Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 05

Course code: ICT-4202

Course title: Wireless and Mobile Communication Lab

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Submitted by

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Session: 2015-2016

Dept. of ICT

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Experiment N0: 05

Experiment Name : Comparative Analysis of Wired and Wireless data using Wireshark.

Objective: In this lab, we have to perform the following things for both wired and wireless connetction:

1. Capture protocols at each TCP/IP Layer
2. Generate and record protocol hierarchy statistics for a session
3. Determine the packet length
4. Generate flow graph.
5. Generate I/O graph.
6. Generate IPv4 statistics for all addresses.

For Wireless Connection:

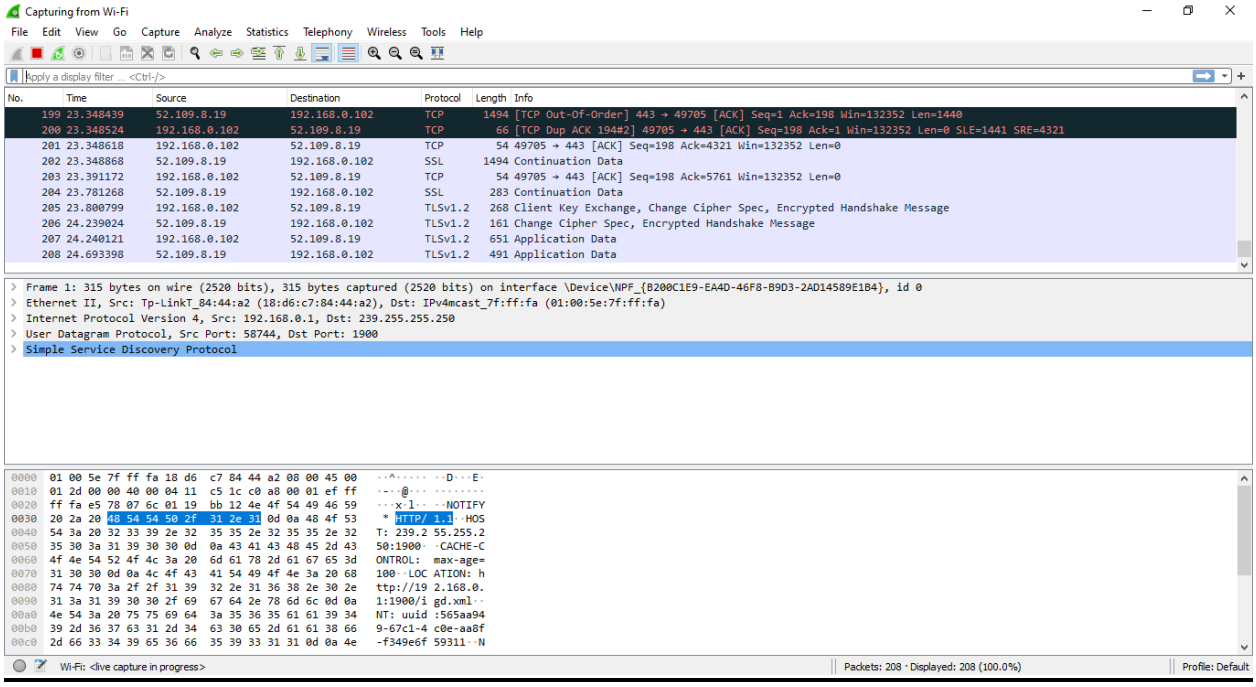


Figure-1: Capturing protocols at each TCP/IP Layer

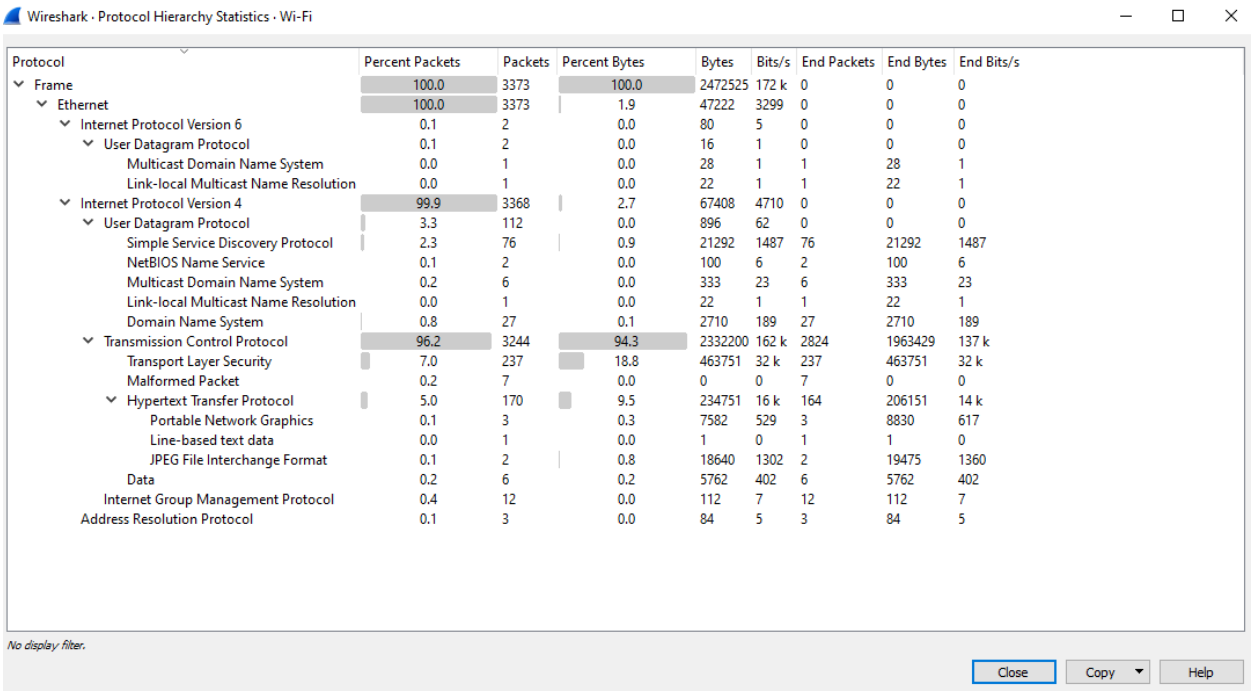


Figure-2: Generating and record protocol hierarchy statistics for a session

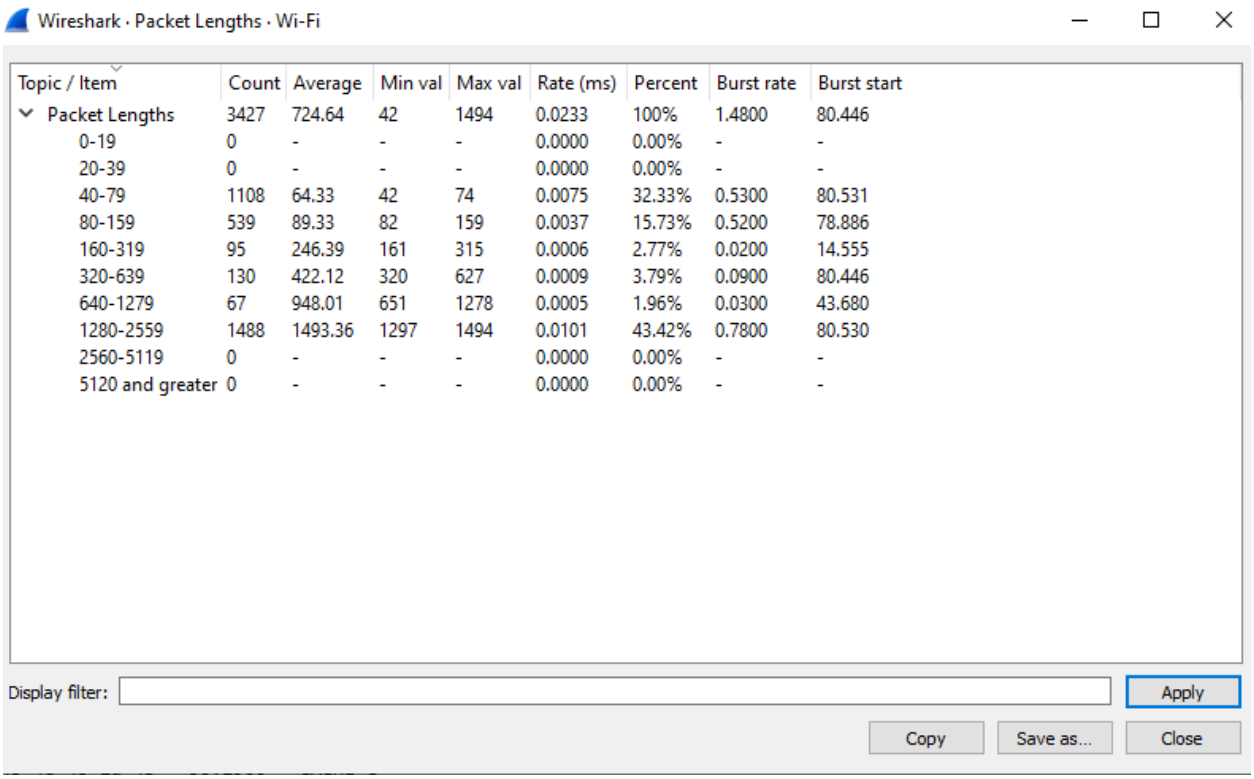


Figure-3: Determining the packet length

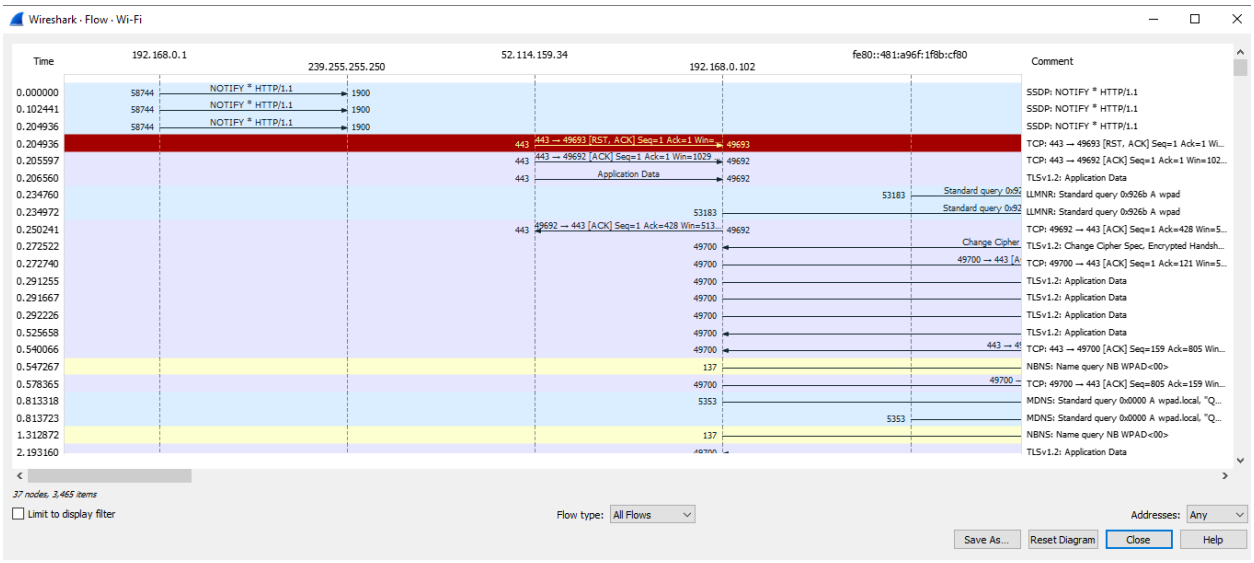


Figure-4: Generating flow graph.

