

1. List 3 different protocols that appear in the protocol column in the unfiltered packet-listing window in step 7 above.

Answer: HTTP, TCP, QUIC

2. How long did it take from when the HTTP GET message was sent until the HTTP OK reply was received?

Answer: Since the time the HTTP GET message was sent was at 15:29:24.630996 on 6 February 2024, and the time the HTTP OK reply was received was at 15:29:24.889075 on 6 February 2024. Therefore, the time taken is 0.258079 seconds.

3. What is the Internet address of the gaia.cs.umass.edu (also known as www.net.cs.umass.edu)? What is the Internet address of your computer?

Answer: The Internet address (IP address) of the gaia.cs.umass.edu is 128.119.245.12, and the Internet address (IP address) of my computer is 10.89.192.45

4. Print the two HTTP messages (GET and OK) referred to in question 2 above. To do so, select Print from the Wireshark File command menu, and select the "Selected Packet Only" and "Print as displayed" radial buttons, and then click OK.

Answer: Please refer to the next page.

No. Time Source Destination Protocol Length Info
181 2024-02-06 15:29:24.630996 10.89.192.45 128.119.245.12 HTTP 692 GET /wireshark-labs/INTRO-wireshark-file1.html HTTP/1.1

Frame 181: 692 bytes on wire (5536 bits), 692 bytes captured (5536 bits) on interface \Device\NPF_{A8E737DD-103E-499C-A9F6-D750C8DDAC55}, id 0

Ethernet II, Src: Intel_d9:2f:29 (c0:3c:59:d9:2f:29), Dst: All-HSRP-routers_fc (00:00:0c:07:ac:fc)

Internet Protocol Version 4, Src: 10.89.192.45, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 60610, Dst Port: 80, Seq: 1, Ack: 1, Len: 638

Hypertext Transfer Protocol

0000 00 00 0c 07 ac fc c0 3c 59 d9 2f 29 08 00 45 00<Y./)..E.
0010 02 a6 7d 6d 40 00 80 06 00 00 0a 59 c0 2d 80 77 ..}m@.....Y.-.w
0020 f5 0c ec c2 00 50 ad 53 0c fa 29 80 9e 82 50 18P.S...).P.
0030 02 00 42 a3 00 00 47 45 54 20 2f 77 69 72 65 73 ..B...GET /wires
0040 68 61 72 6b 2d 6c 61 62 73 2f 49 4e 54 52 4f 2d hark-labs/INTRO-
0050 77 69 72 65 73 68 61 72 6b 2d 66 69 6c 65 31 2e wireshark-file1.
0060 68 74 6d 6c 20 48 54 5a 50 2f 31 2e 31 0d 0a 48 html HTTP/1.1..H
0070 6f 73 74 3a 20 67 61 69 61 2e 63 73 2e 75 6d 61 ost: gaia.cs.uma
0080 73 73 2e 65 64 75 0d 0a 43 6f 6e 6e 65 63 74 69 ss.edu..Connecti
0090 6f 6e 3a 20 6b 65 65 70 2d 61 6c 69 76 65 0d 0a on: keep-alive..
00a0 43 61 63 68 65 2d 43 6f 6e 74 72 6f 6c 3a 20 6d Cache-Control: m
00b0 61 78 2d 61 67 65 3d 30 0d 0a 55 70 67 72 61 64 ax-age=0..Upgrad
00c0 65 2d 49 6e 73 65 63 75 72 65 2d 52 65 71 75 65 e-Insecure-Reque
00d0 73 74 73 3a 20 31 0d 0a 55 73 65 72 2d 41 67 65 sts: 1..User-Age
00e0 6e 74 3a 20 4d 6f 7a 69 6c 6c 61 2f 35 2e 30 20 nt: Mozilla/5.0
00f0 28 57 69 6e 64 6f 77 73 20 4e 54 20 31 30 2e 30 (Windows NT 10.0
0100 3b 20 57 69 6e 36 34 3b 20 78 36 34 29 20 41 70 ; Win64; x64) Ap
0110 70 6c 65 57 65 62 4b 69 74 2f 35 33 37 2e 33 36 pleWebKit/537.36
0120 20 28 4b 48 54 4d 4c 2c 20 6c 69 6b 65 20 47 65 (KHTML, like Ge
0130 63 6b 6f 29 20 43 68 72 6f 6d 65 2f 31 32 31 2e cko) Chrome/121.
0140 30 2e 30 2e 30 20 53 61 66 61 72 69 2f 35 33 37 0.0.0 Safari/537
0150 2e 33 36 0d 0a 41 63 63 65 70 74 3a 20 74 65 78 .36..Accept: tex
0160 74 2f 68 74 6d 6c 2c 61 70 70 6c 69 63 61 74 69 t/html,applicati
0170 6f 6e 2f 78 68 74 6d 6c 2b 78 6d 6c 2c 61 70 70 on/xhtml+xml,app
0180 6c 69 63 61 74 69 6f 6e 2f 78 6d 6c 3b 71 3d 3d lication/xml;q=0
0190 2e 39 2c 69 6d 61 67 65 2f 61 76 69 66 2c 69 6d .9,image/avif,im
01a0 61 67 65 2f 77 65 62 70 2c 69 6d 61 67 65 2f 61 age/webp,image/a
01b0 70 6e 67 2c 2a 2f 2a 3b 71 3d 30 2e 38 2c 61 70 png,*/;q=0.8,ap
01c0 70 6c 69 63 61 74 69 6f 6e 2f 73 69 67 6e 65 64 plication/signed
01d0 2d 65 78 63 68 61 6e 67 65 3b 76 3d 62 33 3b 71 -exchange;v=b3;q
01e0 3d 30 2e 37 0d 0a 41 63 63 65 70 74 2d 45 6e 63 =0.7..Accept-Enc
01f0 6f 64 69 6e 67 3a 20 67 7a 69 70 2c 20 64 65 66 oding: gzip, def
0200 6c 61 74 65 0d 0a 41 63 63 65 70 74 2d 4c 61 6e late..Accept-Lan
0210 67 75 61 67 65 3a 20 7a 68 2d 54 57 2c 7a 68 2d guage: zh-TW,zh-
0220 48 4b 3b 71 3d 30 2e 39 2c 7a 68 3b 71 3d 30 2e HK;q=0.9,zh;q=0.
0230 38 2c 65 6e 2d 55 53 3b 71 3d 30 2e 37 2c 65 6e 8,en-US;q=0.7,en
0240 3b 71 3d 30 2e 36 2c 7a 68 2d 43 4e 3b 71 3d 30 ;q=0.6,zh-CN;q=0
0250 2e 35 2c 6a 61 3b 71 3d 30 2e 34 0d 0a 49 66 2d .5,ja;q=0.4..If-
0260 4e 6f 6e 65 2d 4d 61 74 63 68 3a 20 22 35 31 2d None-Match: "51-
0270 36 31 30 62 31 31 63 66 64 33 63 33 31 22 0d 0a 610b11cfd3c31"..
0280 49 66 2d 4d 6f 64 69 66 69 65 64 2d 53 69 6e 63 If-Modified-Sinc
0290 65 3a 20 54 75 65 2c 20 30 36 20 46 65 62 20 32 e: Tue, 06 Feb 2
02a0 30 32 34 20 30 36 3a 35 39 3a 30 31 20 47 4d 54 024 06:59:01 GMT
02b0 0d 0a 0d 0a

