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

Name: Jahid Tanvir

ID: IT-15041

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Dept. of ICT

MBSTU.

Submitted To

Nazrul Islam

Assistant Professor

Dept. of ICT

MBSTU.

Experiment No: 05

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

Objectives:

1. We have to find out the Wired data packages Using the Wireshark in order to compare with the wireless data packages.
2. Filter the packages
3. Find out the host, IP of the data packages
4. Create the Statistics for both of the data packages.
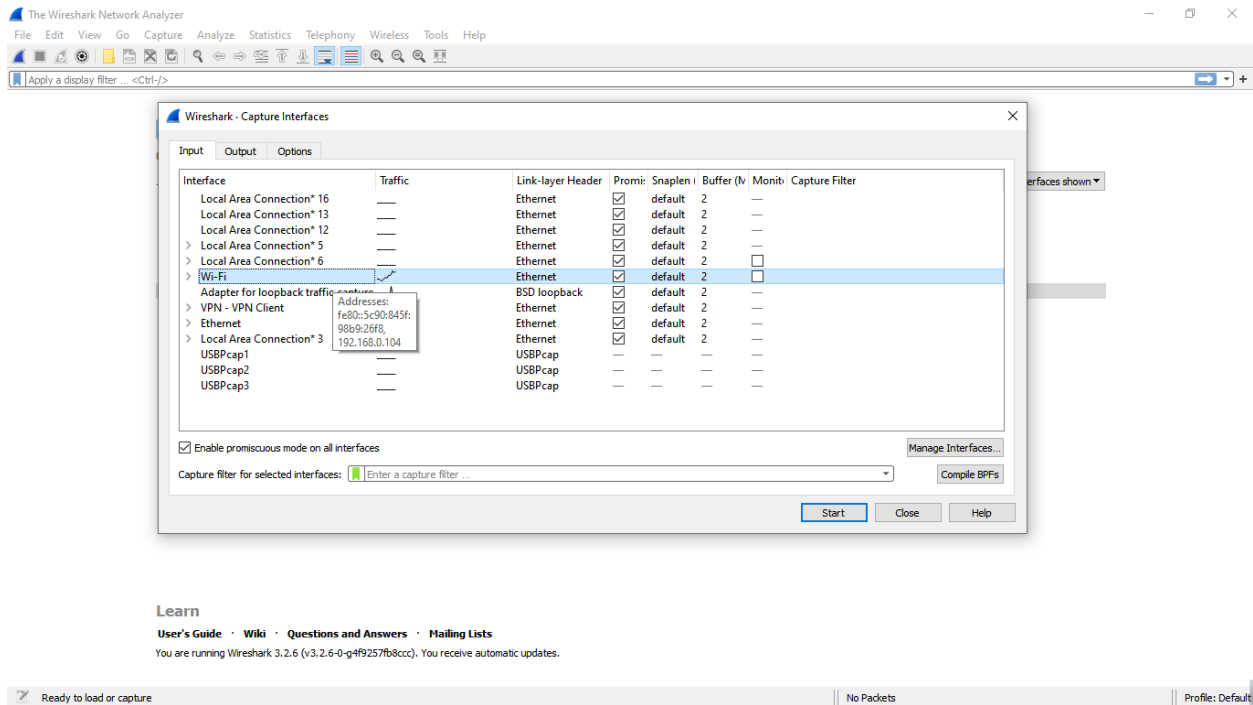5. Finally compare the wired and wireless data packages simultaneously with the help of Wireshark.

Capturing Packets:

