МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАВЧАЛЬНО-НАУКОВИЙ КОМПЛЕКС
«ІНСТИТУТ ПРИКЛАДНОГО СИСТЕМНОГО АНАЛІЗУ»
НАЦІОНАЛЬНОГО ТЕХНІЧНОГО УНІВЕРСИТЕТУ УКРАЇНИ
«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ ІМЕНІ ІГОРЯ СІКОРСЬКОГО»
КАФЕДРА МАТЕМАТИЧНИХ МЕТОДІВ СИСТЕМНОГО АНАЛІЗУ

Практична робота №2
з курсу «Комп'ютерні мережі»

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Lab2_Request

No.   Time   Source   Destination   Protocol Length Info
   307 12.768609   192.168.0.103   128.119.245.12   HTTP   432   GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1

Frame 307: 432 bytes on wire (3456 bits), 432 bytes captured (3456 bits) on interface 0
Ethernet II, Src: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13), Dst: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a)
Internet Protocol Version 4, Src: 192.168.0.103, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 62301, Dst Port: 80, Seq: 1, Ack: 1, Len: 378
Hypertext Transfer Protocol
  GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n
    [Expert Info (Chat/Sequence): GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n]
      [GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n]
      [Severity level: Chat]
      [Group: Sequence]
    Request Method: GET
    Request URI: /wireshark-labs/HTTP-wireshark-file1.html
    Request Version: HTTP/1.1
  Host: gaia.cs.umass.edu\r\n
  User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0\r\n
  Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;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
  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: 309]
  [Next request in frame: 316]

Lab2_Answer

No.   Time   Source   Destination   Protocol Length Info
   736 32.327488   128.119.245.12   192.168.0.103   HTTP   540   HTTP/1.1 200 OK (text/html)

Frame 736: 540 bytes on wire (4320 bits), 540 bytes captured (4320 bits) on interface 0
Ethernet II, Src: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a), Dst: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.103
Transmission Control Protocol, Src Port: 80, Dst Port: 62592, Seq: 1, Ack: 379, Len: 486
Hypertext Transfer Protocol
  HTTP/1.1 200 OK\r\n
  Date: Mon, 04 Mar 2019 17:19:02 GMT\r\n
  Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10 Perl/v5.16.3\r\n
  Last-Modified: Mon, 04 Mar 2019 06:59:02 GMT\r\n
  ETag: "80-5833f4aa6df5b"\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 1/1]

[Time since request: 0.139833000 seconds]
[Request in frame: 732]
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

Повторний запит
Lab_2_Re-Request

No. Time   Source   Destination   Protocol Length Info
  458 8.238547   192.168.0.103   128.119.245.12   HTTP   543   GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1

Frame 458: 543 bytes on wire (4344 bits), 543 bytes captured (4344 bits) on interface 0
Ethernet II, Src: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13), Dst: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a)
Internet Protocol Version 4, Src: 192.168.0.103, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 62681, Dst Port: 80, Seq: 1, Ack: 1, Len: 489
Hypertext Transfer Protocol
  GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n
    [Expert Info (Chat/Sequence): GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n]
      [GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n]
      [Severity level: Chat]
      [Group: Sequence]
    Request Method: GET
    Request URI: /wireshark-labs/HTTP-wireshark-file1.html
    Request Version: HTTP/1.1
  Host: gaia.cs.umass.edu\r\n
  User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0\r\n
  Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;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
  Upgrade-Insecure-Requests: 1\r\n
  If-Modified-Since: Mon, 04 Mar 2019 06:59:02 GMT\r\n
  If-None-Match: "80-5833f4aa6df5b"\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 1/2]
  [Response in frame: 470]
  [Next request in frame: 475]

Lab_2_Re-Answer

No. Time   Source   Destination   Protocol Length Info
  470 8.378362   128.119.245.12   192.168.0.103   HTTP   293   HTTP/1.1 304 Not Modified

