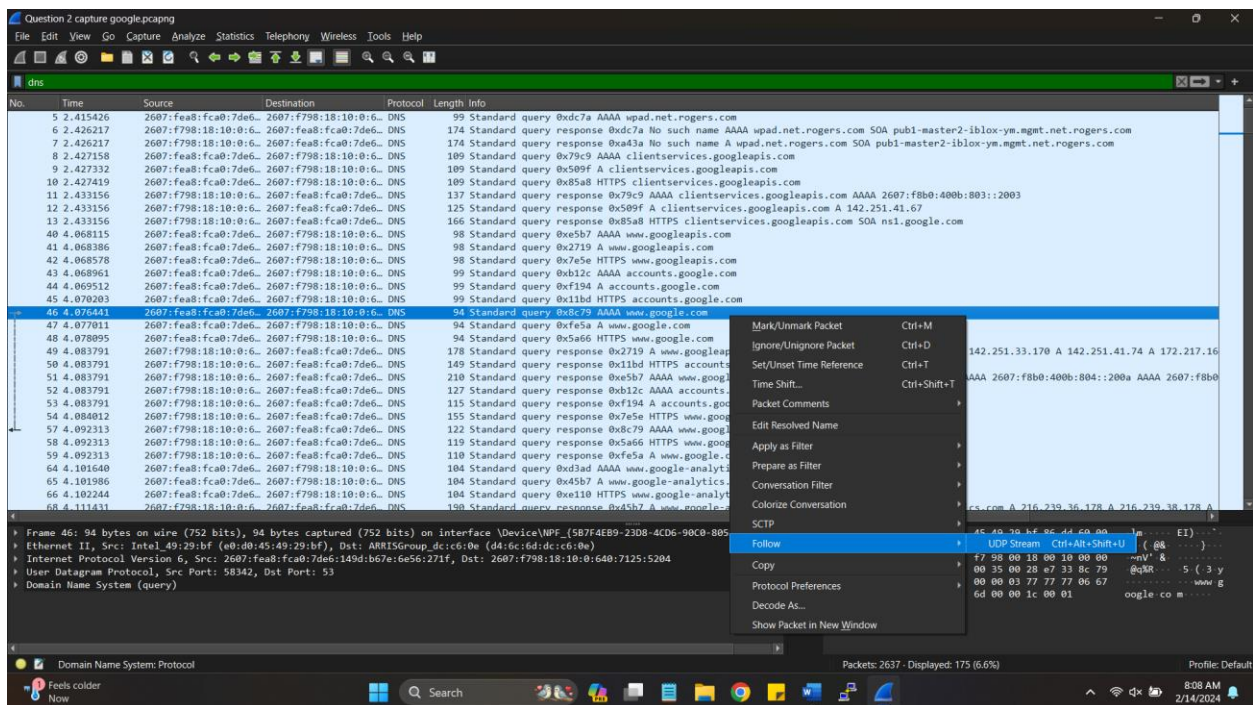
WWW.GOOGLE.COM

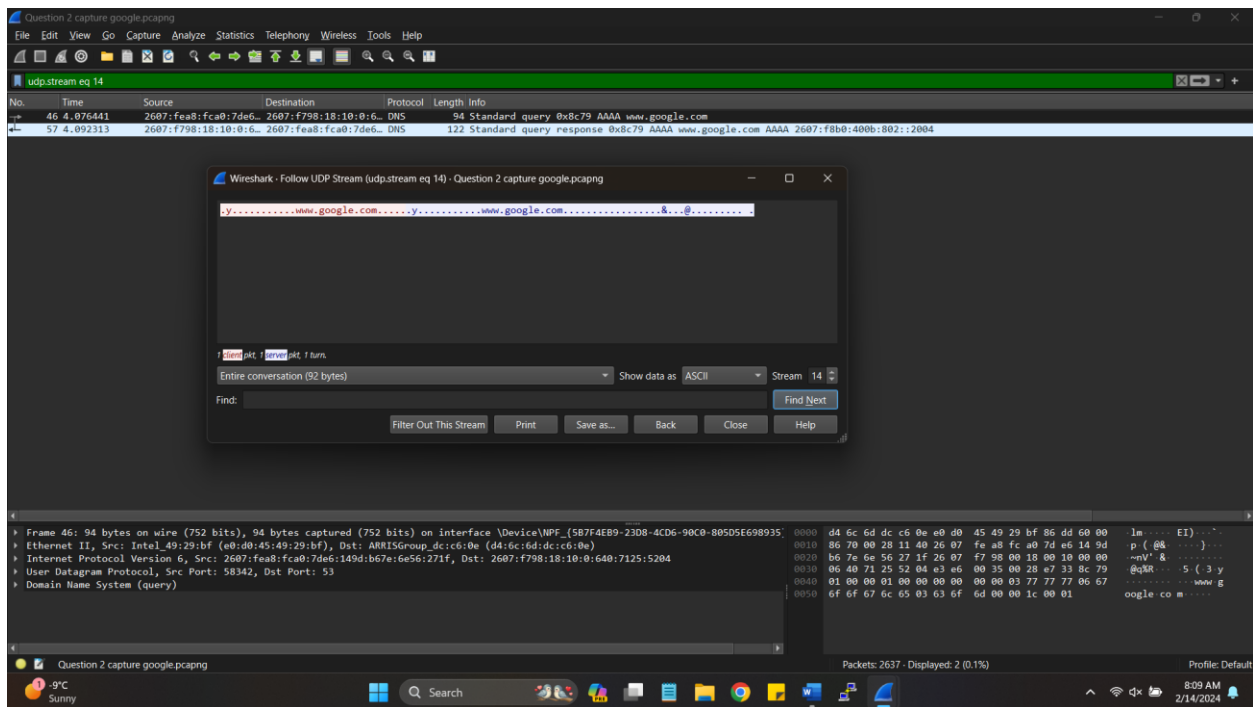
- Include screenshot of located DNS request for www.google.com



4. Right Click on the DNS Query Frame and select Follow UDP Stream

- Include screenshot showing which frame you are 'following the stream for'

