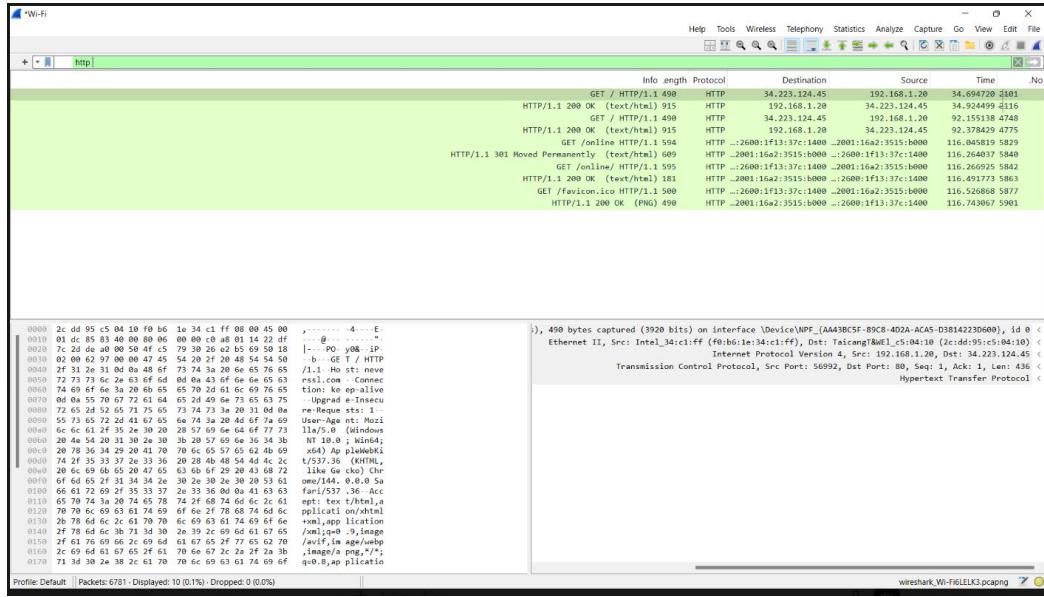


# Lab1

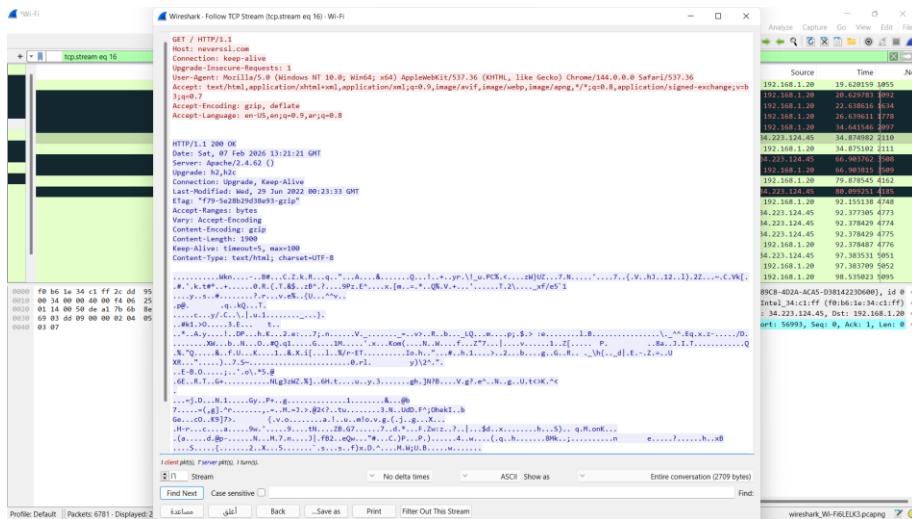
## Part 1: Capturing HTTP Traffic



This screenshot shows HTTP request and response.