Frame 470: 293 bytes on wire (2344 bits), 293 bytes captured (2344 bits) on interface 0
Ethernet II, Src: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a), Dst: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.103

Transmission Control Protocol, Src Port: 80, Dst Port: 62681, Seq: 1, Ack: 490, Len: 239
Hypertext Transfer Protocol
  HTTP/1.1 304 Not Modified\r\n
    [Expert Info (Chat/Sequence): HTTP/1.1 304 Not Modified\r\n]
      [HTTP/1.1 304 Not Modified\r\n]
      [Severity level: Chat]
      [Group: Sequence]
    Response Version: HTTP/1.1
    Status Code: 304
    [Status Code Description: Not Modified]
    Response Phrase: Not Modified
  Date: Mon, 04 Mar 2019 17:27:00 GMT\r\n
  Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10 Perl/v5.16.3\r\n
  Connection: Keep-Alive\r\n
  Keep-Alive: timeout=5, max=100\r\n
  ETag: "80-5833f4aa6df5b"\r\n
  \r\n
  [HTTP response 1/2]
  [Time since request: 0.139815000 seconds]
  [Request in frame: 458]
  [Next request in frame: 475]
  [Next response in frame: 496]

Контрольні запитання:
1. Яку версію протоколу HTTP використовує ваш браузер (1.0 чи 1.1)?

1.1 (GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1)

Яку версію протоколу використовує сервер?

1.1 (HTTP/1.1 200 OK (text/html))

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

Американська англійська

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

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

192.168.0.103/128.119.245.12

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

200

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

Last-Modified: Mon, 04 Mar 2019 06:59:02 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.

-

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

Hi

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-MODIFIEDSINCE?

Якщо так, яке значення йому відповідає?

If-Modified-Since: Mon, 04 Mar 2019 06:59:02 GMT\r\n

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

304 Not Modified, ні.

Lab_2_Image_Request

No.   Time   Source   Destination   Protocol Length Info
   556 17.777756   192.168.0.104   193.109.246.67   HTTP   410   GET /foto/edin_inform.jpg HTTP/1.1

Frame 556: 410 bytes on wire (3280 bits), 410 bytes captured (3280 bits) on interface 0
Ethernet II, Src: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13), Dst: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a)
Internet Protocol Version 4, Src: 192.168.0.104, Dst: 193.109.246.67
Transmission Control Protocol, Src Port: 58541, Dst Port: 80, Seq: 1, Ack: 1, Len: 356
Hypertext Transfer Protocol
   GET /foto/edin_inform.jpg HTTP/1.1\r\n
      [Expert Info (Chat/Sequence): GET /foto/edin_inform.jpg HTTP/1.1\r\n]
         [GET /foto/edin_inform.jpg HTTP/1.1\r\n]
         [Severity level: Chat]
         [Group: Sequence]
      Request Method: GET
      Request URI: /foto/edin_inform.jpg
      Request Version: HTTP/1.1
   Host: tinkova.ucoz.ru\r\n
   User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0\r\n
   Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;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
   Upgrade-Insecure-Requests: 1\r\n
   \r\n
   [Full request URI: http://tinkova.ucoz.ru/foto/edin_inform.jpg]
   [HTTP request 1/2]
   [Response in frame: 990]
   [Next request in frame: 992]

Lab_2_Image_Answer

No. Time   Source   Destination   Protocol Length Info
  990 18.833278 193.109.246.67   192.168.0.104   HTTP   1296   HTTP/1.1 200 OK (JPEG JFIF image)

