

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ ННК «ІПСА» НТУУ «КПІ ІМ. ІГОРЯ СІКОРСЬКОГО» КАФЕДРА ММСА

Лабораторна робота № 2

3 дисципліни: Комп'ютерні мережі

Протокол НТТР

Виконав:

Студент III курсу

Групи КА-72

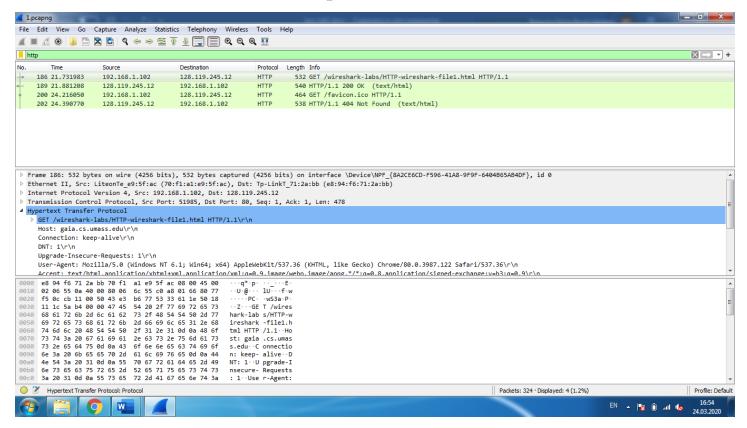
Жакулін Н. В.

Перевірив: Кухарєв С. О.

Мета роботи: аналіз деталей роботи протоколу НТТР.

Хід виконання роботи

Перша частина



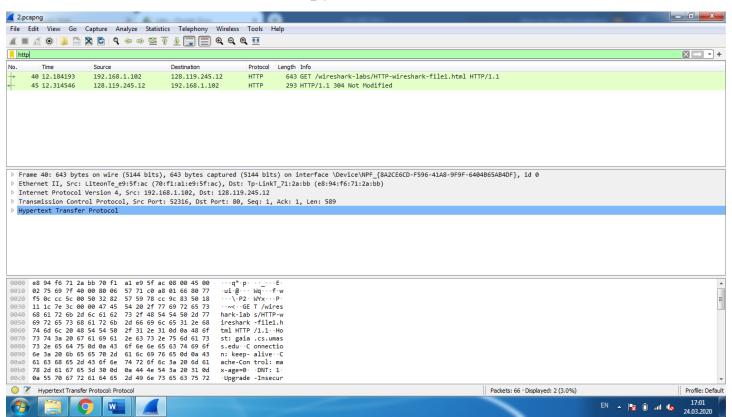
Request:

```
Time
                       Source
                                             Destination
                                                                   Protocol Length Info
   186 21.731983
                      192.168.1.102
                                            128.119.245.12
                                                                            532
                                                                                  GET /wireshark-labs/HTTP-wireshark-file1.html
HTTP/1.1
Frame 186: 532 bytes on wire (4256 bits), 532 bytes captured (4256 bits) on interface \Device\NPF_{8A2CE6CD-
F596-41A8-9F9F-6404B65AB4DF}, id 0
Ethernet II, Src: LiteonTe_e9:5f:ac (70:f1:a1:e9:5f:ac), Dst: Tp-LinkT_71:2a:bb (e8:94:f6:71:2a:bb)
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 51985, Dst Port: 80, Seq: 1, Ack: 1, Len: 478
Hypertext Transfer Protocol
    GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n
    Host: gaia.cs.umass.edu\r\n
   Connection: keep-alive\r\n
   DNT: 1\r\n
    Upgrade-Insecure-Requests: 1\r\n
   User-Agent: Mozilla/5.0 (Windows NT 6.1; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.122 Safari/
537.36\r\n
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-
exchange; v=b3;q=0.9\r\n
    Accept-Encoding: gzip, deflate\r\n
    Accept-Language: en,ru;q=0.9,uk;q=0.8\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: 189]
    [Next request in frame: 200]
```

Response:

