Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 04

Course code: ICT-4202

Course title: Wireless and Mobile Communication Lab

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Experiment No: 04

Experiment Name: Protocol Analysis with Wireshark

Objectives: Wireshark is a packet sniffer and analysis tool. It captures network traffic on the local network and stores that data for offline analysis. **Wireshark** captures network traffic from Ethernet, Bluetooth, Wireless (IEEE. 802.11), Token Ring, Frame Relay connections, and more.

Display packets with very detailed protocol information.
Filter packets on many criteria.
Search for packets on many criteria.
Colorize packet display based on filters.
Create various statistics.

Capturing Packets:

Capturing can be stopped by clicking on Stop the running capture button on the main toolbar.

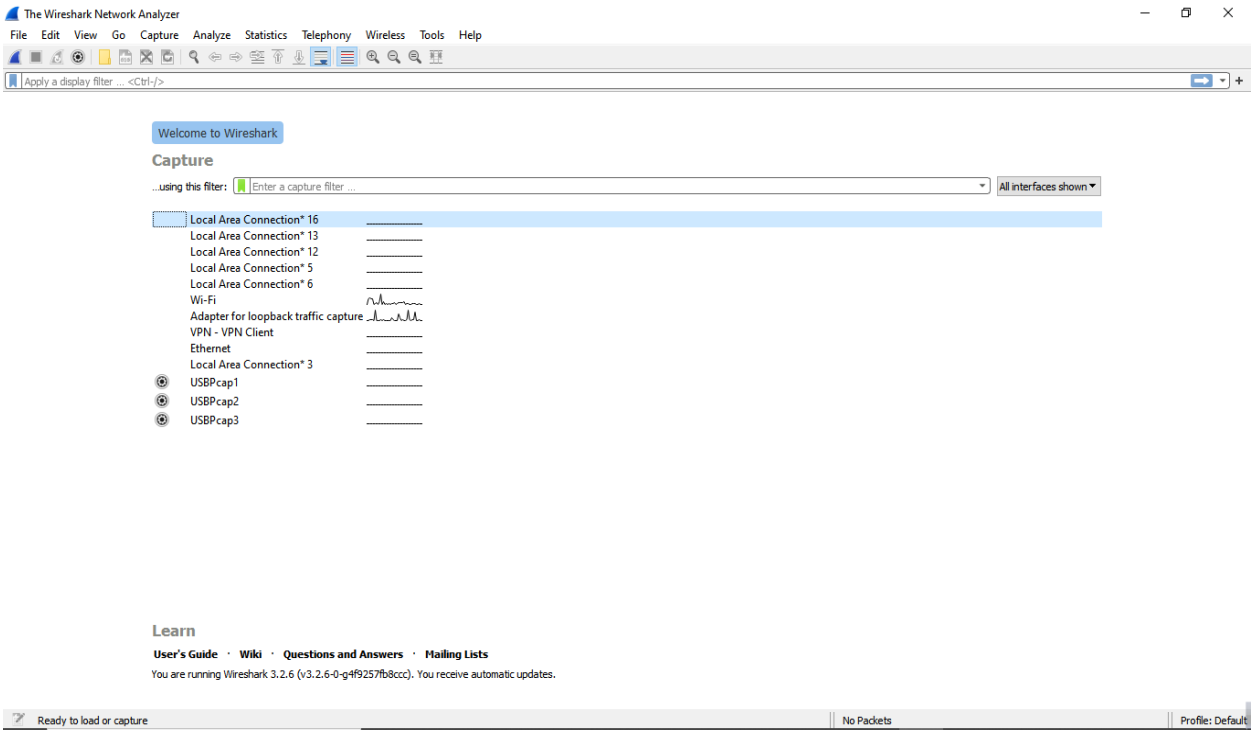

Figure 01: Wireshark Interface List

