

**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»**

**Виконав: студент 3 курсу  
групи КА-73**

**Приходько А. І.**

**Прийняв: Кухарев С.О.**

**Київ – 2020р.**

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

| No. | Time         | Source        | Destination    | Protocol | Length | Info   |
|-----|--------------|---------------|----------------|----------|--------|--|
| 132 | 72.936895000 | 192.168.1.245 | 128.119.245.12 | HTTP     | 401    | GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1 |

Frame 132: 401 bytes on wire (3208 bits), 401 bytes captured (3208 bits) on interface 0

Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)

Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 128.119.245.12 (128.119.245.12)

Transmission Control Protocol, Src Port: 52912 (52912), Dst Port: http (80), Seq: 1, Ack: 1, Len: 335

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 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n

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

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

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

\r\n

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

[HTTP request 1/3]

[Response in frame: 134]

[Next request in frame: 136]

-----

| No. | Time         | Source         | Destination   | Protocol | Length | Info                        |
|-----|--------------|----------------|---------------|----------|--------|-----------------------------|
| 134 | 73.062917000 | 128.119.245.12 | 192.168.1.245 | HTTP     | 554    | HTTP/1.1 200 OK (text/html) |

Frame 134: 554 bytes on wire (4432 bits), 554 bytes captured (4432 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)

Internet Protocol Version 4, Src: 128.119.245.12 (128.119.245.12), Dst: 192.168.1.245 (192.168.1.245)

Transmission Control Protocol, Src Port: http (80), Dst Port: 52912 (52912), Seq: 1, Ack: 336, Len: 488

Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

Date: Wed, 13 Apr 2016 20:45:59 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips PHP/5.4.16 mod\_perl/2.0.9dev Perl/v5.16.3\r\n

Last-Modified: Wed, 13 Apr 2016 05:59:02 GMT\r\n

ETag: "80-53057797dab45"\r\n

Accept-Ranges: bytes\r\n

Content-Length: 128\r\n

[Content length: 128]

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: 0.126022000 seconds]

[Request in frame: 132]

[Next request in frame: 136]

[Next response in frame: 137]

Line-based text data: text/html

<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   |
|-----|-------------|---------------|----------------|----------|--------|--|
| 39  | 9.328493000 | 192.168.1.245 | 128.119.245.12 | HTTP     | 512    | GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1 |

Frame 39: 512 bytes on wire (4096 bits), 512 bytes captured (4096 bits) on interface 0

Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)  
Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 128.119.245.12 (128.119.245.12)  
Transmission Control Protocol, Src Port: 52918 (52918), Dst Port: http (80), Seq: 1, Ack: 1, Len: 446  
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 (X11; Ubuntu; Linux x86_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8\r\n
Accept-Language: en-US,en;q=0.5\r\n
Accept-Encoding: gzip, deflate\r\n
Connection: keep-alive\r\n
If-Modified-Since: Wed, 13 Apr 2016 05:59:02 GMT\r\n
If-None-Match: "80-53057797dab45"\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: 41]
```

---

| No. | Time        | Source         | Destination   | Protocol | Length | Info                      |
|-----|-------------|----------------|---------------|----------|--------|---------------------------|
| 41  | 9.453198000 | 128.119.245.12 | 192.168.1.245 | HTTP     | 307    | HTTP/1.1 304 Not Modified |

Frame 41: 307 bytes on wire (2456 bits), 307 bytes captured (2456 bits) on interface 0  
Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)  
Internet Protocol Version 4, Src: 128.119.245.12 (128.119.245.12), Dst: 192.168.1.245 (192.168.1.245)  
Transmission Control Protocol, Src Port: http (80), Dst Port: 52918 (52918), Seq: 1, Ack: 447, Len: 241  
Hypertext Transfer Protocol  
HTTP/1.1 304 Not Modified\r\n  
Date: Wed, 13 Apr 2016 20:51:22 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips PHP/5.4.16 mod\_perl/2.0.9dev Perl/v5.16.3\r\n

Connection: Keep-Alive\r\n

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

ETag: "80-53057797dab45"\r\n

\r\n

[HTTP response 1/1]

[Time since request: 0.124705000 seconds]

[Request in frame: 39]

#### Пакети для відповідей 12-15:

| No. | Time        | Source        | Destination   | Protocol | Length | Info                                       |
|-----|-------------|---------------|---------------|----------|--------|--|
| 93  | 4.046235000 | 192.168.1.245 | 77.222.57.253 | HTTP     | 359    | GET /admin/pictures/33320543s.jpg HTTP/1.1 |

Frame 93: 359 bytes on wire (2872 bits), 359 bytes captured (2872 bits) on interface 0

Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)

Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 77.222.57.253 (77.222.57.253)

Transmission Control Protocol, Src Port: 51168 (51168), Dst Port: http (80), Seq: 1, Ack: 1, Len: 293

Hypertext Transfer Protocol

GET /admin/pictures/33320543s.jpg HTTP/1.1\r\n

[Expert Info (Chat/Sequence): GET /admin/pictures/33320543s.jpg HTTP/1.1\r\n]

[Message: GET /admin/pictures/33320543s.jpg HTTP/1.1\r\n]

[Severity level: Chat]

[Group: Sequence]

Request Method: GET

Request URI: /admin/pictures/33320543s.jpg

Request Version: HTTP/1.1

Host: www.elkamarket.ru\r\n

User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n

Accept: image/png,image/\*;q=0.8,\*/\*;q=0.5\r\n

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

Accept-Encoding: gzip, deflate\r\n

Connection: keep-alive\r\n

\r\n

[Full request URI: http://www.elkamarket.ru/admin/pictures/33320543s.jpg]

[HTTP request 1/1]

[Response in frame: 150]

-----

| No. | Time        | Source        | Destination   | Protocol | Length | Info                                 |
|-----|-------------|---------------|---------------|----------|--------|--------------------------------------|
| 150 | 4.275628000 | 77.222.57.253 | 192.168.1.245 | HTTP     | 3394   | HTTP/1.1 200 OK<br>(JPEG JFIF image) |

Frame 150: 3394 bytes on wire (27152 bits), 3394 bytes captured (27152 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)

Internet Protocol Version 4, Src: 77.222.57.253 (77.222.57.253), Dst: 192.168.1.245 (192.168.1.245)

Transmission Control Protocol, Src Port: http (80), Dst Port: 51168 (51168), Seq: 43441, Ack: 294, Len: 3328

[14 Reassembled TCP Segments (46768 bytes): #106(2896), #108(4344), #110(5792), #112(1448), #118(2896), #120(2896), #122(2896), #124(5792), #126(5792), #142(2896), #144(2896), #146(1448), #148(1448), #150(3328)]

Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

[Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]

[Message: HTTP/1.1 200 OK\r\n]

[Severity level: Chat]

[Group: Sequence]

Request Version: HTTP/1.1

Status Code: 200

Response Phrase: OK

Server: nginx/1.7.6\r\n

Date: Wed, 13 Apr 2016 21:03:18 GMT\r\n

Content-Type: image/jpeg\r\n  
Content-Length: 46491\r\n  
Connection: keep-alive\r\n  
Keep-Alive: timeout=10\r\n  
Last-Modified: Sat, 17 Oct 2015 15:54:37 GMT\r\n  
ETag: "5b3854-b59b-5224eeddc8940"\r\n  
Accept-Ranges: bytes\r\n  
\r\n  
[HTTP response 1/1]  
[Time since request: 0.229393000 seconds]  
[Request in frame: 93]

JPEG File Interchange Format

-----  
**Пакети для відповідей 16-17:**

| No. | Time         | Source        | Destination    | Protocol | Length | Info |
|-----|--------------|---------------|----------------|----------|--------|------|
| 176 | 12.456787000 | 192.168.1.245 | 128.119.245.12 | HTTP     | 401    | GET  |

/wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1

Frame 176: 401 bytes on wire (3208 bits), 401 bytes captured (3208 bits) on interface 0  
Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)  
Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 128.119.245.12 (128.119.245.12)  
Transmission Control Protocol, Src Port: 54352 (54352), Dst Port: http (80), Seq: 1, Ack: 1, Len: 335  
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 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n  
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,\*/\*;q=0.8\r\n  
Accept-Language: en-US,en;q=0.5\r\n  
Accept-Encoding: gzip, deflate\r\n  
Connection: keep-alive\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: 178]

[Next request in frame: 309]

| -----No.         |                |               |        |      | Time                           |
|------------------|----------------|---------------|--------|------|--------------------------------|
| Source           | Destination    | Protocol      | Length | Info |                                |
| 178 12.579343000 | 128.119.245.12 | 192.168.1.245 | HTTP   | 1168 | HTTP/1.1 200 OK<br>(text/html) |

Frame 178: 1168 bytes on wire (9344 bits), 1168 bytes captured (9344 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)

Internet Protocol Version 4, Src: 128.119.245.12 (128.119.245.12), Dst: 192.168.1.245 (192.168.1.245)

Transmission Control Protocol, Src Port: http (80), Dst Port: 54352 (54352), Seq: 1, Ack: 336, Len: 1102

Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

Date: Wed, 13 Apr 2016 21:05:08 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips PHP/5.4.16 mod\_perl/2.0.9dev Perl/v5.16.3\r\n

Last-Modified: Wed, 13 Apr 2016 05:59:02 GMT\r\n

ETag: "2e5-53057797d97bd"\r\n

Accept-Ranges: bytes\r\n

Content-Length: 741\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: 0.122556000 seconds]

[Request in frame: 176]

[Next request in frame: 309]



[Next response in frame: 311]

Line-based text data: text/html

| -----No.   |               |             |        |      |     | Time |
|--|---------------|-------------|--------|------|-----|------|
| Source   | Destination   | Protocol    | Length | Info |     |      |
| 189 12.804023000   | 192.168.1.245 | 23.0.37.195 | HTTP   | 473  | GET |      |
| /assets/hip/us/hip_us_pearsonhighered/images/pearson_logo.gif HTTP/1.1 |               |             |        |      |     |      |

Frame 189: 473 bytes on wire (3784 bits), 473 bytes captured (3784 bits) on interface 0

Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)

Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 23.0.37.195 (23.0.37.195)

Transmission Control Protocol, Src Port: 49382 (49382), Dst Port: http (80), Seq: 1, Ack: 1, Len: 407

Hypertext Transfer Protocol

GET /assets/hip/us/hip\_us\_pearsonhighered/images/pearson\_logo.gif HTTP/1.1\r\n

Host: www.pearsonhighered.com\r\n

User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n

Accept: image/png,image/\*;q=0.8,\*/\*;q=0.5\r\n

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

Accept-Encoding: gzip, deflate\r\n

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

Connection: keep-alive\r\n

\r\n

[Full request URI:  
http://www.pearsonhighered.com/assets/hip/us/hip\_us\_pearsonhighered/images/pearson\_logo.gif]

[HTTP request 1/1]

[Response in frame: 191]

| -----No.          |             |               |        |      |          | Time |
|-------------------|-------------|---------------|--------|------|----------|------|
| Source            | Destination | Protocol      | Length | Info |          |      |
| 191 12.833498000  | 23.0.37.195 | 192.168.1.245 | HTTP   | 305  | HTTP/1.1 | 301  |
| Moved Permanently |             |               |        |      |          |      |

Frame 191: 305 bytes on wire (2440 bits), 305 bytes captured (2440 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)  
Internet Protocol Version 4, Src: 23.0.37.195 (23.0.37.195), Dst: 192.168.1.245 (192.168.1.245)  
Transmission Control Protocol, Src Port: http (80), Dst Port: 49382 (49382), Seq: 1, Ack: 408, Len: 239  
Hypertext Transfer Protocol

HTTP/1.1 301 Moved Permanently\r\n  
Server: AkamaiGHost\r\n  
Content-Length: 0\r\n  
Location: https://www.pearsonhighered.com/assets/hip/us/hip\_us\_pearsonhighered/images/pearson\_logo.gif\r\n  
Date: Wed, 13 Apr 2016 21:05:08 GMT\r\n  
Connection: keep-alive\r\n  
\r\n  
[HTTP response 1/1]  
[Time since request: 0.029475000 seconds]  
[Request in frame: 189]

| -----No.                           |               |                |        |      |     | Time |
|------------------------------------|---------------|----------------|--------|------|-----|------|
| Source                             | Destination   | Protocol       | Length | Info |     |      |
| 220 12.992862000                   | 192.168.1.245 | 128.119.240.90 | HTTP   | 432  | GET |      |
| /~kurose/cover_5th_ed.jpg HTTP/1.1 |               |                |        |      |     |      |

Frame 220: 432 bytes on wire (3456 bits), 432 bytes captured (3456 bits) on interface 0  
Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)  
Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 128.119.240.90 (128.119.240.90)  
Transmission Control Protocol, Src Port: 54646 (54646), Dst Port: http (80), Seq: 1, Ack: 1, Len: 366  