Time Source Destination Protocol Length Info 189 21.881208 128.119.245.12 192.168.1.102 HTTP 540 HTTP/1.1 200 OK (text/html) Frame 189: 540 bytes on wire (4320 bits), 540 bytes captured (4320 bits) on interface \Device\NPF_{8A2CE6CD-F596-41A8-9F9F-6404B65AB4DF}, id 0 Ethernet II, Src: Tp-LinkT_71:2a:bb (e8:94:f6:71:2a:bb), Dst: LiteonTe_e9:5f:ac (70:f1:a1:e9:5f:ac) Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.102 Transmission Control Protocol, Src Port: 80, Dst Port: 51985, Seq: 1, Ack: 479, Len: 486 Hypertext Transfer Protocol HTTP/1.1 200 OK\r\n Date: Sun, 01 Mar 2020 22:14:59 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: Sun, 01 Mar 2020 06:59:01 GMT\r\n ETag: "80-59fc59b090e97"\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: 0.149225000 seconds] [Request in frame: 186] [Next request in frame: 200] [Next response in frame: 202] [Request URI: http://gaia.cs.umass.edu/favicon.ico] File Data: 128 bytes Line-based text data: text/html (4 lines)

Друга частина



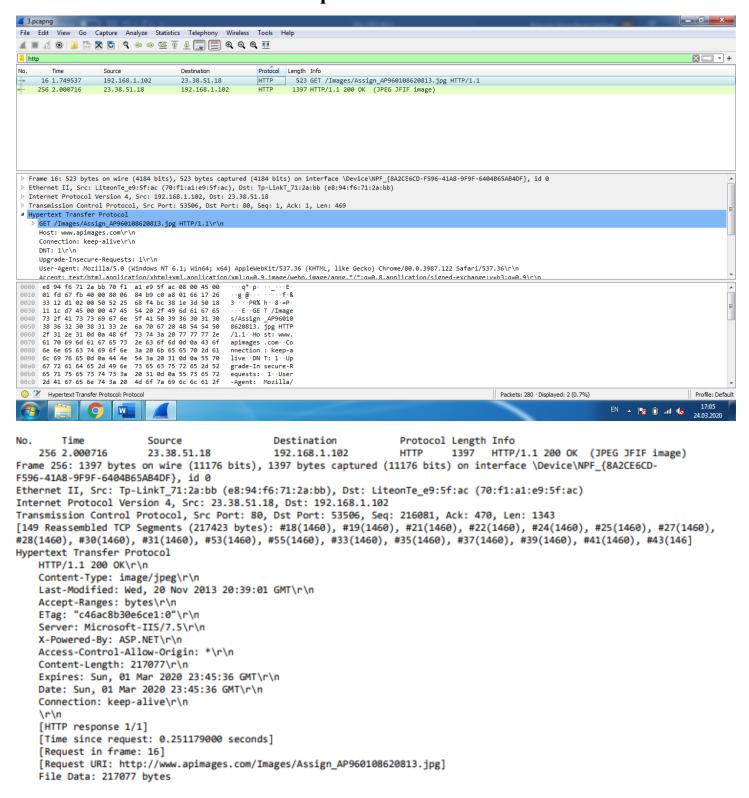
Request:

```
No.
       Time
                      Source
                                            Destination
                                                                   Protocol Length Info
     40 12.184193
                                                                          643
                      192.168.1.102
                                            128.119.245.12
                                                                  HTTP
                                                                                 GET /wireshark-labs/HTTP-wireshark-file1.html
HTTP/1.1
Frame 40: 643 bytes on wire (5144 bits), 643 bytes captured (5144 bits) on interface \Device\NPF_{8A2CE6CD-
F596-41A8-9F9F-6404B65AB4DF}, id 0
Ethernet II, Src: LiteonTe_e9:5f:ac (70:f1:a1:e9:5f:ac), Dst: Tp-LinkT_71:2a:bb (e8:94:f6:71:2a:bb)
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 52316, Dst Port: 80, Seq: 1, Ack: 1, Len: 589
Hypertext Transfer Protocol
    GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n
   Host: gaia.cs.umass.edu\r\n
   Connection: keep-alive\r\n
   Cache-Control: max-age=0\r\n
   DNT: 1\r\n
   Upgrade-Insecure-Requests: 1\r\n
   User-Agent: Mozilla/5.0 (Windows NT 6.1; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.122 Safari/
537.36\r\n
   Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-
exchange;v=b3;q=0.9\r\n
   Accept-Encoding: gzip, deflate\r\n
    Accept-Language: en,ru;q=0.9,uk;q=0.8\r\n
   If-None-Match: "80-59fc59b090e97"\r\n
   If-Modified-Since: Sun, 01 Mar 2020 06:59:01 GMT\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: 45]
```