If we click any menu option, then it will show the available interfaces list.
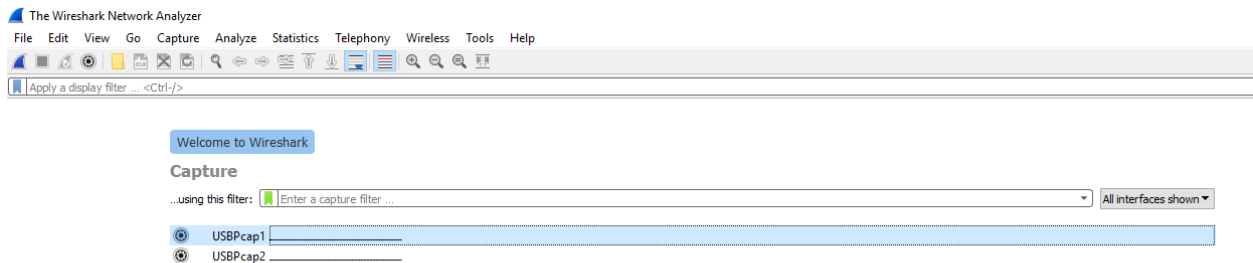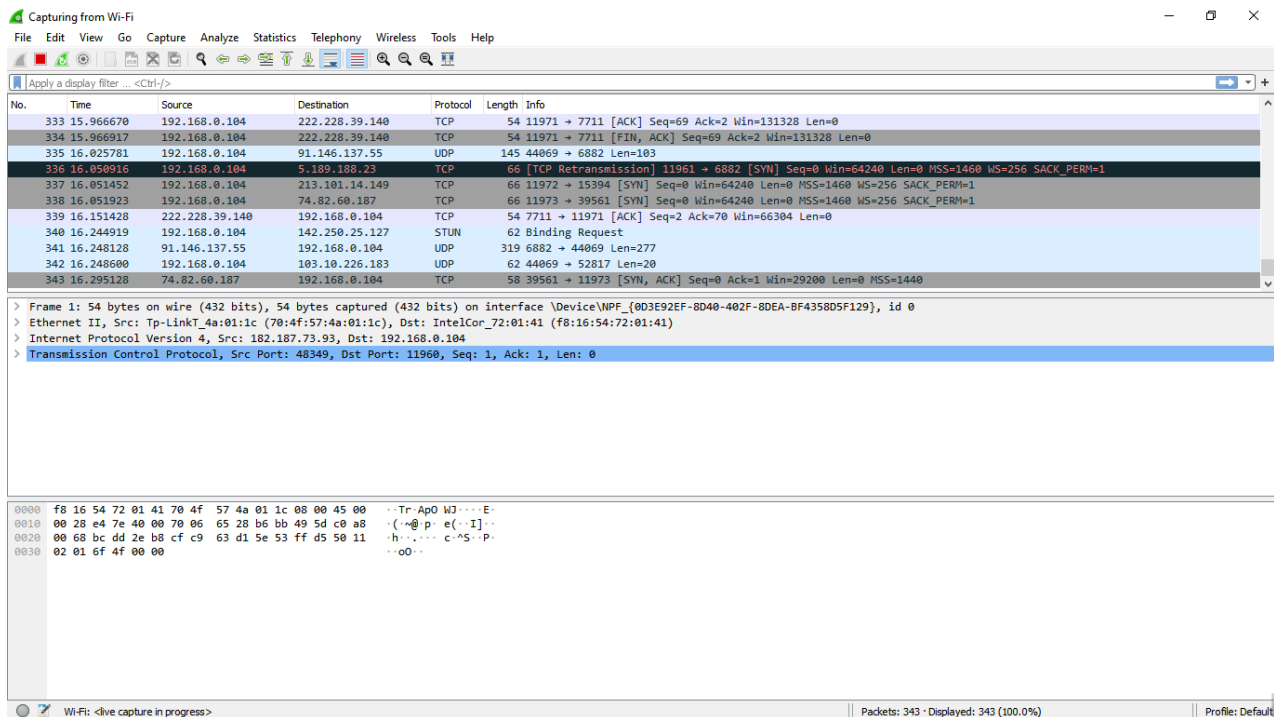After clicking the menu, we need