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 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n  
Accept: image/png,image/\*;q=0.8,\*/\*;q=0.5\r\n  
Accept-Language: en-US,en;q=0.5\r\n  
Accept-Encoding: gzip, deflate\r\n

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

Connection: keep-alive\r\n

\r\n

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

[HTTP request 1/1]

[Response in frame: 237]

| -----No.         |                |               |        |      |          | Time |
|------------------|----------------|---------------|--------|------|----------|------|
| Source           | Destination    | Protocol      | Length | Info |          |      |
| 237 13.109964000 | 128.119.240.90 | 192.168.1.245 | HTTP   | 522  | HTTP/1.1 | 302  |
| Found            | (text/html)    |               |        |      |          |      |

Frame 237: 522 bytes on wire (4176 bits), 522 bytes captured (4176 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)

Internet Protocol Version 4, Src: 128.119.240.90 (128.119.240.90), Dst: 192.168.1.245 (192.168.1.245)

Transmission Control Protocol, Src Port: http (80), Dst Port: 54646 (54646), Seq: 1, Ack: 367, Len: 456

Hypertext Transfer Protocol

HTTP/1.1 302 Found\r\n

Date: Wed, 13 Apr 2016 21:05:07 GMT\r\n

Server: Apache\r\n

Location: http://caite.cs.umass.edu/~kurose/cover\_5th\_ed.jpg\r\n

Content-Length: 234\r\n

Connection: close\r\n

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

\r\n

[HTTP response 1/1]

[Time since request: 0.117102000 seconds]

[Request in frame: 220]

Line-based text data: text/html

| -----No. |             |          |        |      |  | Time |
|----------|-------------|----------|--------|------|--|------|
| Source   | Destination | Protocol | Length | Info |  |      |

252 13.258104000 192.168.1.245 128.119.240.90 HTTP 432 GET  
/~kurose/cover\_5th\_ed.jpg HTTP/1.1

Frame 252: 432 bytes on wire (3456 bits), 432 bytes captured (3456 bits) on interface 0

Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)

Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 128.119.240.90 (128.119.240.90)

Transmission Control Protocol, Src Port: 54654 (54654), Dst Port: http (80), Seq: 1, Ack: 1, Len: 366

Hypertext Transfer Protocol

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

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

User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n

Accept: image/png,image/\*;q=0.8,\*/\*;q=0.5\r\n

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

Accept-Encoding: gzip, deflate\r\n

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

Connection: keep-alive\r\n

\r\n

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

[HTTP request 1/1]

[Response in frame: 302]

| -----No.         |                |               |        |      |          | Time                        |
|------------------|----------------|---------------|--------|------|----------|-----------------------------|
| Source           | Destination    | Protocol      | Length | Info |          |                             |
| 302 13.856007000 | 128.119.240.90 | 192.168.1.245 | HTTP   | 2814 | HTTP/1.1 | 200 OK<br>(JPEG JFIF image) |

Frame 302: 2814 bytes on wire (22512 bits), 2814 bytes captured (22512 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)

Internet Protocol Version 4, Src: 128.119.240.90 (128.119.240.90), Dst: 192.168.1.245 (192.168.1.245)

Transmission Control Protocol, Src Port: http (80), Dst Port: 54654 (54654), Seq: 98465, Ack: 367, Len: 2748

[25 Reassembled TCP Segments (101212 bytes): #254(4344), #256(8688), #258(1448), #260(2896), #262(1448), #264(1448), #266(4344), #268(4344), #270(2896), #272(4344), #274(2896), #276(1448), #278(13032), #280(4344),

#282(1448), #284(2896), #2]

## Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n

Date: Wed, 13 Apr 2016 21:05:07 GMT\r\n

Server: Apache\r\n

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

ETag: "78004-18a68-473a1e0e6e5c0"\r\n

Accept-Ranges: bytes\r\n

Content-Length: 100968\r\n

Connection: close\r\n

Content-Type: image/jpeg\r\n

\r\n

[HTTP response 1/1]

[Time since request: 0.597903000 seconds]

[Request in frame: 252]

## JPEG File Interchange Format

| -----No.         |               |                |        |      | Time |              |
|------------------|---------------|----------------|--------|------|------|--------------|
| Source           | Destination   | Protocol       | Length | Info |      |              |
| 309 14.059260000 | 192.168.1.245 | 128.119.245.12 | HTTP   | 342  | GET  | /favicon.ico |
| HTTP/1.1         |               |                |        |      |      |              |

Frame 309: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface 0

Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)

Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 128.119.245.12 (128.119.245.12)

Transmission Control Protocol, Src Port: 54352 (54352), Dst Port: http (80), Seq: 336, Ack: 1103, Len: 276

## Hypertext Transfer Protocol

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

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

