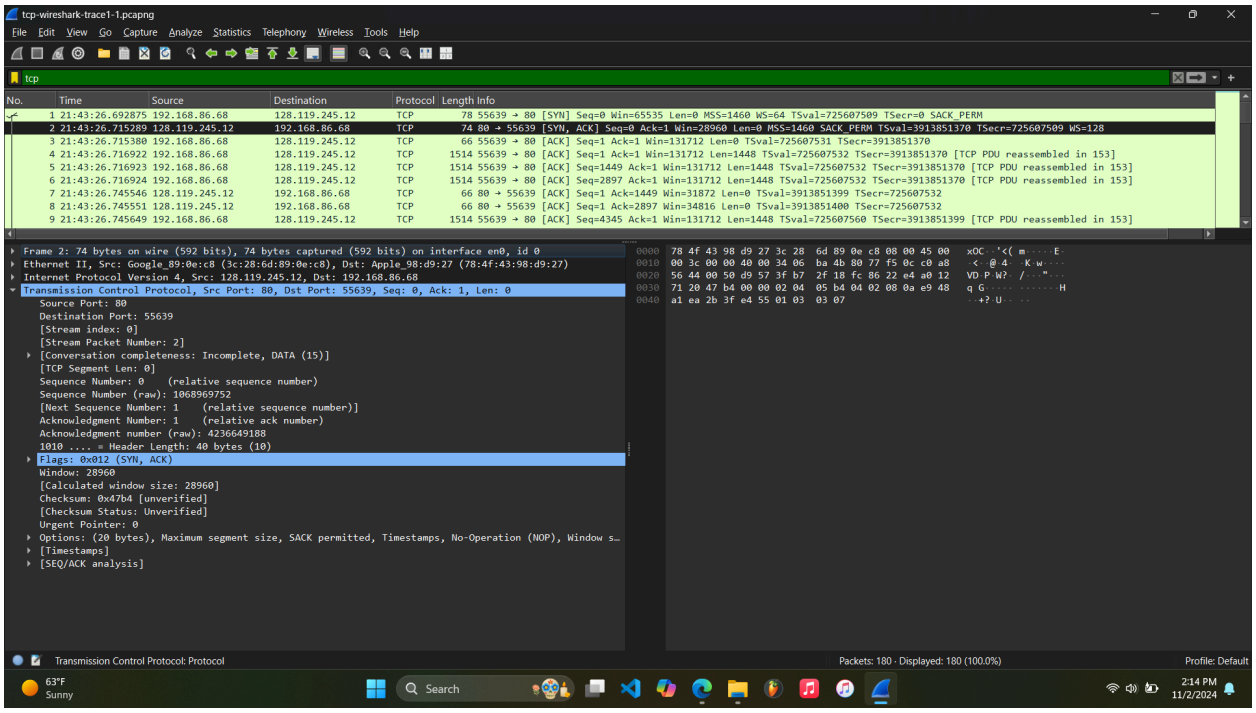
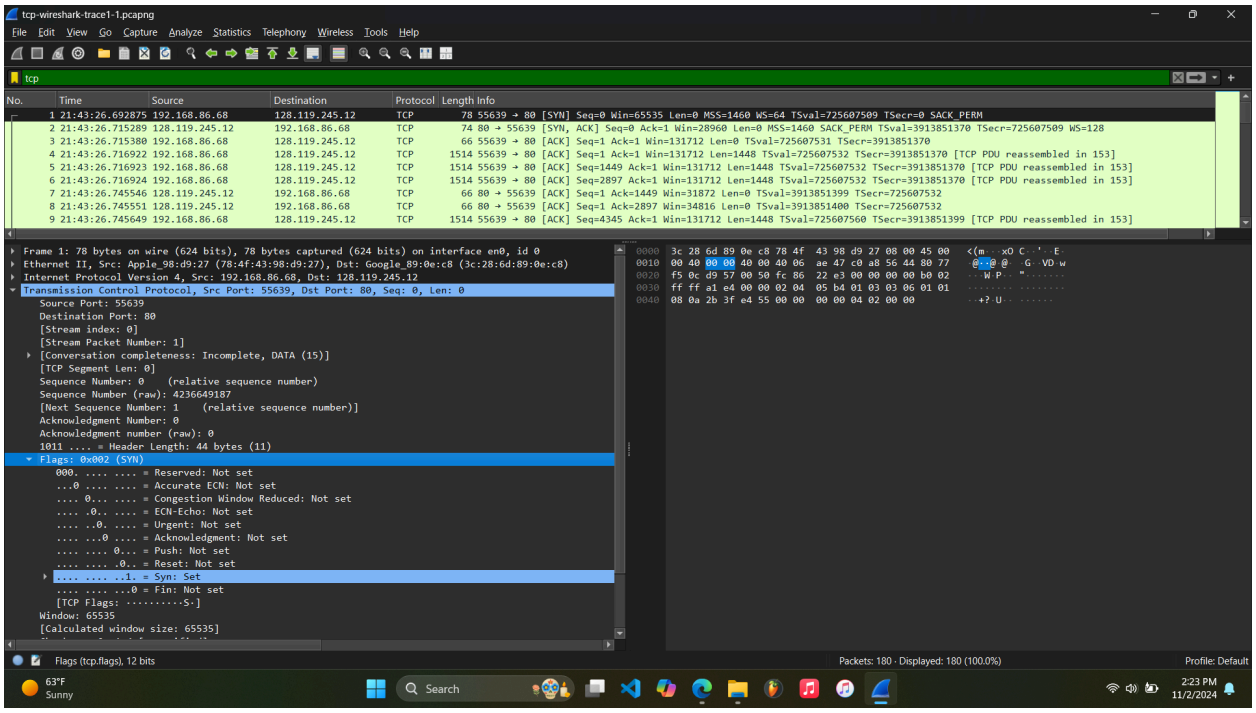
Clay Jones
TCPLabs
11/1/2024