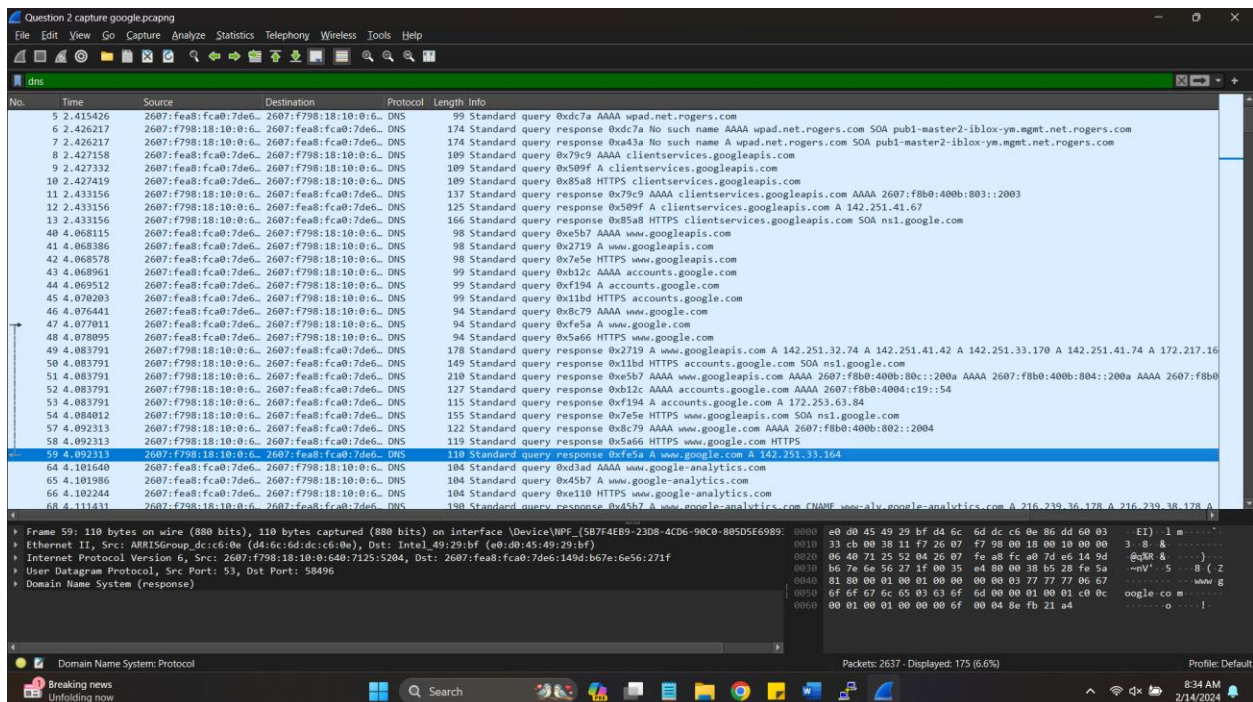




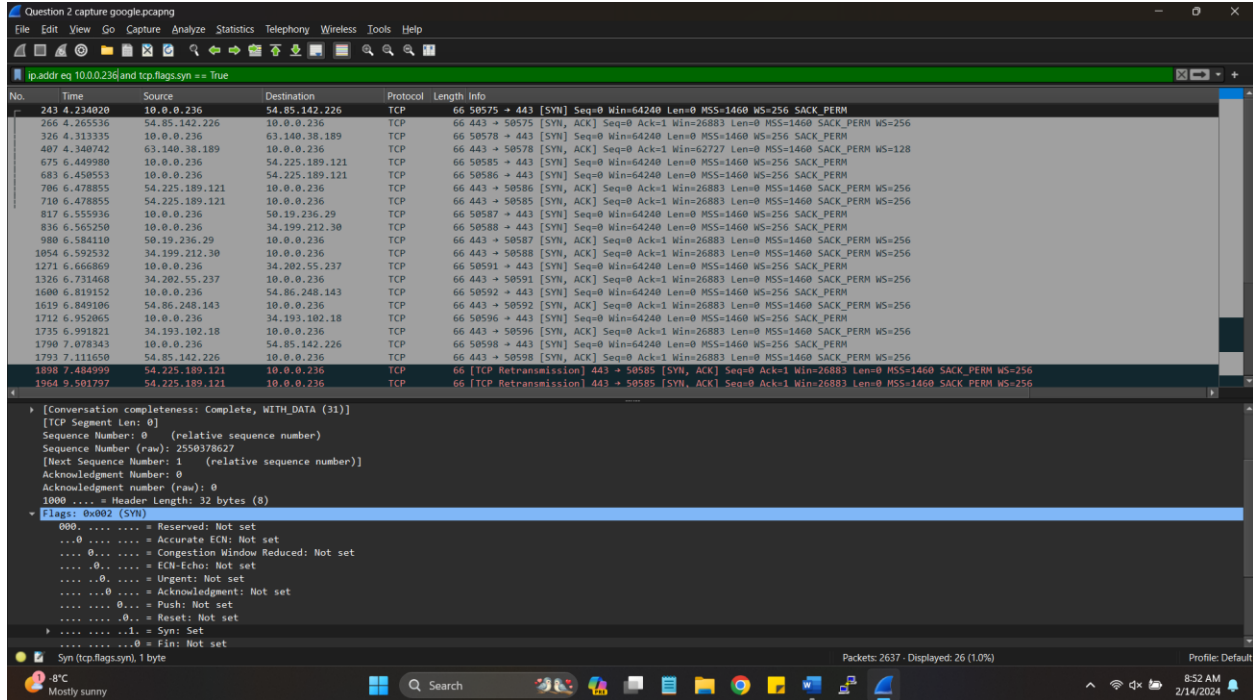
5. Locate the IP Address of the website in the DNS Response

