**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ**

**НАВЧАЛЬНО-НАУКОВИЙ КОМПЛЕКС**

**«ІНСТИТУТ ПРИКЛАДНОГО СИСТЕМНОГО АНАЛІЗУ»**

**НАЦІОНАЛЬНОГО ТЕХНІЧНОГО УНІВЕРСИТЕТУ УКРАЇНИ**

**«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ»**

**КАФЕДРА МАТЕМАТИЧНИХ МЕТОДІВ СИСТЕМНОГО АНАЛІЗУ**

**Практична робота №2**

**з курсу «Комп'ютерні мережі»**

**Виконала: студентка 3 курсу**

**групи КА-73**

**Смиковська Д.В.**

**Прийняв: Кухарєв С.О.**

**Київ – 2020р.**

**Пакети для відповідей 1-7 та 8-11:**

No. Time Source Destination Protocol Length Info

88 4.072678 192.168.0.159 128.119.245.12 HTTP 469 GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1

Frame 88: 469 bytes on wire (3752 bits), 469 bytes captured (3752 bits) on interface en1, id 0

Ethernet II, Src: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f), Dst: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4)

Internet Protocol Version 4, Src: 192.168.0.159, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 49731, Dst Port: 80, Seq: 1, Ack: 1, Len: 403

Hypertext Transfer Protocol

GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n

Host: gaia.cs.umass.edu\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:75.0) Gecko/20100101 Firefox/75.0\r\n

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,\*/\*;q=0.8\r\n

Accept-Language: uk-UA,uk;q=0.8,en-US;q=0.5,en;q=0.3\r\n

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

Upgrade-Insecure-Requests: 1\r\n

\r\n

[Full request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html]

[HTTP request 1/2]

[Response in frame: 102]

[Next request in frame: 104]

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No. Time Source Destination Protocol Length Info

102 4.192596 128.119.245.12 192.168.0.159 HTTP 552 HTTP/1.1 200 OK (text/html)

Frame 102: 552 bytes on wire (4416 bits), 552 bytes captured (4416 bits) on interface en1, id 0

Ethernet II, Src: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4), Dst: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.159

Transmission Control Protocol, Src Port: 80, Dst Port: 49731, Seq: 1, Ack: 404, Len: 486

Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

Date: Mon, 18 May 2020 09:37:43 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod\_perl/2.0.11 Perl/v5.16.3\r\n

Last-Modified: Mon, 18 May 2020 05:59:01 GMT\r\n

ETag: "80-5a5e5dc0f39f4"\r\n

Accept-Ranges: bytes\r\n

Content-Length: 128\r\n

Keep-Alive: timeout=5, max=100\r\n

Connection: Keep-Alive\r\n

Content-Type: text/html; charset=UTF-8\r\n

\r\n

[HTTP response 1/2]

[Time since request: 0.119918000 seconds]

[Request in frame: 88]

[Next request in frame: 104]

[Next response in frame: 107]

[Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html]

File Data: 128 bytes

Line-based text data: text/html (4 lines)

<html>\n

Congratulations. You've downloaded the file \n

http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html!\n

</html>\n

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No. Time Source Destination Protocol Length Info

103 5.986085 192.168.0.159 128.119.245.12 HTTP 580 GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1

Frame 103: 580 bytes on wire (4640 bits), 580 bytes captured (4640 bits) on interface en1, id 0

Ethernet II, Src: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f), Dst: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4)

Internet Protocol Version 4, Src: 192.168.0.159, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 49732, Dst Port: 80, Seq: 1, Ack: 1, Len: 514

Hypertext Transfer Protocol

GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n

Host: gaia.cs.umass.edu\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:75.0) Gecko/20100101 Firefox/75.0\r\n

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,\*/\*;q=0.8\r\n

Accept-Language: uk-UA,uk;q=0.8,en-US;q=0.5,en;q=0.3\r\n

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

Upgrade-Insecure-Requests: 1\r\n

If-Modified-Since: Mon, 18 May 2020 05:59:01 GMT\r\n

If-None-Match: "80-5a5e5dc0f39f4"\r\n

Cache-Control: max-age=0\r\n

\r\n

[Full request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html]

[HTTP request 1/1]

[Response in frame: 107]

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No. Time Source Destination Protocol Length Info