to start Capturing on interface that has IP address/Source/Host.
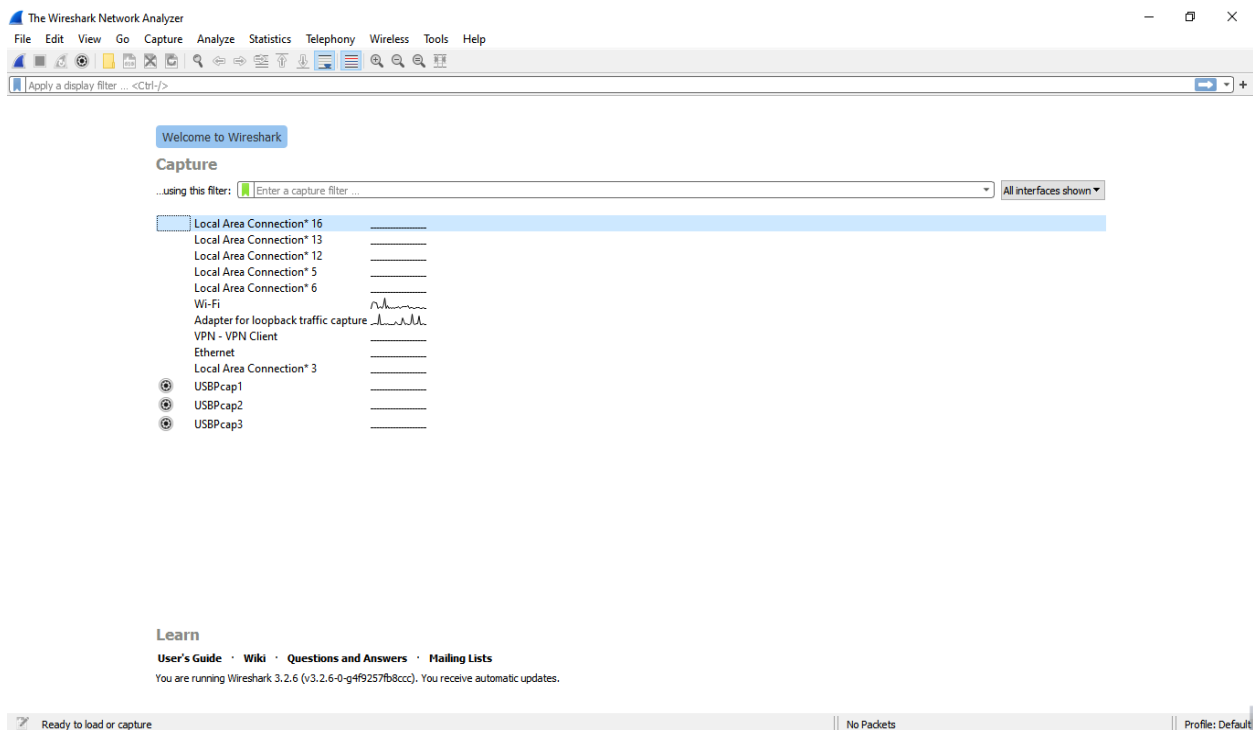
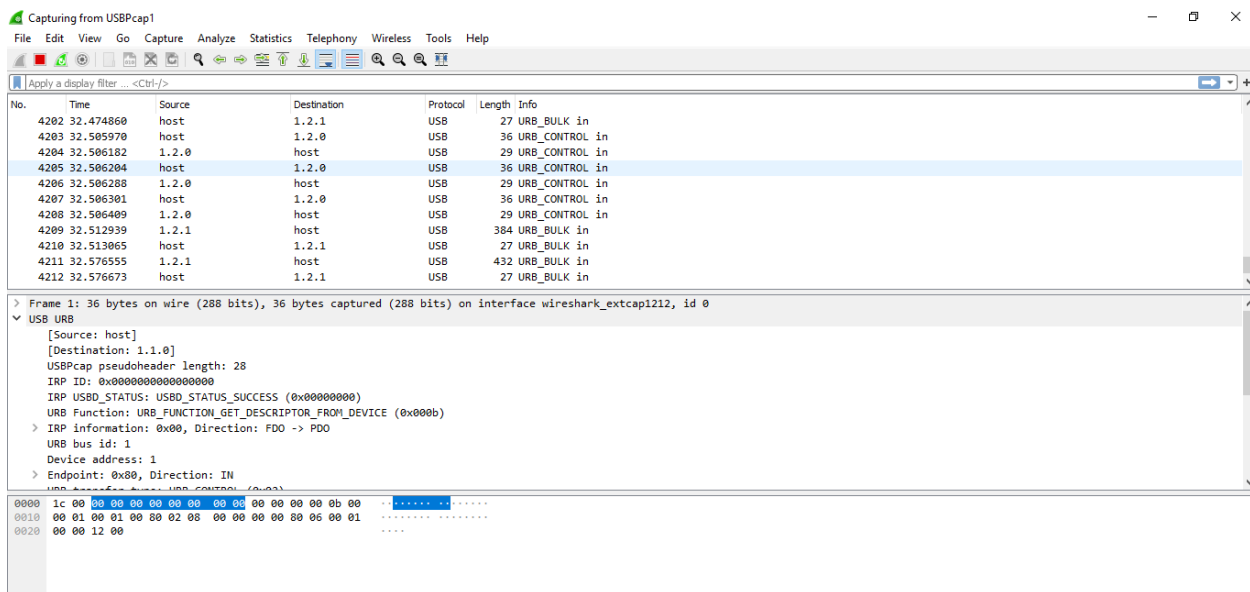**Figure 01:** Wireshark Interface List

