UDP

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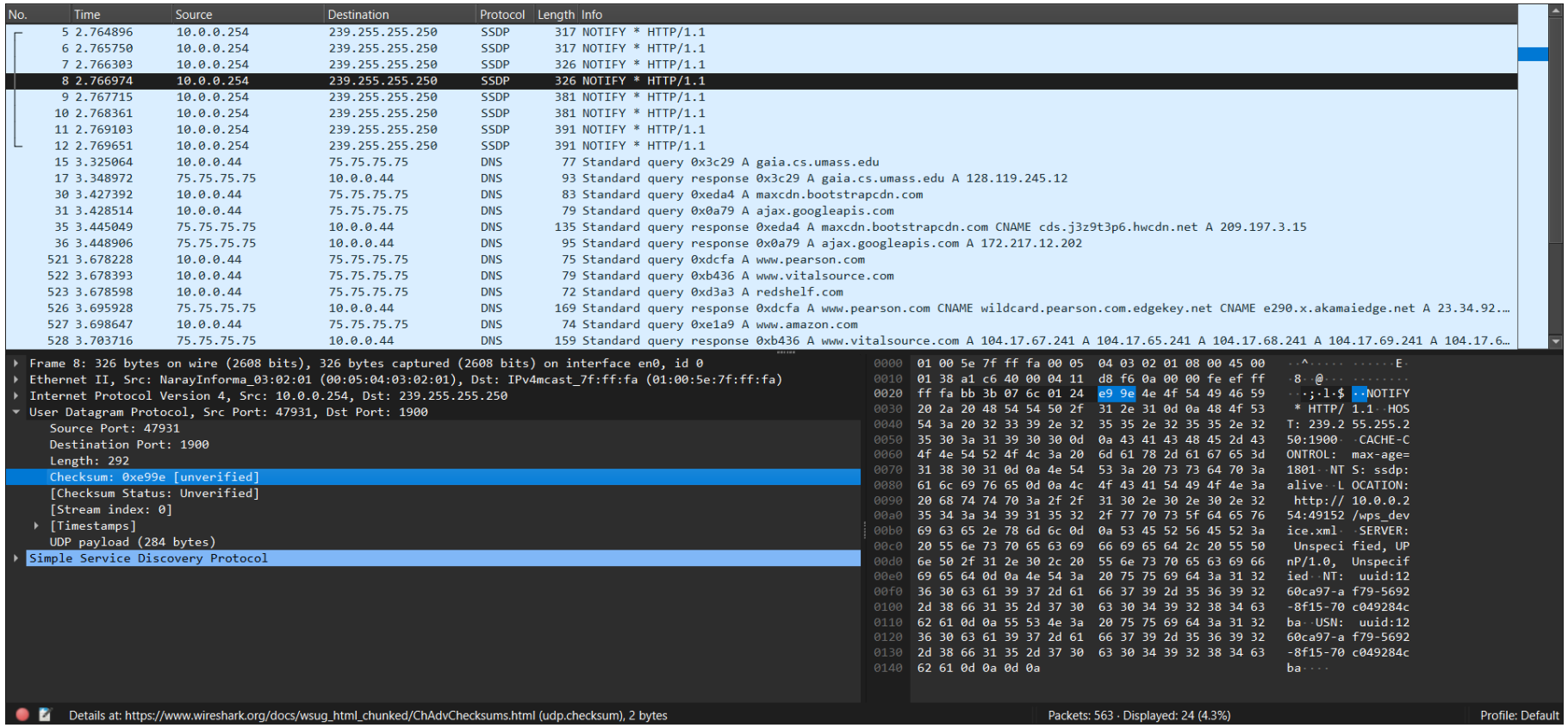
1.Select the first UDP segment in your trace. What is the packet number of this segment in the trace file? What type of application-layer payload or protocol message is being carried in this UDP segment? Look at the details of this packet in Wireshark. How many fields there are in the UDP header?

A:Packet number is 8, Application layer protocol is HTTP/1.1 ,There are Four Fields.



2.By consulting the displayed information in Wireshark's packet content field for this packet (or by consulting the textbook), what is the length (in bytes) of each of the UDP header fields?

A:2 bytes each, total is 8 bytes.

3. The value in the Length field is the length of what? (You can consult the text for this answer). Verify your claim with your captured UDP packet.

A:The length field specifies the number of bytes in the UDP segment (header plus data). An explicit length value is needed since the size of the data field may differ from one UDP segment to the next. The length of UDP payload for selected packet is 32 bytes. 292 bytes - 8 bytes = 286 bytes.