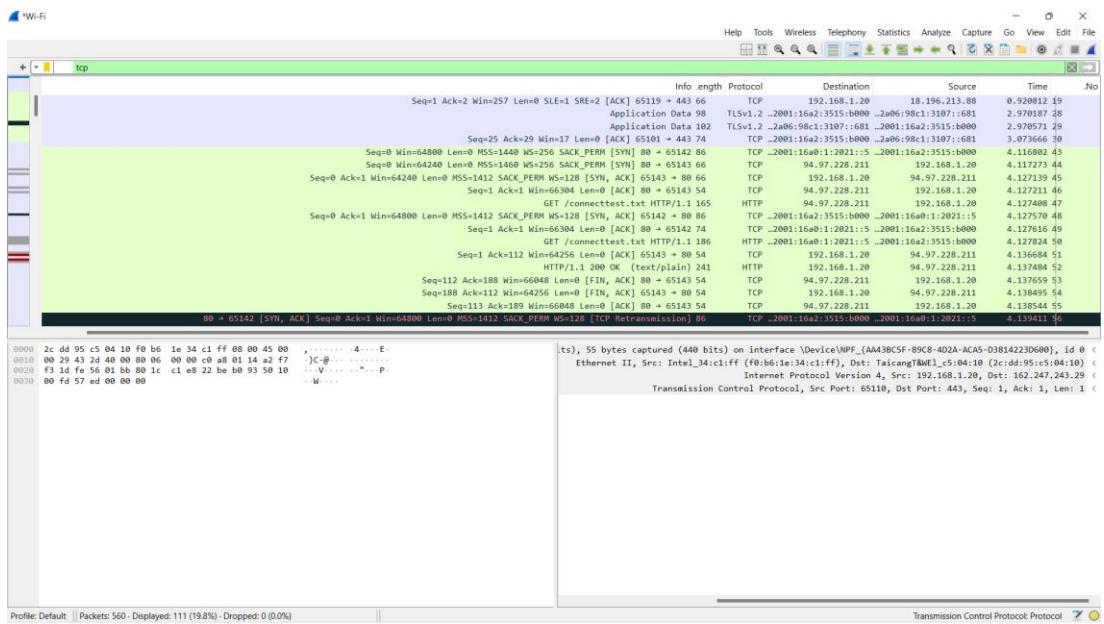
## Part 2: Analyzing TCP/IP Traffic

### Task 1: Follow TCP Stream

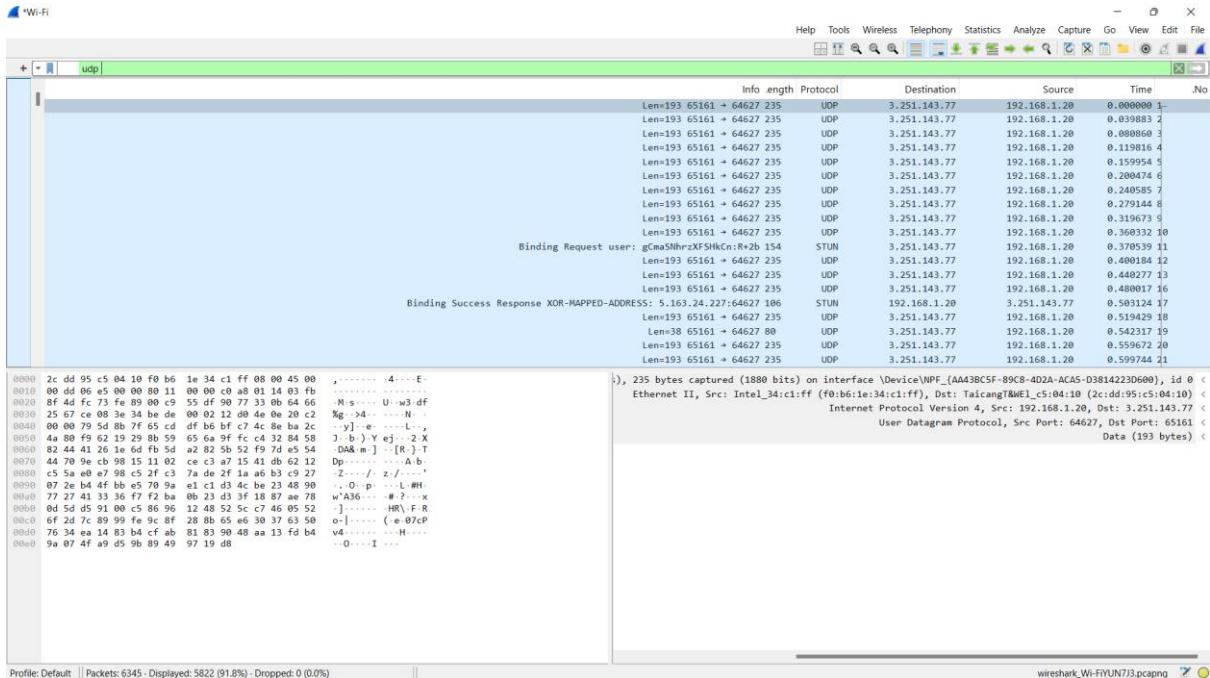


This screenshot shows the full TCP conversation between the client and the server

### Task 2: TCP Handshake and Termination



## Part 3: Capturing and Analyzing UDP Traffic



## 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
Reliability and Connection Establishment	TCP	TCP is connection-oriented; it uses a <b>three-way handshake</b> to establish a connection and ensures all data is received via acknowledgments.
Data Integrity and Ordering	TCP	It uses <b>sequence numbers</b> to reassemble data packets in the correct order and requests retransmission if any data is lost or corrupted

### Task 2: Identify the use Cases and Performance of TCP and UDP.

	TCP	UDP
Use cases	Web browsing (HTTP/HTTPS), Email (SMTP), and File Transfer (FTP).	Video streaming, Online gaming, and Voice over IP (VoIP).
Performance	<b>Slower</b> but reliable. It has higher overhead due to error-checking and flow control.	<b>Faster</b> and efficient. It has low overhead because it doesn't wait for acknowledgments (low latency).