Figure 02-A: Start Capturing Interface that has for Wi-Fi (Wireless)

Figure 02-B: Start Capturing Interface that has for USB Tethering (Wired)

Figure 03-A: A sample packet capture window for Wireless Data Pack

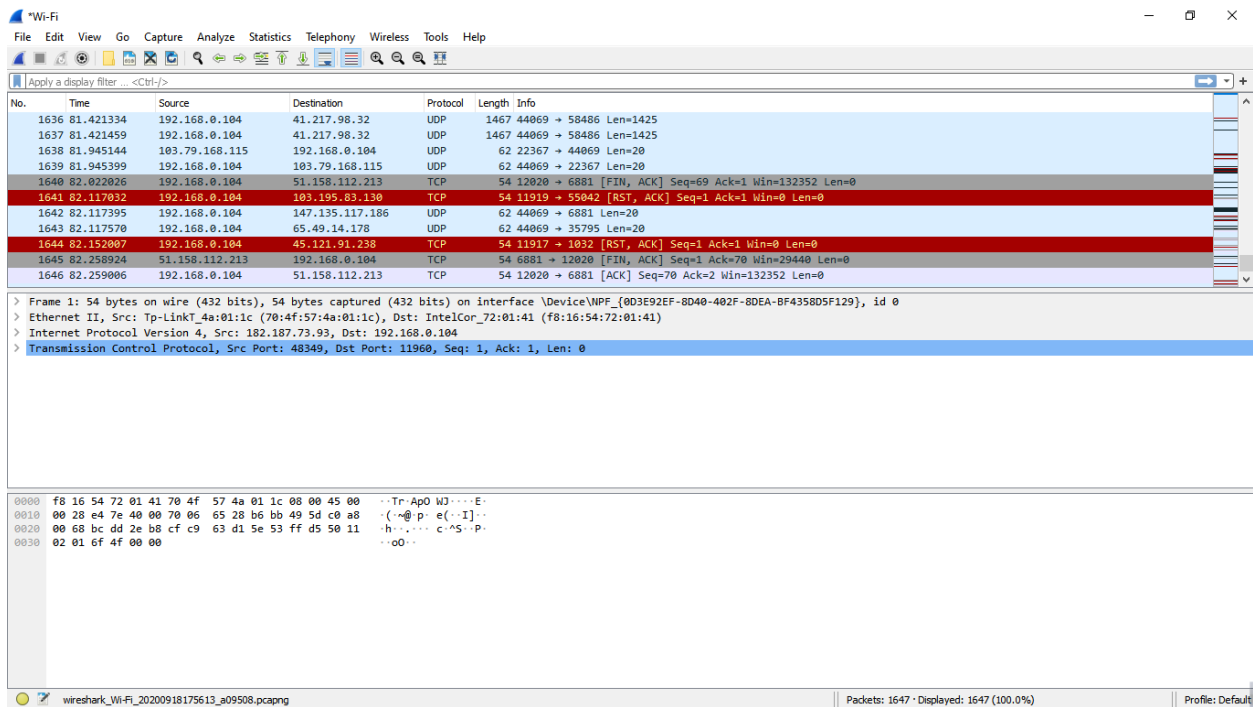**Figure 03-B:** A sample packet capture window for Wired Data Pack
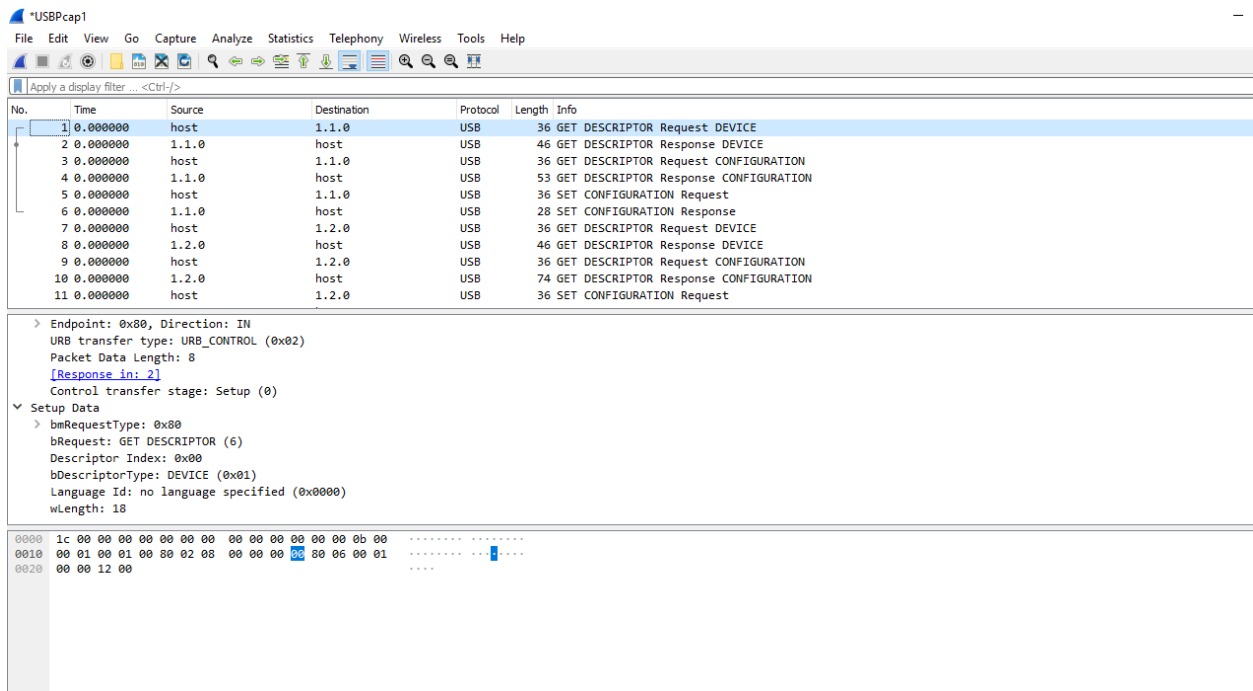
Figure 04-A: Stopping Capture for Wi-Fi (Wireless)