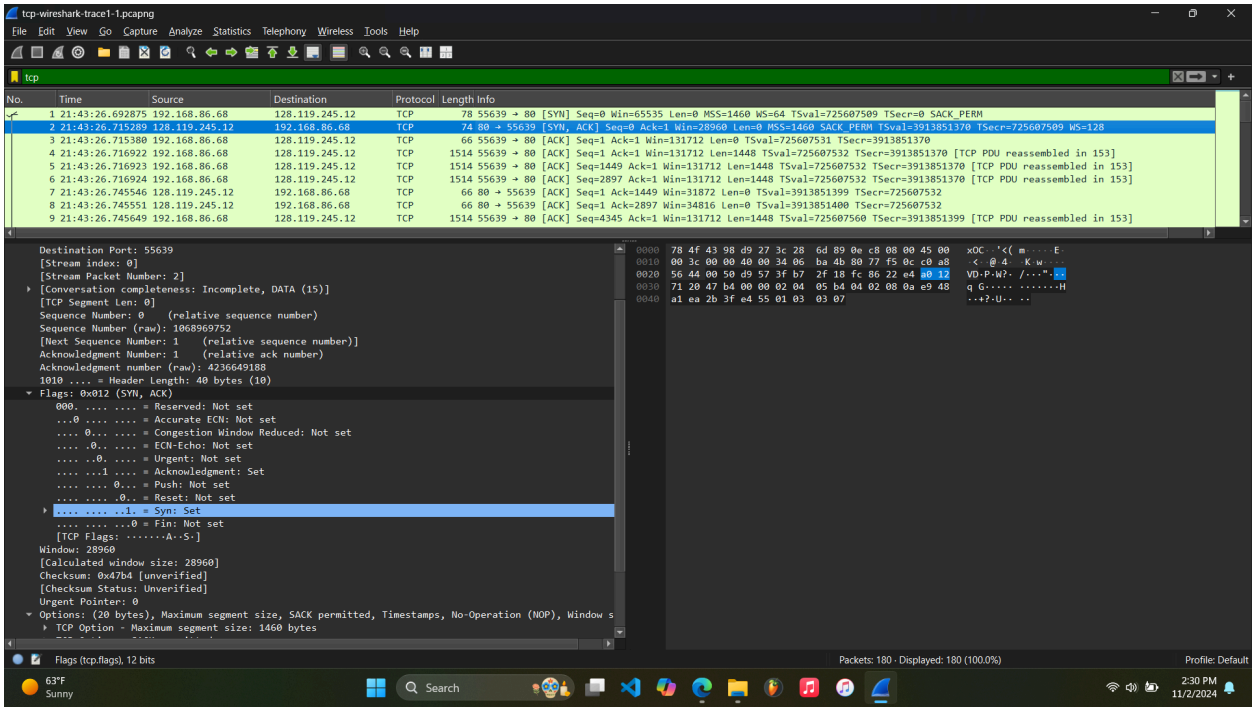
1. Source Address: 192.168.86.68 Source Port: 55639
2. IP address: 128.119.245.12 TCP port number: 80



