

Mawlana Bhashani Science and Technology University

Lab-Report

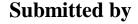
Report No: 05

Course code: ICT-4202

Course title: Wireless and Mobile Communication Lab

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 4^{th} year 2^{nd} semester

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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.

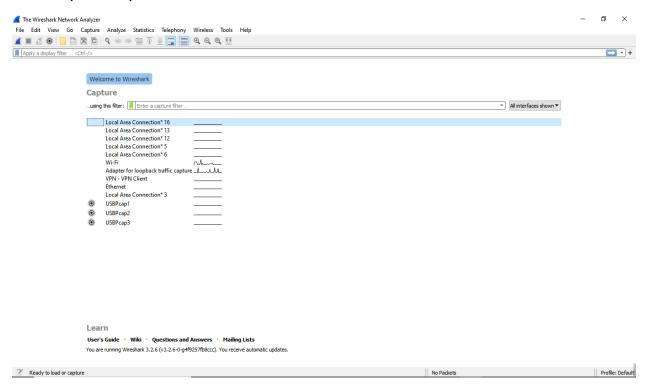


Fig: Wireshark Interface List

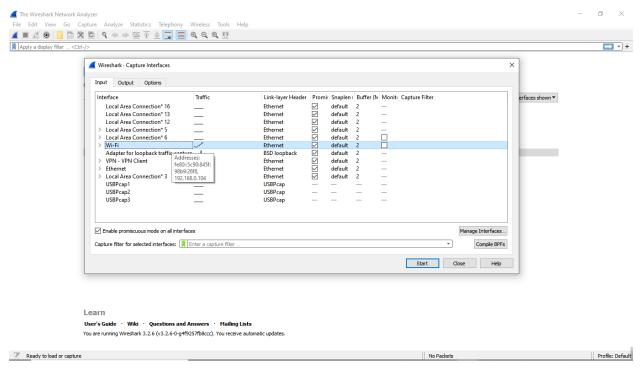


Fig: Start Capturing Interface that has for Wi-Fi

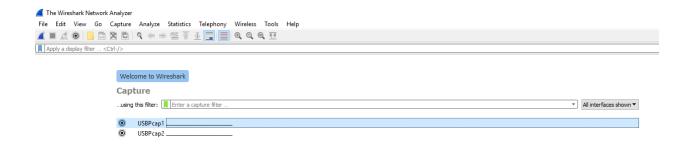


Fig: Start Capturing Interface that has for Ethernet

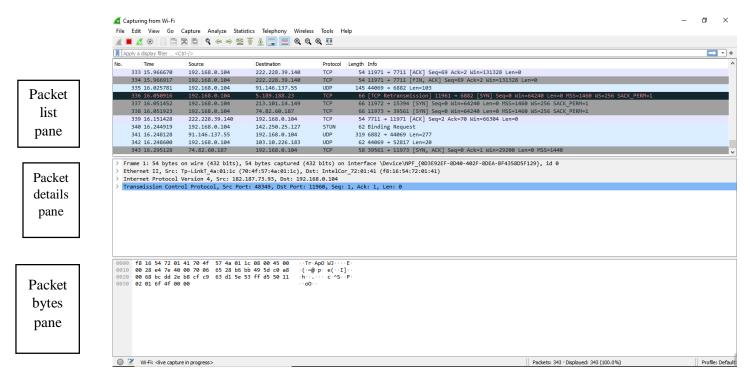


Fig: A sample packet capture window for Wireless Data Pack

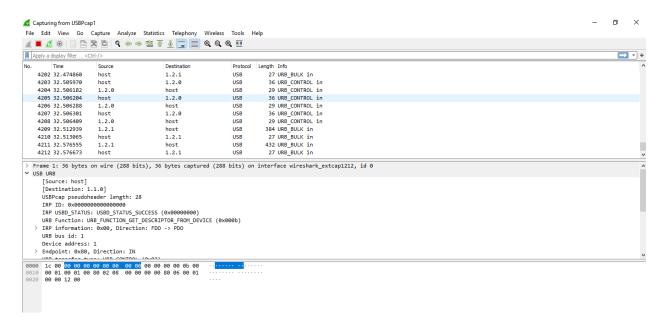


Fig: A sample packet capture window for Wired Data Pack

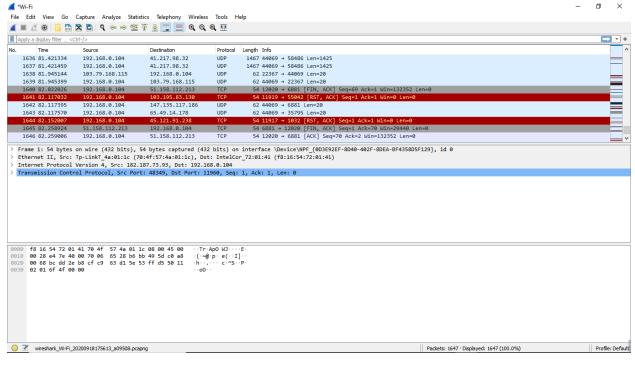


Fig: Stopping Capture for Wi-Fi (Wireless)

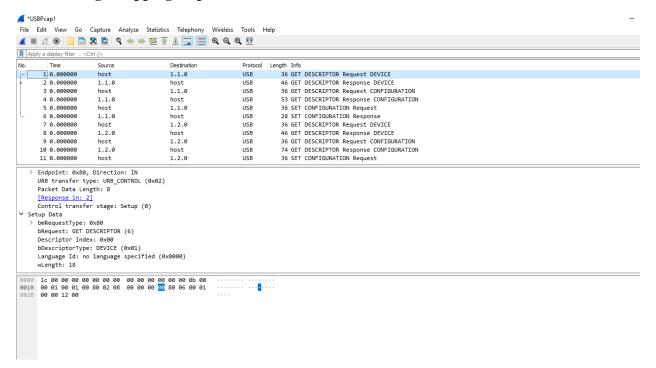


Fig: Stopping Capture for Wi-Fi (Wired)

Filtering:

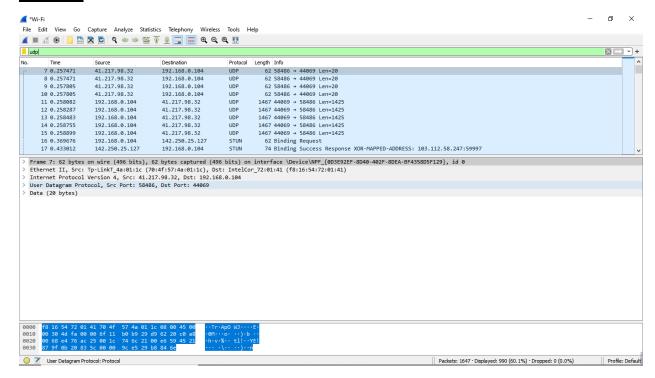


Figure 05-A: Filter by Protocol Wireless Data Packages

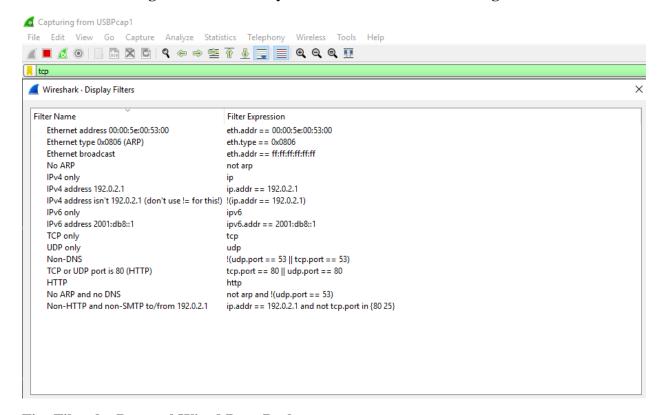


Fig: Filter by Protocol Wired Data Packages

```
Capturing from USBPcap1
                                                                                                                                                                                                                                                          - 0 ×
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
 Apply a display filter ... <Ctrl-/>
        Encapsulation type: USB packets with USBPcap header (152)
       Arrival Time: Sep 25, 2020 19:34:13.920600000 Bangladesh Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1601040853.920600000 seconds
[Time delta from previous captured frame: 0.000000000 seconds]
        [Time delta from previous displayed frame: 0.000000000 seconds]
       [Time delta from previous displayed frame: 0.000000000 seco
[Time since reference or first frame: 0.000000000 seconds]
Frame Number: 1
Frame Length: 36 bytes (288 bits)
Capture Length: 36 bytes (288 bits)
[Frame is marked: False]
   [Frame is ignored: False]