User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n

Accept: image/png,image/\*;q=0.8,\*/\*;q=0.5\r\n

Accept-Language: en-US,en;q=0.5\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 2/3]

[Prev request in frame: 176]

[Response in frame: 311]

[Next request in frame: 315]

| -----No.         |                |               |        |      |                                    | Time |
|------------------|----------------|---------------|--------|------|------------------------------------|------|
| Source           | Destination    | Protocol      | Length | Info |                                    |      |
| 311 14.180595000 | 128.119.245.12 | 192.168.1.245 | HTTP   | 552  | HTTP/1.1 404 Not Found (text/html) |      |

Frame 311: 552 bytes on wire (4416 bits), 552 bytes captured (4416 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)

Internet Protocol Version 4, Src: 128.119.245.12 (128.119.245.12), Dst: 192.168.1.245 (192.168.1.245)

Transmission Control Protocol, Src Port: http (80), Dst Port: 54352 (54352), Seq: 1103, Ack: 612, Len: 486

Hypertext Transfer Protocol

HTTP/1.1 404 Not Found\r\n

Date: Wed, 13 Apr 2016 21:05:09 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips PHP/5.4.16 mod\_perl/2.0.9dev Perl/v5.16.3\r\n

Content-Length: 209\r\n

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

Connection: Keep-Alive\r\n

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

\r\n

[HTTP response 2/3]

[Time since request: 0.121335000 seconds]

[Prev request in frame: 176]

[Prev response in frame: 178]

[Request in frame: 309]

[Next request in frame: 315]

[Next response in frame: 318]

Line-based text data: text/html

| -----No.         |               |                |        |      |                  | Time |
|------------------|---------------|----------------|--------|------|------------------|------|
| Source           | Destination   | Protocol       | Length | Info |                  |      |
| 315 14.181505000 | 192.168.1.245 | 128.119.245.12 | HTTP   | 372  | GET /favicon.ico |      |
| HTTP/1.1         |               |                |        |      |                  |      |

Frame 315: 372 bytes on wire (2976 bits), 372 bytes captured (2976 bits) on interface 0

Ethernet II, Src: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3), Dst: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3)

Internet Protocol Version 4, Src: 192.168.1.245 (192.168.1.245), Dst: 128.119.245.12 (128.119.245.12)

Transmission Control Protocol, Src Port: 54352 (54352), Dst Port: http (80), Seq: 612, Ack: 1589, Len: 306

Hypertext Transfer Protocol

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

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

User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86\_64; rv:45.0) Gecko/20100101 Firefox/45.0\r\n

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

Accept-Language: en-US,en;q=0.5\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: 309]

[Response in frame: 318]

| -----No.         |                |               |        |      |                                    | Time |
|------------------|----------------|---------------|--------|------|------------------------------------|------|
| Source           | Destination    | Protocol      | Length | Info |                                    |      |
| 318 14.301840000 | 128.119.245.12 | 192.168.1.245 | HTTP   | 552  | HTTP/1.1 404 Not Found (text/html) |      |

Frame 318: 552 bytes on wire (4416 bits), 552 bytes captured (4416 bits) on interface 0

Ethernet II, Src: Tp-LinkT\_2c:bf:a3 (e8:94:f6:2c:bf:a3), Dst: b4:6d:83:64:24:b3 (b4:6d:83:64:24:b3)

Internet Protocol Version 4, Src: 128.119.245.12 (128.119.245.12), Dst: 192.168.1.245 (192.168.1.245)

Transmission Control Protocol, Src Port: http (80), Dst Port: 54352 (54352), Seq: 1589, Ack: 918, Len: 486

Hypertext Transfer Protocol

HTTP/1.1 404 Not Found\r\n

Date: Wed, 13 Apr 2016 21:05:10 GMT\r\n

Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips PHP/5.4.16 mod\_perl/2.0.9dev 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: 0.120335000 seconds]

[Prev request in frame: 309]

[Prev response in frame: 311]

[Request in frame: 315]

Line-based text data: text/html



**Контрольні запитання:**

**1. Яку версію протоколу HTTP використовує ваш браузер (1.0 чи 1.1)? Яку версію протоколу 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 IP-адреси вашого комп'ютера та цільового веб-сервера?**

Мого комп'ютера: 192.168.1.245

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?**

Wed, 13 Apr 2016 05:59:02 GMT

**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 є в ньому заголовок IF-MODIFIED-SINCE?**

Ні, немає

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

Так

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

Так, Wed, 13 Apr 2016 05:59:02 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 TCP було необхідно для доставки одної відповіді HTTP-сервера?**

14

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

200 OK

**15. 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

**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.