



HACETTEPE UNIVERSITY

DEPARTMENT OF
COMPUTER ENGINEERING

BBM453: Computer Networks Laboratory Lab 1: HTTP

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Group 14
Source IP : 10.225.15.11

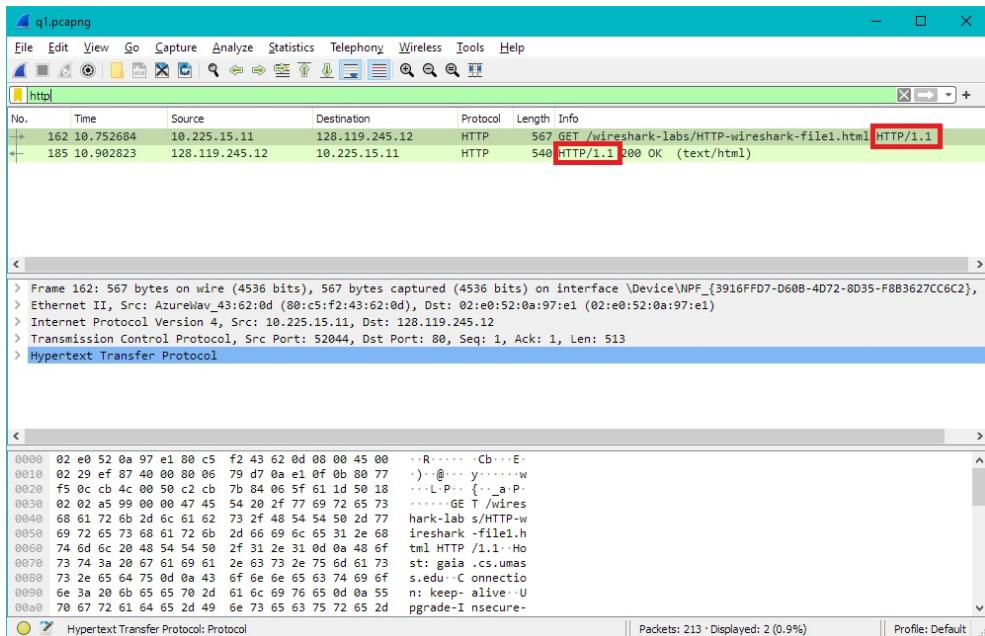
Oct 13,2021

SOLUTIONS

The Basic HTTP GET/response interaction

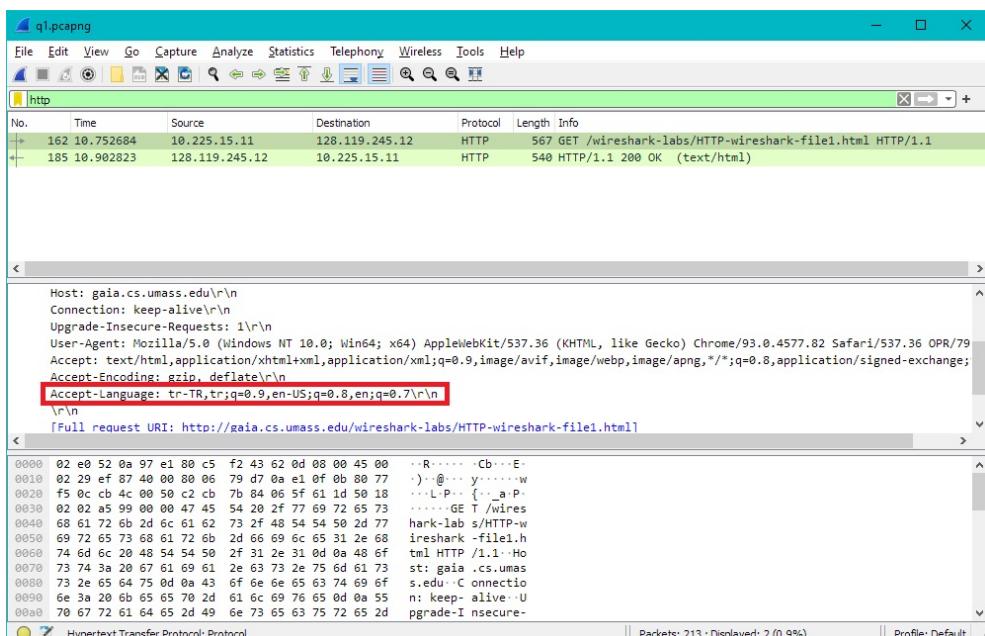
1. Is your browser running HTTP version 1.0 or 1.1? What version of HTTP is the server running?