Frame 990: 1296 bytes on wire (10368 bits), 1296 bytes captured (10368 bits) on interface 0
Ethernet II, Src: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a), Dst: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13)
Internet Protocol Version 4, Src: 193.109.246.67, Dst: 192.168.0.104
Transmission Control Protocol, Src Port: 80, Dst Port: 58541, Seq: 409140, Ack: 357, Len: 1242
[282 Reassembled TCP Segments (410381 bytes): #566(339), #567(1460), #569(1460), #578(1460), #579(1460), #581(1460), #582(1460), #583(1460), #586(1460), #589(1460), #590(1460), #593(1460), #594(1460), #596(1460), #597(1460), #598(1460), #59]
Hypertext Transfer Protocol
  HTTP/1.1 200 OK\r\n
    [Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
      [HTTP/1.1 200 OK\r\n]
      [Severity level: Chat]
      [Group: Sequence]
    Response Version: HTTP/1.1
    Status Code: 200
    [Status Code Description: OK]
    Response Phrase: OK
  Server: nginx/1.8.0\r\n
  Date: Tue, 05 Mar 2019 17:16:43 GMT\r\n
  Content-Type: image/jpeg\r\n
  Content-Length: 410042\r\n
  Last-Modified: Wed, 12 Dec 2012 13:27:37 GMT\r\n
  Connection: keep-alive\r\n
  Keep-Alive: timeout=15\r\n
  ETag: "50c88649-641ba"\r\n
  Expires: Mon, 25 Mar 2019 17:16:43 GMT\r\n
  Cache-Control: max-age=1728000\r\n
  Accept-Ranges: bytes\r\n
  \r\n
  [HTTP response 1/2]
  [Time since request: 1.055522000 seconds]
  [Request in frame: 556]
  [Next request in frame: 992]
  [Next response in frame: 994]
  File Data: 410042 bytes
JPEG File Interchange Format

12. Скільки повідомлень HTTP GET було відправлено вашим браузером?

   Одне

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

   282

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.

Lab2_Final

No. Time Source Destination Protocol Length Info
68 4.297022 192.168.0.104 128.119.245.12 HTTP 432 GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1

Frame 68: 432 bytes on wire (3456 bits), 432 bytes captured (3456 bits) on interface 0
Ethernet II, Src: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13), Dst: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a)
Internet Protocol Version 4, Src: 192.168.0.104, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 58952, Dst Port: 80, Seq: 1, Ack: 1, Len: 378
Hypertext Transfer Protocol
 GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1\r\n
 [Expert Info (Chat/Sequence): GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1\r\n]
 [GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1\r\n]
 [Severity level: Chat]
 [Group: Sequence]
 Request Method: GET
 Request URI: /wireshark-labs/HTTP-wireshark-file4.html
 Request Version: HTTP/1.1
 Host: gaia.cs.umass.edu\r\n
 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0\r\n
 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;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
 Upgrade-Insecure-Requests: 1\r\n
 \r\n
 [Full request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html]
 [HTTP request 1/1]
 [Response in frame: 72]

No. Time Source Destination Protocol Length Info
72 4.425545 128.119.245.12 192.168.0.104 HTTP 1127 HTTP/1.1 200 OK (text/html)

Frame 72: 1127 bytes on wire (9016 bits), 1127 bytes captured (9016 bits) on interface 0
Ethernet II, Src: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a), Dst: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.104
Transmission Control Protocol, Src Port: 80, Dst Port: 58952, Seq: 1, Ack: 379, Len: 1073
Hypertext Transfer Protocol
    HTTP/1.1 200 OK\r\n
        [Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
            [HTTP/1.1 200 OK\r\n]
            [Severity level: Chat]
            [Group: Sequence]
        Response Version: HTTP/1.1
        Status Code: 200
        [Status Code Description: OK]
        Response Phrase: OK
    Date: Tue, 05 Mar 2019 18:03:00 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10 Perl/v5.16.3\r\n
    Last-Modified: Tue, 05 Mar 2019 06:59:02 GMT\r\n
    ETag: "2ca-58353687e19a1"\r\n
    Accept-Ranges: bytes\r\n
    Content-Length: 714\r\n
        [Content length: 714]
    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 1/1]
    [Time since request: 0.128523000 seconds]
    [Request in frame: 68]
    File Data: 714 bytes
Line-based text data: text/html (17 lines)

