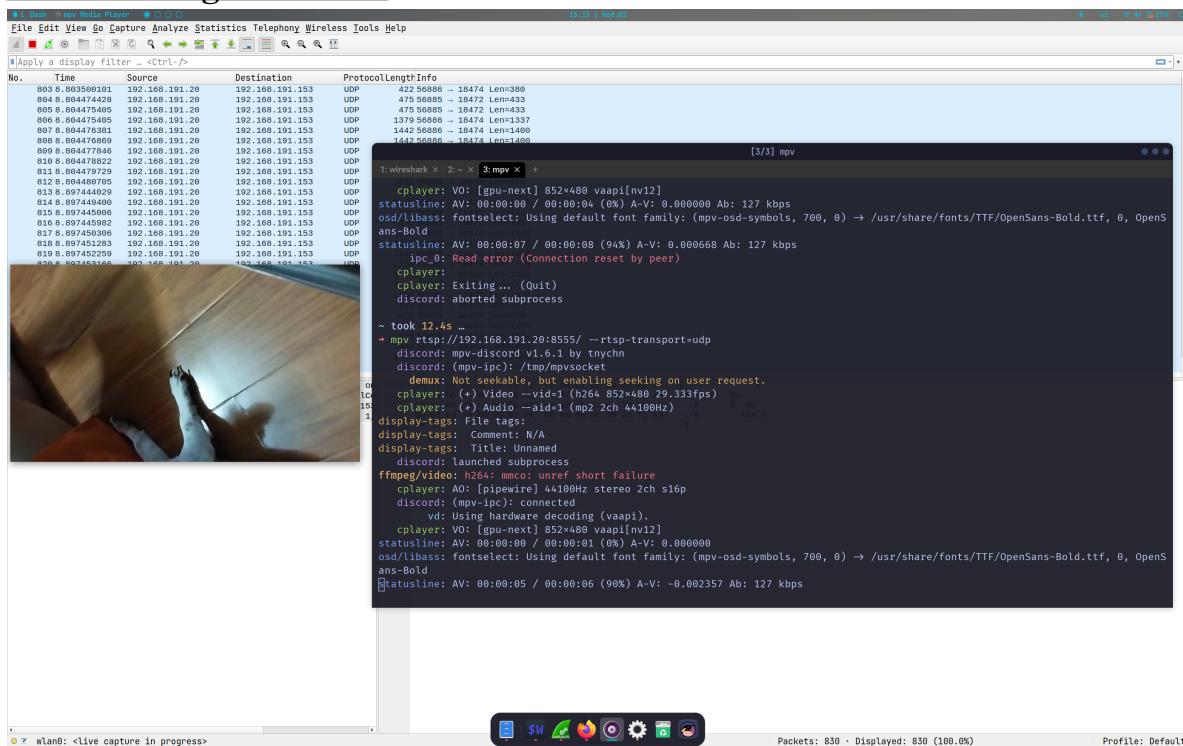


HỤC HÀNH NHẬP MÔN MẠNG MÁY TÍNH

Lab 2 – TCP UDP Protocol

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Lớp: IT005.N12.MMCL.1

I. Phân tích gói tin UDP

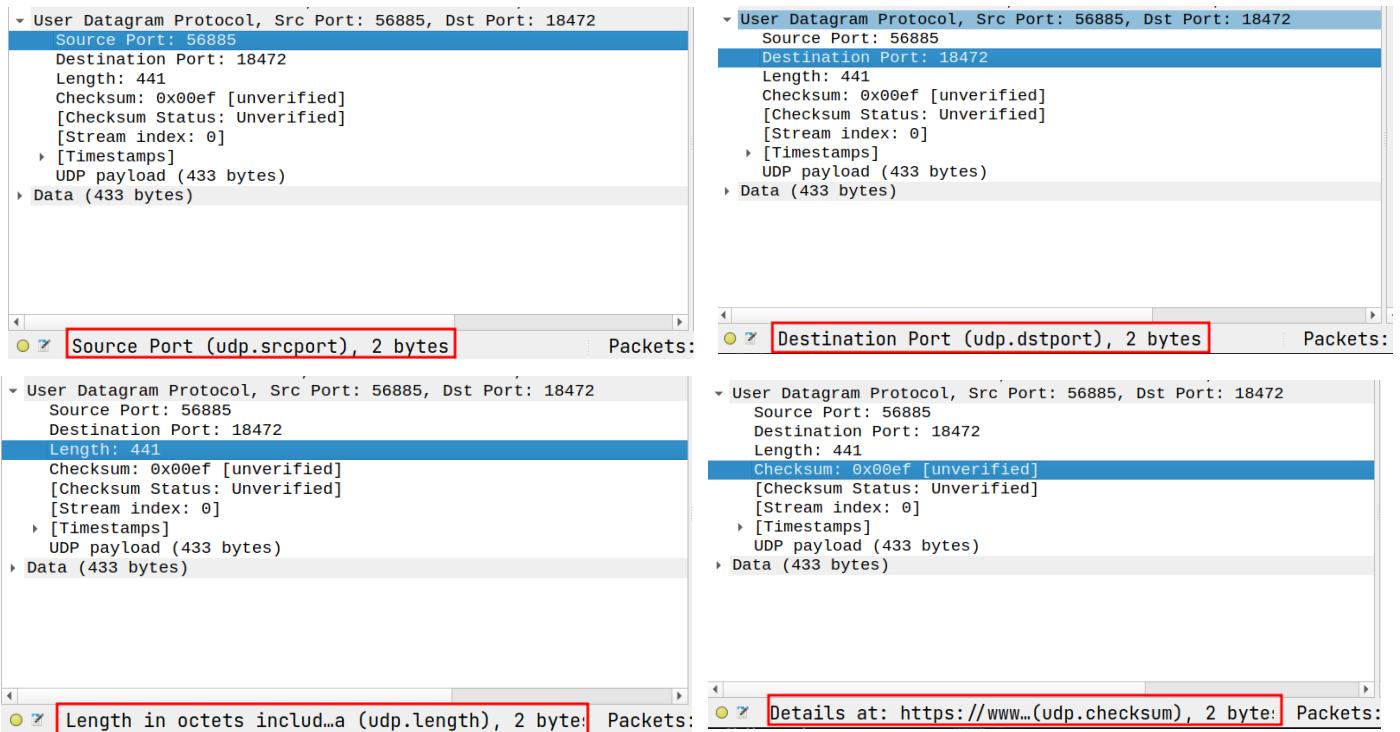


Câu 1:

```
▶ Frame 30: 475 bytes on wire (3800 bits), 475 bytes captured (3800
▶ Ethernet II, Src: LiteonTe_54:43:9d (e0:0a:f6:54:43:9d), Dst: Int
▶ Internet Protocol Version 4, Src: 192.168.191.20, Dst: 192.168.19
▼ User Datagram Protocol, Src Port: 56885, Dst Port: 18472
  Source Port: 56885
  Destination Port: 18472
  Length: 441
  Checksum: 0x00ef [unverified]
    [Checksum Status: Unverified]
    [Stream index: 0]