107 6.102814 128.119.245.12 192.168.0.159 HTTP 305 HTTP/1.1 304 Not Modified

Frame 107: 305 bytes on wire (2440 bits), 305 bytes captured (2440 bits) on interface en1, id 0

Ethernet II, Src: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4), Dst: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.159

Transmission Control Protocol, Src Port: 80, Dst Port: 49732, Seq: 1, Ack: 515, Len: 239

Hypertext Transfer Protocol

HTTP/1.1 304 Not Modified\r\n

Date: Mon, 18 May 2020 09:38:14 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod\_perl/2.0.11 Perl/v5.16.3\r\n

Connection: Keep-Alive\r\n

Keep-Alive: timeout=5, max=100\r\n

ETag: "80-5a5e5dc0f39f4"\r\n

\r\n

[HTTP response 1/1]

[Time since request: 0.116729000 seconds]

[Request in frame: 103]

[Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html]

**Пакети для відповідей 12-15:**

No. Time Source Destination Protocol Length Info

130 4.821846 192.168.0.159 66.6.101.171 HTTP 671 GET /dyn/str\_strip/000000000/00000000/0000000/000000/70000/7000 HTTP/1.1

Frame 130: 671 bytes on wire (5368 bits), 671 bytes captured (5368 bits) on interface en1, id 0

Ethernet II, Src: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f), Dst: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4)

Internet Protocol Version 4, Src: 192.168.0.159, Dst: 66.6.101.171

Transmission Control Protocol, Src Port: 49856, Dst Port: 80, Seq: 1, Ack: 1, Len: 605

Hypertext Transfer Protocol

GET /dyn/str\_strip/000000000/00000000/0000000/000000/70000/7000 HTTP/1.1\r\n

Host: www.dilbert.com\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:75.0) Gecko/20100101 Firefox/75.0\r\n

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,\*/\*;q=0.8\r\n

Accept-Language: uk-UA,uk;q=0.8,en-US;q=0.5,en;q=0.3\r\n

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

Cookie: \_ga=GA1.2.111453643.1588590188; \_\_qca=P0-961883290-1588590188641; \_\_gads=ID=113df00721e873cc:T=1588590189:S=ALNI\_MbPB-gdPDviPBfXEUU2GI1UIjEVpg; \_gid=GA1.2.1287125075.1589794857\r\n

Upgrade-Insecure-Requests: 1\r\n

\r\n

[Full request URI: http://www.dilbert.com/dyn/str\_strip/000000000/00000000/0000000/000000/70000/7000]

[HTTP request 1/1]

[Response in frame: 145]

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No. Time Source Destination Protocol Length Info

145 4.963826 66.6.101.171 192.168.0.159 HTTP 253 HTTP/1.1 301 Moved Permanently

Frame 145: 253 bytes on wire (2024 bits), 253 bytes captured (2024 bits) on interface en1, id 0

Ethernet II, Src: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4), Dst: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f)

Internet Protocol Version 4, Src: 66.6.101.171, Dst: 192.168.0.159

Transmission Control Protocol, Src Port: 80, Dst Port: 49856, Seq: 1, Ack: 606, Len: 187

Hypertext Transfer Protocol

HTTP/1.1 301 Moved Permanently\r\n

Content-Type: text/html\r\n

Content-length: 0\r\n

Connection: Close\r\n

Location: https://dilbert.com/dyn/str\_strip/000000000/00000000/0000000/000000/70000/7000\r\n

\r\n

[HTTP response 1/1]

[Time since request: 0.141980000 seconds]

[Request in frame: 130]

[Request URI: http://www.dilbert.com/dyn/str\_strip/000000000/00000000/0000000/000000/70000/7000]

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**Пакети для відповідей 16-17:**

No. Time Source Destination Protocol Length Info

268 16.398037 192.168.0.159 128.119.245.12 HTTP 469 GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1

Frame 268: 469 bytes on wire (3752 bits), 469 bytes captured (3752 bits) on interface en1, id 0

Ethernet II, Src: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f), Dst: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4)

Internet Protocol Version 4, Src: 192.168.0.159, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 49916, Dst Port: 80, Seq: 1, Ack: 1, Len: 403

Hypertext Transfer Protocol

GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1\r\n

Host: gaia.cs.umass.edu\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:75.0) Gecko/20100101 Firefox/75.0\r\n