No.	Time	Source	Destination	Protocol	Length	Info
74	4.475107	192.168.0.104	128.119.245.12	HTTP	389	GET /pearson.png HTTP/1.1

Frame 74: 389 bytes on wire (3112 bits), 389 bytes captured (3112 bits) on interface 0
Ethernet II, Src: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13), Dst: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a)
Internet Protocol Version 4, Src: 192.168.0.104, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 58953, Dst Port: 80, Seq: 1, Ack: 1, Len: 335
Hypertext Transfer Protocol
    GET /pearson.png HTTP/1.1\r\n
        [Expert Info (Chat/Sequence): GET /pearson.png HTTP/1.1\r\n]

[GET /pearson.png HTTP/1.1\r\n]
        [Severity level: Chat]
        [Group: Sequence]
    Request Method: GET
    Request URI: /pearson.png
    Request Version: HTTP/1.1
  Host: gaia.cs.umass.edu\r\n
  User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101
Firefox/65.0\r\n
  Accept: image/webp,*/*\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://gaia.cs.umass.edu/pearson.png]
  [HTTP request 1/2]
  [Response in frame: 80]
  [Next request in frame: 85]

No.   Time   Source   Destination   Protocol Length Info
    80 4.606232   128.119.245.12   192.168.0.104   HTTP   746   HTTP/1.1 200 OK
(PNG)

Frame 80: 746 bytes on wire (5968 bits), 746 bytes captured (5968 bits) on interface 0
Ethernet II, Src: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a), Dst: IntelCor_08:d0:13
(ac:2b:6e:08:d0:13)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.104
Transmission Control Protocol, Src Port: 80, Dst Port: 58953, Seq: 2921, Ack: 336, Len: 692
[3 Reassembled TCP Segments (3612 bytes): #77(1460), #78(1460), #80(692)]
Hypertext Transfer Protocol
  HTTP/1.1 200 OK\r\n
    [Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
      [HTTP/1.1 200 OK\r\n]
      [Severity level: Chat]
      [Group: Sequence]
    Response Version: HTTP/1.1
    Status Code: 200
    [Status Code Description: OK]
    Response Phrase: OK
  Date: Tue, 05 Mar 2019 18:03:00 GMT\r\n
  Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10
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
   [Content length: 3267]
Keep-Alive: timeout=5, max=100\r\n
Connection: Keep-Alive\r\n
Content-Type: image/png\r\n
\r\n
[HTTP response 1/2]
[Time since request: 0.131125000 seconds]
[Request in frame: 74]
[Next request in frame: 85]
[Next response in frame: 102]
File Data: 3267 bytes
Portable Network Graphics

No.   Time   Source   Destination   Protocol Length Info
  83 4.638675   192.168.0.104   128.119.245.12   HTTP   403   GET /~kurose/cover_5th_ed.jpg HTTP/1.1

Frame 83: 403 bytes on wire (3224 bits), 403 bytes captured (3224 bits) on interface 0
Ethernet II, Src: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13), Dst: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a)
Internet Protocol Version 4, Src: 192.168.0.104, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 58954, Dst Port: 80, Seq: 1, Ack: 1, Len: 349
Hypertext Transfer Protocol
  GET /~kurose/cover_5th_ed.jpg HTTP/1.1\r\n
    [Expert Info (Chat/Sequence): GET /~kurose/cover_5th_ed.jpg HTTP/1.1\r\n]
      [GET /~kurose/cover_5th_ed.jpg HTTP/1.1\r\n]
      [Severity level: Chat]
      [Group: Sequence]
    Request Method: GET
    Request URI: /~kurose/cover_5th_ed.jpg
    Request Version: HTTP/1.1
  Host: manic.cs.umass.edu\r\n
  User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0\r\n
  Accept: image/webp,*/*\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: 192]