  ▶ [Timestamps]
    UDP payload (433 bytes)
  ▶ Data (433 bytes)
```

- Xem xét gói tin có số thứ tự 30:
- + Source Port: Cổng của thiết bị nguồn.
- + Destination Port: Cổng của thiết bị đích.
- + Length: Độ dài gói tin.
- + Checksum: Giá trị kiểm tra dùng để kiểm tra tính toàn vẹ của gói tin.

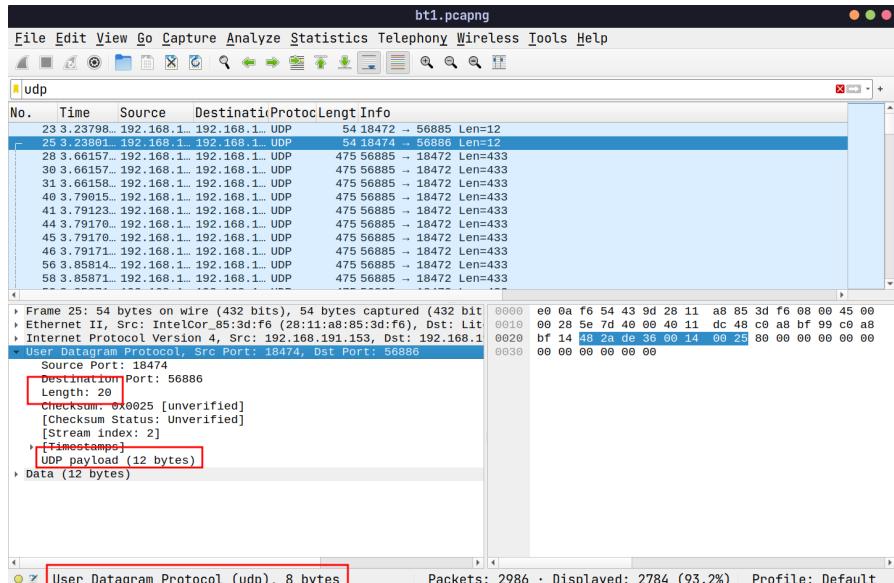
Câu 2:



Mỗi trường trong UDP header đều có độ dài là 2 bytes và tổng cộng UDP header có độ dài là 8 bytes.

Câu 3:

- Giá trị của trường Length là độ dài của toàn bộ datagram (header + data)
- Chú minh:



Trong trường hợp này trường Length = 20. Trong đó Header chiếm 8 bytes, phần data chiếm 12 bytes, $8 + 12 = 20$.

Câu 4:

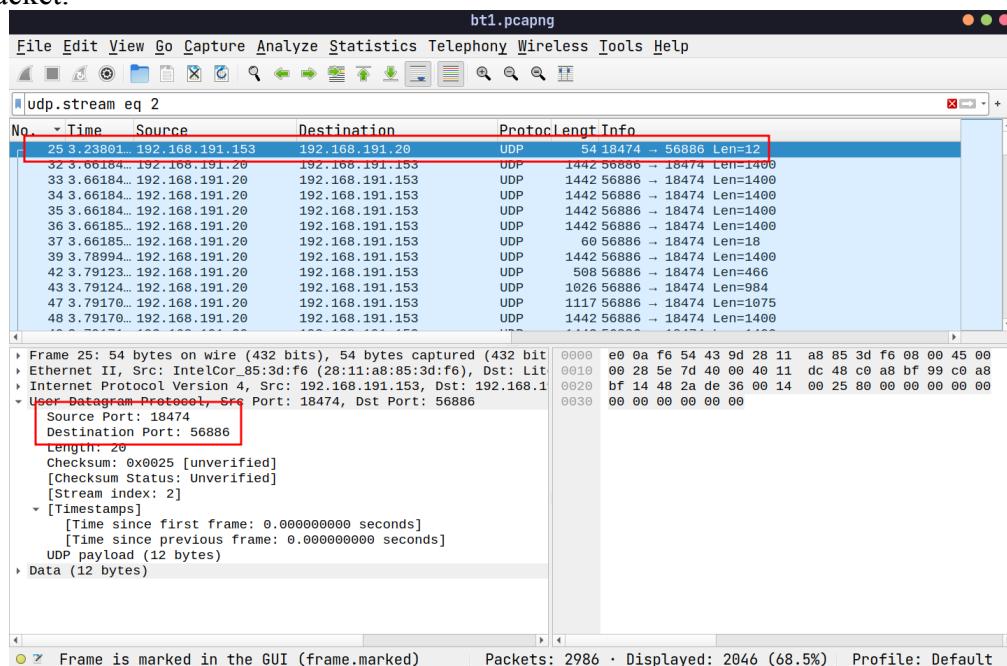
Trường length của UDP có độ dài 16 bit và chưa số không dấu nên độ dài lớn nhất trường này có thể là $2^{16} - 1 = 65535$. Trừ đi phần UDP header đối với IPv4 là 8 ta có số bytes lớn nhất mà UDP payload có thể chứa là 65527.

Câu 5:

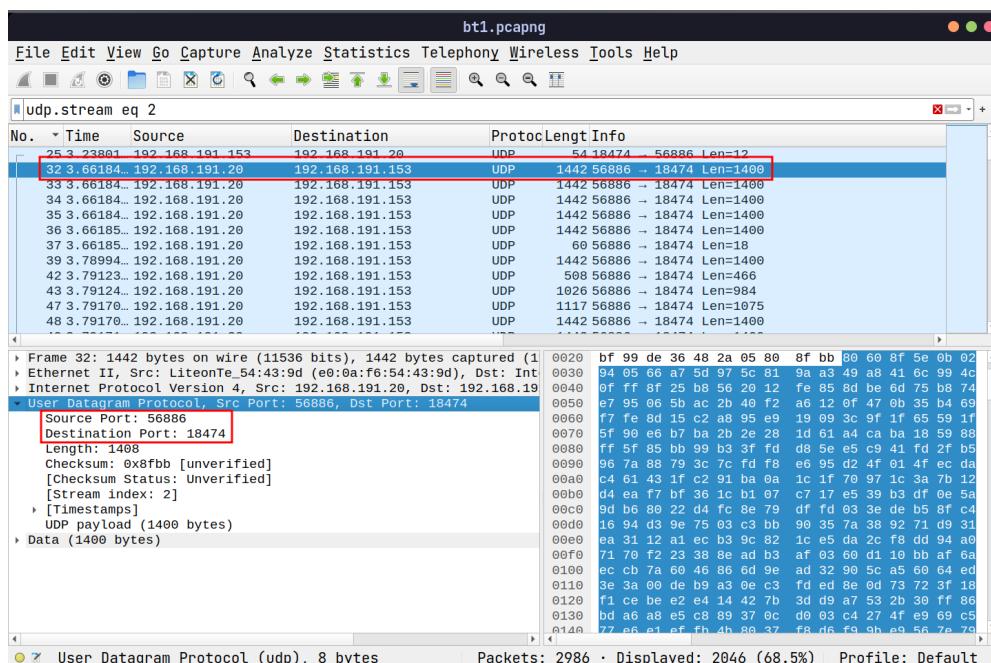
Trường Source Port có độ dài là 16bit và chúa số không dấu nên độ dài lớn nhất trường này có thể là $2^{16} - 1 = 65535$.

Câu 6:

- Request Packet:

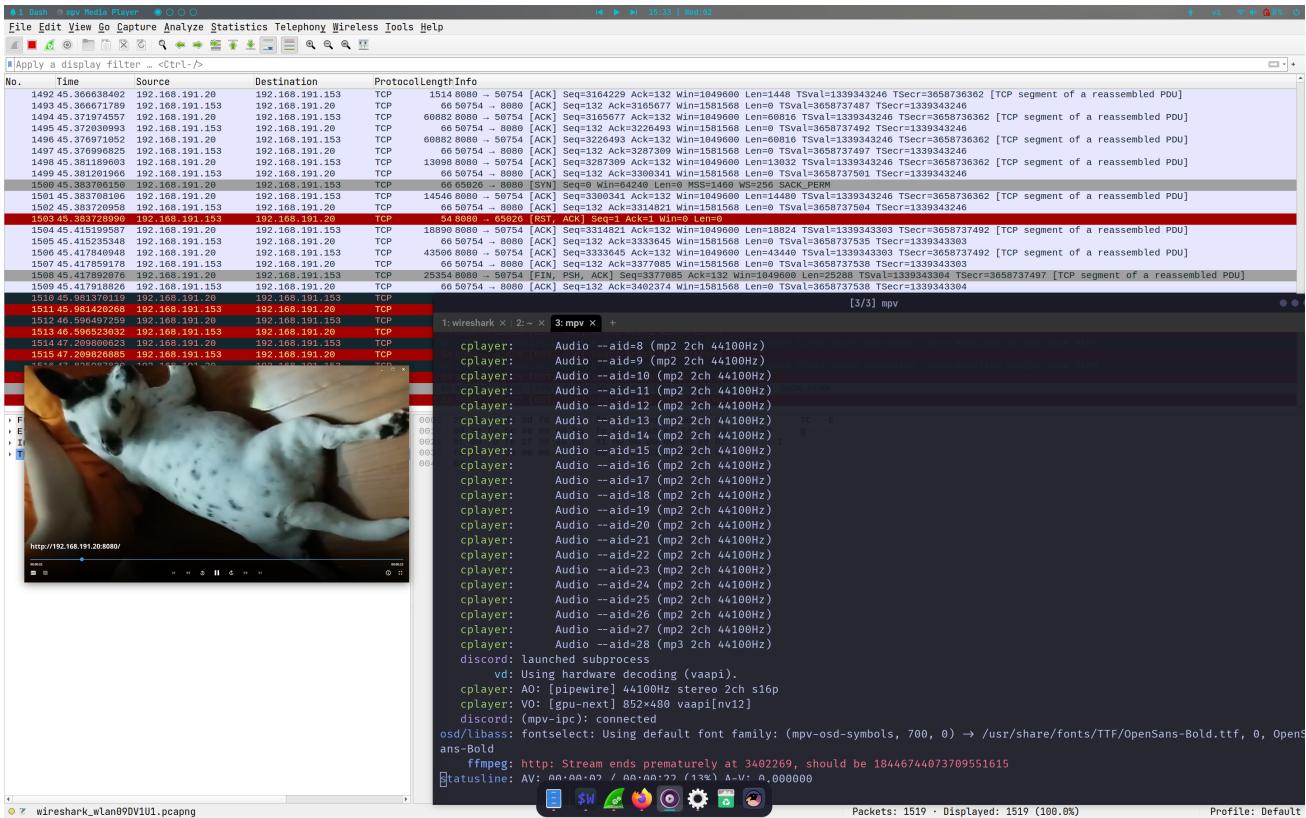


- Response Packet:



- Request Packet là gói tin do máy mình gửi có Source Port và Destination Port lần lượt là 56886 và 18474. Response Packet là gói tin do phản hồi từ máy được yêu cầu lúc này Source Port và Destination Port lần lượt là 18474 và 56886. Ta có thể thấy Source Port và Destination Port của máy của mình và máy được hoán đổi cho nhau ở 2 gói tin Request và Response.

II. Phân tích gói tin TCP



Câu 7:

No.	Time	Source	Destination	Protocol	Length	Info
26	8.24010...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
29	16.3679...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
30	16.3911...	192.168.191.20	192.168.191.153	TCP	74	8080 → 50754 [SYN, ACK] Seq=0 Ack=1 Win=65535
31	16.3911...	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=1 Ack=1 Win=64256 Len=1
32	16.3912...	192.168.191.153	192.168.191.20	HTTP	197	GET / HTTP/1.1
33	16.5930...	192.168.191.20	192.168.191.153	TCP	169	8080 → 50754 [PSH, ACK] Seq=1 Ack=132 Win=104
34	16.5930...	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=104 Win=64256
35	16.7971...	192.168.191.20	192.168.191.153	TCP	569	[TCP Retransmission] 8080 → 50754 [PSH, ACK]
36	16.7971...	192.168.191.153	192.168.191.20	TCP	78	[TCP ACKed unseen segment] 50754 → 8080 [ACK]
37	16.7973...	192.168.191.20	192.168.191.153	TCP	466	[TCP Spurious Retransmission] 8080 → 50754 [P]
38	16.7973...	192.168.191.153	192.168.191.20	TCP	78	[TCP Window Update] 50754 → 8080 [ACK] Seq=132 Ack=132 Win=104960
42	23.8998...	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [ACK] Seq=504 Ack=132 Win=104960

Frame 31: 66 bytes on wire (528 bits), 66 bytes captured (528 bits)
Ethernet II, Src: IntelCor_85:3d:f6 (28:11:a8:85:3d:f6), Dst: Li...
Internet Protocol Version 4, Src: 192.168.191.153, Dst: 192.168.191.20
Transmission Control Protocol, Src Port: 50754, Dst Port: 8080, Source Port: 50754
Destination Port: 8080
[Stream index: 2]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 0]
Sequence Number: 1 (relative sequence number)
Sequence Number (raw): 1317359715
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 1 (relative ack number)
Acknowledgment number (raw): 42225138
1000 = Header Length: 32 bytes (8)
Flags: 0x010 (ACK)
Window: 502
[Calculated window size: 64256]
[Window size scaling factor: 1281]

Transmission Control Protocol (tcp), 32 bytes | Packets: 1535 · Displayed: 1474 (96.0%) | Profile: Default

- Xét gói tin số 31 đây là gói tin request từ client đến server do đó:

+ Địa chỉ IP của client là: 192.168.191.153

+ Port: 50745

Câu 8:

No.	Time	Source	Destination	Protocol	Length	Info
26	8.24010...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
29	16.3679...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
30	16.3911...	192.168.191.20	192.168.191.153	TCP	74	8080 → 50754 [SYN, ACK] Seq=0 Ack=1 Win=65535
31	16.3911...	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=1 Ack=1 Win=64256 Len=1
32	16.3912...	192.168.191.153	192.168.191.20	HTTP	197	GET / HTTP/1.1
33	16.5930...	192.168.191.20	192.168.191.153	TCP	169	8080 → 50754 [PSH, ACK] Seq=1 Ack=132 Win=104
34	16.5930...	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=104 Win=64256
35	16.7971...	192.168.191.20	192.168.191.153	TCP	569	[TCP Retransmission] 8080 → 50754 [PSH, ACK]
36	16.7971...	192.168.191.153	192.168.191.20	TCP	78	[TCP ACKed unseen segment] 50754 → 8080 [ACK]
37	16.7973...	192.168.191.20	192.168.191.153	TCP	466	[TCP Spurious Retransmission] 8080 → 50754 [P]
38	16.7973...	192.168.191.153	192.168.191.20	TCP	78	[TCP Window Update] 50754 → 8080 [ACK] Seq=132 Ack=132 Win=104960
42	23.8998...	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [ACK] Seq=504 Ack=132 Win=104960

Frame 33: 169 bytes on wire (1352 bits), 169 bytes captured (1352 bits)
Ethernet II, Src: LiteonTe_54:43:9d (e0:0a:f6:54:43:9d), Dst: Ir...
Internet Protocol Version 4, Src: 192.168.191.20, Dst: 192.168.191.153
Transmission Control Protocol, Src Port: 8080, Dst Port: 50754, Source Port: 8080
Destination Port: 50754
[Stream index: 2]
[Conversation completeness: Complete, WITH_DATA (31)]
[TCP Segment Len: 103]
Sequence Number: 1 (relative sequence number)
Sequence Number (raw): 42225138
[Next Sequence Number: 104 (relative sequence number)]
Acknowledgment Number: 132 (relative ack number)
Acknowledgment number (raw): 1317359846
1000 = Header Length: 32 bytes (8)
Flags: 0x018 (PSH, ACK)
Window: 4100
[Calculated window size: 1049600]
[Window size scaling factor: 2561]

"2S" is not a valid number. | Packets: 1535 · Displayed: 1474 (96.0%) | Profile: Default

- Xét gói tin số 33 đây là gói tin response dữ liệu từ server về client do đó:

+ Địa chỉ IP của server là: 192.168.191.20

+ Port: 8080

Câu 9:

No.	Time	Source	Destination	Protocol	Length	Info
5	1.11502...	192.168.191.153	192.168.191.20	TCP	74	50754 → 8080 [SYN] Seq=0 Win=64240 Len=0 MSS=
8	2.15993...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
13	4.20793...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
26	8.24010...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
29	16.3679...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
30	16.3911...	192.168.191.20	192.168.191.153	TCP	74	8080 → 50754 [SYN, ACK] Seq=0 Ack=1 Win=65535
31	16.3911...	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=1 Ack=1 Win=64256 Len=
32	16.3912...	192.168.191.153	192.168.191.20	HTTP	197	GET / HTTP/1.1
33	16.5930...	192.168.191.20	192.168.191.153	TCP	169	8080 → 50754 [PSH, ACK] Seq=1 Ack=132 Win=104
34	16.5930...	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=104 Win=64256
35	16.7971...	192.168.191.20	192.168.191.153	TCP	569	[TCP Retransmission] 8080 → 50754 [PSH, ACK]
36	16.7971...	192.168.191.153	192.168.191.20	TCP	78	[TCP ACKed unseen segment] 50754 → 8080 [ACK]
37	16.7971...	192.168.191.20	192.168.191.153	TCP	1	8080 → 50754 [ACK]

Sequence Number (raw): 1317359714
[Next Sequence Number: 1 (relative sequence number)]
Acknowledgment Number: 0
Acknowledgment number (raw): 0

Header Length: 40 bytes (10)

Flags: 0x002 (SYN)

- 000. = Reserved: Not set
- ...0 = Accurate ECN: Not set
- 0. = Congestion Window Reduced: Not set
-0. = ECN-Echo: Not set
-0. = Urgent: Not set
-0 = Acknowledgment: Not set
- 0... = Push: Not set
-0.. = Reset: Not set
-1. = Syn: Set ← Red arrow
-0 = Fin: Not set

[TCP Flags:S.]

WINDOW: 64240
Calculated window size: 642401

Syn (tcp.flags.syn), 1 byte

Packets: 1535 · Displayed: 1474 (96.0%) · Profile: Default

- TCP có cờ SYN được sử dụng sequence number 0 để khởi tạo kết nối. Ở hình trên ta thấy được Flags SYN được bật tức giá trị của trường này là 1 do đó là TCP SYN segment

Câu 10:

No.	Time	Source	Destination	Protocol	Length	Info
5	1.11502...	192.168.191.153	192.168.191.20	TCP	74	50754 → 8080 [SYN] Seq=0 Win=64240 Len=0 MSS=...
8	2.15993...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
13	4.20793...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
26	8.24010...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
29	16.3679...	192.168.191.153	192.168.191.20	TCP	74	[TCP Retransmission] [TCP Port numbers reused]
30	16.3911...	192.168.191.20	192.168.191.153	TCP	74	8080 → 50754 [SYN, ACK] Seq=0 Ack=1 Win=65535
31	16.3911...	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=1 Ack=1 Win=64256 Len=...