- Include screenshot of packet details showing IP Address in DNS response

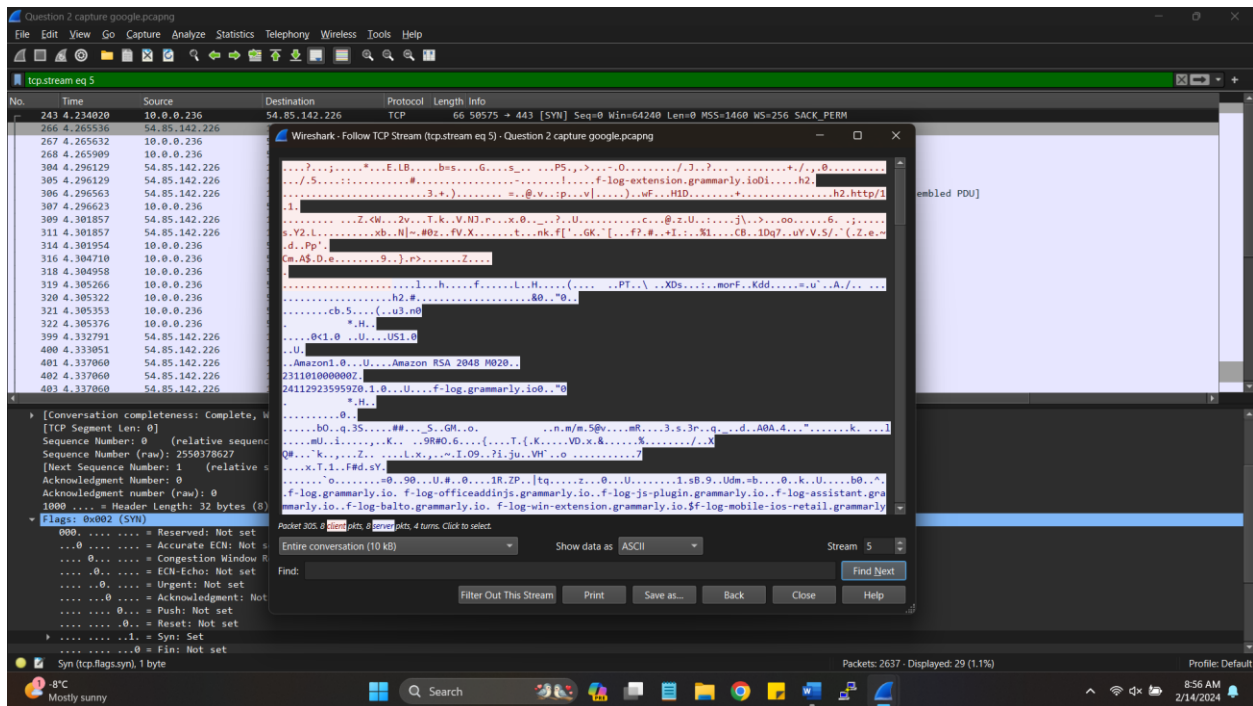
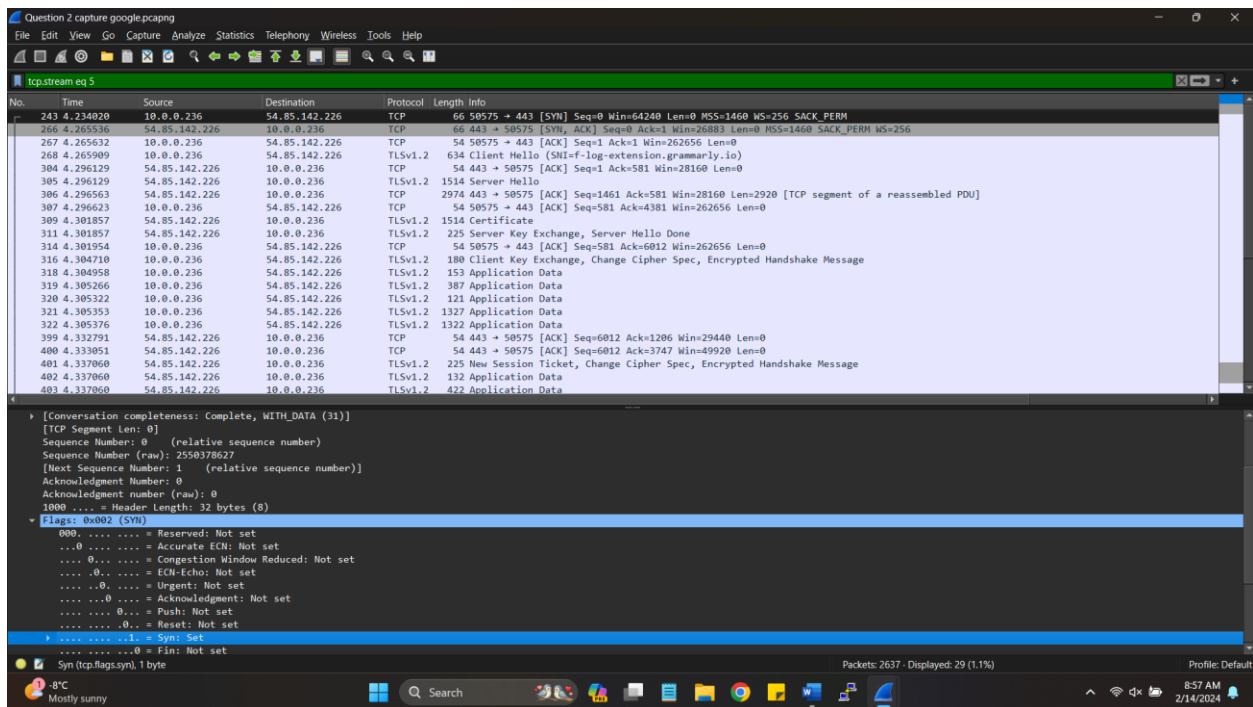
www.google.com IP Address is 142.251.33.164



