21CY682- IP LAB ASSIGNMENT 4

Analyzing TCP and UDP using

Wireshark

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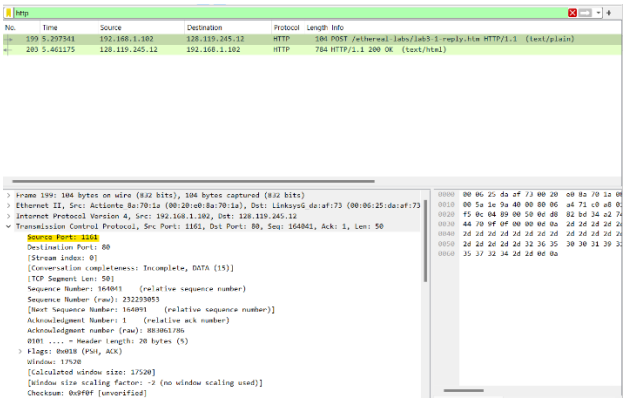
AIM: Analyze TCP and UDP using wireshark

Tool: Wireshark

TCP

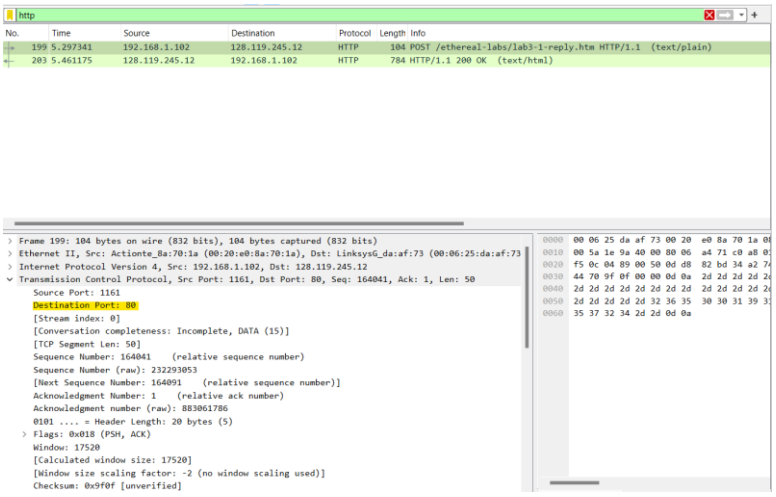
1 a) IP Address: 192.168.1.102

source port: 1161



