Wireshark Lab 2: UDP

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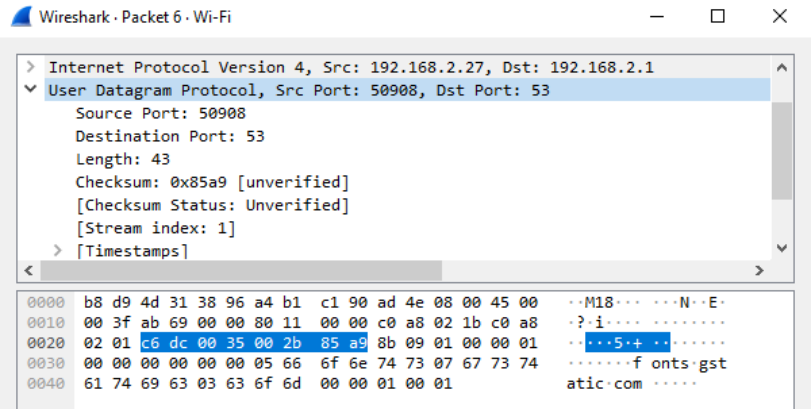
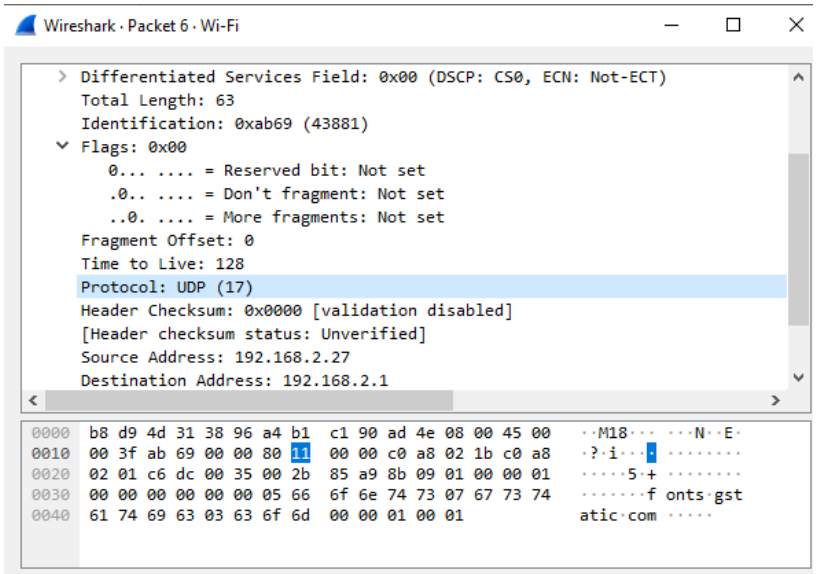
Mark:

	Question	Answer

1	Select one packet. From this packet, determine how many fields there are in the UDP header. Name these fields.	There are 4 fields: Source port, destination port, length, and checksum.
		`User Datagram Protocol, Src Port: 889, Dst Port: 889`
		`Source Port: 889`
		`Destination Port: 889`
		`Length: 1428`
		`Checksum: 0x2fac [unverified]`
		`[Checksum Status: Unverified]`
		`[Stream index: 0]`

2	From the packet content field, determine the length (in bytes) of each of the UDP header fields.	2 bytes
		`Internet Protocol Version 4, Src: 192.168.2.27, Dst: 192.168.2.1`
		`User Datagram Protocol, Src Port: 50908, Dst Port: 53`
		`Source Port: 50908`
		`Destination Port: 53`
		`Length: 43`
		`Checksum: 0x85a9 [unverified]`
		`[Checksum Status: Unverified]`
		`[Stream index: 1]`
		`[Timestamps]`
		`0000 b8 d9 4d 31 38 96 a4 b1 c1 90 ad 4e 08 00 45 00 ··M18··· ···N··E·`
		`0010 00 3f ab 69 00 00 80 11 00 00 c0 a8 02 1b c0 a8 ·?·i···· ····· ·····`
		`0020 02 01 c6 dc 00 35 00 2b 85 a9 8b 09 01 00 00 01 ·····5·+ ····· ·····`
		`0030 00 00 00 00 00 00 05 66 6f 6e 74 73 07 67 73 74 ·····f onts·gst`
		`0040 61 74 69 63 03 63 6f 6d 00 00 01 00 01 atic·com ·····`

3	The value in the Length field is the length of what? Verify your claim with your captured UDP packet.	Length is 43. This length is the sum of the 8 header bytes (shown at the bottom of the screenshot). In addition, it is also the sum of the remaining data bytes encapsulated inside the packet. 
4	What is the maximum number of bytes that can be included in a UDP payload.	The length field is 2-byte long, therefore the max length is 2^16 - 1 bytes. We must dis-include the header (8 bytes), so 2^16 – 1 – 8 = 65527 bytes.
5	What is the largest possible source port number?	Largest possible port number is 2^16 – 1 = 65535.

6	What is the protocol number for UDP? Give your answer in both hexadecimal and decimal notation. (To answer this question, you'll need to look into the IP header.)	Protocol number for UDP is 17 (0x11 in hex as shown in screenshot). 
7	Search "UDP" in Google and determine the fields over which the UDP checksum is calculated.	The fields over which UDP checksum is calculated are: - TCP headers: Source, Destination, Protocol - UDP header: Length
8	Examine a pair of UDP packets in which the first packet is sent by your host and the second packet is a reply to the first packet. Describe the relationship between the port numbers in the two packets	The relationship: source port of first packet is the destination port of the second packet and vice versa.