Kingdom of Saudi Arabia Ministry of Education Qassim University College of Computer Computer Science Dept.

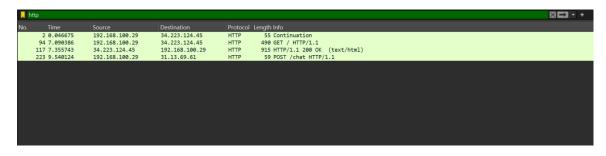


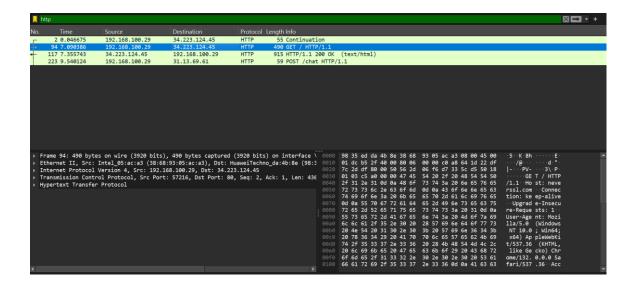
المملكة العربية السعودية وزارة التعليم جامعة القصيم كلية الحاسب قسم علوم الحاسب

## CS471 – Web Technologies Lab 1 The Internet Protocols Semester (462) 2025/1446

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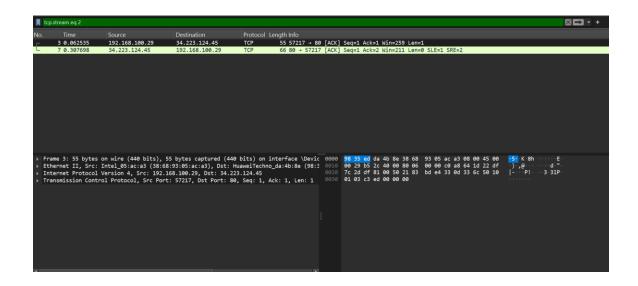
Task 2: Filter HTTP packets and analyze them.



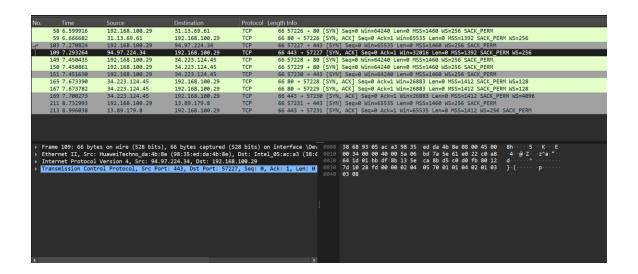


## Part 2: Analyzing TCP/IP Traffic.

Task 1: Filter TCP packets

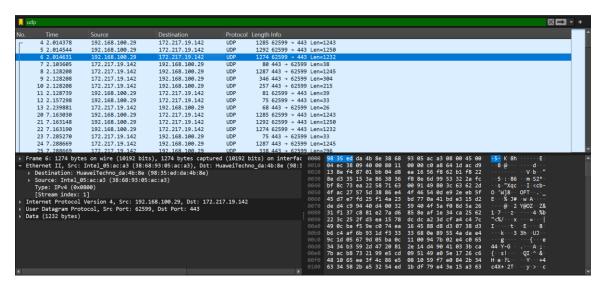


Task 2: Analyze TCP handshake and investigate Data Transfer and Termination



No.	Time	Source	Destination	Protocol	Length Info
4	102 7.269910	192.168.100.29	94.97.224.34	TCP	54 57208 → 443 [FIN, ACK] Seq=1 Ack=1 Win=1024 Len=0
	106 7.290630	94.97.224.34	192.168.100.29	TCP	54 443 → 57208 [FIN, ACK] Seq=1 Ack=2 Win=124 Len=0
	224 9.540366	192.168.100.29	31.13.69.61	TCP	54 57226 → 80 [FIN, ACK] Seq=827 Ack=1538 Win=66560 Len=0
	235 9.733190	31.13.69.61	192.168.100.29	TCP	54 80 → 57226 [FIN, ACK] Seq=1538 Ack=828 Win=67840 Len=0
	250 11.863343	31.13.69.60	192.168.100.29	TCP	54 443 → 57201 [FIN, ACK] Seq=64 Ack=1 Win=282 Len=0
	254 12.375134	34.223.124.45	192.168.100.29	TCP	54 80 → 57216 [FIN, ACK] Seq=2274 Ack=438 Win=219 Len=0
	256 12.579704	34.223.124.45	192.168.100.29	TCP	54 [TCP Retransmission] 80 → 57216 [FIN, ACK] Seq=2274 Ack=438 Win=219 Len=0
J.	259 14.116484	34.223.124.45	192.168.100.29	TCP	54 443 → 57230 [FIN, ACK] Seq=8219 Ack=4046 Win=90112 Len=0

Task 2: Filter and analysis UDP Packets



## **Step 5: Compare the simplicity of UDP headers with TCP headers.** UDP is simpler than TCP because:

- No Three-Way Handshake (SYN, SYN-ACK, ACK).
- No Acknowledgment Numbers.
- No Retransmission (if a packet is lost, it is not resent).

## Part 4: Comparing TCP and UDP by filling in the following tables. Save your work (e.g., in an MS Word

document), and upload it to your online git repo.

Task 1: Fill in the following table and provide reasons.

TCP or UDP	Reasons
Connection	TCP – It makes sure data is received correctly by using a handshake before sending data. UDP does not check if the data arrives.
	TCP – It keeps data in order and resends lost packets. UDP sends data quickly but doesn't check if it's in order.

**Task 2: Use Cases and Performance** 

	ТСР	UDP
HI ICA I GCAC	browsing email and file downloads	Good for speed like video streaming, online gaming, and voice calls.
Performance		Faster but may lose data – Does not check errors or resend data.