# Wireshark Networking Lab

UDP v8.0

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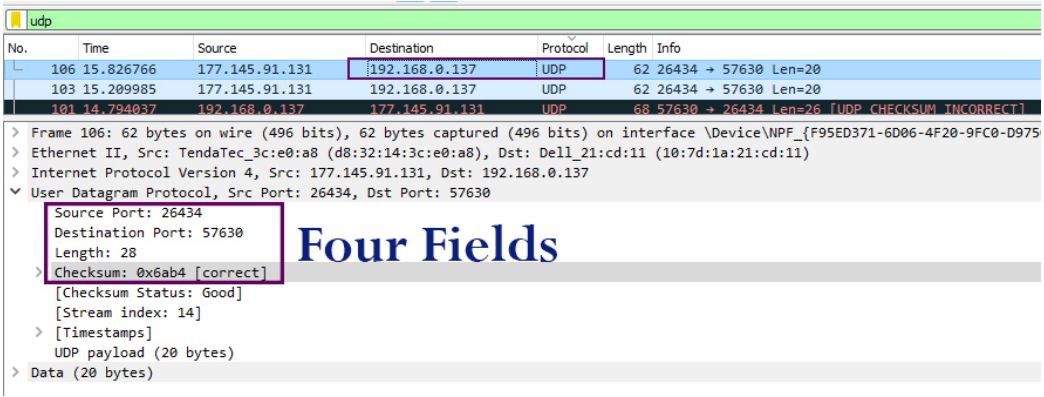
# Overview

# 1. Select one UDP packet from your trace. From this packet, determine how many fields there are in the UDP header.

## Answer

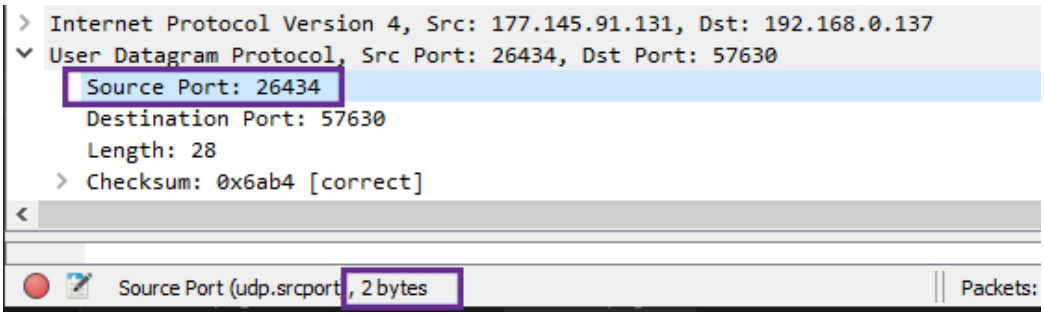
There are 4 fields



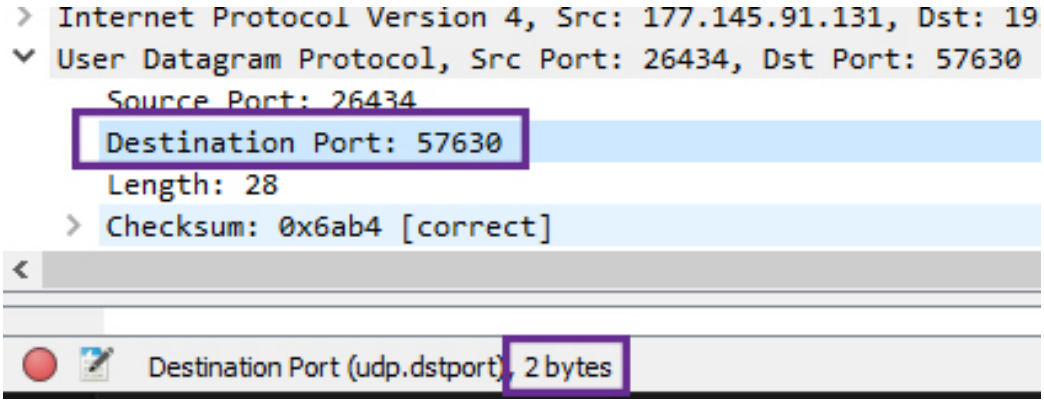
# 2. Select one UDP packet from your trace. From this packet, determine how many fields there are in the UDP header.