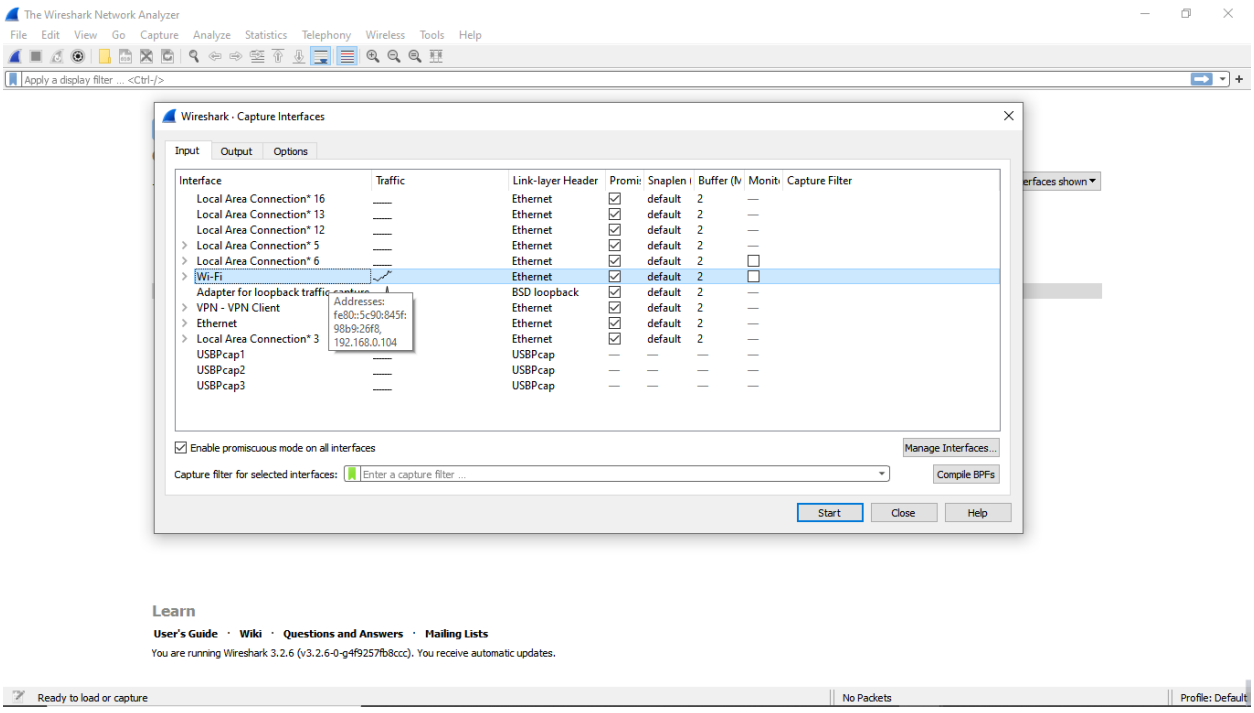

Figure 02: Start Capturing Interface that has IP address

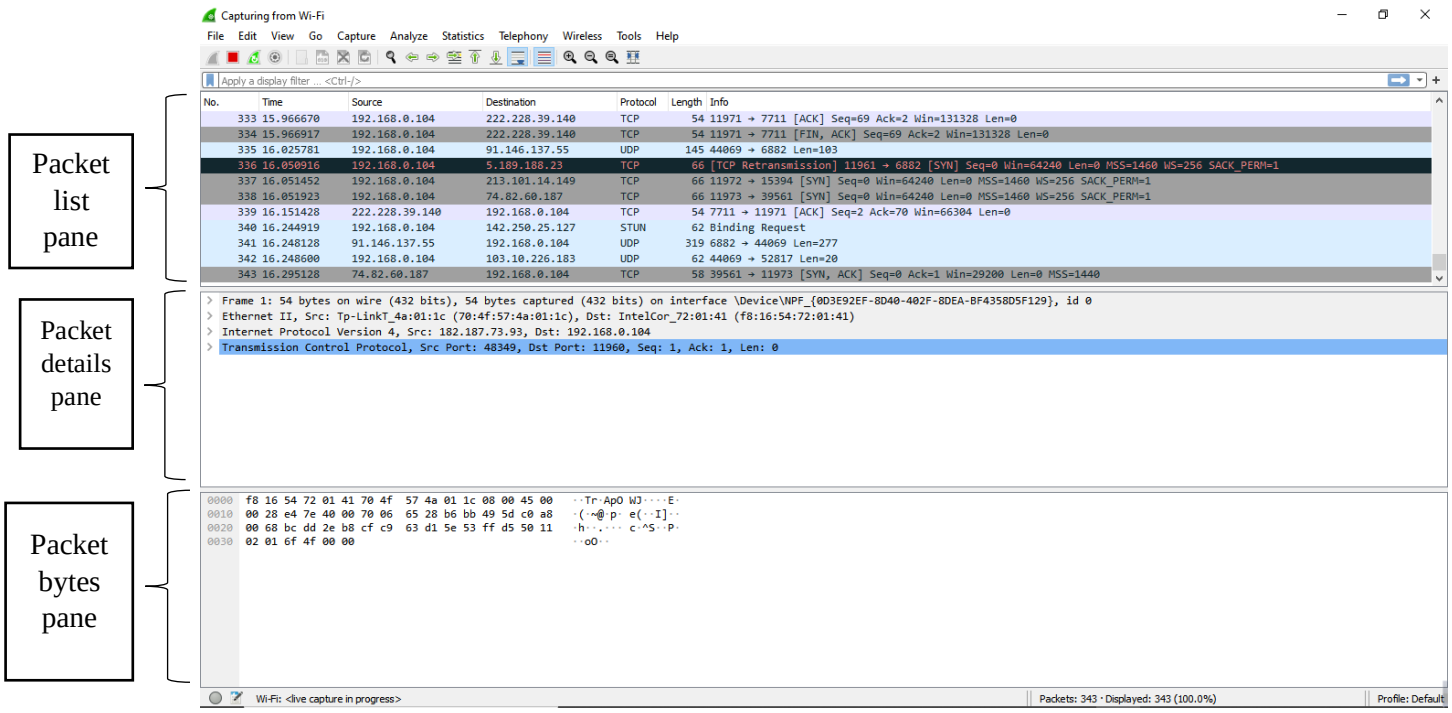

Figure 03: A sample packet capture window

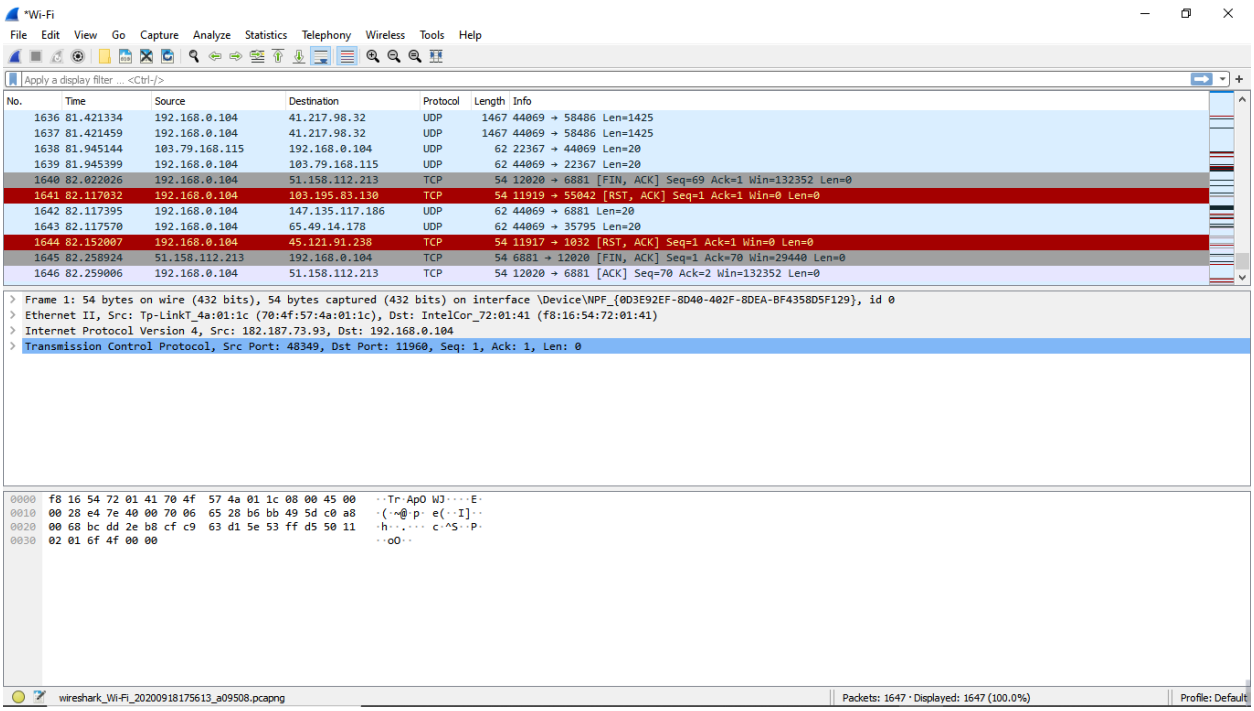

Figure 04: Stopping Capture

Filtering:

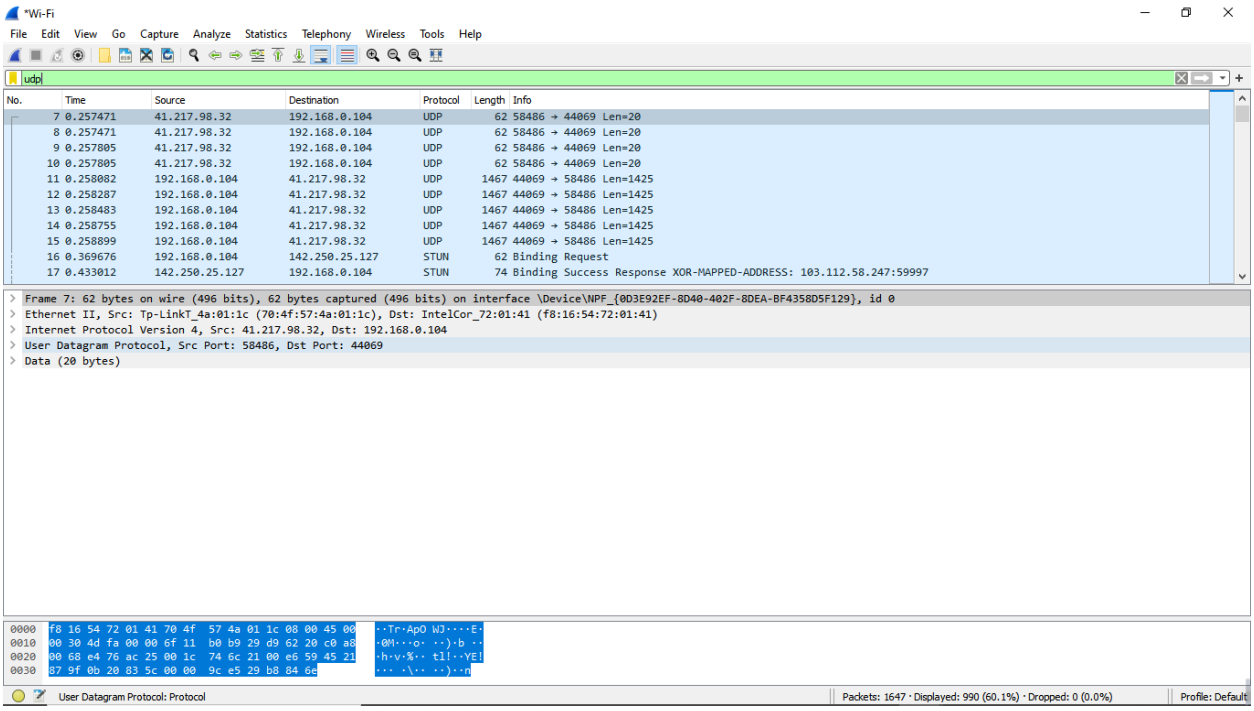

Figure 05: Filter by Protocol

A source filter can be applied to restrict the packet view in wireshark to only those packets that

have source IP as mentioned in the filter.