No. Time Source Destination Protocol Length Info
185 2024-02-06 15:29:24.889075 128.119.245.12 10.89.192.45 HTTP 293 HTTP/1.1 304 Not Modified

Frame 185: 293 bytes on wire (2344 bits), 293 bytes captured (2344 bits) on interface \Device\NPF_{A8E737DD-103E-499C-A9F6-D750C8DDAC55}, id 0

Ethernet II, Src: Cisco_93:c2:1f (34:73:2d:93:c2:1f), Dst: Intel_d9:2f:29 (c0:3c:59:d9:2f:29)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 10.89.192.45

Transmission Control Protocol, Src Port: 80, Dst Port: 60610, Seq: 1, Ack: 639, Len: 239

Hypertext Transfer Protocol

0000 c0 3c 59 d9 2f 29 34 73 2d 93 c2 1f 08 00 45 00 .<Y./)4s-.....E.
0010 01 17 30 b9 40 00 25 06 e4 1d 80 77 f5 0c 0a 59 ..0.@.%...w...Y
0020 c0 2d 00 50 ec c2 29 80 9e 82 ad 53 0f 78 50 18 -.P...).S.xP.
0030 00 ef 33 7b 00 00 48 54 54 50 2f 31 2e 31 20 33 ..3{..HTTP/1.1 3
0040 30 34 20 4e 6f 74 20 4d 6f 64 69 66 69 65 64 0d 04 Not Modified.
0050 0a 44 61 74 65 3a 20 54 75 65 2c 20 30 36 20 46 .Date: Tue, 06 F
0060 65 62 20 32 30 32 34 20 30 37 3a 32 39 3a 32 36 eb 2024 07:29:26
0070 20 47 4d 54 0d 0a 53 65 72 76 65 72 3a 20 41 70 GMT..Server: Ap
0080 61 63 68 65 2f 32 2e 34 2e 36 20 28 43 65 6e 74 ache/2.4.6 (Cent
0090 4f 53 29 20 4f 70 65 6e 53 53 4c 2f 31 2e 30 2e OS) OpenSSL/1.0.
00a0 32 6b 2d 66 69 70 73 20 50 48 50 2f 37 2e 34 2e 2k-fips PHP/7.4.
00b0 33 33 20 6d 6f 64 5f 70 65 72 6c 2f 32 2e 30 2e 33 mod_perl/2.0.
00c0 31 31 20 50 65 72 6c 2f 76 35 2e 31 36 2e 33 0d 11 Perl/v5.16.3.
00d0 0a 43 6f 6e 6e 65 63 74 69 6f 6e 3a 20 4b 65 65 .Connection: Kee
00e0 70 2d 41 6c 69 76 65 0d 0a 4b 65 65 70 2d 41 6c p-Alive..Keep-Al
00f0 69 76 65 3a 20 74 69 6d 65 6f 75 74 3d 35 2c 20 ive: timeout=5,
0100 6d 61 78 3d 31 30 30 0d 0a 45 54 61 67 3a 20 22 max=100..ETag: "
0110 35 31 2d 36 31 30 62 31 31 63 66 64 33 63 33 31 51-610b11cfd3c31
0120 22 0d 0a 0d 0a "....