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,\*/\*;q=0.8\r\n

Accept-Language: uk-UA,uk;q=0.8,en-US;q=0.5,en;q=0.3\r\n

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

Upgrade-Insecure-Requests: 1\r\n

\r\n

[Full request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html]

[HTTP request 1/3]

[Response in frame: 273]

[Next request in frame: 275]

————————————————————————————————No. Time Source Destination Protocol Length Info

273 16.520807 128.119.245.12 192.168.0.159 HTTP 1139 HTTP/1.1 200 OK (text/html)

Frame 273: 1139 bytes on wire (9112 bits), 1139 bytes captured (9112 bits) on interface en1, id 0

Ethernet II, Src: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4), Dst: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.159

Transmission Control Protocol, Src Port: 80, Dst Port: 49916, Seq: 1, Ack: 404, Len: 1073

Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

Date: Mon, 18 May 2020 09:51:33 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod\_perl/2.0.11 Perl/v5.16.3\r\n

Last-Modified: Mon, 18 May 2020 05:59:01 GMT\r\n

ETag: "2ca-5a5e5dc0eefbc"\r\n

Accept-Ranges: bytes\r\n

Content-Length: 714\r\n

Keep-Alive: timeout=5, max=100\r\n

Connection: Keep-Alive\r\n

Content-Type: text/html; charset=UTF-8\r\n

\r\n

[HTTP response 1/3]

[Time since request: 0.122770000 seconds]

[Request in frame: 268]

[Next request in frame: 275]

[Next response in frame: 281]

[Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html]

File Data: 714 bytes

Line-based text data: text/html (17 lines)

<html>\n

<head>\n

<title>Lab2-4 file: Embedded URLs</title>\n

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">\n

</head>\n

\n

<body bgcolor="#FFFFFF" text="#000000">\n

\n

<p>\n

<img src="http://gaia.cs.umass.edu/pearson.png" WIDTH="70" HEIGHT="41" > </p>\n

<p>This little HTML file is being served by gaia.cs.umass.edu. \n

It contains two embedded images. <br> The image above, also served from the \n

gaia.cs.umass.edu web site, is the logo of our publisher, Pearson. <br>\n

The image of our 5th edition book cover below is stored at, and served from, the www server caite.cs.umass.edu:</p>\n

<p align="left"><img src="http://manic.cs.umass.edu/~kurose/cover\_5th\_ed.jpg" width="168" height="220"></p>\n

</body>\n

</html>\n

————————————————————————————————No. Time Source Destination Protocol Length Info

275 16.553389 192.168.0.159 128.119.245.12 HTTP 426 GET /pearson.png HTTP/1.1

Frame 275: 426 bytes on wire (3408 bits), 426 bytes captured (3408 bits) on interface en1, id 0

Ethernet II, Src: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f), Dst: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4)

Internet Protocol Version 4, Src: 192.168.0.159, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 49916, Dst Port: 80, Seq: 404, Ack: 1074, Len: 360

Hypertext Transfer Protocol

GET /pearson.png HTTP/1.1\r\n

Host: gaia.cs.umass.edu\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:75.0) Gecko/20100101 Firefox/75.0\r\n

Accept: image/webp,\*/\*\r\n

Accept-Language: uk-UA,uk;q=0.8,en-US;q=0.5,en;q=0.3\r\n

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

Referer: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html\r\n

\r\n

[Full request URI: http://gaia.cs.umass.edu/pearson.png]

[HTTP request 2/3]

[Prev request in frame: 268]

[Response in frame: 281]

[Next request in frame: 285]

————————————————————————————————No. Time Source Destination Protocol Length Info

281 16.672360 128.119.245.12 192.168.0.159 HTTP 781 HTTP/1.1 200 OK (PNG)

Frame 281: 781 bytes on wire (6248 bits), 781 bytes captured (6248 bits) on interface en1, id 0

Ethernet II, Src: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4), Dst: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.159

Transmission Control Protocol, Src Port: 80, Dst Port: 49916, Seq: 3970, Ack: 764, Len: 715

[3 Reassembled TCP Segments (3611 bytes): #279(1448), #280(1448), #281(715)]

Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

Date: Mon, 18 May 2020 09:51:33 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod\_perl/2.0.11 Perl/v5.16.3\r\n