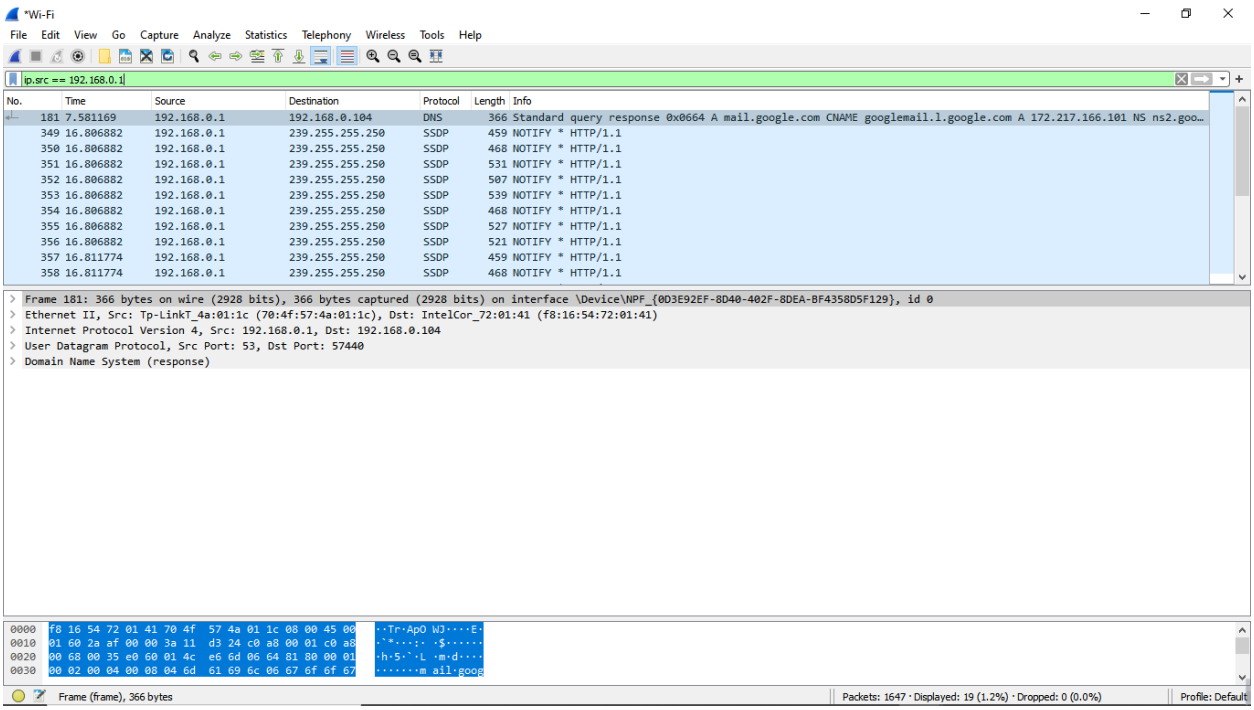

Figure 06: Source IP filter

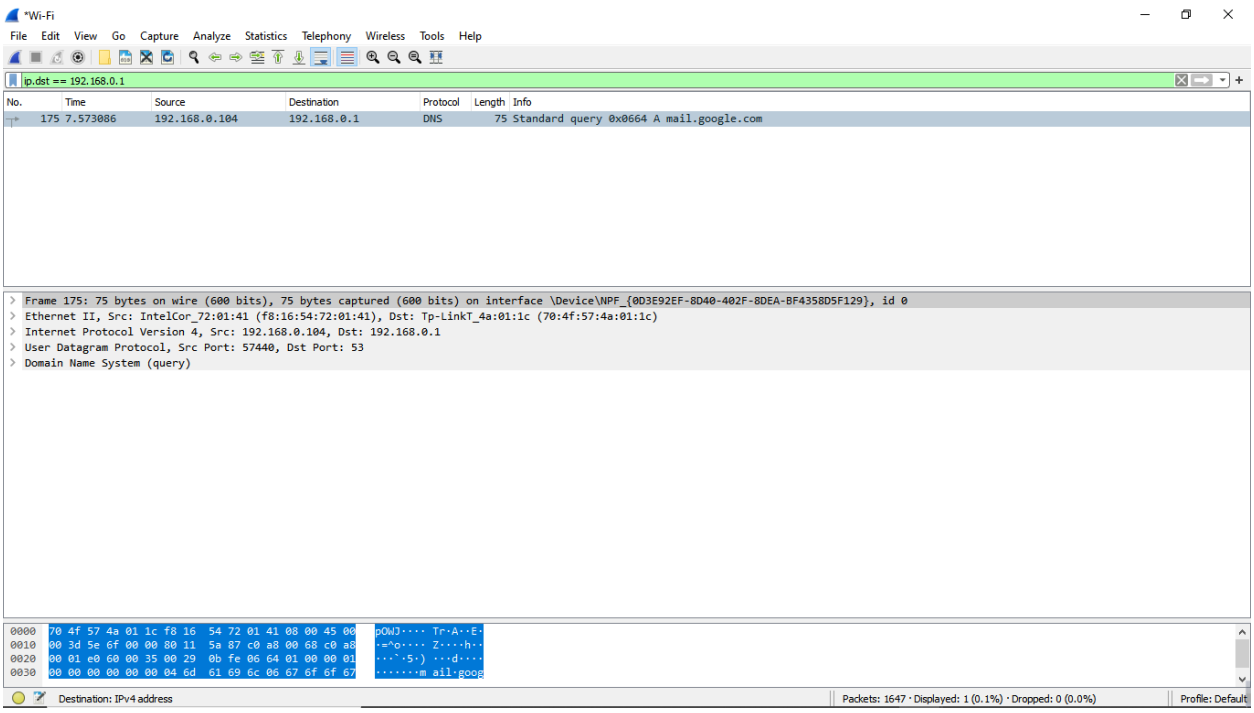

Figure 07: Destination IP filter

• Packets and protocols can be analyzed after capture

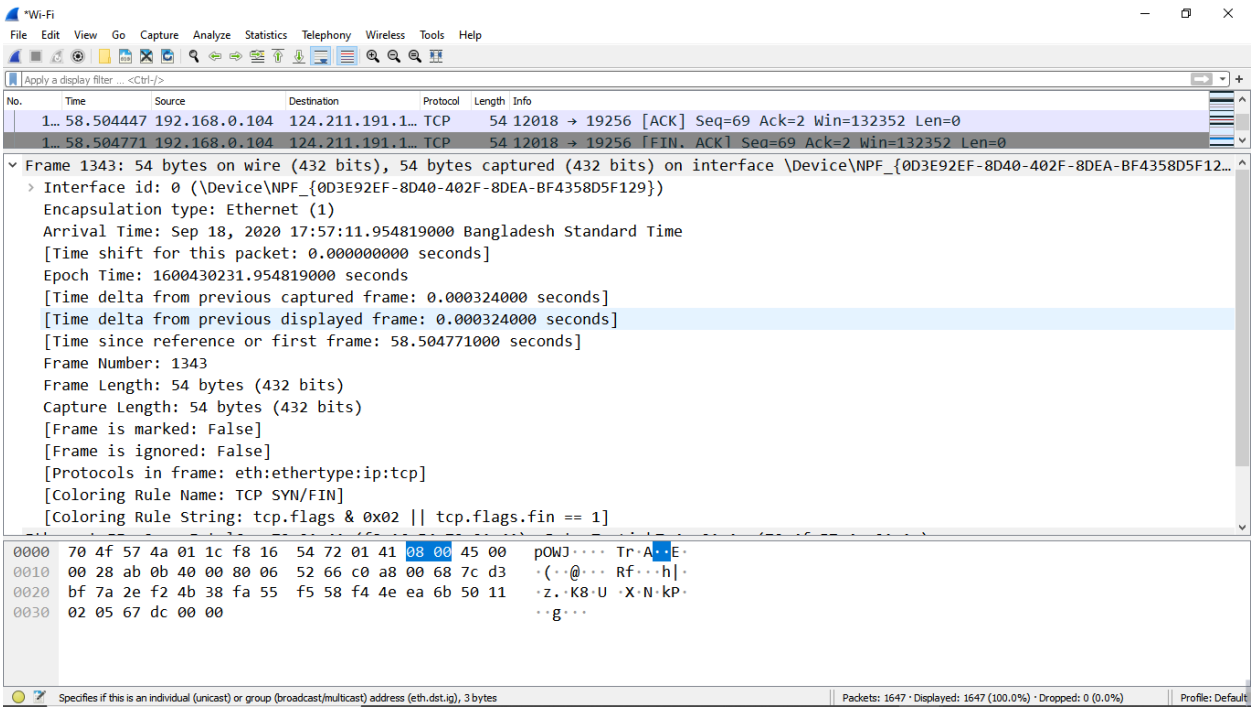

Figure 08: Packet Details Pane(Frame segment)