As we see from below screenshot, our browser is using http version 1.1



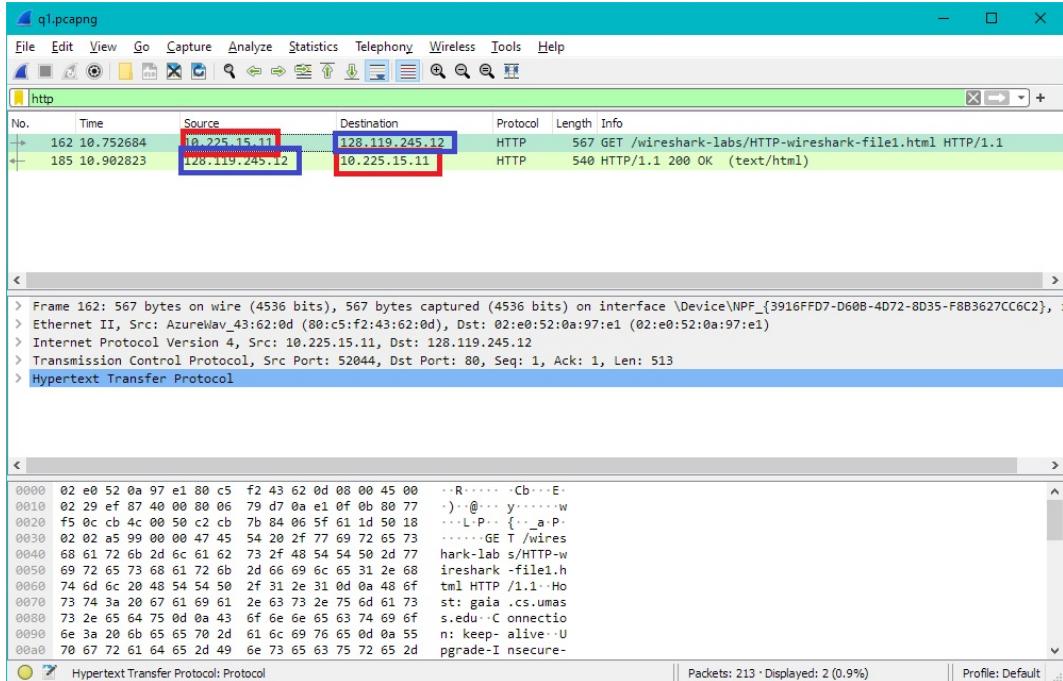
2. What languages (if any) does your browser indicate that it can accept to the server?

Accepted languages are Turkish(tr-TR) and English(en-US)



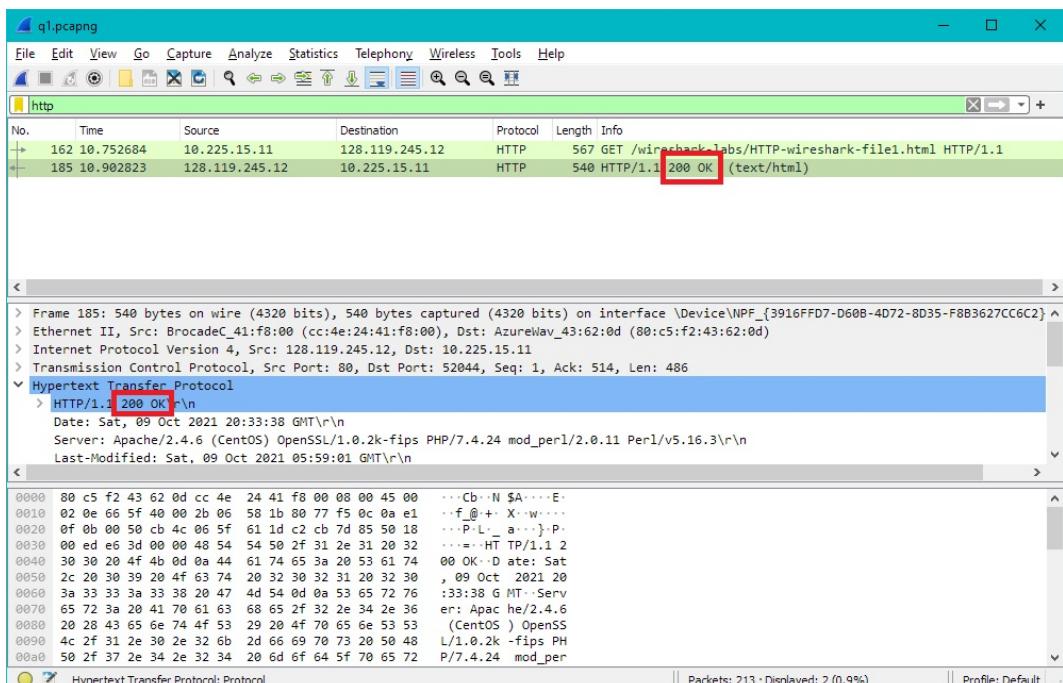
3. What is the IP address of your computer? Of the gaia.cs.umass.edu server?