Last-Modified: Sat, 06 Aug 2016 10:08:14 GMT\r\n

ETag: "cc3-539645c7f1ee7"\r\n

Accept-Ranges: bytes\r\n

Content-Length: 3267\r\n

Keep-Alive: timeout=5, max=99\r\n

Connection: Keep-Alive\r\n

Content-Type: image/png\r\n

\r\n

[HTTP response 2/3]

[Time since request: 0.118971000 seconds]

[Prev request in frame: 268]

[Prev response in frame: 273]

[Request in frame: 275]

[Next request in frame: 285]

[Next response in frame: 289]

[Request URI: http://gaia.cs.umass.edu/pearson.png]

File Data: 3267 bytes

Portable Network Graphics

————————————————————————————————No. Time Source Destination Protocol Length Info

285 16.776153 192.168.0.159 128.119.245.12 HTTP 350 GET /favicon.ico HTTP/1.1

Frame 285: 350 bytes on wire (2800 bits), 350 bytes captured (2800 bits) on interface en1, id 0

Ethernet II, Src: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f), Dst: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4)

Internet Protocol Version 4, Src: 192.168.0.159, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 49916, Dst Port: 80, Seq: 764, Ack: 4685, Len: 284

Hypertext Transfer Protocol

GET /favicon.ico HTTP/1.1\r\n

Host: gaia.cs.umass.edu\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:75.0) Gecko/20100101 Firefox/75.0\r\n

Accept: image/webp,\*/\*\r\n

Accept-Language: uk-UA,uk;q=0.8,en-US;q=0.5,en;q=0.3\r\n

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

\r\n

[Full request URI: http://gaia.cs.umass.edu/favicon.ico]

[HTTP request 3/3]

[Prev request in frame: 275]

[Response in frame: 289]

————————————————————————————————No. Time Source Destination Protocol Length Info

288 16.784789 192.168.0.159 128.119.245.12 HTTP 440 GET /~kurose/cover\_5th\_ed.jpg HTTP/1.1

Frame 288: 440 bytes on wire (3520 bits), 440 bytes captured (3520 bits) on interface en1, id 0

Ethernet II, Src: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f), Dst: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4)

Internet Protocol Version 4, Src: 192.168.0.159, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 49918, Dst Port: 80, Seq: 1, Ack: 1, Len: 374

Hypertext Transfer Protocol

GET /~kurose/cover\_5th\_ed.jpg HTTP/1.1\r\n

Host: manic.cs.umass.edu\r\n

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:75.0) Gecko/20100101 Firefox/75.0\r\n

Accept: image/webp,\*/\*\r\n

Accept-Language: uk-UA,uk;q=0.8,en-US;q=0.5,en;q=0.3\r\n

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

Referer: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html\r\n

\r\n

[Full request URI: http://manic.cs.umass.edu/~kurose/cover\_5th\_ed.jpg]

[HTTP request 1/1]

[Response in frame: 413]

————————————————————————————————No. Time Source Destination Protocol Length Info

289 16.894158 128.119.245.12 192.168.0.159 HTTP 550 HTTP/1.1 404 Not Found (text/html)

Frame 289: 550 bytes on wire (4400 bits), 550 bytes captured (4400 bits) on interface en1, id 0

Ethernet II, Src: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4), Dst: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.159

Transmission Control Protocol, Src Port: 80, Dst Port: 49916, Seq: 4685, Ack: 1048, Len: 484

Hypertext Transfer Protocol

HTTP/1.1 404 Not Found\r\n

Date: Mon, 18 May 2020 09:51:33 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod\_perl/2.0.11 Perl/v5.16.3\r\n

Content-Length: 209\r\n

Keep-Alive: timeout=5, max=98\r\n

Connection: Keep-Alive\r\n

Content-Type: text/html; charset=iso-8859-1\r\n

\r\n

[HTTP response 3/3]

[Time since request: 0.118005000 seconds]

[Prev request in frame: 275]

[Prev response in frame: 281]

[Request in frame: 285]

[Request URI: http://gaia.cs.umass.edu/favicon.ico]

File Data: 209 bytes

Line-based text data: text/html (7 lines)

<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">\n

<html><head>\n

<title>404 Not Found</title>\n

</head><body>\n

<h1>Not Found</h1>\n

<p>The requested URL /favicon.ico was not found on this server.</p>\n

</body></html>\n

————————————————————————————————No. Time Source Destination Protocol Length Info

413 17.265699 128.119.245.12 192.168.0.159 HTTP 1472 HTTP/1.1 200 OK (JPEG JFIF image)