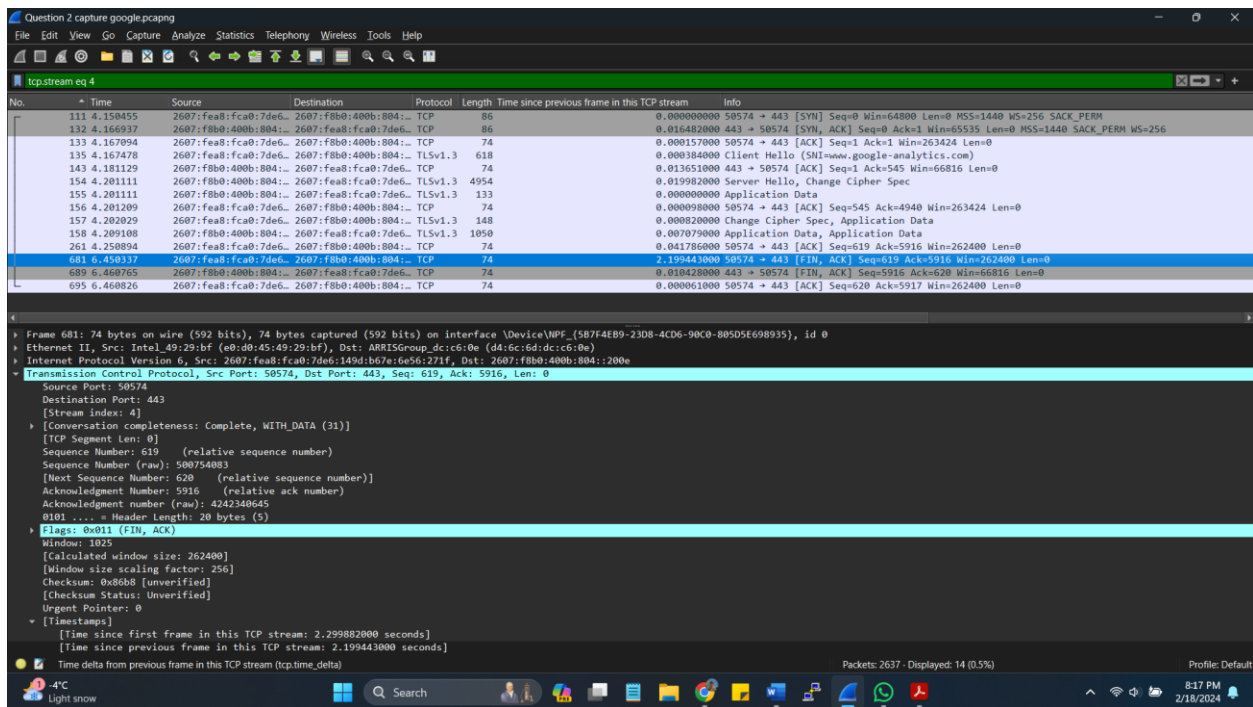
6. Create a Wireshark filter that uses the ip address and the tcp syn flag filter (example `ip.addr==10.10.10.10 && tcp.flags.syn==1`)
 - Include screenshot of green wireshark filter bar
 - Include screenshot of filtered network capture