Our IP address is 10.225.15.11 and gaia.cs.umass.edu's IP address is 128.119.245.12. We can realize this by checking the screenshot below our IP address is marked and sends a get method and gaia.cs.umass.edu marked blue sends a respond.



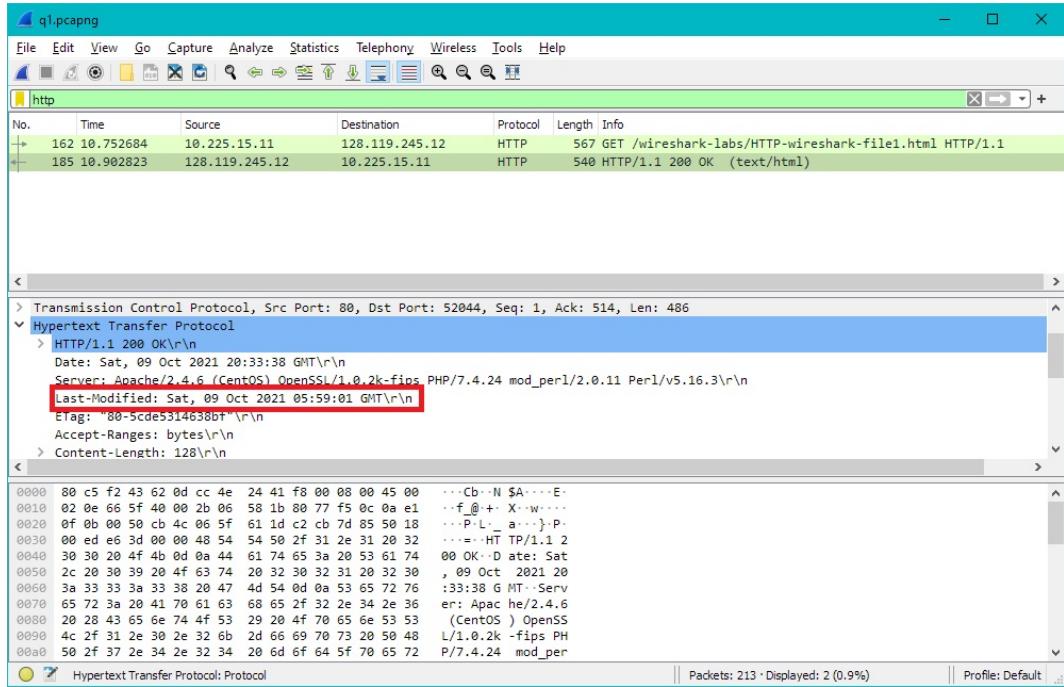
4. What is the status code returned from the server to your browser?

From below screenshot we can see returned status code is 200.