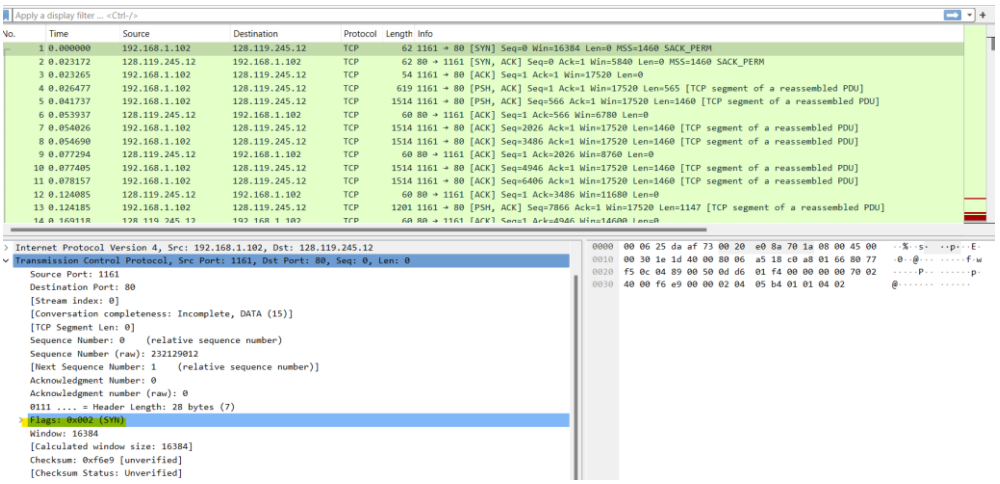
b) IP Address: 128.119.245.12

Destination Port: 80



c) Sequence Number - 0

[SYN] -0x002



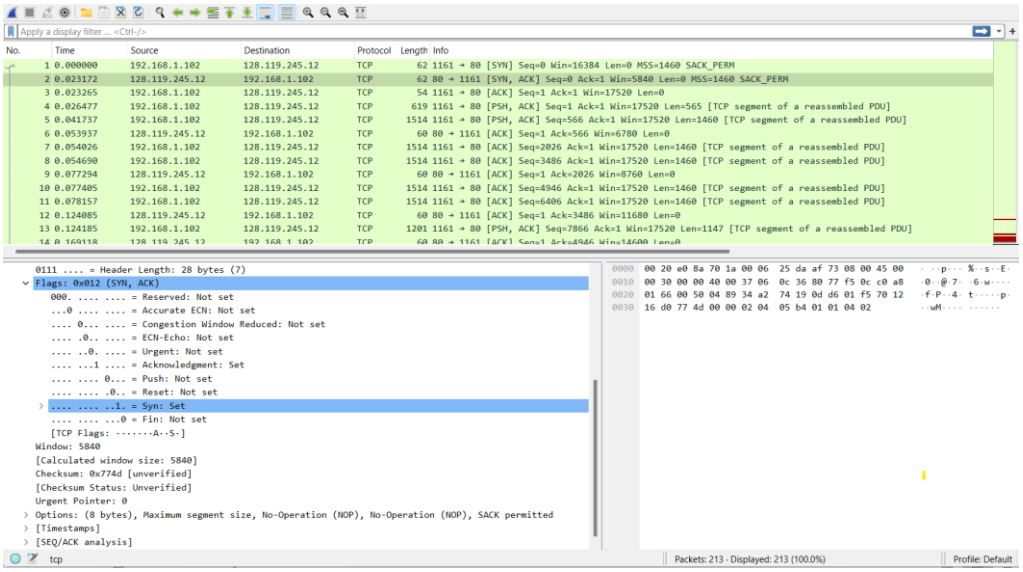
d) Sequence Number : 0

Acknowledgement Number : 1

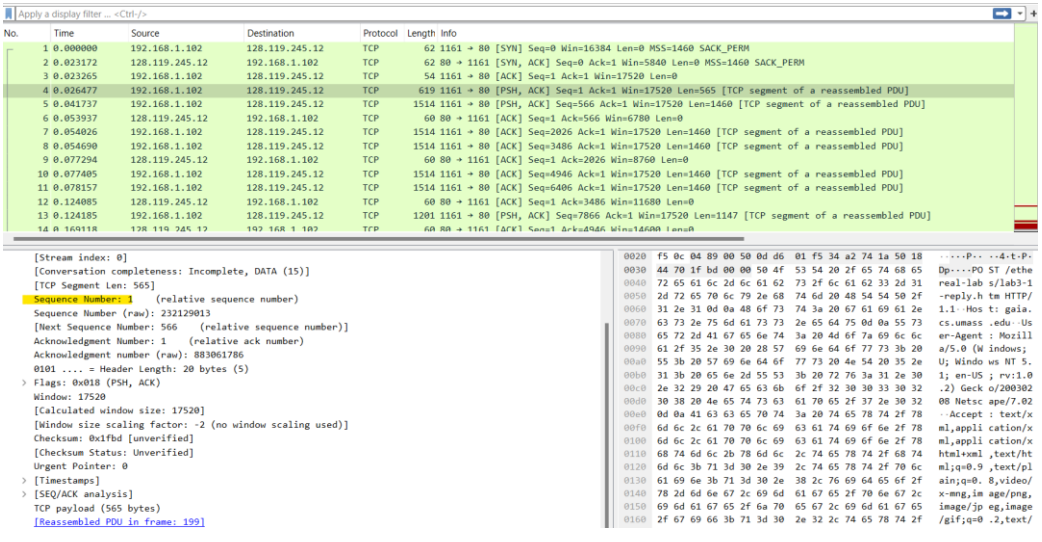
New acknowledgement number is the incremented value of previous sequence number.