Transmission Control Protocol, Src Port: 8080, Dst Port: 50754,
 Source Port: 8080
 Destination Port: 50754
 [Stream index: 2]
 [Conversation completeness: Complete, WITH_DATA (31)]
 [TCP Segment Len: 0]
 Sequence Number: 0 (relative sequence number)
 Sequence Number (raw): 42225137
 [Next Sequence Number: 1 (relative sequence number)]
 Acknowledgment Number: 1 (relative ack number)
 Acknowledgment number (raw): 1317359715
 1010 - Header Length: 40 bytes (10)
 Flags: 0x012 (SYN, ACK)
 000. = Reserved: Not set
0 = Accurate ECN: Not set
0 = Congestion Window Reduced: Not set
0 = ECN-Echo: Not set
0 = Urgent: Not set
01 . . = Acknowledgment: Set ←
00 . . = Push: Not set
00 . . = Reset: Not set
01 . . = Syn: Set ←
00 . . = Fin: Not set
 [TCP Flags:A..S.]

Acknowledgment Number (tcp.ack), 4 bytes Packets: 1535 · Displayed: 1474 (96.0%) · Profile: Default

- Theo như ảnh trên ta thấy:

+ Sequence number: 0

+ Acknowledgement: 1

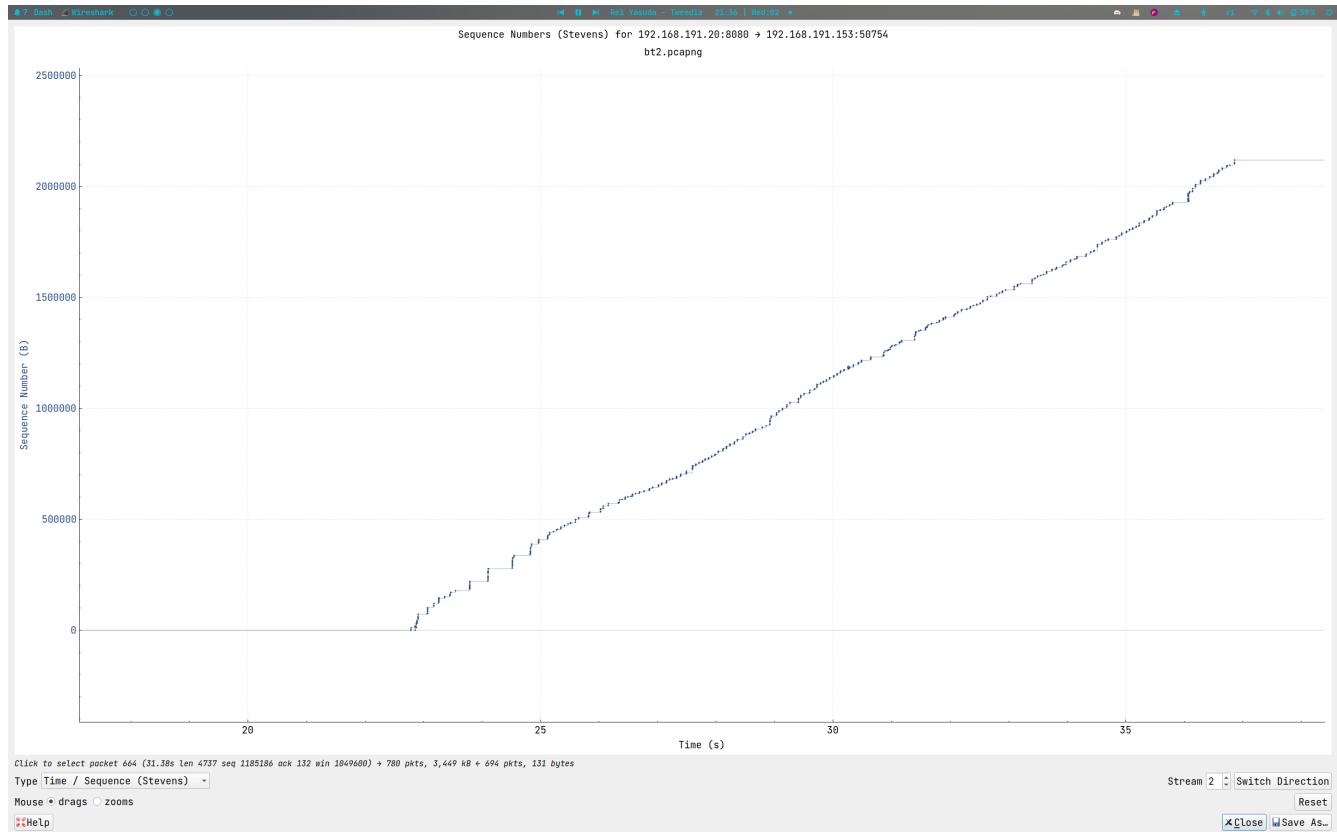
- Thành phần trong segment cho ta biết segment đó là SYN/ACK segment là Flags Syn và Ack đều được bật tức giá trị của 2 trường này là 1.