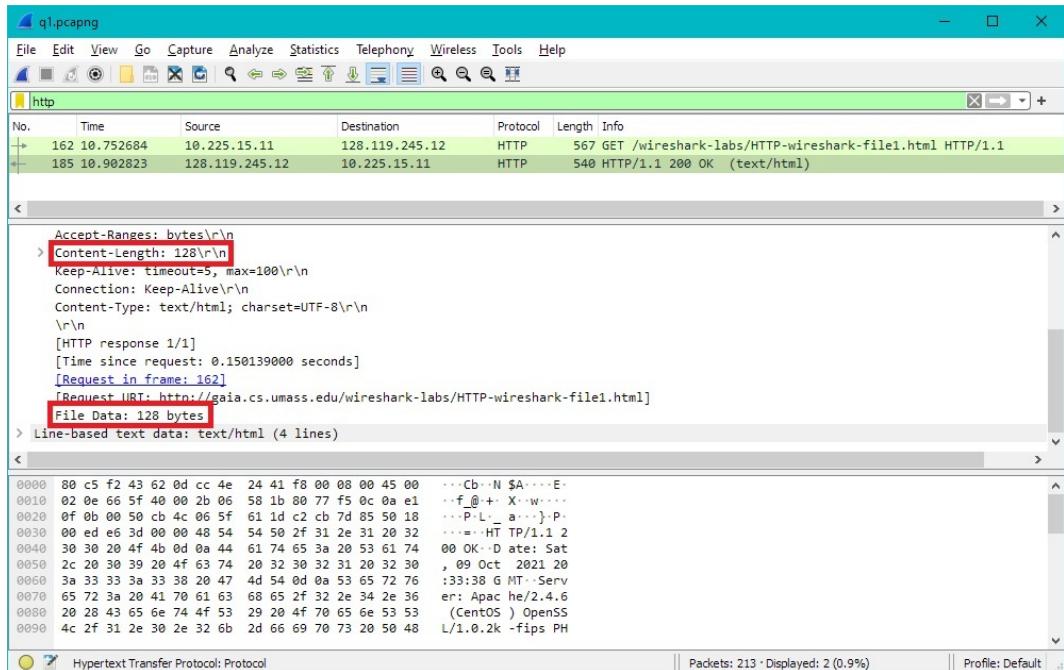
5. When was the HTML file that you are retrieving last modified at the server?

Sat, 09 Oct 2021 05:59:01 GMT, which can be seen in response screenshot, Last-Modified section in Hypertext Transfer Protocol.



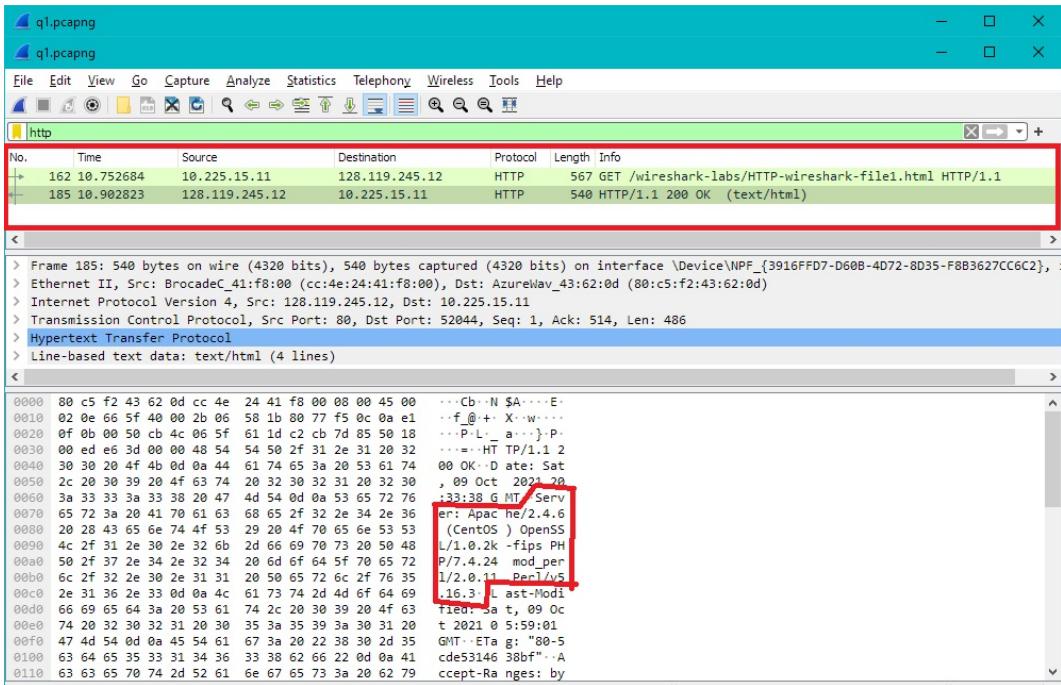
6. How many bytes of content are being returned to your browser?

