

**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  
Ярошенко В.О.  
Прийняв: Кухарєв 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 (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 (text/html)	128.119.245.12	192.168.1.245	HTTP	1168	HTTP/1.1	200 OK

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]

Source	Destination	Protocol	Length	Info	No.	Time
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	
(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.



**Висновок:** В ході виконання даної лабораторної роботи було покращено навички використання програми Wireshark для захоплення пакетів. Було проаналізовано протоколи HTTPта було проведено аналіз деталей роботи даних протоколів.