New sequence number is the previous acknowledgment number.

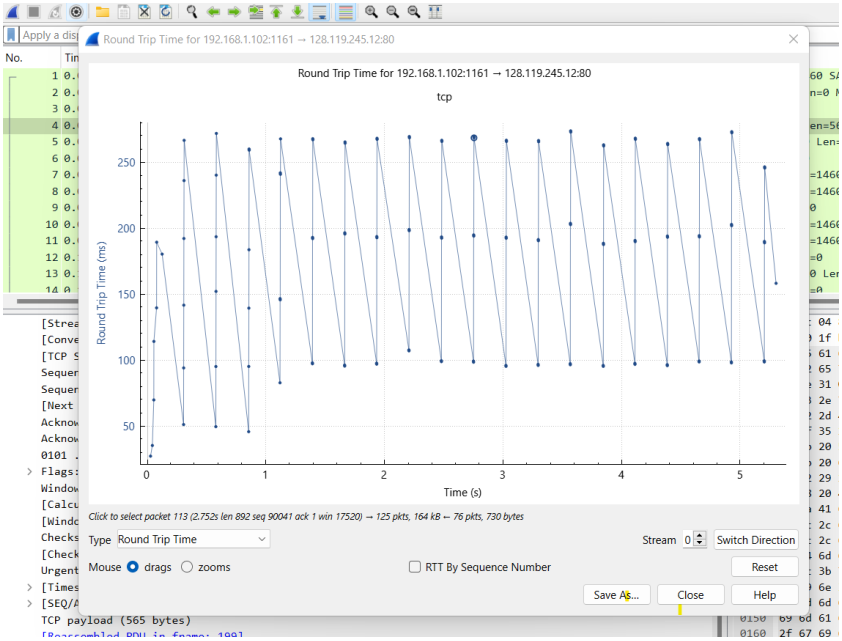
[SYN, ACK]



