## 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-71

Саркісян А.О.

Прийняв: Кухарєв С.О.

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,\*/  $*;q=0.8\rdername{'}\sl n$ 

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]

 No.
 Time 102 4.192596
 Source Destination Protocol Length Info 128.119.245.12
 Protocol Length Info 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

 $</html>\n$ 

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]

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 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

 $HTTP/1.1\r\n$ 

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; \_ q c a = P 0 - 9 6 1 8 8 3 2 9 0 - 1 5 8 8 5 9 0 1 8 8 6 4 1; gads=ID=113df00721e873cc:T=1588590189:S=ALNI MbPBgdPDviPBfXEUU2GI1UIjEVpg; 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/ 00000000/00000000/000000/000000/70000/70001

[HTTP request 1/1]

[Response in frame: 145]

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

 $r\n$ 

[HTTP response 1/1]

[Time since request: 0.141980000 seconds]

[Request in frame: 130]

\_\_\_\_\_

## 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

 $</head>\n$ 

\n

```
<body bgcolor="#FFFFFF" text="#000000">\n
  \n
   \ n
          <img src="http://gaia.cs.umass.edu/pearson.png" WIDTH="70"</pre>
HEIGHT="41" > \n
  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:\n
          <img src="http://manic.cs.umass.edu/~kurose/</pre>
cover 5th ed.jpg" width="168" height="220">\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]
```

No. Time Protocol Length Info Source Destination 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

 $Accept-Language: uk-UA,uk; q=0.8,en-US; q=0.5,en; q=0.3 \\ \label{eq:language} Accept-Language: uk-UA,uk; q=0.8,en-US; q=0.5,en; q=0.3 \\ \label{eq:language} Accept-Language: uk-UA,uk; q=0.8,en-US; q=0.5,en; q=0.8,en-US; q=0.8$ 

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

The requested URL /favicon.ico was not found on this server.\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,  $max=100\r$ 

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



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

Обидва використовують версію 1.1

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

Американську англійську мову

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

3.Які ІР-адреси вашого комп'ютера та цільового веб-сервера?

Мого компютера: 172.16.42.56 Веб-сервера: 128.119.245.12

**4.**Який статусний код сервер повернув у відповіді вашому браузеру? 200

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

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

**6.**Скільки байт контенту повертається сервером? 128

7.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

8.Перевірте вміст першого запиту HTTP GET від вашого браузера до сервера. Чи  $\epsilon$  в ньому заголовок IF-MODIFIED-SINCE? Ні. нема $\epsilon$ 

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

Так

10.Перевірте вміст другого запиту HTTP GET. Чи  $\epsilon$  в ньому заголовок IF-MODIFIED-SINCE? Якщо так, яке значення йому відповіда $\epsilon$ ? Mon, 18 May 2020 05:59:01 GMT\r\n

11.Який код та опис статусу другої відповіді сервера? Чи повернув сервер вміст файлу безпосередньо у відповіді? 304 Not Modified, ні

## 12.Скільки повідомлень HTTP GET було відправлено вашим браузером?

Одне

13.Скільки пакетів ТСР було необхідно для доставки одної відповіді НТТР-сервера?

14

**14.Який код та опис статусу був у відповіді сервера?** 200 ОК

15. Чи зустрічаються у даних пакетів-продовжень протоколу ТСР стрічки з кодом та описом статусу відповіді, або ж якісь заголовки протоколу НТТР?

Так, таким чином починається перший пакет протоколу ТСР

16.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

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

Послідовно, за часом надходження відповідей та адресами.