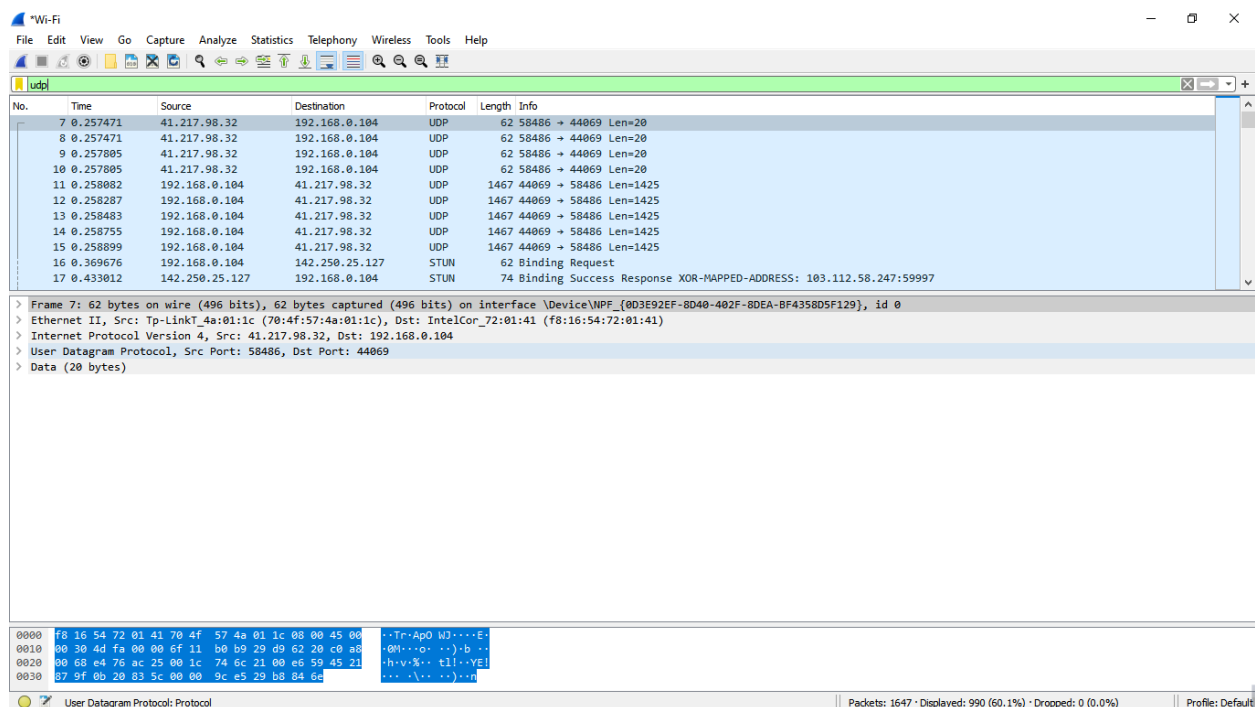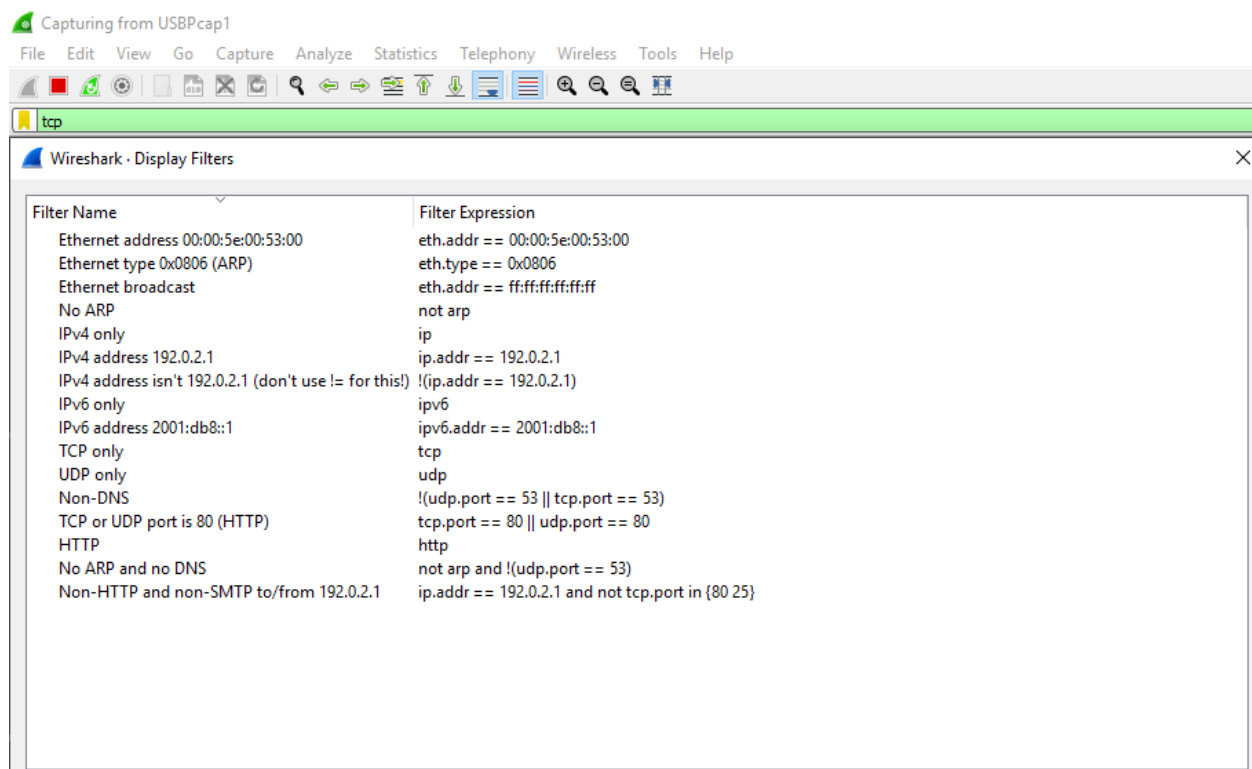