e) Sequence number is 1



f) RTTxTime Graph

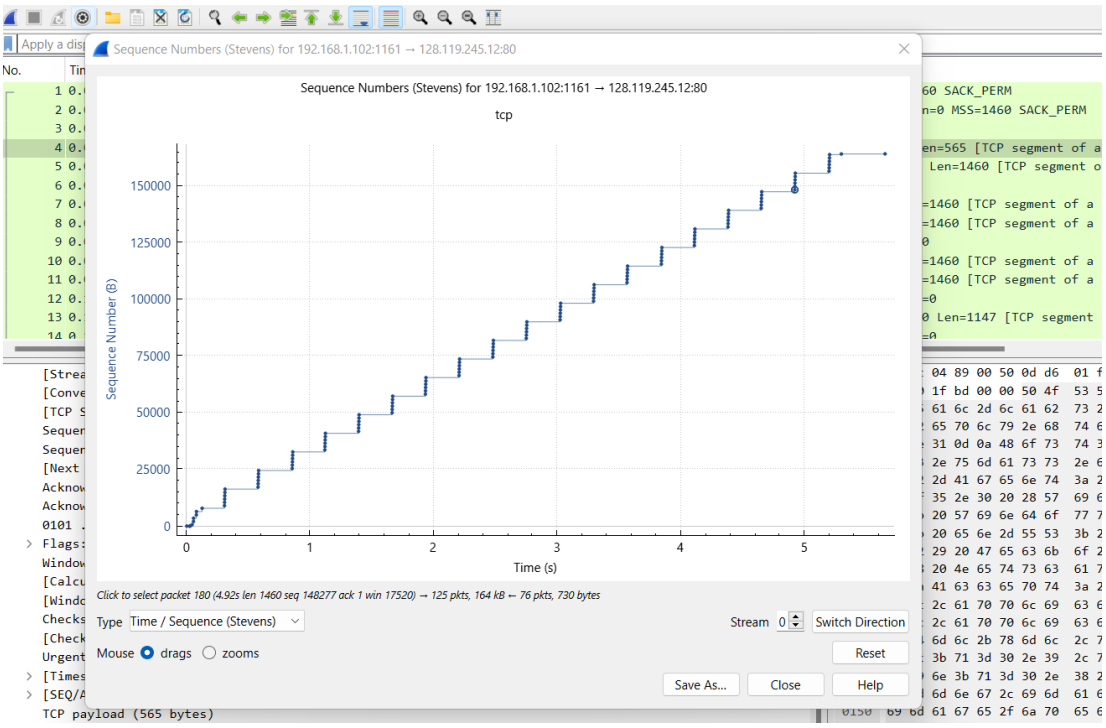


g) The length of first 6 packets are 565, 1460, 1460, 1460, 1460

Total Length: 164090

```
Transmission Control Protocol, Src Port: 1161, Dst Port: 80, Seq: 164041, Ack: 1, Len: 50
[122 Reassembled TCP Segments (164090 bytes): #4(565), #5(1460), #7(1460), #8(1460), #10(1460), #11(1460)
Hypertext Transfer Protocol
```

h) Data has not been transmitted since there is no drop in the Sequence NumberXTime graph and no sequence number are repeated in the data.