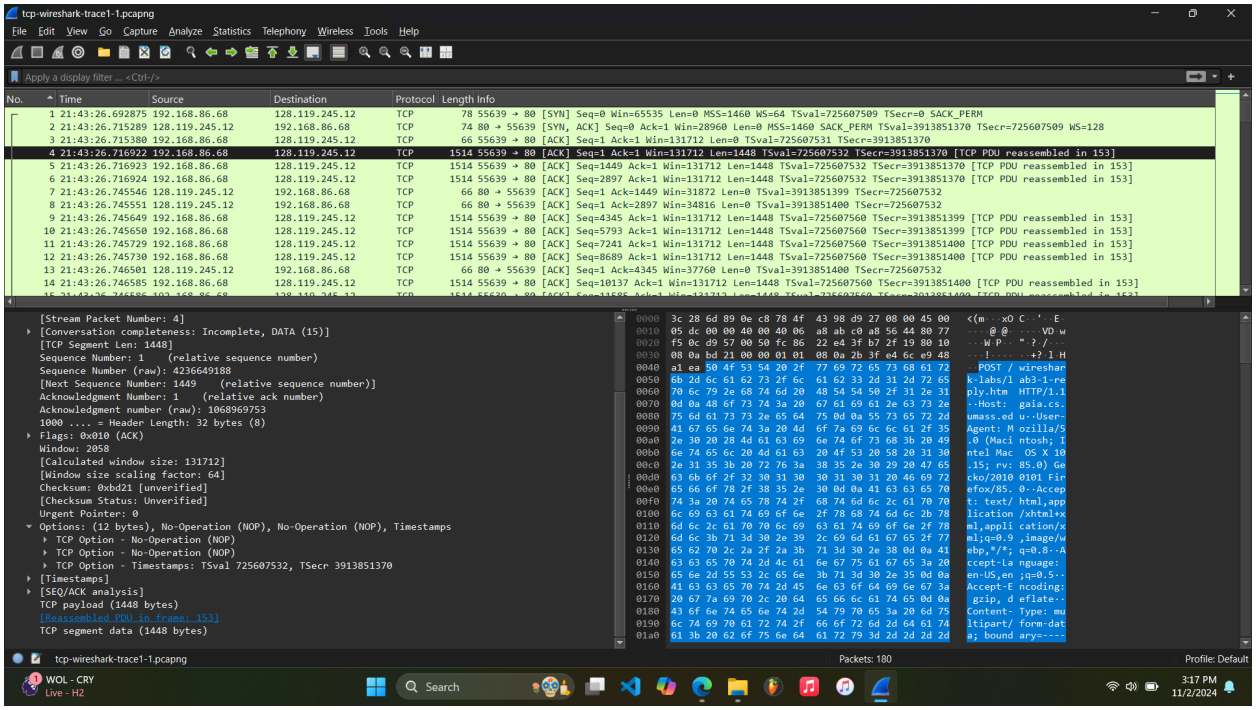
3. The sequence number is 0. THis identifies it as a SYN segment because the SYN flag is set to 1. It can use selective acknoledgeme t because SACK is permitted.



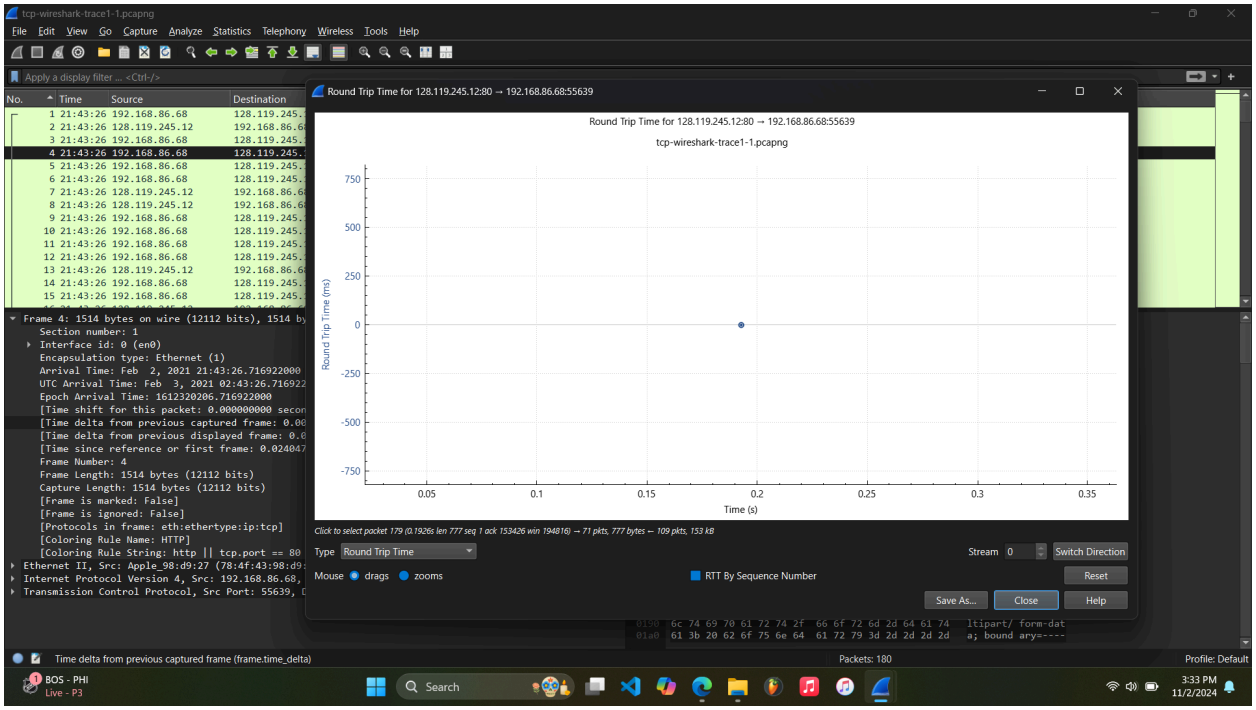
4. The SYNACK value has a value of 0. The value of the ACKnowledgement field in the SYNACK segment is 1. The value of the ACKnowledgement field in the SYNACK segment is determined by adding 1 to the initial sequence number of the SYN segment from the client computer. The SYN flag and Acknowledgement flag in the segment are set to 1 which indicates that this is a SYNACK segment.