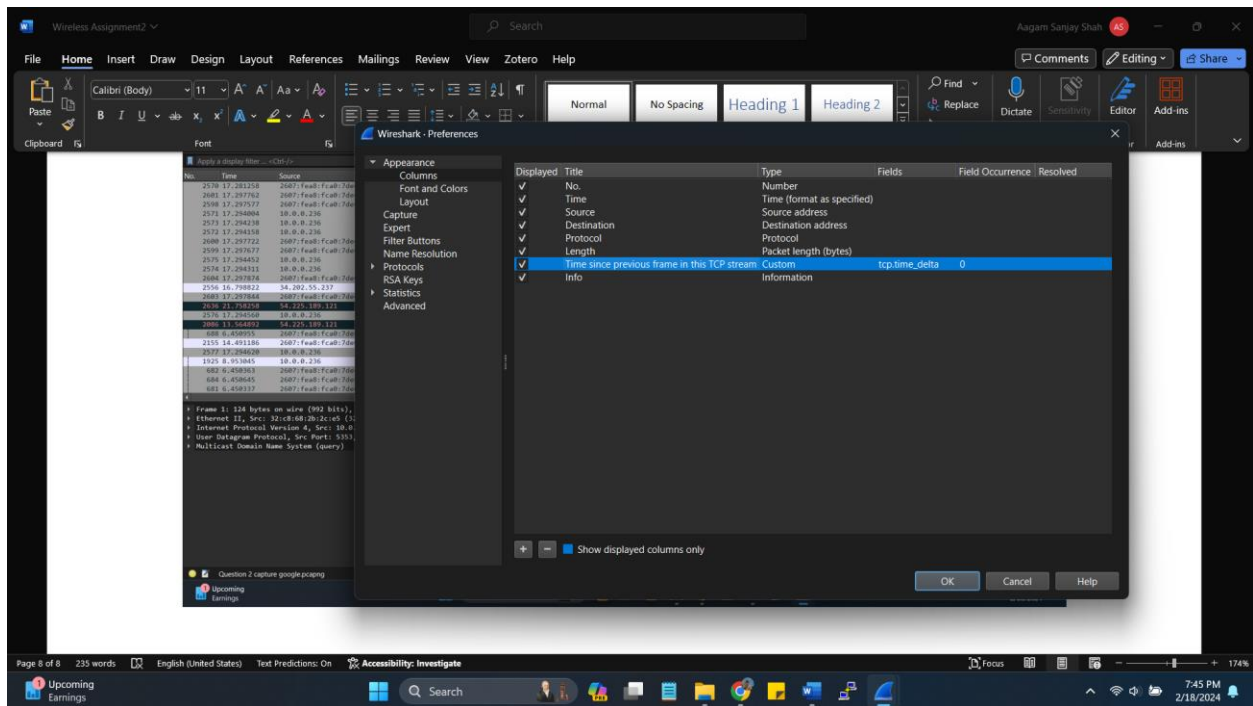
7. Locate the first SYN packet, right click and choose Follow TCP Stream
 - Include screenshot showing first SYN packet is highlighted
 - Include screenshot showing network capture is filtered to only show this stream