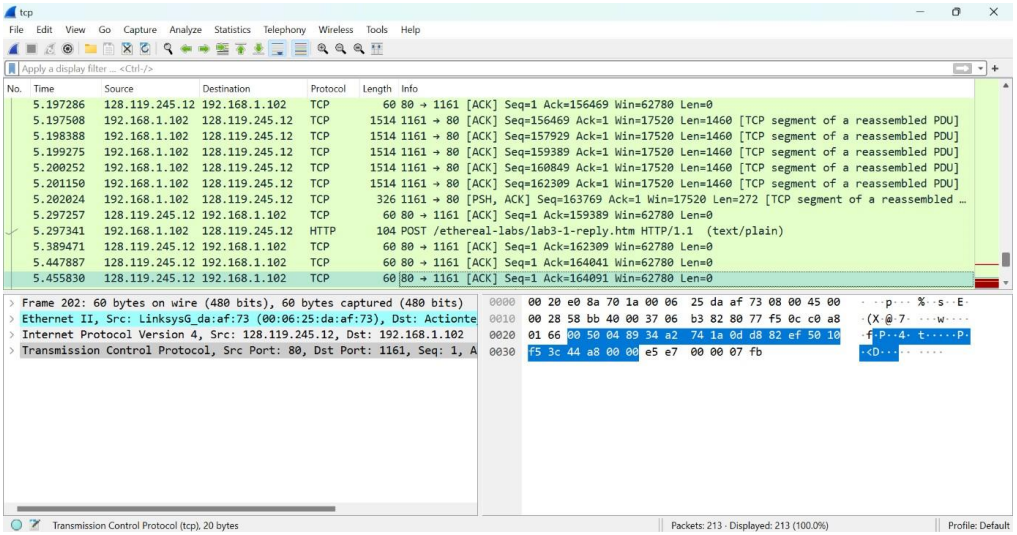


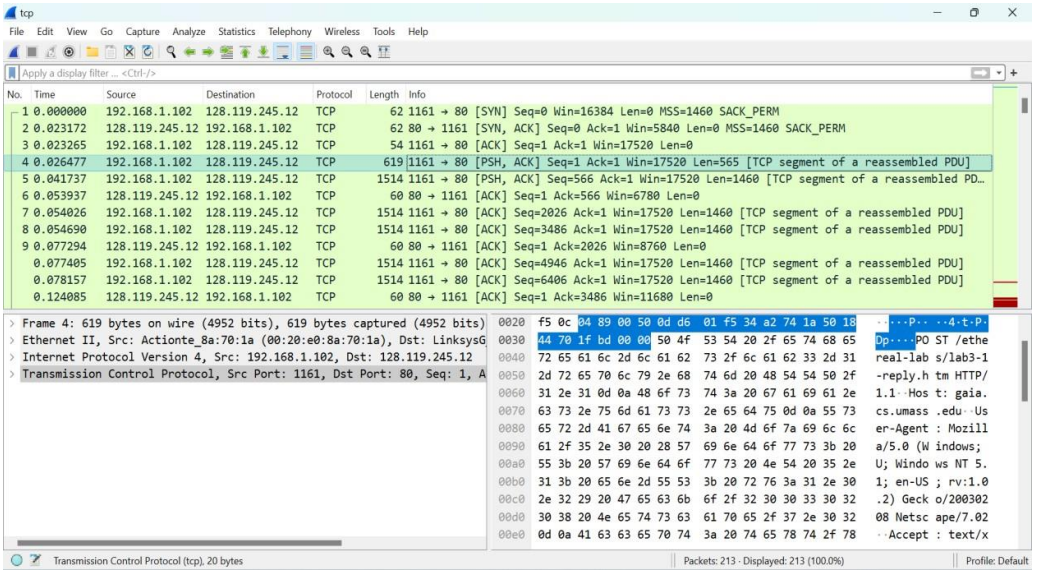
i) throughput = No of bytes transferred/time

= [164091(FinalAck)1(InitialAck)]/[5.455(Finaltimestamp)-0.0264(Initial timestamp)]

= 30,224 byte

= 30.224KB



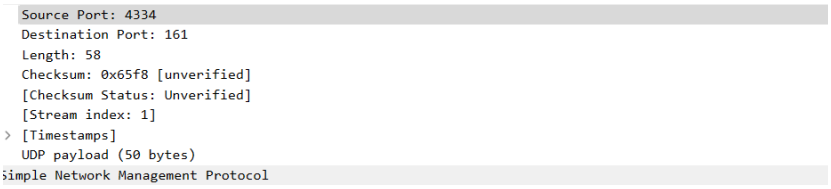


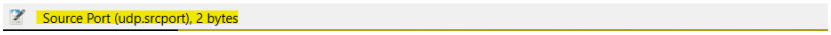
UDP

2) a) In UDP header there are 4 fields :

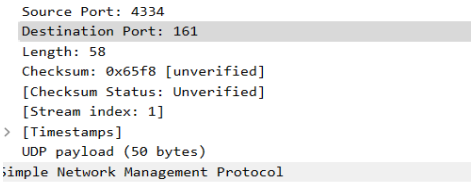
Source Port, Destination Port, Checksum, Length

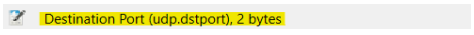
b) No. of bytes for source port = 2



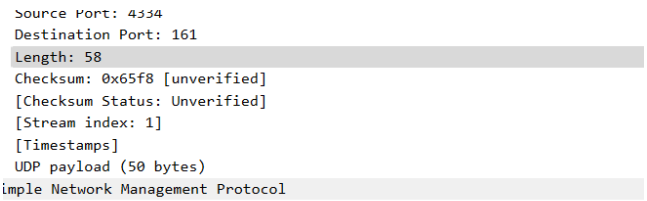


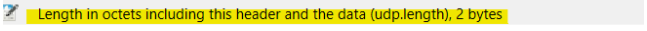
No. of bytes for destination port = 2





No. of bytes for length = 2





No. of bytes for checksums = 2

```
Source Port: 4334
Destination Port: 161
Length: 58
Checksum: 0x65f8 [unverified]
[Checksum Status: Unverified]
[Stream index: 1]
[Timestamps]
UDP payload (50 bytes)
imple Network Management Protocol
```