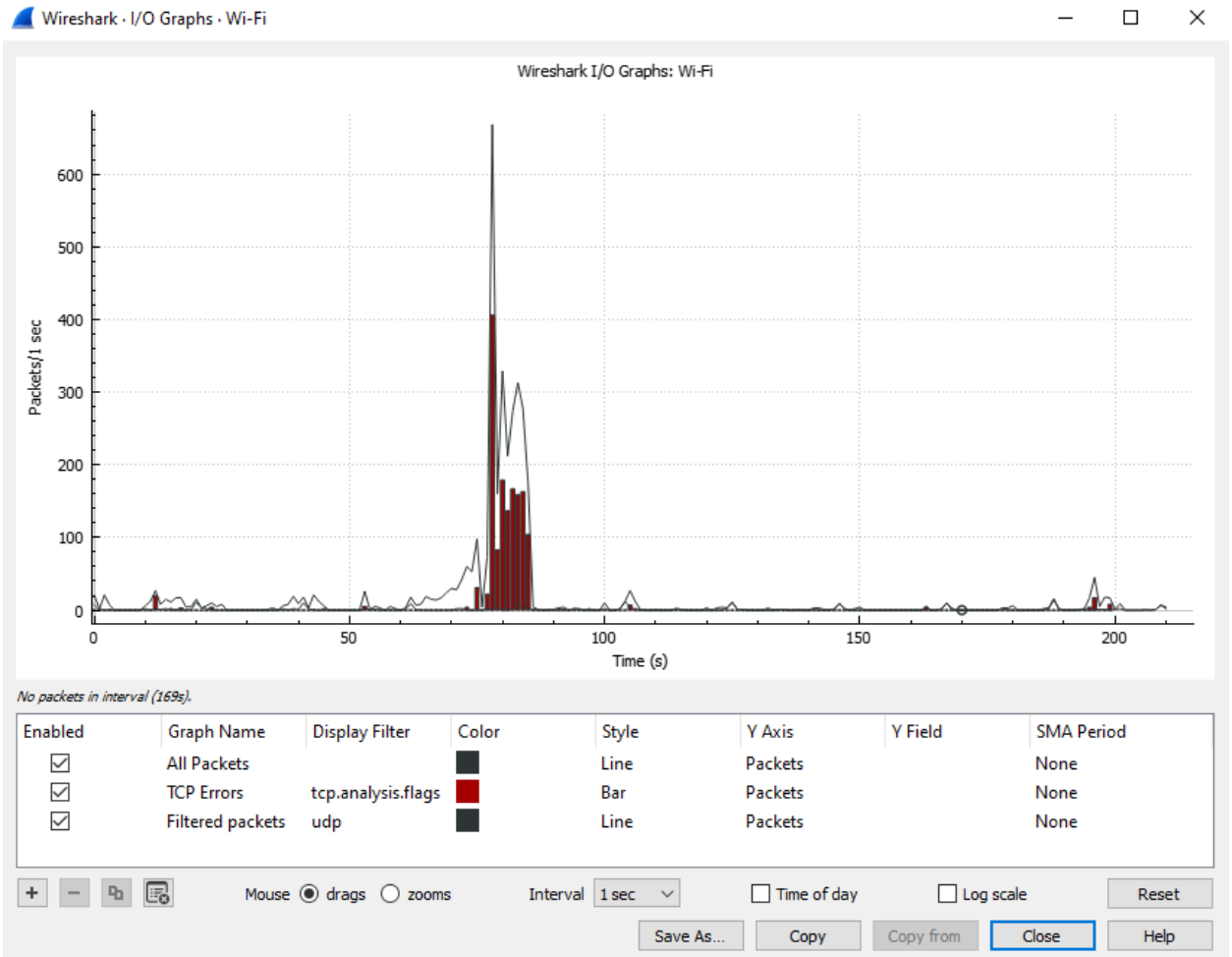


Figure-5: Generating I/O graph.

For Wired Connection:

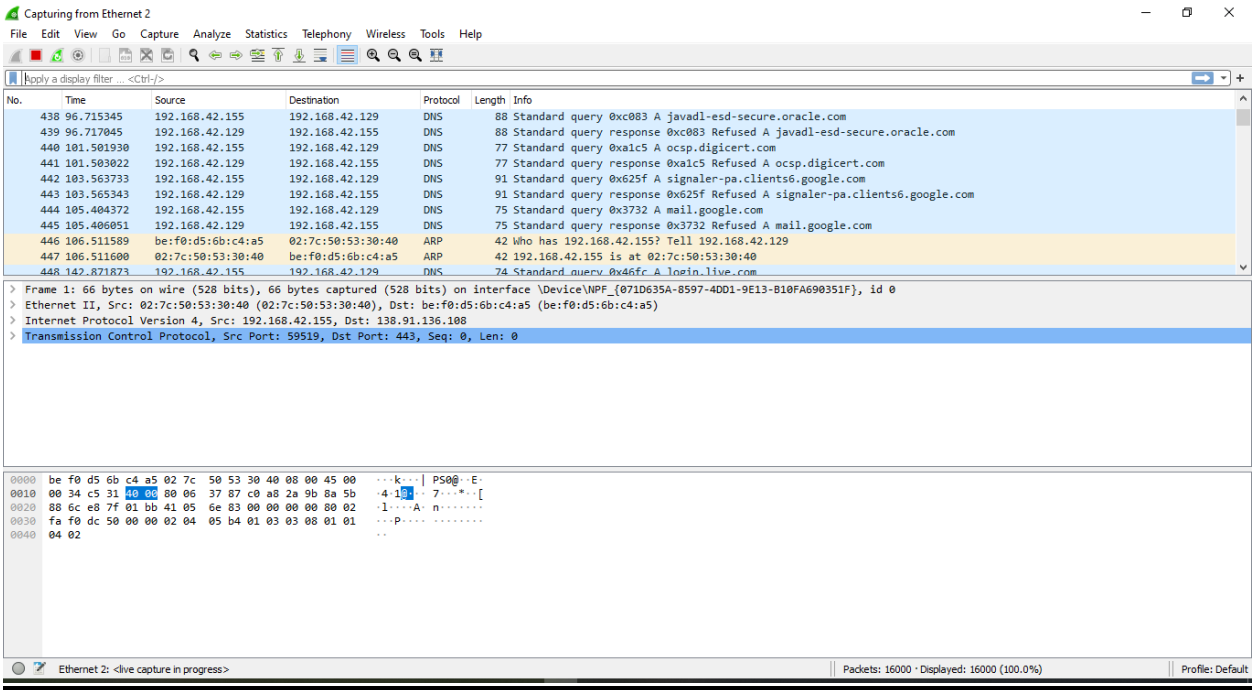
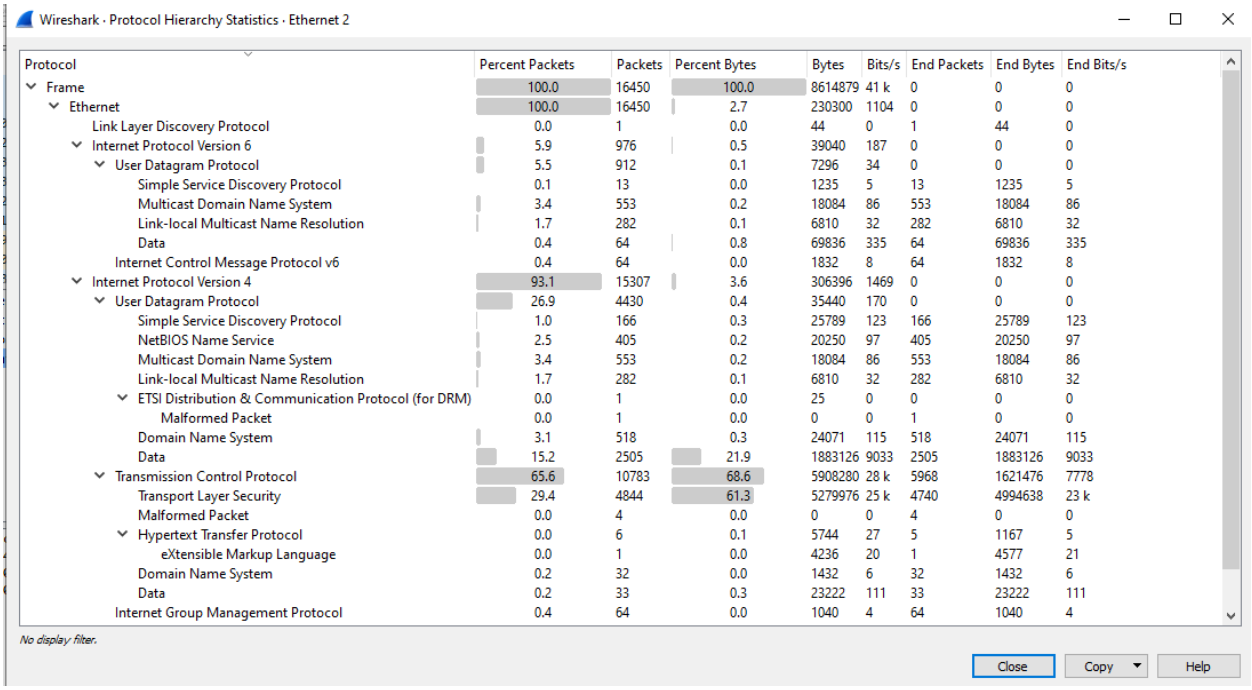