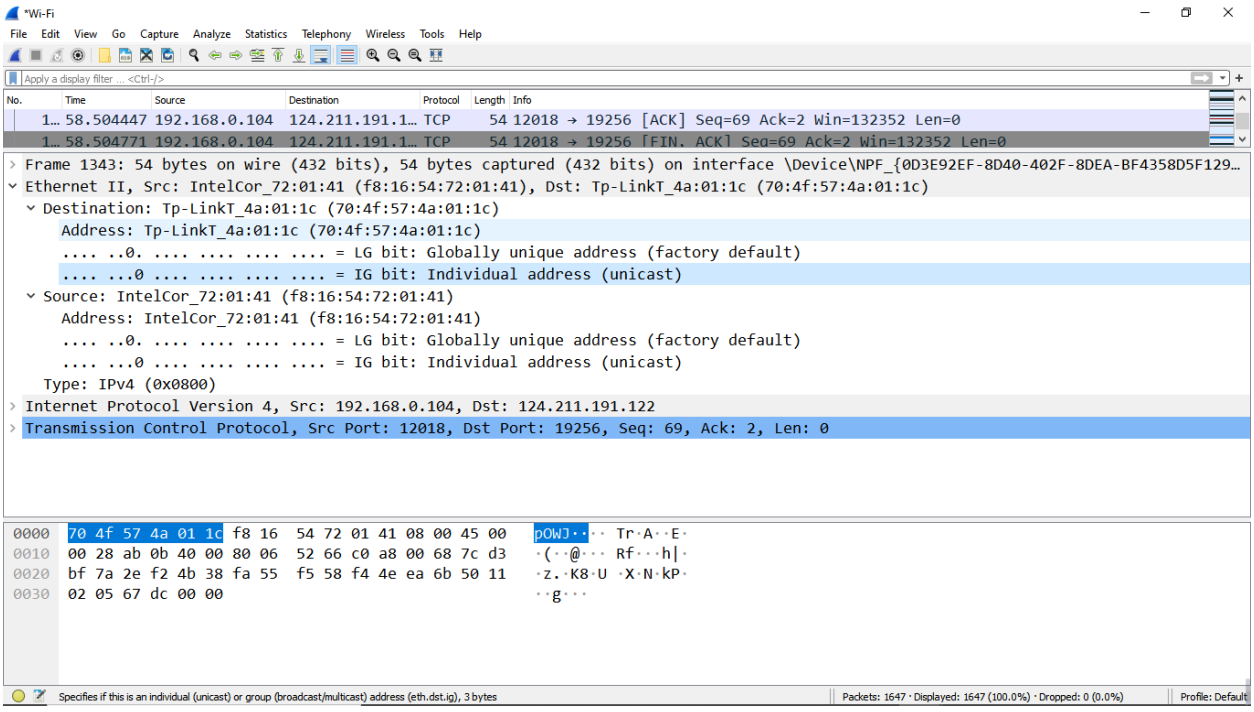

Figure 09: Packet Details Pane (Ethernet Segment)

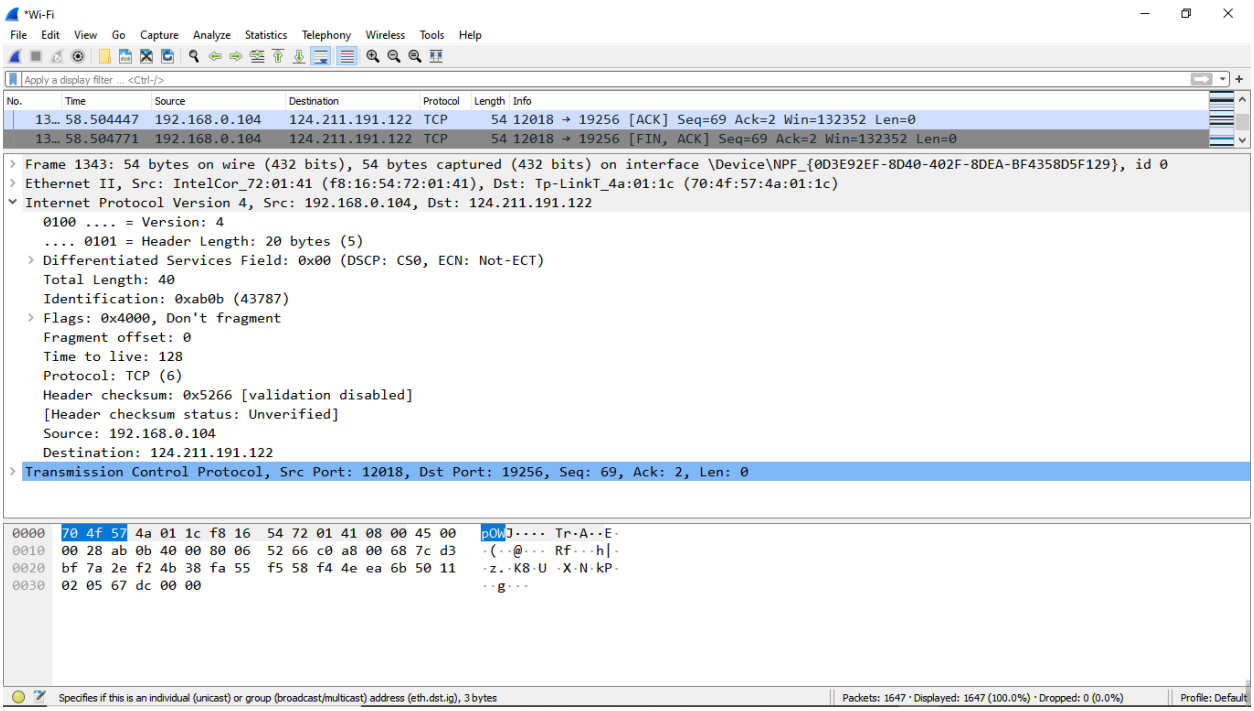

Figure 10: Packet Details Pane(IP segment)