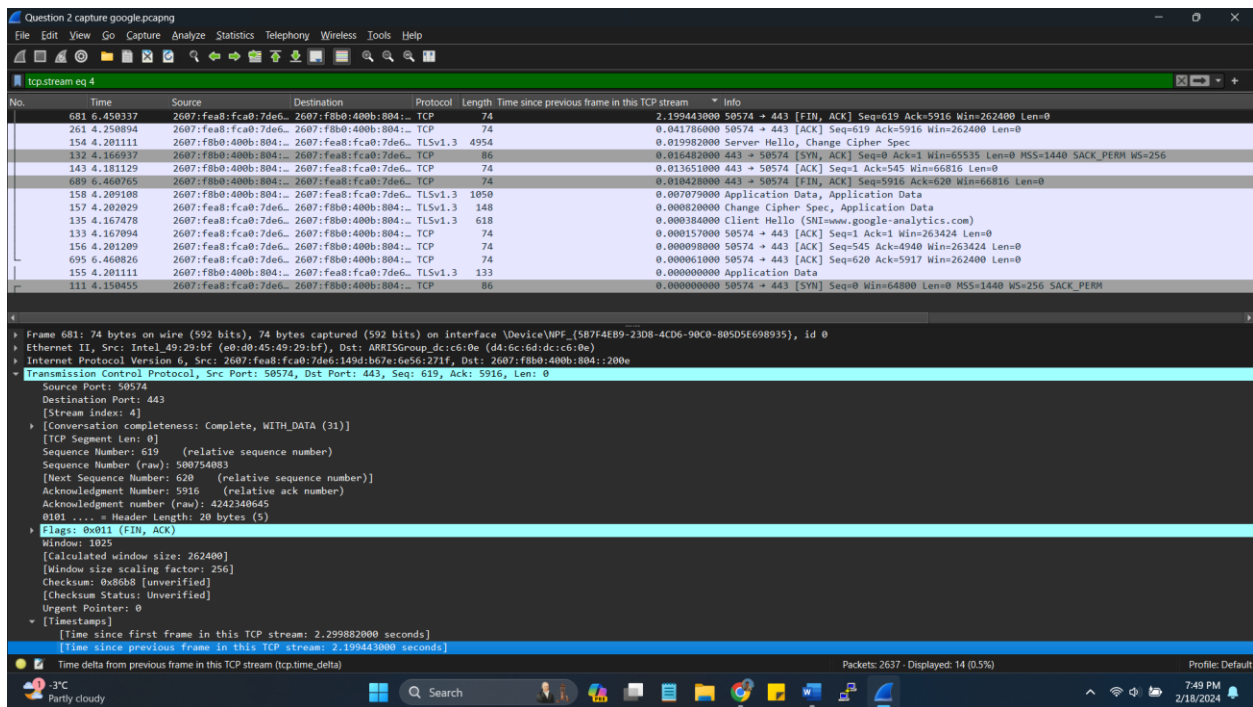


8. Examine the TCP Delta time in the conversation as compared to the TCP Handshake times
 - Include screenshot showing TCP Delta Times for the handshake



- Include screenshot showing highest TCP Delta time in stream





- Is the latency with the client or server?
→ Latency is with both the client and the server.
- What could possible reasons for this be?
→ There can be many reasons behind this latency, such as asymmetric packet travel, packet loss, performance issues, server response delay, and latency may also occur due to load on the server.