**Answer**

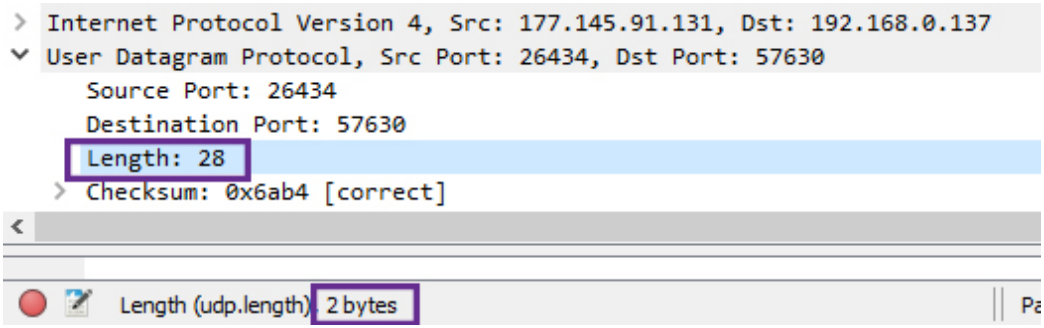
Each Fields has 2 bytes



# Continue....


Internet Protocol Version 4, Src: 177.145.91.131, Dst: 19
User Datagram Protocol, Src Port: 26434, Dst Port: 57630
Source Port: 26434
Destination Port: 57630
Length: 28
Checksum: 0x6ab4 [correct]
Destination Port (udp.dstport), 2 bytes

# Continue....


Internet Protocol Version 4, Src: 177.145.91.131, Dst: 192.168.0.137
User Datagram Protocol, Src Port: 26434, Dst Port: 57630
Source Port: 26434
Destination Port: 57630
Length: 28
Checksum: 0x6ab4 [correct]
Length (udp.length): 2 bytes

# 3. The value in the Length field is the length of what?

**Answer**

The value in the length field is the sum of the 8 header bytes

# 4. What is the maximum number of bytes that can be included in a UDP payload?

**Answer**

Here, The largest possible source port number is $2^{16} - 1 = 65535$.

And the header bytes is 8 bytes. So, the maximum number of bytes that can be included in a UDP payload is = 65535-8 = 65527 bytes.

So, the maximum number of bytes that can be included in a UDP payload is = 65535-8 = 65527 bytes.

# 5. What is the largest possible source port number?

**Answer**

The largest possible source port number is $2^{16} - 1 = 65535$.

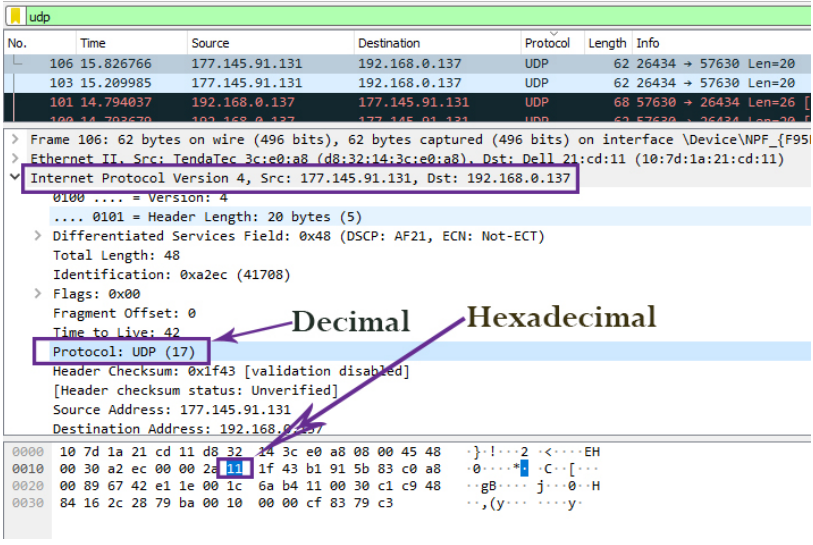
# 6. What is the protocol number for UDP? Give your answer in both hexadecimal and decimal notation.