5. The sequence number is 1 (raw sequence number is 4236649188. TCP payload is 1448 bytes. It was done in multiple segments.



6. The one that contained the post arrived at Feb 2, 2021 21:43:26.716922000 Eastern Standard Time and was sent at Arrival Time: Feb 2, 2021 21:43:26.715289000 Eastern Standard Time. The RTT for the first data-containing segment is .19 seconds. THe time for the second is .2 seconds.


tcp-wireshark-trace1-1.pcapng
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
Round Trip Time for 128.119.245.12:80 → 192.168.86.68:55639
Round Trip Time for 128.119.245.12:80 → 192.168.86.68:55639
tcp-wireshark-trace1-1.pcapng
Round Trip Time (ms)
Time (s)
Type Round Trip Time
Stream 0
Switch Direction
Mouse drags zooms
RTT By Sequence Number
Reset
Save As...
Close
Help
Time delta from previous captured frame (frame.time_delta)
Packets: 180
Profile: Default
BOS - PHI
Live - P3
Search
3:33 PM
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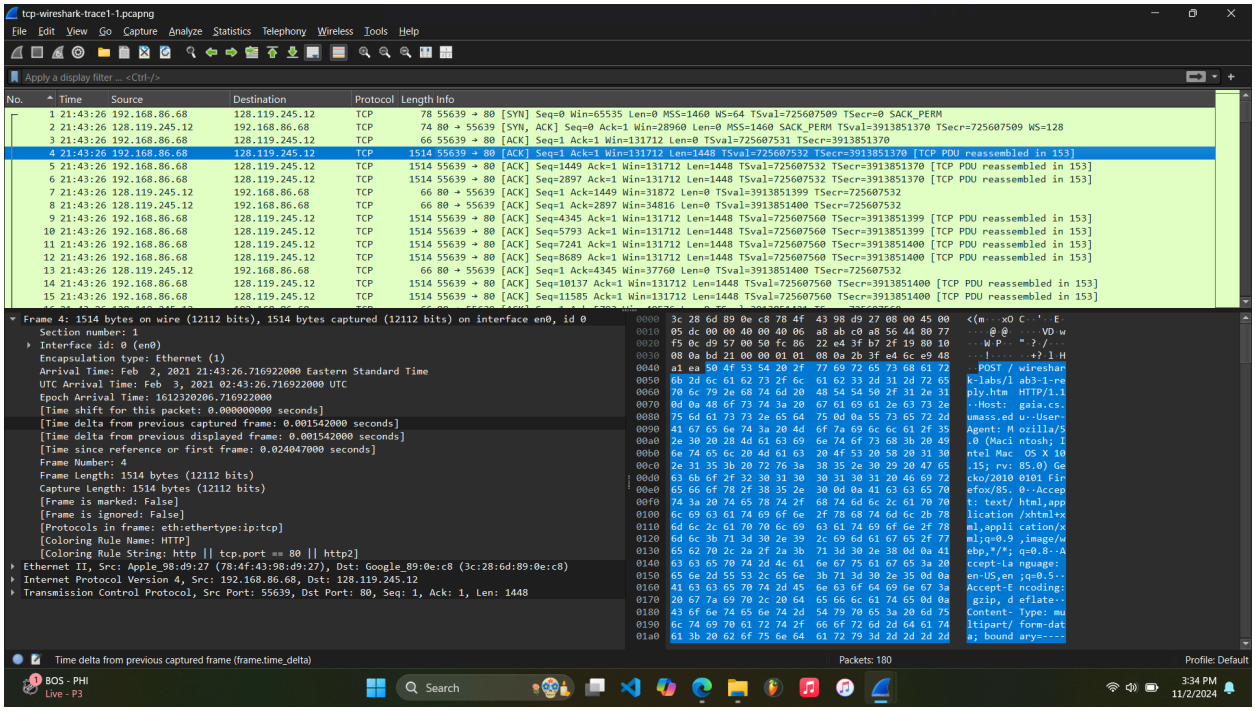
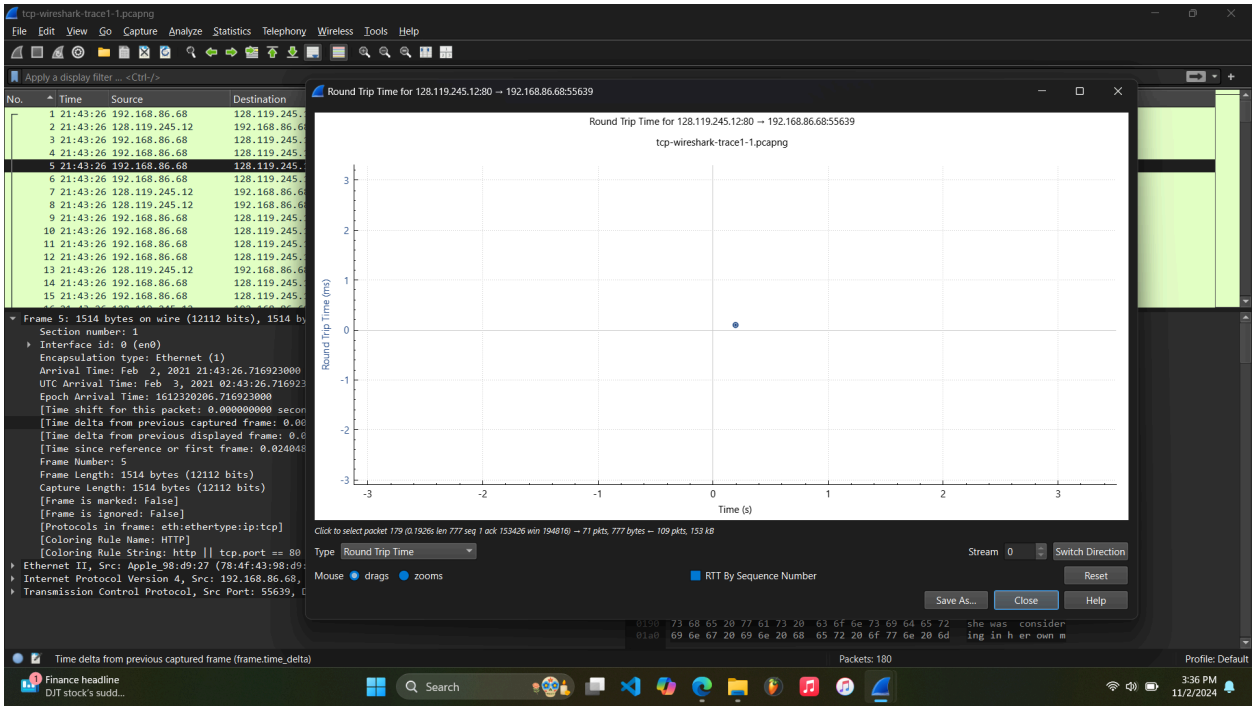
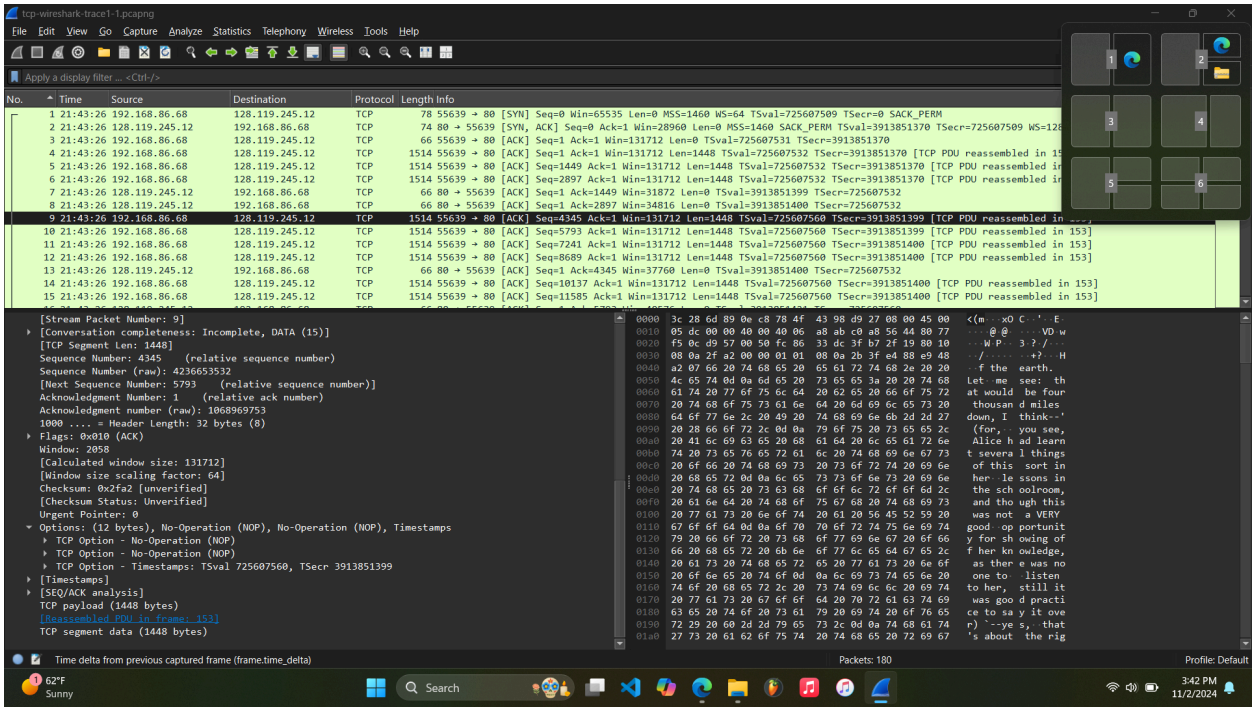
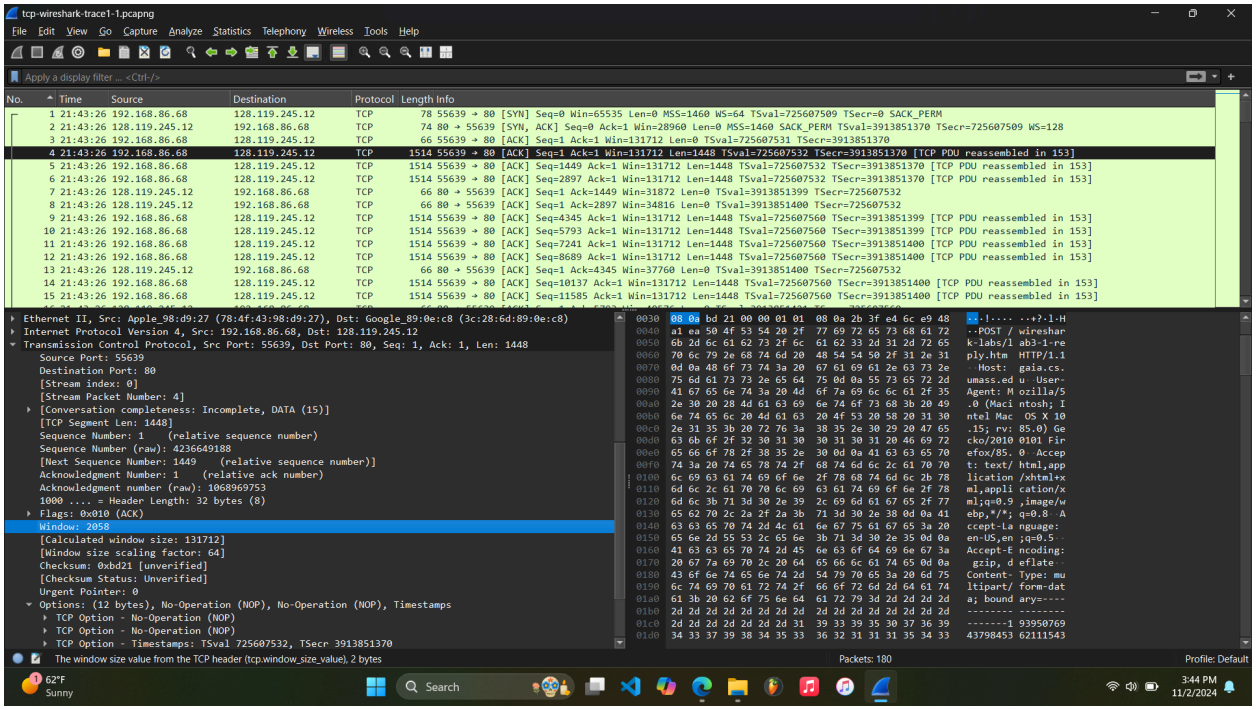