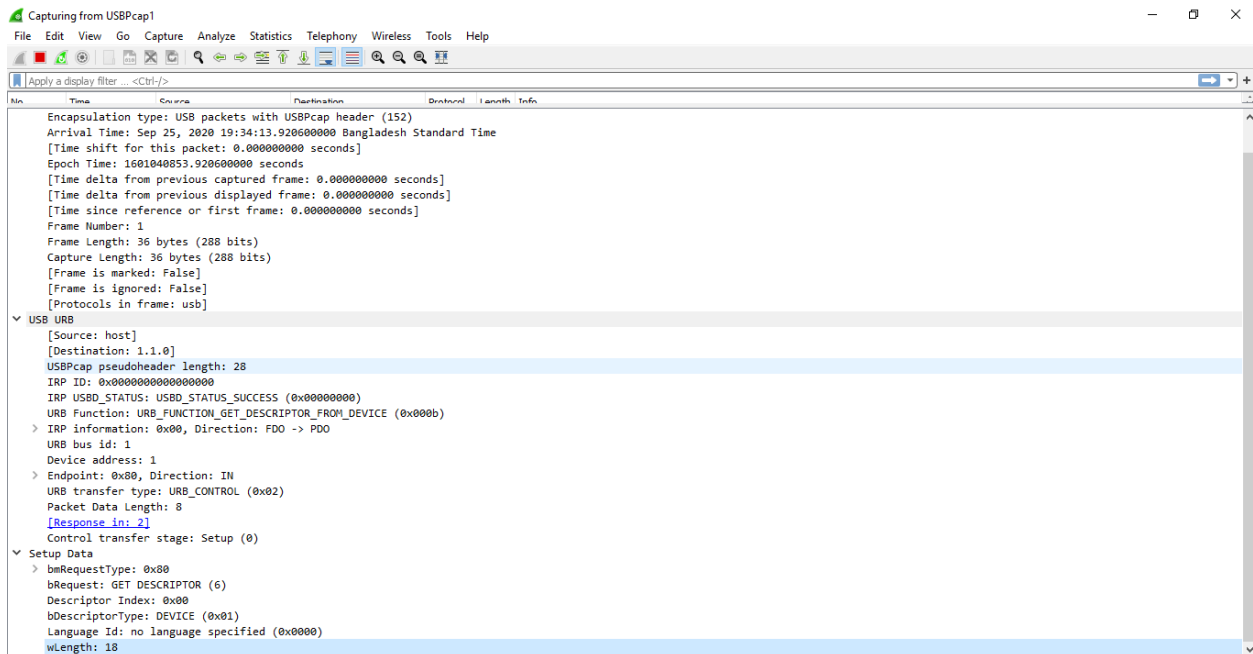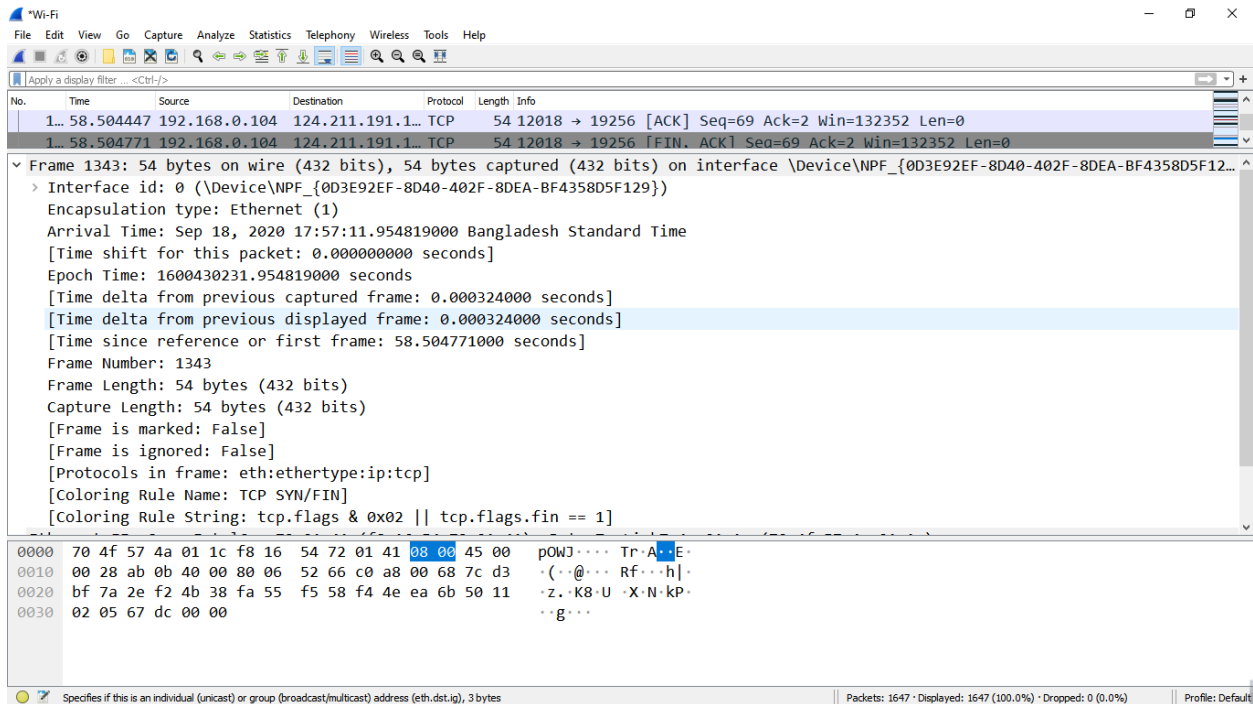**Figure 04-B:** Stopping Capture for Wi-Fi (Wired)