128 bytes which can be seen in response screenshot, Content-Length section in Hypertext Transfer Protocol.



7. By inspecting the raw data in the packet content window, do you see any headers within the data that are not displayed in the packet-listing window? If so, name one.

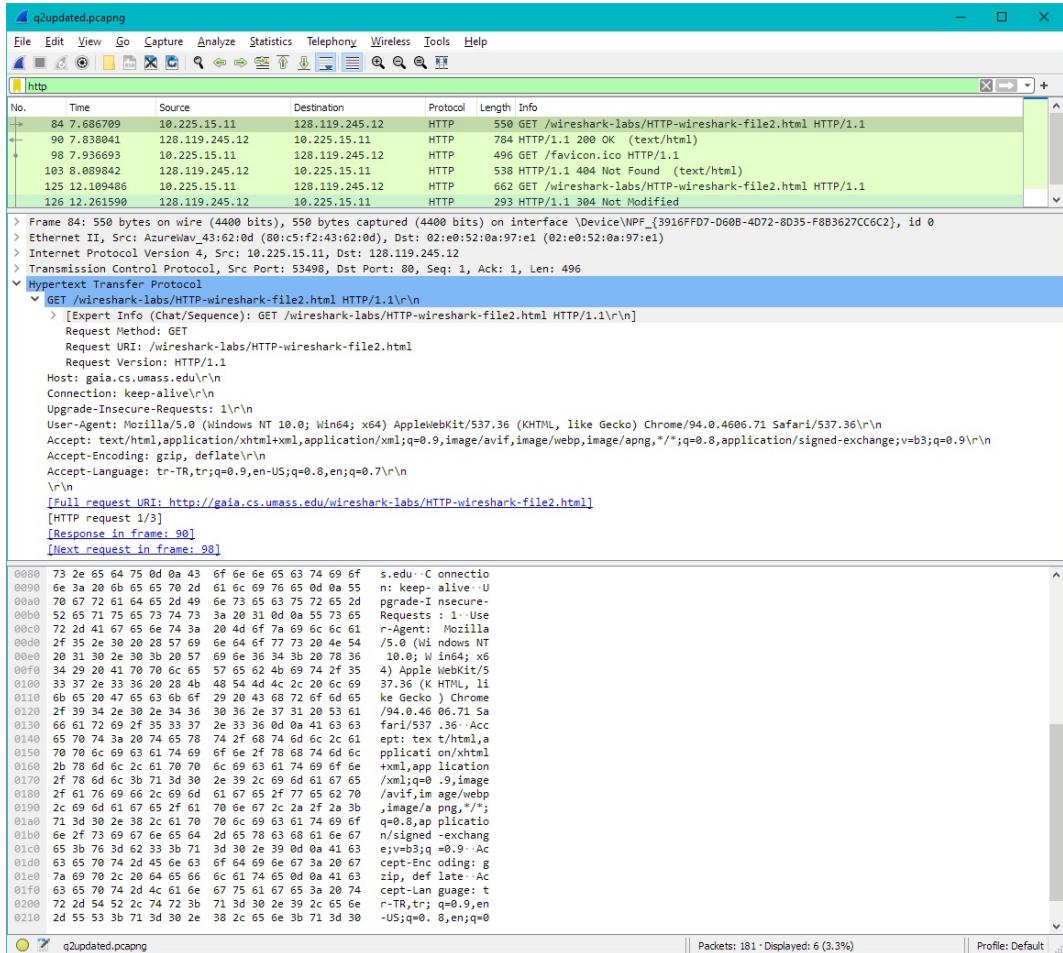
With in the raw data we have got all the headers that are send to us. However packet-listing window only displays some of them. I can see "Server:" header or "Last-Modified:" header are not displayed in packet-listing window.



The HTTP CONDITIONAL GET/response interaction

8. Inspect the contents of the first HTTP GET request from your browser to the server. Do you see an "IF-MODIFIED-SINCE" line in the HTTP GET?