[Protocols in frame: usb]
USB URB
        [Source: host]
       URB Function: URB_FUNCTION_GET_DESCRIPTOR_FROM_DEVICE (0x000b)
    URB bus id: 1

Device address: 1
    > Endpoint: 0x80, Direction: IN
       URB transfer type: URB_CONTROL (0x02)
Packet Data Length: 8
[Response in: 2]
Control transfer stage: Setup (0)
   Setup Data
       bmRequestType: 0x80
bRequest: GET DESCRIPTOR (6)
Descriptor Index: 0x00
       bDescriptorType: DEVICE (0x01)
       Language Id: no language specified (0x0000) wLength: 18
```

Fig: Packet Details Pane for Wired Data Packages.

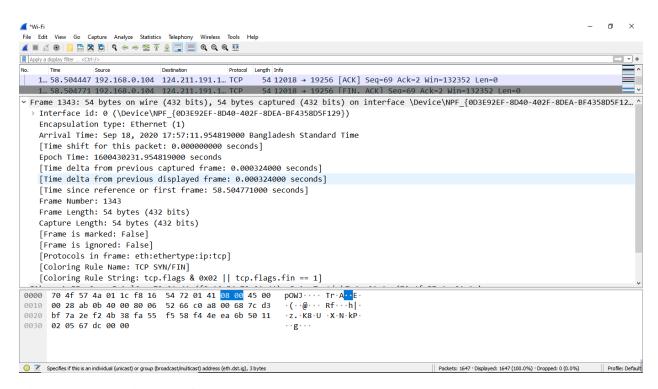


Fig: Packet Details Pane for Wireless Data Packages.

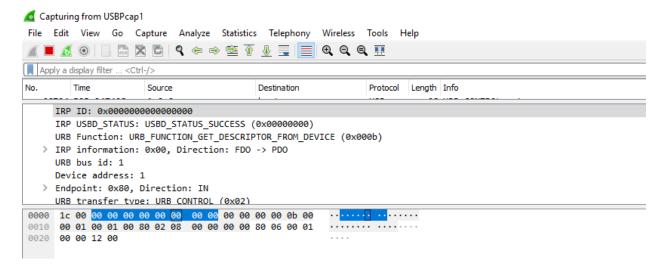


Fig: Packet Byte Pane for Wireless(Ethernet)

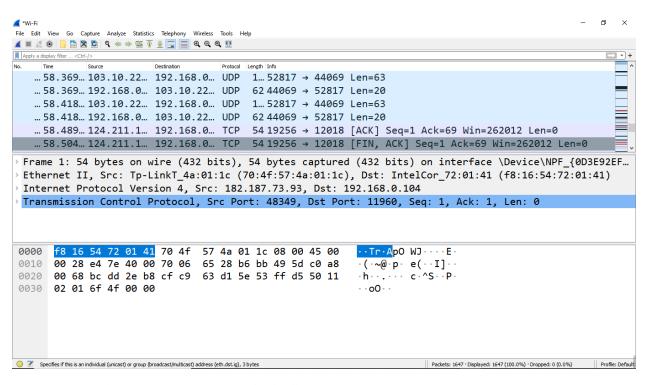


Fig: Packet Byte Pane (Wi-Fi)



Fig: Statistics- Flow Graph -All Flows for Wi-Fi

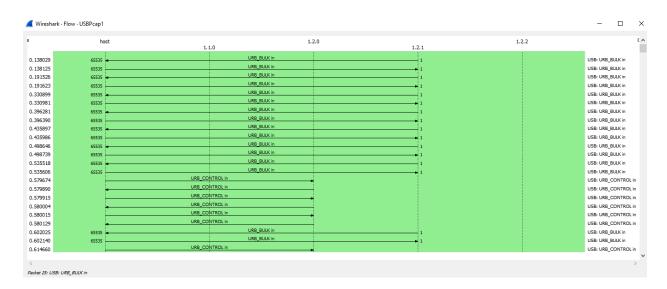


Fig: Statistics- Flow Graph -All Flows for Wi-Fi

Conclusion:

In the experiment stated above, wired network is much more efficient than wireless network. Because Wired data packages transfer rate are very much smoother than Wireless. The results were quite satisfactory.