**Answer**

Protocol number for UDP in decimal = 17

Protocol number for UDP in hexadecimal = 11

# Continue...


udp
No. Time Source Destination Protocol Length Info
106 15.826766 177.145.91.131 192.168.0.137 UDP 62 26434 → 57630 Len=20
103 15.209985 177.145.91.131 192.168.0.137 UDP 62 26434 → 57630 Len=20
101 14.794037 192.168.0.137 177.145.91.131 UDP 68 57630 → 26434 Len=26
Frame 106: 62 bytes on wire (496 bits), 62 bytes captured (496 bits) on interface \Device\NPF_{F95
Ethernet II, Src: TendaTec_3c:e0:a8 (d8:32:14:3c:e0:a8), Dst: Dell_21:cd:11 (10:7d:1a:21:cd:11)
Internet Protocol Version 4, Src: 177.145.91.131, Dst: 192.168.0.137
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x48 (DSCP: AF21, ECN: Not-ECT)
Total Length: 48
Identification: 0xa2ec (41708)
Flags: 0x00
Fragment Offset: 0
Time to Live: 42
Protocol: UDP (17)
Header Checksum: 0x1f43 [validation disabled]
[Header checksum status: Unverified]
Source Address: 177.145.91.131
Destination Address: 192.168.0.137
Decimal
Hexadecimal
0000 10 7d 1a 21 cd 11 d8 32 14 3c e0 a8 08 00 45 48
0010 00 30 a2 ec 00 00 2a 11 1f 43 b1 91 5b 83 c0 a8
0020 00 89 67 42 e1 1e 00 1c 6a b4 11 00 30 c1 c9 48
0030 84 16 2c 28 79 ba 00 10 00 00 cf 83 79 c3

# 7. Examine a pair of ..... Describe the relationship between the port numbers in the two packets.

**Answer**

Sending packet's source port number is equal to the destination port of Receiver packet.
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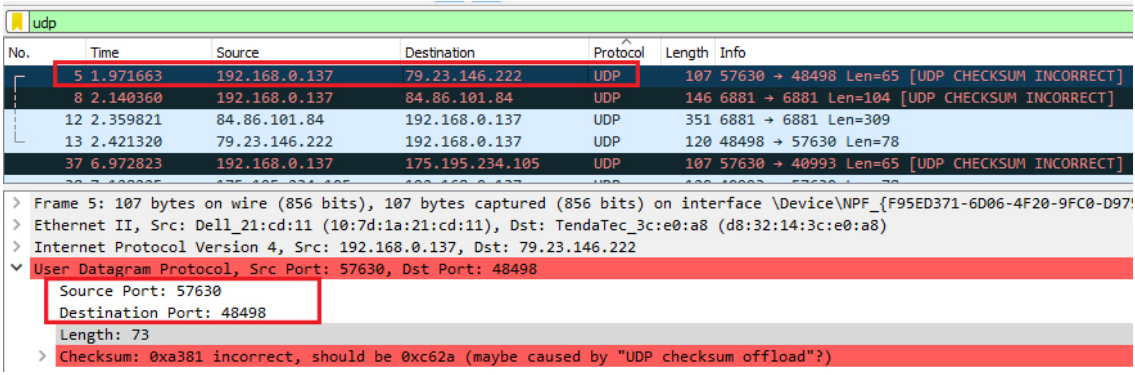
**Sender**