Figure-1: Capturing protocols at each TCP/IP Layer



Protocol	Percent Packets	Packets	Percent Bytes	Bytes	Bits/s	End Packets	End Bytes	End Bits/s
Frame	100.0	16450	100.0	8614879	41 k	0	0	0
Ethernet	100.0	16450	2.7	230300	1104	0	0	0
Link Layer Discovery Protocol	0.0	1	0.0	44	0	1	44	0
Internet Protocol Version 6	5.9	976	0.5	39040	187	0	0	0
User Datagram Protocol	5.5	912	0.1	7296	34	0	0	0
Simple Service Discovery Protocol	0.1	13	0.0	1235	5	13	1235	5
Multicast Domain Name System	3.4	553	0.2	18084	86	553	18084	86
Link-local Multicast Name Resolution	1.7	282	0.1	6810	32	282	6810	32
Data	0.4	64	0.8	69836	335	64	69836	335
Internet Control Message Protocol v6	0.4	64	0.0	1832	8	64	1832	8
Internet Protocol Version 4	93.1	15307	3.6	306396	1469	0	0	0
User Datagram Protocol	26.9	4430	0.4	35440	170	0	0	0
Simple Service Discovery Protocol	1.0	166	0.3	25789	123	166	25789	123
NetBIOS Name Service	2.5	405	0.2	20250	97	405	20250	97
Multicast Domain Name System	3.4	553	0.2	18084	86	553	18084	86
Link-local Multicast Name Resolution	1.7	282	0.1	6810	32	282	6810	32
ETSI Distribution & Communication Protocol (for DRM)	0.0	1	0.0	25	0	0	0	0
Malformed Packet	0.0	1	0.0	0	0	1	0	0
Domain Name System	3.1	518	0.3	24071	115	518	24071	115
Data	15.2	2505	21.9	1883126	9033	2505	1883126	9033
Transmission Control Protocol	65.6	10783	68.6	5908280	28 k	5968	1621476	7778
Transport Layer Security	29.4	4844	61.3	5279976	25 k	4740	4994638	23 k
Malformed Packet	0.0	4	0.0	0	0	4	0	0
Hypertext Transfer Protocol	0.0	6	0.1	5744	27	5	1167	5
eXtensible Markup Language	0.0	1	0.0	4236	20	1	4577	21
Domain Name System	0.2	32	0.0	1432	6	32	1432	6
Data	0.2	33	0.3	23222	111	33	23222	111
Internet Group Management Protocol	0.4	64	0.0	1040	4	64	1040	4