Filtering:

Figure 05-A: Filter by Protocol Wireless Data Packages

Figure 05-B: Filter by Protocol Wired Data Packages

Figure 06-A: Packet Details Pane (Frame segment) for Wired Data Packages.

Figure 06-B: Packet Details Pane (Frame segment) for Wireless Data Packages.

IRP ID: 0x0000000000000000
IRP USBD_STATUS: USBD_STATUS_SUCCESS (0x00000000)
URB Function: URB_FUNCTION_GET_DESCRIPTOR_FROM_DEVICE (0x000b)
> IRP information: 0x00, Direction: FDO -> PDO
URB bus id: 1
Device address: 1
> Endpoint: 0x80, Direction: IN
URB transfer type: URB_CONTROL (0x02)

```
0000  1c 00 00 00 00 00 00 00  00 00 00 00 00 00 0b 00   ·· ···· ···· ······
0010  00 01 00 01 00 80 02 08  00 00 00 00 80 06 00 01   ········ ······
0020  00 00 12 00                                        ····
```

Figure 07-A: Packet Byte Pane for Wireless (USB Tethering)

No.	Time	Source	Destination	Protocol	Length	Info
	… 58.369…	103.10.22…	192.168.0…	UDP	1…	52817 → 44069 Len=63
	… 58.369…	192.168.0…	103.10.22…	UDP	62	44069 → 52817 Len=20
	… 58.418…	103.10.22…	192.168.0…	UDP	1…	52817 → 44069 Len=63
	… 58.418…	192.168.0…	103.10.22…	UDP	62	44069 → 52817 Len=20
	… 58.489…	124.211.1…	192.168.0…	TCP	54	19256 → 12018 [ACK] Seq=1 Ack=69 Win=262012 Len=0
	… 58.504…	124.211.1…	192.168.0…	TCP	54	19256 → 12018 [FIN, ACK] Seq=1 Ack=69 Win=262012 Len=0

> Frame 1: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{0D3E92EF…
> Ethernet II, Src: Tp-LinkT_4a:01:1c (70:4f:57:4a:01:1c), Dst: IntelCor_72:01:41 (f8:16:54:72:01:41)
> Internet Protocol Version 4, Src: 182.187.73.93, Dst: 192.168.0.104
> Transmission Control Protocol, Src Port: 48349, Dst Port: 11960, Seq: 1, Ack: 1, Len: 0

```
0000  f8 16 54 72 01 41 70 4f  57 4a 01 1c 08 00 45 00   ··Tr·ApO WJ····E·
0010  00 28 e4 7e 40 00 70 06  65 28 b6 bb 49 5d c0 a8   ·(·~@·p· e(··I]··
0020  00 68 bc dd 2e b8 cf c9  63 d1 5e 53 ff d5 50 11   ·h··.··· c·^S··P·
0030  02 01 6f 4f 00 00                                  ··oO··
```

Specifies if this is an individual (unicast) or group (broadcast/multicast) address (eth.dst.ig), 3 bytes   Packets: 1647 · Displayed: 1647 (100.0%) · Dropped: 0 (0.0%)   Profile: Default

Figure 07-B: Packet Byte Pane (For Wi-Fi)

Figure 08-A: Statistics- Flow Graph -All Flows for Wi-Fi (Wireless Data Packages)

Figure 08-B: Statistics- Flow Graph -All Flows for Wi-Fi (Wired Data Packages)

Conclusion:

Between Wired and Wireless Network, wired network is much more efficient than wireless network. Because Wired data packages transfer rate are very much smoother than Wireless. Wired data are more secure and high speedy, On the other hand wireless data are less secure and low speedy.