No.   Time   Source   Destination   Protocol Length Info

85 4.717650	192.168.0.104	128.119.245.12	HTTP	373	GET /favicon.ico HTTP/1.1

Frame 85: 373 bytes on wire (2984 bits), 373 bytes captured (2984 bits) on interface 0
Ethernet II, Src: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13), Dst: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a)
Internet Protocol Version 4, Src: 192.168.0.104, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 58953, Dst Port: 80, Seq: 336, Ack: 3613, Len: 319
Hypertext Transfer Protocol
 GET /favicon.ico HTTP/1.1\r\n
  [Expert Info (Chat/Sequence): GET /favicon.ico HTTP/1.1\r\n]
   [GET /favicon.ico HTTP/1.1\r\n]
   [Severity level: Chat]
   [Group: Sequence]
  Request Method: GET
  Request URI: /favicon.ico
  Request Version: HTTP/1.1
 Host: gaia.cs.umass.edu\r\n
 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:65.0) Gecko/20100101 Firefox/65.0\r\n
 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;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 2/2]
 [Prev request in frame: 74]
 [Response in frame: 102]

No.   Time   Source   Destination   Protocol Length Info
 102 4.845707   128.119.245.12   192.168.0.104   HTTP   538   HTTP/1.1 404 Not Found (text/html)

Frame 102: 538 bytes on wire (4304 bits), 538 bytes captured (4304 bits) on interface 0
Ethernet II, Src: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a), Dst: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.104
Transmission Control Protocol, Src Port: 80, Dst Port: 58953, Seq: 3613, Ack: 655, Len: 484
Hypertext Transfer Protocol
 HTTP/1.1 404 Not Found\r\n
  [Expert Info (Chat/Sequence): HTTP/1.1 404 Not Found\r\n]
   [HTTP/1.1 404 Not Found\r\n]
   [Severity level: Chat]
   [Group: Sequence]
  Response Version: HTTP/1.1

Status Code: 404
            [Status Code Description: Not Found]
            Response Phrase: Not Found
        Date: Tue, 05 Mar 2019 18:03:00 GMT\r\n
        Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10 Perl/v5.16.3\r\n
        Content-Length: 209\r\n
            [Content length: 209]
        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 2/2]
        [Time since request: 0.128057000 seconds]
        [Prev request in frame: 74]
        [Prev response in frame: 80]
        [Request in frame: 85]
        File Data: 209 bytes
Line-based text data: text/html (7 lines)

No.   Time   Source   Destination   Protocol Length Info
    192 5.108179   128.119.245.12   192.168.0.104   HTTP   632   HTTP/1.1 200 OK (JPEG JFIF image)

Frame 192: 632 bytes on wire (5056 bits), 632 bytes captured (5056 bits) on interface 0
Ethernet II, Src: Tp-LinkT_5f:b5:0a (f4:f2:6d:5f:b5:0a), Dst: IntelCor_08:d0:13 (ac:2b:6e:08:d0:13)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.104
Transmission Control Protocol, Src Port: 80, Dst Port: 58954, Seq: 100741, Ack: 350, Len: 578
[70 Reassembled TCP Segments (101318 bytes): #87(1460), #88(1460), #90(1460), #91(1460), #93(1460), #94(1460), #96(1460), #97(1460), #99(1460), #100(1460), #104(1460), #105(1460), #107(1460), #108(1460), #110(1460), #111(1460), #113(1460),]
Hypertext Transfer Protocol
    HTTP/1.1 200 OK\r\n
        [Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
            [HTTP/1.1 200 OK\r\n]
            [Severity level: Chat]
            [Group: Sequence]
        Response Version: HTTP/1.1
        Status Code: 200
        [Status Code Description: OK]
        Response Phrase: OK
    Date: Tue, 05 Mar 2019 18:03:00 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10 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
   [Content length: 100968]
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: 0.469504000 seconds]
[Request in frame: 83]
File Data: 100968 bytes
JPEG File Interchange Format

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

4 запити
128.119.245.12
128.119.245.12
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.