Figure-2: Generating protocol hierarchy statistics for a session

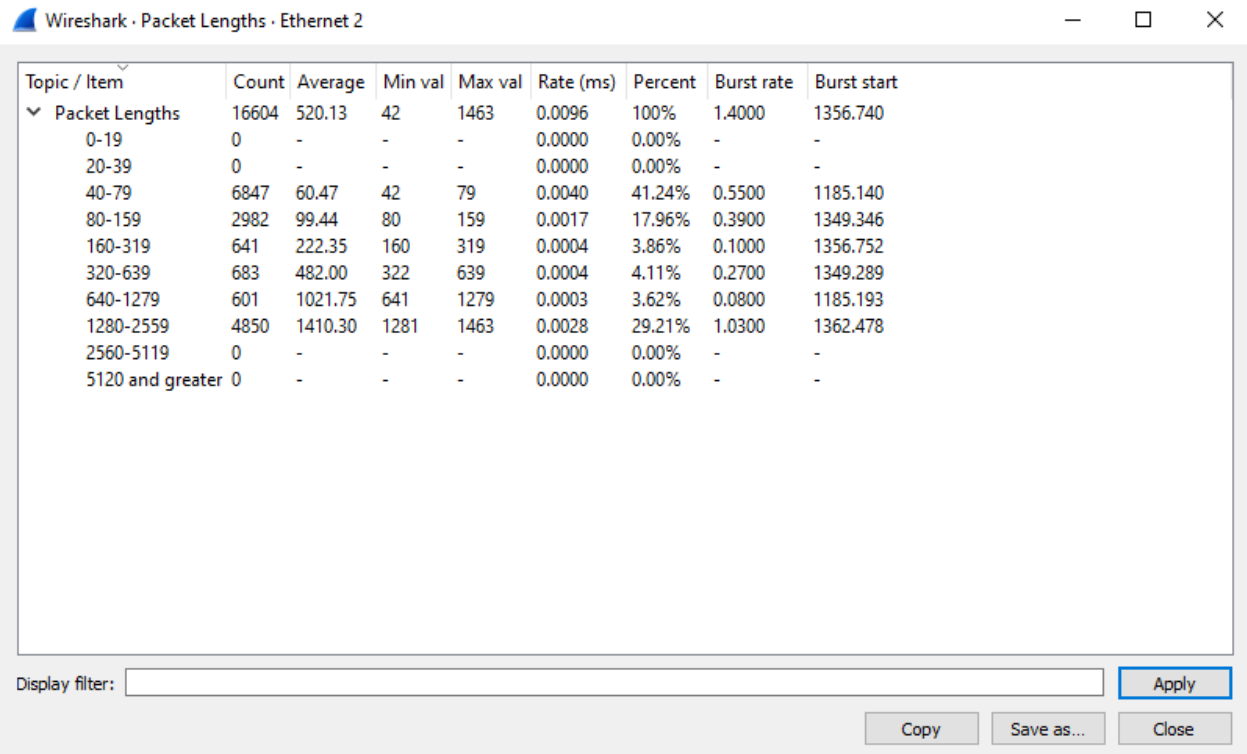


Figure-3: Determining the packet length

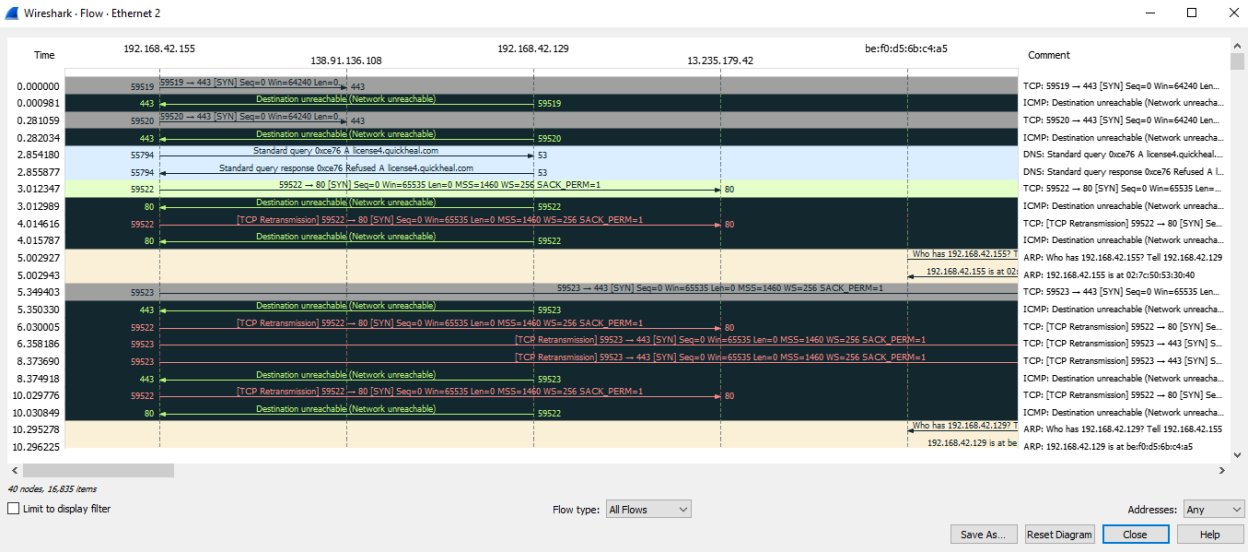


Figure-4: Generating flow graph.