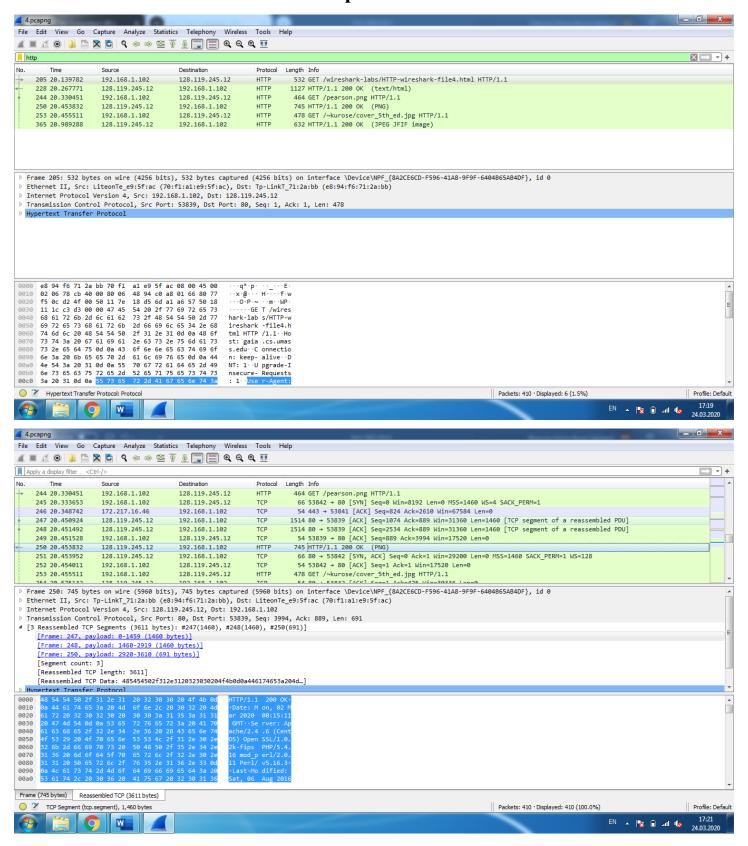
Response:

```
No.
       Time
                      Source
                                            Destination
                                                                  Protocol Length Info
                      128.119.245.12
                                                                  HTTP 293
    45 12.314546
                                            192.168.1.102
                                                                                HTTP/1.1 304 Not Modified
Frame 45: 293 bytes on wire (2344 bits), 293 bytes captured (2344 bits) on interface \Device\NPF_{8A2CE6CD-
F596-41A8-9F9F-6404B65AB4DF}, id 0
Ethernet II, Src: Tp-LinkT_71:2a:bb (e8:94:f6:71:2a:bb), Dst: LiteonTe_e9:5f:ac (70:f1:a1:e9:5f:ac)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.102
Transmission Control Protocol, Src Port: 80, Dst Port: 52316, Seq: 1, Ack: 590, Len: 239
Hypertext Transfer Protocol
   HTTP/1.1 304 Not Modified\r\n
   Date: Sun, 01 Mar 2020 22:42:03 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: "80-59fc59b090e97"\r\n
   \r\n
   [HTTP response 1/1]
    [Time since request: 0.130353000 seconds]
    [Request in frame: 40]
    [Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html]
```

Третя частина



Четверта частина



Відповіді на контрольні запитання:

- 1. І браузер, і сервер використовують версію протоколу HTML 1.1.
- 2. Мови: en, ru, uk.
- 3. ІР адреса мого комп'ютера: 192.168.1.102; сервера: 128.119.245.12.
- 4. 200 OK.
- 5. Sun, 01 Mar 2020 06:59:01 GMT.
- 6. 128 bytes.
- 7. Hi.
- 8. Hi.
- 9. Так.
- 10.Так.
- 11.304 Not modified, ні, не повернув.
- 12.Одне.
- 13.149.
- 14.200 OK.
- 15.Hi.
- 16.Три. Усі 128.119.245.12.
- 17. Послідовно, бо GET запит відправлявся лише після отримання відповіді на попередній.

Висновок

В ході виконання даної лабораторної роботи, були набуті навички використання програми Wireshark для захоплення та аналізу пакетів. Було розглянуто інформацію, що містить в собі протокол HTTP.