In the first GET request we are not observing a "IF-MODIFIED-SINCE" line since it is a regular HTTP GET request.



9. Inspect the contents of the server response. Did the server explicitly return the contents of the file? How can you tell?

We are able to see the contents of the file in Hypertext as well as raw data also the "Content-Type" and "File Data:" headers indicate the file was transferred.

The image displays two screenshots of the Wireshark application interface, both titled "qupdated.pcapng".

Screenshot 1 (Top): This screenshot shows the "http" protocol tab. A red box highlights the response message body, which contains the HTML content of the file "lab2-2.html". The content includes a congratulatory message and instructions for file modification detection.

```

<html>
<head>
<title>Congratulations!</title>
</head>
<body>
<h1>Congratulations!</h1>
<p>Now you've downloaded the file lab2-2.html. <br><br>
This file's last modification date will not change. <br><br>
Thus if you download this multiple times on your browser, a complete copy <br><br>
will only be sent once by the server due to the inclusion of the IN-MODIFIED-SINCE<br><br>
field in your browser's HTTP GET request to the server.<br><br>
</body>
</html>
    
```

Screenshot 2 (Bottom): This screenshot shows the "http" protocol tab with a different packet selected. A red box highlights the "Content-Type" header field in the response message body, which is set to "text/html; charset=UTF-8".

```

Content-Type: text/html; charset=UTF-8
    
```

10. Now inspect the contents of the second HTTP GET request from your browser to the server. Do you see an “IF-MODIFIED-SINCE:” line in the HTTP GET? If so, what information follows the “IF-MODIFIED-SINCE:” header?

Yes, the information is the same that we saw in Last-Modified header which is in the first response.

The image contains two screenshots of the Wireshark application interface, both titled "q2updated.pcapng".

Top Screenshot (Response):

- The "http" column is selected.
- Packet 90 (HTTP 200 OK) is selected.
- The "Raw" pane shows the response headers:


```
[Status Code Description: OK]
      Response Phrase: OK
      Date: Tue, 12 Oct 2021 14:11:12 GMT\r\n
      Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.24 mod_perl/2.0.11 Perl/v5.16.3\r\n
      Last-Modified: Tue, 12 Oct 2021 05:59:01 GMT\r\n
      Etag: 173-5ce218ad23a80\r\n
      Accept-Ranges: bytes\r\n
```
- The "Hex" pane shows the raw bytes of the response.

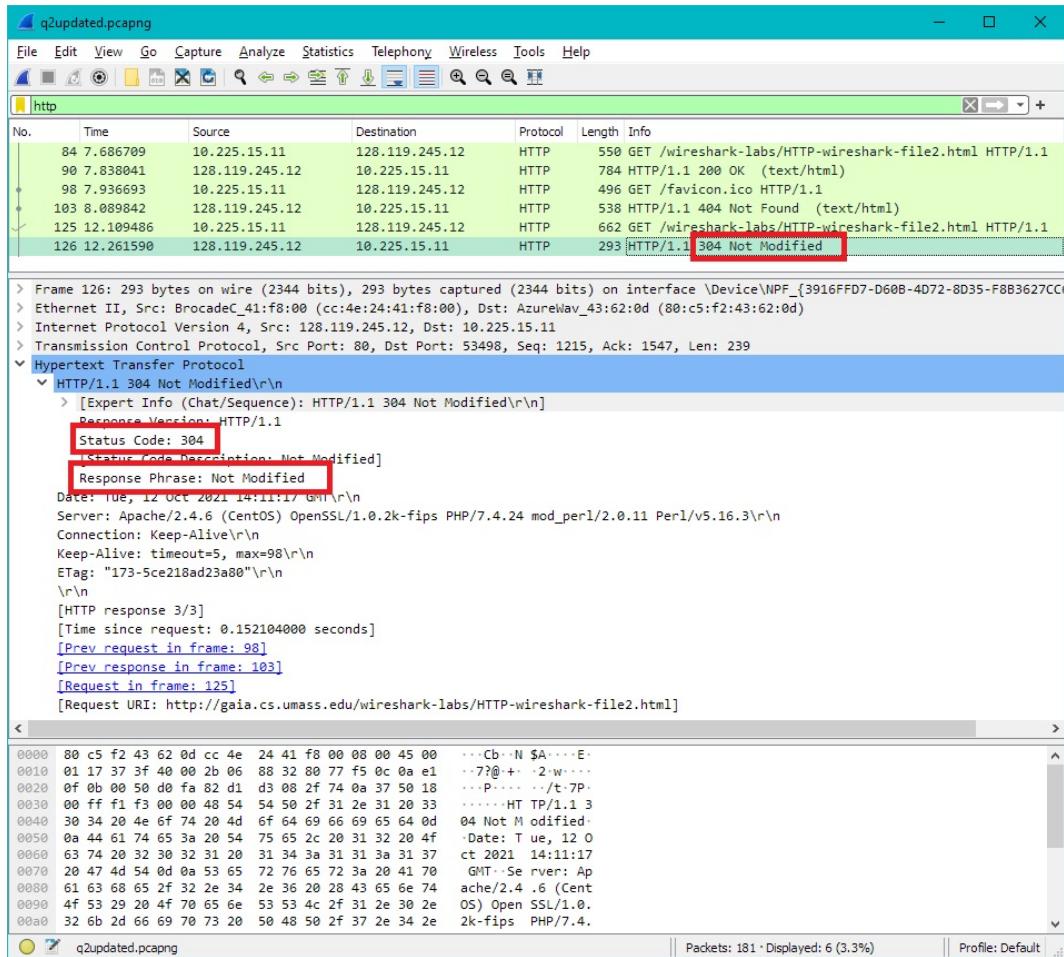
Bottom Screenshot (Request):