tcp-wireshark-trace1-1.pcapng
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
Time delta from previous captured frame (frame.time_delta)
Packets: 180
Profile: Default
BOS - PHI
Live - P3
Search
3:34 PM
11/2/2024



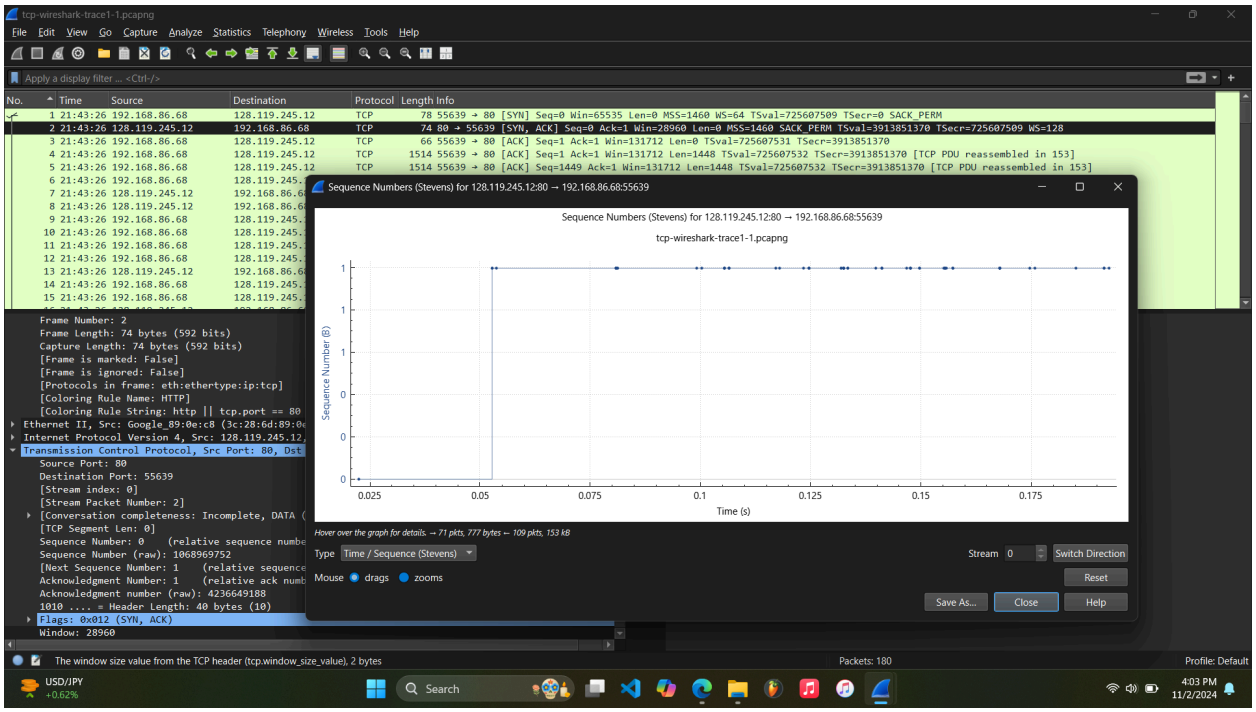
7. The length of each of the first four data carrying packets are 1448 + 1448 = 2896