Câu 11:

39 16.391136262	192.168.191.20	192.168.191.153	TCP	74	8080 → 50754 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1460 WS=256 SACK_PERM Tsvl=1339314307 Tscr=3658708488
31 16.391167763	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=1 Ack=1 Win=64256 Len=0 Tsvl=3658708511 Tscr=1339314307
32 16.391254511	192.168.191.153	192.168.191.20	HTTP	197	GET / HTTP/1.1
33 16.593051116	192.168.191.20	192.168.191.153	TCP	169	8080 → 50754 [PSH, ACK] Seq=1 Ack=132 Win=1049600 Len=103 Tsvl=1339314352 Tscr=3658708511 [TCP segment of a reassembled PDU]
34 16.593091487	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=104 Win=64256 Len=0 Tsvl=3658708511 Tscr=1339314352
35 16.797156203	192.168.191.20	192.168.191.153	TCP	569	[TCP Retransmission] 8080 → 50754 [PSH, ACK] Seq=1 Ack=132 Win=1049600 Len=503 Tsvl=1339314584 Tscr=3658708511
36 16.797184281	192.168.191.20	192.168.191.153	TCP	78	[TCP ACKed unseen segment] 50754 → 8080 [ACK] Seq=132 Ack=504 Win=63872 Len=0 Tsvl=36587086911 Tscr=1339314584 SLE=1 SRE=104
37 16.797184281	192.168.191.20	192.168.191.153	TCP	466	[TCP Spurious Retransmission] 8080 → 50754 [PSH, ACK] Seq=104 Ack=132 Win=400 Tsvl=1339314617 Tscr=3658708713
38 16.797383831	192.168.191.153	192.168.191.20	TCP	78	[TCP Window Update] 50754 → 8080 [ACK] Seq=132 Ack=504 Win=64128 Len=0 Tsvl=3658708918 Tscr=1339314617 SRE=504
39 26.874918954	192.168.191.154	192.168.191.154	TLSv1...	105	Application Data
40 26.788665582	192.168.191.154	192.168.191.154	TLSv1...	105	Application Data
41 26.788637502	192.168.191.154	192.168.191.154	TCP	66	46312 → 443 [ACK] Seq=40 Ack=40 Win=501 Len=1 Tsvl=2969157535 Tscr=2505151925
42 23.899894043	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [ACK] Seq=504 Ack=132 Win=1049600 Len=144 Tsvl=1339321478 Tscr=3658708918 [TCP segment of a reassembled PDU]
43 23.899946678	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=1952 Win=63104 Len=0 Tsvl=3658716626 Tscr=1339321478
44 23.901662334	192.168.191.20	192.168.191.153	TCP	8754	8080 → 50754 [ACK] Seq=1952 Ack=132 Win=1049600 Len=8688 Tsvl=1339321478 Tscr=3658708918 [TCP segment of a reassembled PDU]
45 23.901662334	192.168.191.20	192.168.191.153	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=1952 Win=3658716626 Tscr=1339321478
46 23.901662334	192.168.191.20	192.168.191.153	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=1952 Win=3658716626 Tscr=1339321478
47 23.901662334	192.168.191.20	192.168.191.153	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=1952 Win=3658716626 Tscr=1339321478
48 23.902885945	192.168.191.153	192.168.191.153	TCP	1514	[TCP Spurious Retransmission] 8080 → 50754 [PSH, ACK] Seq=132 Ack=132 Win=1049600 Len=144 Tsvl=1339321478 Tscr=3658708918
49 23.972128789	192.168.191.153	192.168.191.20	TCP	78	[TCP Window Update] 50754 → 8080 [ACK] Seq=132 Ack=2088 Win=61428 Len=0 Tsvl=3658716092 Tscr=1339321478 SLE=504 SRE=1952
50 23.972180551	192.168.191.153	192.168.191.20	TCP	2962	[TCP Previous segment not captured] 8080 → 50754 [ACK] Seq=1494 Ack=132 Win=1049600 Len=286 Tsvl=1339321883 Tscr=3658716092 [TCP segment of a reassembled PDU]
51 23.972185614	192.168.191.153	192.168.191.20	TCP	78	[TCP Dup ACK 47:47] 50754 → 8080 [ACK] Seq=132 Ack=12989 Win=64128 Len=0 Tsvl=3658716092 Tscr=1339321478 SLE=14984 SRE=17889
52 23.972101829	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [PSH, ACK] Seq=17889 Ack=132 Win=1049600 Len=144 Tsvl=1339321888 Tscr=3658716092 [TCP segment of a reassembled PDU]
53 23.972168671	192.168.191.153	192.168.191.20	TCP	78	[TCP Dup ACK 47:47] 50754 → 8080 [ACK] Seq=132 Ack=12888 Win=64128 Len=0 Tsvl=3658716092 Tscr=1339321478 SLE=14984 SRE=19328
54 23.972128807	192.168.191.20	192.168.191.153	TCP	8754	8080 → 50754 [ACK] Seq=1932 Ack=132 Win=1049600 Len=688 Tsvl=1339321884 Tscr=3658716092 [TCP segment of a reassembled PDU]