Source Port = 57630; Destination Port = 48498

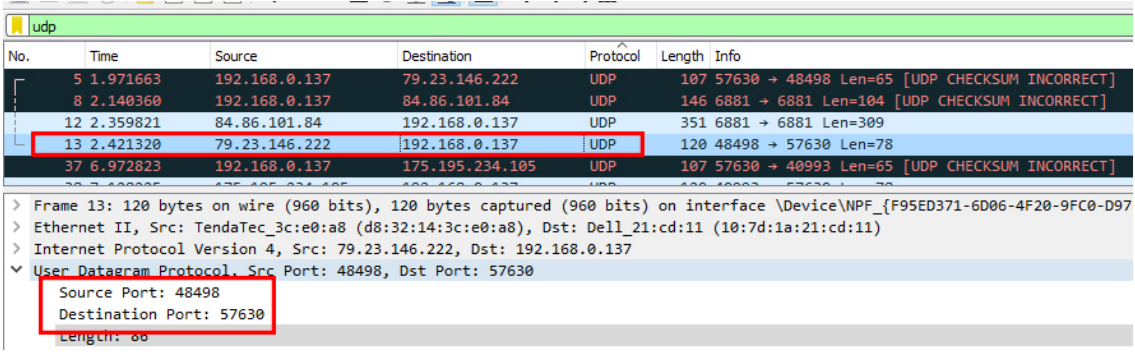
**Receiver**

Source Port = 48498; Destination Port = 57630

# Sender


udp
No. Time Source Destination Protocol Length Info
5 1.971663 192.168.0.137 79.23.146.222 UDP 107 57630 → 48498 Len=65 [UDP CHECKSUM INCORRECT]
8 2.140360 192.168.0.137 84.86.101.84 UDP 146 6881 → 6881 Len=104 [UDP CHECKSUM INCORRECT]
12 2.359821 84.86.101.84 192.168.0.137 UDP 351 6881 → 6881 Len=309
13 2.421320 79.23.146.222 192.168.0.137 UDP 120 48498 → 57630 Len=78
37 6.972823 192.168.0.137 175.195.234.105 UDP 107 57630 → 40993 Len=65 [UDP CHECKSUM INCORRECT]
Frame 5: 107 bytes on wire (856 bits), 107 bytes captured (856 bits) on interface \Device\NPF_{F95ED371-6D06-4F20-9FC0-D97
Ethernet II, Src: Dell_21:cd:11 (10:7d:1a:21:cd:11), Dst: TendaTec_3c:e0:a8 (d8:32:14:3c:e0:a8)
Internet Protocol Version 4, Src: 192.168.0.137, Dst: 79.23.146.222
User Datagram Protocol, Src Port: 57630, Dst Port: 48498
Source Port: 57630
Destination Port: 48498
Length: 73
Checksum: 0xa381 incorrect, should be 0xc62a (maybe caused by "UDP checksum offload"?)

# Receiver


udp
No. Time Source Destination Protocol Length Info
5 1.971663 192.168.0.137 79.23.146.222 UDP 107 57630 → 48498 Len=65 [UDP CHECKSUM INCORRECT]
8 2.140360 192.168.0.137 84.86.101.84 UDP 146 6881 → 6881 Len=104 [UDP CHECKSUM INCORRECT]
12 2.359821 84.86.101.84 192.168.0.137 UDP 351 6881 → 6881 Len=309
13 2.421320 79.23.146.222 192.168.0.137 UDP 120 48498 → 57630 Len=78
37 6.972823 192.168.0.137 175.195.234.105 UDP 107 57630 → 40993 Len=65 [UDP CHECKSUM INCORRECT]
Frame 13: 120 bytes on wire (960 bits), 120 bytes captured (960 bits) on interface \Device\NPF_{F95ED371-6D06-4F20-9FC0-D97
Ethernet II, Src: TendaTec_3c:e0:a8 (d8:32:14:3c:e0:a8), Dst: Dell_21:cd:11 (10:7d:1a:21:cd:11)
Internet Protocol Version 4, Src: 79.23.146.222, Dst: 192.168.0.137
User Datagram Protocol, Src Port: 48498, Dst Port: 57630
Source Port: 48498
Destination Port: 57630
Length: 88

# The End