8. The minimum buffer space is showed in the tcp window 2048 and no it doesn't throttle

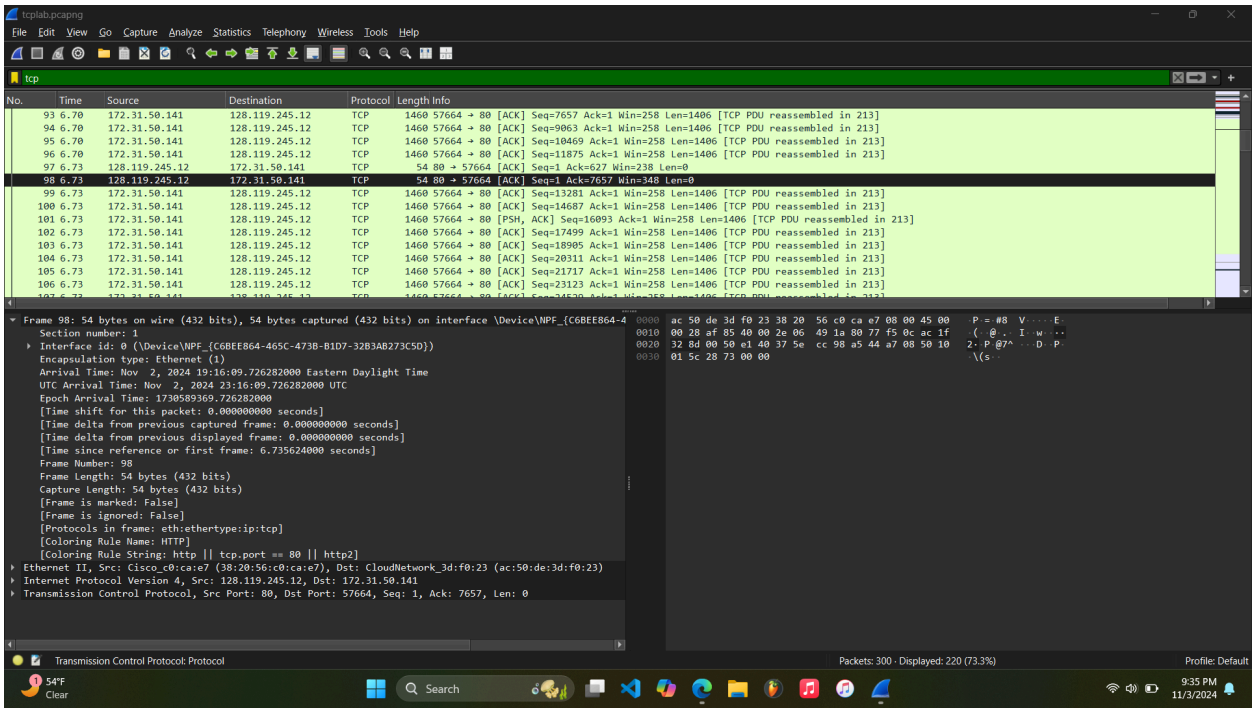


9. There are no retransmitted files because the sequence number graph didnt have any downward trends.

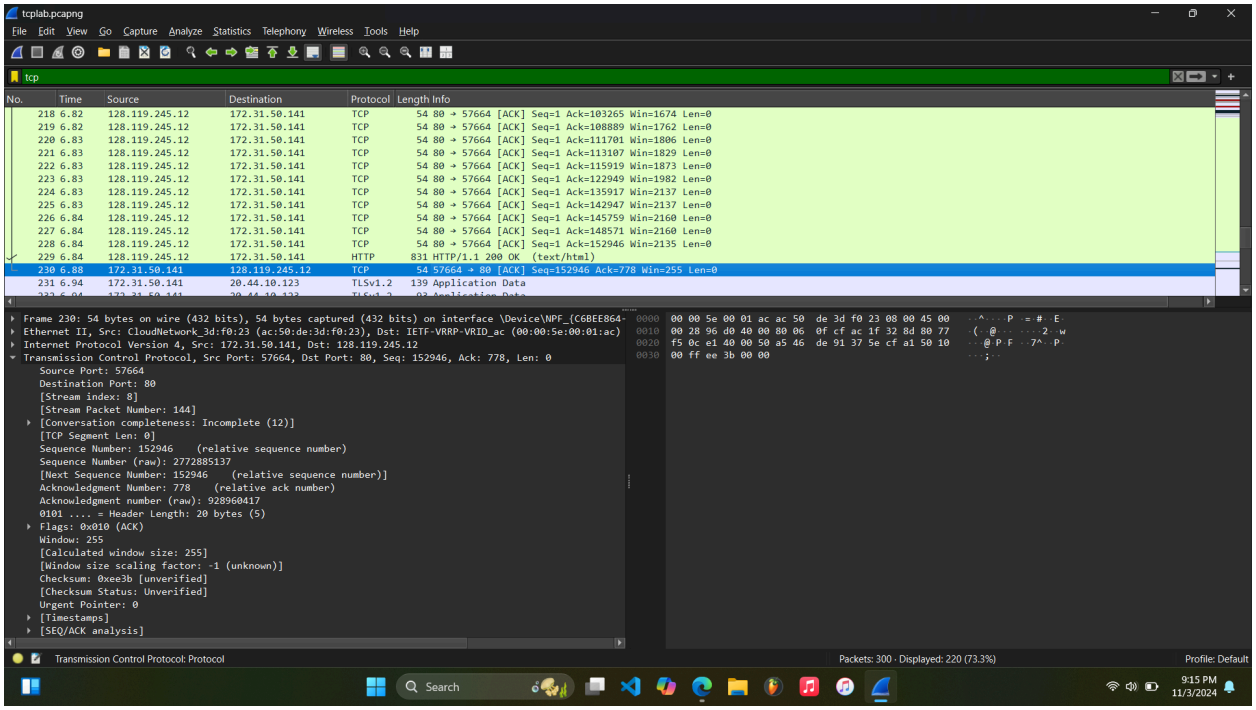


From 10 and down I use a different packet capture file

10. The receiver is typically ACKing 432 bits of data. There are cases where a receiver ACKs every other received segment. THis can be seen when this is two ACKS in a row



11. To calculate the throughput I calculated the total amount of data sent over the period of the connection. First the difference between the first sequence number and the last ACK number. 152946 - 1 = 152945. Then the total time transfer between the first message and the last ack. 6.88 s - 6.69.
So 152946 bytes/6.88 seconds = 22231 bytes per second



12. I would say it's to avoid congestion avoidance.
13. I can say that the period is showing a consistent pattern so it suggests a periodic sending behavior from the client.