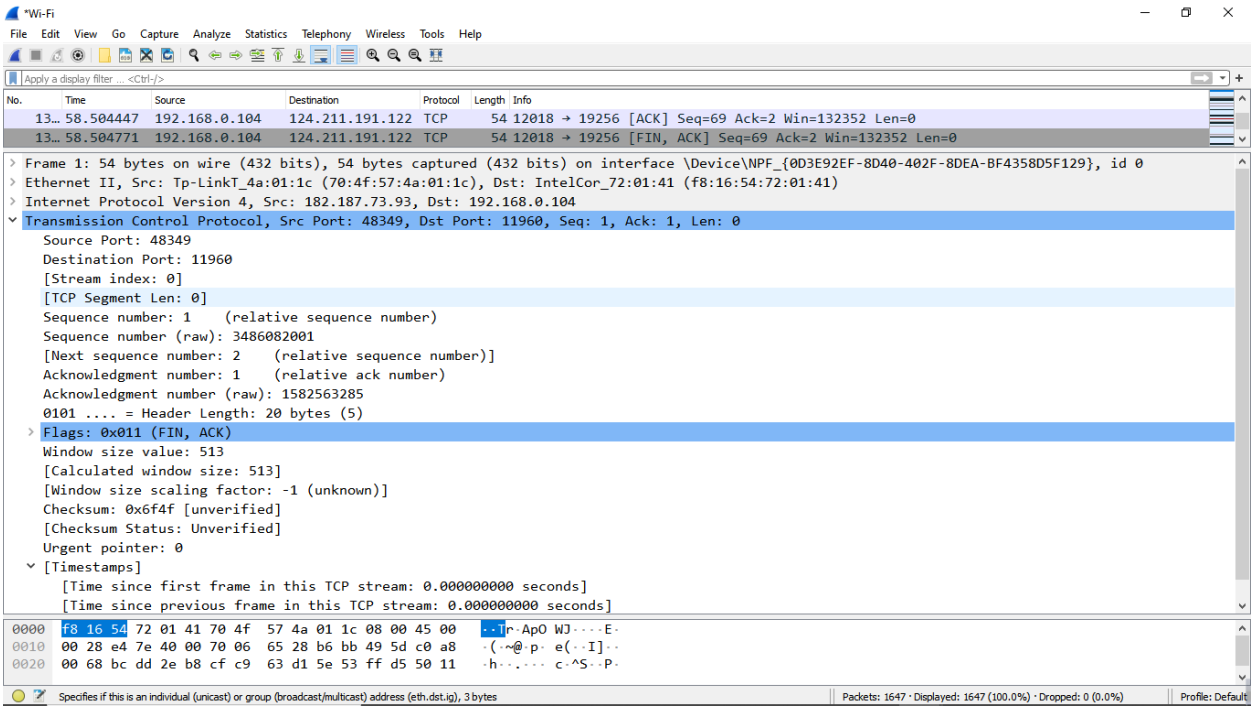

Figure 11: Packet Details Pane (TCP Segment)