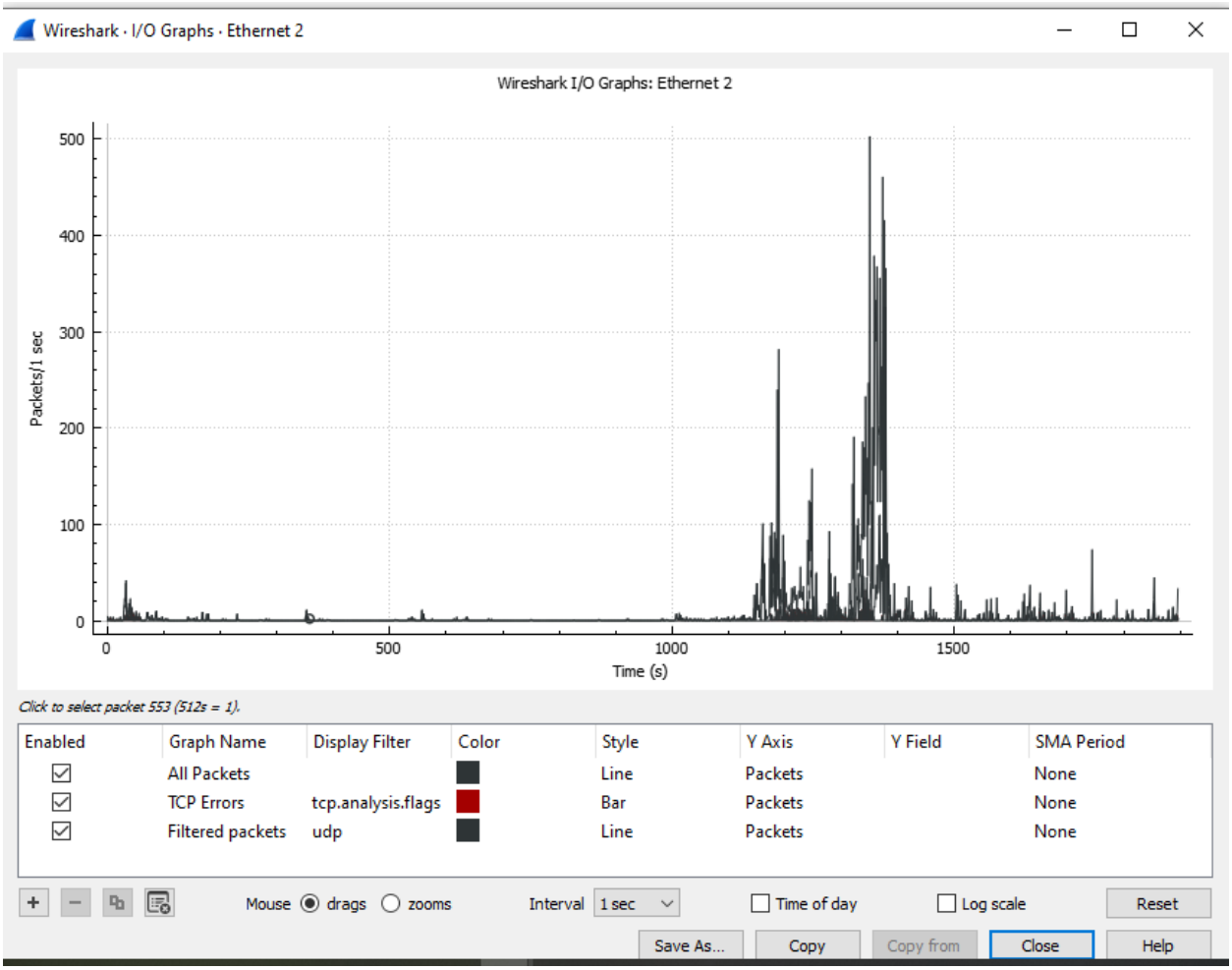


Figure-5: Generating I/O graph.

Conclusion:

We get different data for wired and wireless connection. Wired data packages transfer rate are very much smoother than Wireless.For this we first start captured data with wireshark for both wired and wireless. After that we also generate the packet length, protocol hirerchy, flow graph and I/O graph for a particular session. We get different data for wired and wireless connection. In this lab, we learned about Comparative Analysis of Wired and Wireless data using Wireshark.