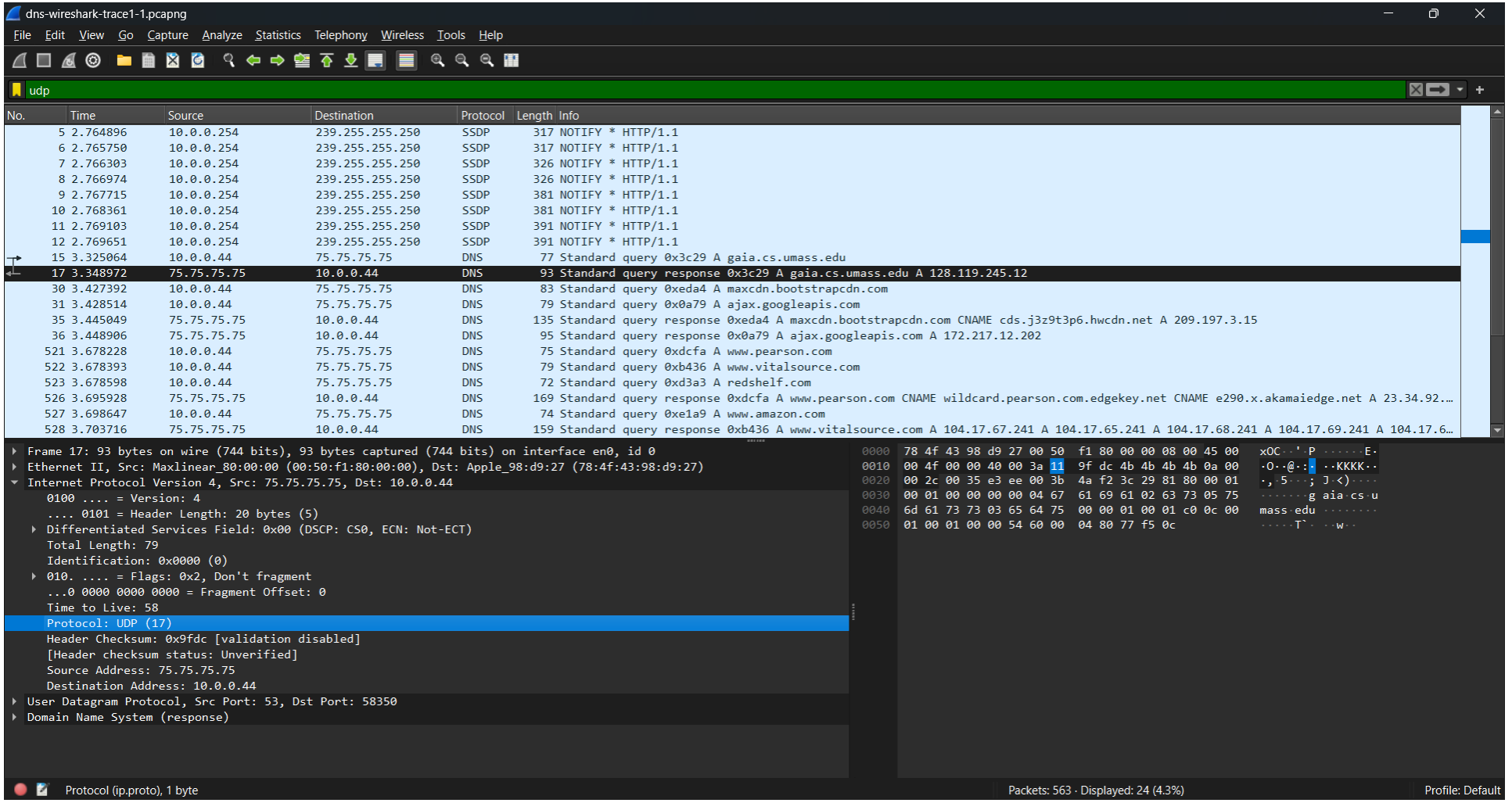
4. What is the maximum number of bytes that can be included in a UDP payload?

A:Here the largest source port number is 2^16-1=65535, The UDP header is 8 bytes so maximum number of bytes which can be included in the UDP payload is 65535-8=65527 bytes.

5.What is the largest possible source port number?

A:Maximum possible source port number is 2^16-1=65535.

6.What is the protocol number for UDP? Give your answer in decimal notation. To answer this question, you'll need to look into the Protocol field of the IP datagram containing this UDP segment.
A:The IP protocol number for UDP is 0x11 hex, which is 17 in decimal value



7. Examine the pair of UDP packets in which your host sends the first UDP packet and the second UDP packet is a reply to this first UDP packet. (Hint: for a second packet to be sent in response to a first packet, the sender of the first packet should be the destination of the second packet). What is the packet number of the first of these two UDP segments in the trace file? What is the value in the source port field in this UDP segment? What is the value in the destination port field in this UDP segment? What is the packet number of the second of these two UDP segments in the trace file? What is the value in the source port field in this second UDP segment? What is the value in the destination port field in this second UDP segment? Describe the relationship between the port numbers in the two packets.

A:Packet number of the first UDP segment: 15 , Source port field: 10.0.0.44 ,

Destination port field: 75.75.75.75 , Packet number of the second UDP segment: 17,

Source port field: 75.75.75.75 ,Destination port field: 10.0.0.44,

The relationship between the port numbers in the two packets is that the source port of the first packet (10.0.0.44) corresponds to the destination port of the second packet, indicating a reply from the destination (75.75.75.75) back to the sender (10.0.0.44).