Frame 413: 1472 bytes on wire (11776 bits), 1472 bytes captured (11776 bits) on interface en1, id 0

Ethernet II, Src: Tp-LinkT\_fe:8e:b4 (ec:08:6b:fe:8e:b4), Dst: Apple\_d7:ab:7f (20:c9:d0:d7:ab:7f)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.159

Transmission Control Protocol, Src Port: 80, Dst Port: 49918, Seq: 99913, Ack: 375, Len: 1406

[70 Reassembled TCP Segments (101318 bytes): #292(1448), #293(1448), #295(1448), #297(1448), #298(1448), #300(1448), #302(1448), #303(1448), #306(1448), #307(1448), #310(1448), #311(1448), #312(1448), #315(1448), #317(1448), #318(1448), #32]

Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

Date: Mon, 18 May 2020 09:51:33 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod\_perl/2.0.11 Perl/v5.16.3\r\n

Last-Modified: Tue, 15 Sep 2009 18:23:27 GMT\r\n

ETag: "18a68-473a1e0e6e5c0"\r\n

Accept-Ranges: bytes\r\n

Content-Length: 100968\r\n

Keep-Alive: timeout=5, max=100\r\n

Connection: Keep-Alive\r\n

Content-Type: image/jpeg\r\n

\r\n

[HTTP response 1/1]

[Time since request: 0.480910000 seconds]

[Request in frame: 288]

[Request URI: http://manic.cs.umass.edu/~kurose/cover\_5th\_ed.jpg]

File Data: 100968 bytes

JPEG File Interchange Format

**Контрольні запитання:**

1. **Яку версію протоколу HTTP використовує ваш браузер (1.0 чи 1.1)? Яку версіюпротоколу використовує сервер?**

Обидва використовують версію 1.1

1. **Які мови (якщо вказано) браузер може прийняти від сервера?**

Американську англійську мову

Accept-Language: en-US,en;q=0.5\r\n

1. **Які IP-адреси вашого комп’ютера та цільового веб-сервера?**

Мого компютера: 172.16.42.56

Веб-сервера: 128.119.245.12

1. **Який статусний код сервер повернув у відповіді вашому браузеру?**

200

1. **Коли на сервері в останній раз був модифікований файл, який запитується браузером?**

Mon, 18 May 2020 05:59:01 GMT\r\n

1. **Скільки байт контенту повертається сервером?**

128

1. **Переглядаючи нерозібраний байтовий потік пакету, чи бачите ви деякі заголовки в потоці, які не відображаються у вікні деталей пакету? Якщо так, назвіть один з них.**

Не помітила

1. **Перевірте вміст першого запиту HTTP GET від вашого браузера до сервера. Чи є в ньому заголовок IF-MODIFIED-SINCE?**

Ні, немає

1. **Перевірте вміст першої відповіді сервера. Чи повернув сервер вміст файлу безпосередньо у відповіді?**

Так

1. **Перевірте вміст другого запиту HTTP GET. Чи є в ньому заголовок IF-MODIFIED-SINCE? Якщо так, яке значення йому відповідає?**

Mon, 18 May 2020 05:59:01 GMT\r\n

1. **Який код та опис статусу другої відповіді сервера? Чи повернув сервер вміст файлу безпосередньо у відповіді?**

304 Not Modified, ні

1. **Скільки повідомлень HTTP GET було відправлено вашим браузером?**

Одне

1. **Скільки пакетів TCP було необхідно для доставки одної відповіді HTTP-сервера?**

14

1. **Який код та опис статусу був у відповіді сервера?**

200 OK

1. **Чи зустрічаються у даних пакетів-продовжень протоколу TCP стрічки з кодом та описом статусу відповіді, або ж якісь заголовки протоколу HTTP?**

Так, таким чином починається перший пакет протоколу TCP

1. **Скільки запитів HTTP GET було відправлено вашим браузером? Якими були цільові IP-адреси запитів?**

6 запитів.

128.119.245.12

23.0.37.195

128.119.240.90

128.119.240.90

128.119.245.12

128.119.245.12

1. **Чи можете ви встановити, чи були ресурси отримані паралельно чи послідовно? Яким чином?**

Послідовно, за часом надходження відповідей та адресами.