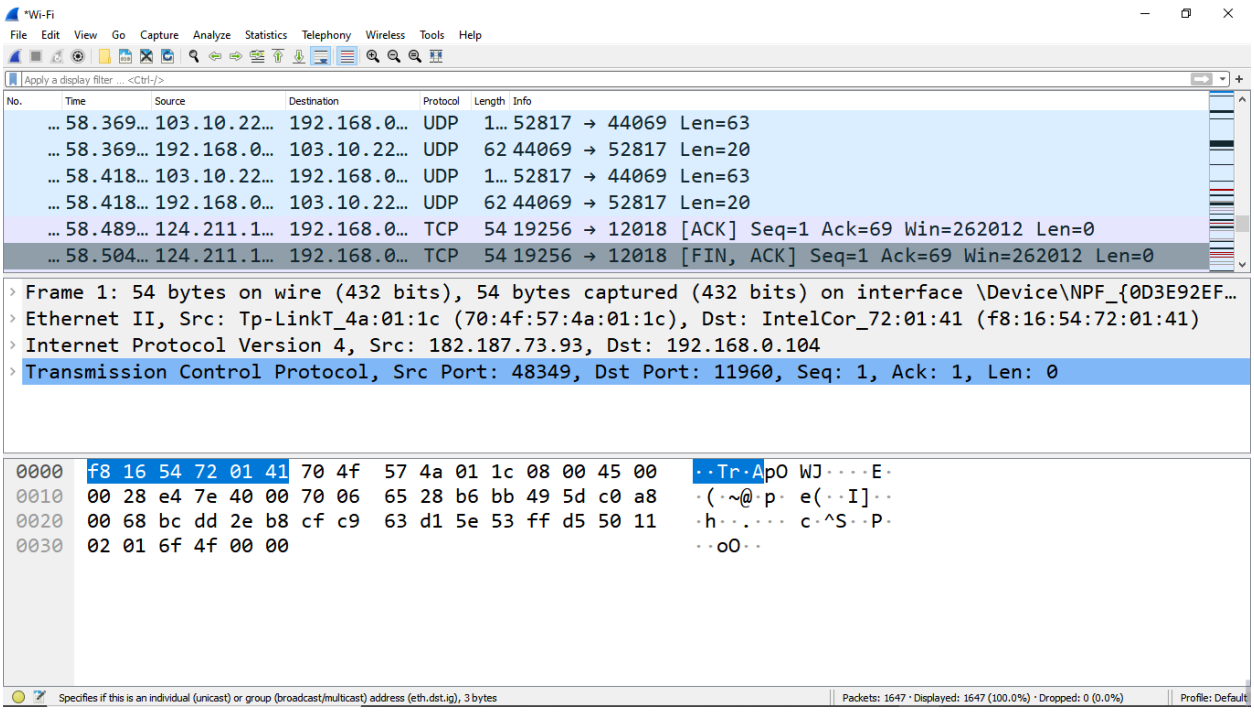

Figure 12: Packet Byte Pane

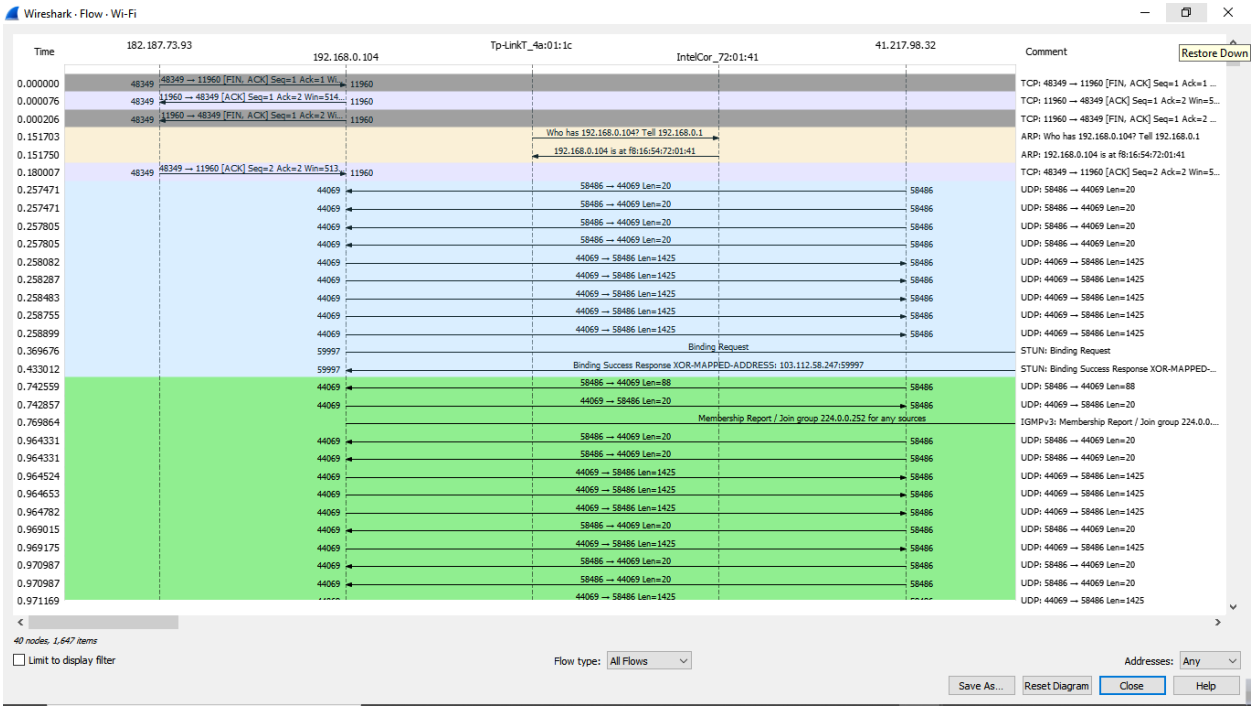

Figure 13: Statistics- Flow Graph(All Flows)

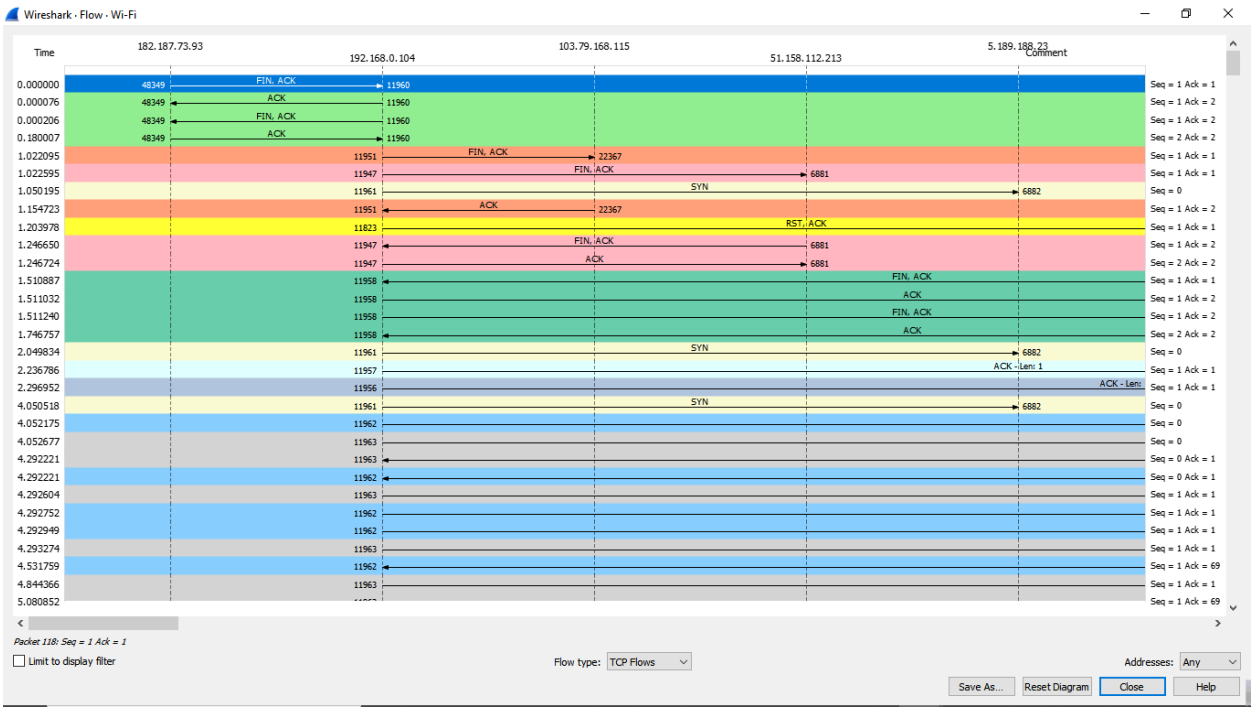

Figure 13: Statistics- Flow Graph(TCP Flows)

Conclusion: We can easily Capture live packet data from a network interface using Wireshark. We have applied filter to monitor particular traffic. The TCP Stream Throughput graph have shown us the throughput from one TCP stream, in one direction, based on the selected packet.