55 23.972179567	192.168.191.153	192.168.191.20	TCP	78	[TCP Dup ACK 47:47] 50754 → 8080 [ACK] Seq=132 Ack=12088 Win=64128 Len=0 Tsvl=3658716092 Tscr=1339321478 SLE=28016
56 23.991164971	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [ACK] Seq=28016 Ack=132 Win=1049600 Len=144 Tsvl=1339321987 Tscr=3658716092 [TCP segment of a reassembled PDU]
57 23.991196471	192.168.191.153	192.168.191.20	TCP	78	[TCP Dup ACK 47:47] 50754 → 8080 [ACK] Seq=132 Ack=12088 Win=64128 Len=0 Tsvl=3658716111 Tscr=1339321478 SLE=14984 SRE=29464
58 23.992865532	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [PSH, ACK] Seq=29464 Ack=132 Win=1049600 Len=144 Tsvl=1339321987 Tscr=3658716092 [TCP segment of a reassembled PDU]
59 23.992866329	192.168.191.153	192.168.191.20	TCP	2962	[TCP Out-of-order] 8080 → 50754 [ACK] Seq=12088 Ack=132 Win=1049600 Len=286 Tsvl=1339321907 Tscr=3658716092 [TCP segment of a reassembled PDU]
60 23.992913217	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=12088 Win=64128 Len=0 Tsvl=3658716113 Tscr=1339321907 SLE=14984 SRE=30912
61 23.992466003	192.168.191.153	192.168.191.20	TCP	2962	[TCP Out-of-order] 8080 → 50754 [ACK] Seq=12088 Ack=132 Win=1049600 Len=286 Tsvl=1339321907 Tscr=3658716092 [TCP segment of a reassembled PDU]
62 23.992867607	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [ACK] Seq=30912 Ack=132 Win=1049600 Len=144 Tsvl=1339321907 Tscr=3658716092 [TCP segment of a reassembled PDU]
63 23.992956731	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=32360 Win=43904 Len=0 Tsvl=3658716113 Tscr=1339321907
64 24.003784958	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [ACK] Seq=32360 Ack=132 Win=1049600 Len=144 Tsvl=1339321916 Tscr=3658716113 [TCP segment of a reassembled PDU]
65 24.003821837	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=33808 Win=63104 Len=0 Tsvl=3658716124 Tscr=1339321916
66 24.003786355	192.168.191.20	192.168.191.153	TCP	2962	8080 → 50754 [PSH, ACK] Seq=33808 Ack=132 Win=1049600 Len=286 Tsvl=1339321916 Tscr=3658716124 [TCP segment of a reassembled PDU]
67 24.003848937	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=36704 Win=60288 Len=0 Tsvl=3658716124 Tscr=1339321916
68 24.003787263	192.168.191.20	192.168.191.153	TCP	2962	8080 → 50754 [PSH, ACK] Seq=36704 Ack=132 Win=1049600 Len=286 Tsvl=1339321916 Tscr=3658716124 [TCP segment of a reassembled PDU]
69 24.003862138	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=39600 Win=57472 Len=0 Tsvl=3658716124 Tscr=1339321916
70 24.003788666	192.168.191.20	192.168.191.153	TCP	4410	8080 → 50754 [PSH, ACK] Seq=39600 Ack=132 Win=4344 Tsvl=1339321916 Tscr=3658716113 [TCP segment of a reassembled PDU]
71 24.003885117	192.168.191.20	192.168.191.153	TCP	7368	8080 → 50754 [ACK] Seq=43944 Ack=132 Win=1049600 Len=7240 Tsvl=1339321916 Tscr=3658716113 [TCP segment of a reassembled PDU]
72 24.004153675	192.168.191.153	192.168.191.20	TCP	66	50754 → 8080 [ACK] Seq=132 Ack=51184 Win=64128 Len=0 Tsvl=3658716124 Tscr=1339321916
73 24.022687245	192.168.191.20	192.168.191.153	TCP	1514	8080 → 50754 [PSH, ACK] Seq=51184 Ack=132 Win=1049600 Len=144 Tsvl=1339321916 Tscr=3658716113 [TCP segment of a reassembled PDU]
74 24.022688223	192.168.191.20	192.168.191.153	TCP	4410	8080 → 50754 [PSH, ACK] Seq=52632 Ack=132 Win=4344 Tsvl=1339321916 Tscr=3658716113 [TCP segment of a reassembled PDU]
75 24.022689699	192.168.191.20	192.168.191.153	TCP	5858	8080 → 50754 [PSH, ACK] Seq=56976 Ack=132 Win=5792 Tsvl=1339321916 Tscr=3658716113 [TCP segment of a reassembled PDU]

STT gói tin	Thời gian gửi	Thời gian nhận ACK	RTT
33	16.593051116	16.593091487	0.000040371
42	23.899894043	23.899946078	0.000052035
44	23.901662334	23.901698095	0.000035761
46	23.901869148	23.901877181	0.000008033
58	23.972101829	23.992946603	0.020844774

Câu 12:



- Không có segment nào được gửi lại vì dựa trên hình của wireshark ta thấy không có 1 packet nào bị trùng số sequence number ở trong một thời gian khác nhau.