Details at: https://www.wireshark.org/docs/wsug_html_chunked/ChAdvChecksums.html (udp.checksum), 2 bytes

c) Length = Data +header

Header = Source port + Destination Port + Length + Checksum

= 2+2+2+2

= 8 Bytes

Data = 62 bytes

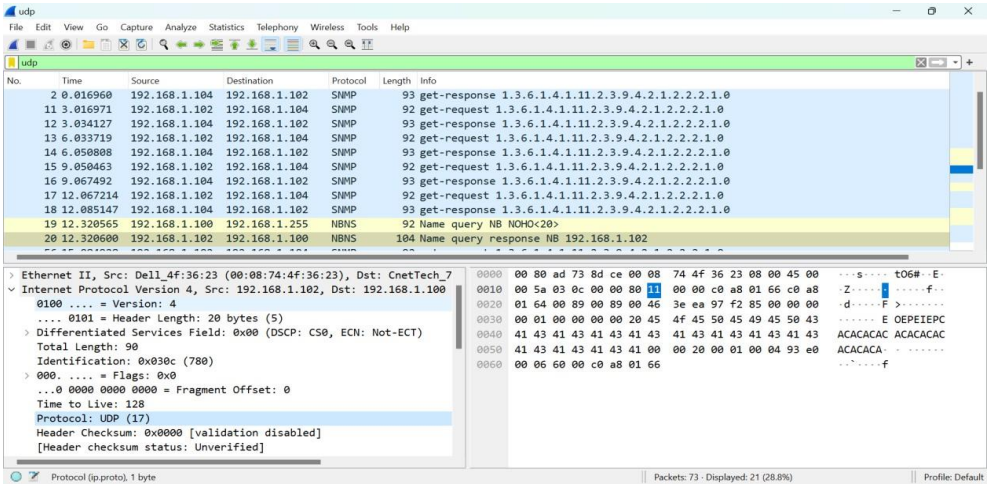
Value of the Length Field = 62+8

= 70 Bytes

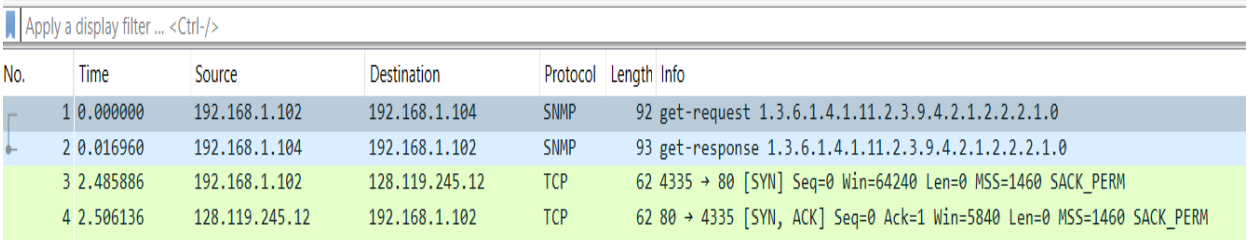
```
User Datagram Protocol, Src Port: 137, Dst Port: 137
   Source Port: 137
   Destination Port: 137
   Length: 70
   Checksum: 0x3eea [unverified]
   [Checksum Status: Unverified]
   [Stream index: 11]
 > [Timestamps]
   UDP payload (62 bytes)
NetBIOS Name Service
```

User Datagram Protocol (udp), 8 bytes

d) Protocol Number of UDP is 17 in decimal and 11 in Hexadecimal



e) Source code of the packet is destination code for the second packet and vice versa.



No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	192.168.1.102	192.168.1.104	SNMP	92	get-request 1.3.6.1.4.1.11.2.3.9.4.2.1.2.2.2.1.0
2	0.016960	192.168.1.104	192.168.1.102	SNMP	93	get-response 1.3.6.1.4.1.11.2.3.9.4.2.1.2.2.2.1.0
3	2.485886	192.168.1.102	128.119.245.12	TCP	62	4335 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 SACK_PERM
4	2.506136	128.119.245.12	192.168.1.102	TCP	62	80 → 4335 [SYN, ACK] Seq=0 Ack=1 Win=5840 Len=0 MSS=1460 SACK_PERM