- The "http" column is selected.
- Packet 125 (HTTP 404 Not Found) is selected.
- The "Raw" pane shows the request headers:


```
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=wf\r\n
      Accept-Encoding: gzip, deflate\r\n
      Accept-Language: tr-TR,tr;q=0.9,en-US;q=0.8,en;q=0.7\r\n
      If-None-Match: "173-5ce218ad23a80"\r\n
      If-Modified-Since: Tue, 12 Oct 2021 05:59:01 GMT\r\n
```
- The "Hex" pane shows the raw bytes of the request.

11. What is the HTTP status code and phrase returned from the server in response to this second HTTP GET? Did the server explicitly return the contents of the file? Explain.

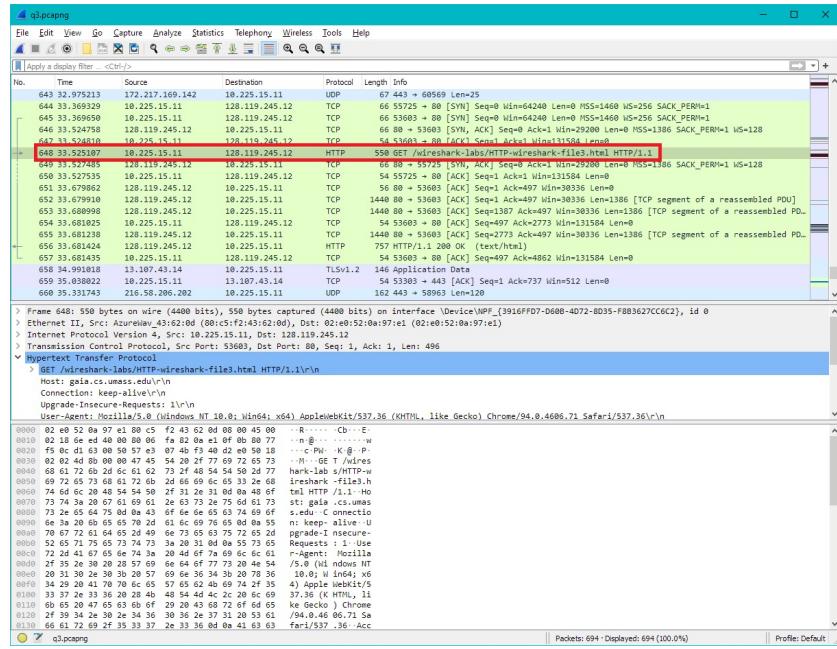
Server has returned 304 as status code and Not Modified as phrase. Because of the text is not changed or modified, the server didn't send the data explicitly. We can see below that the respond contains no file data.



Retrieving Long Documents

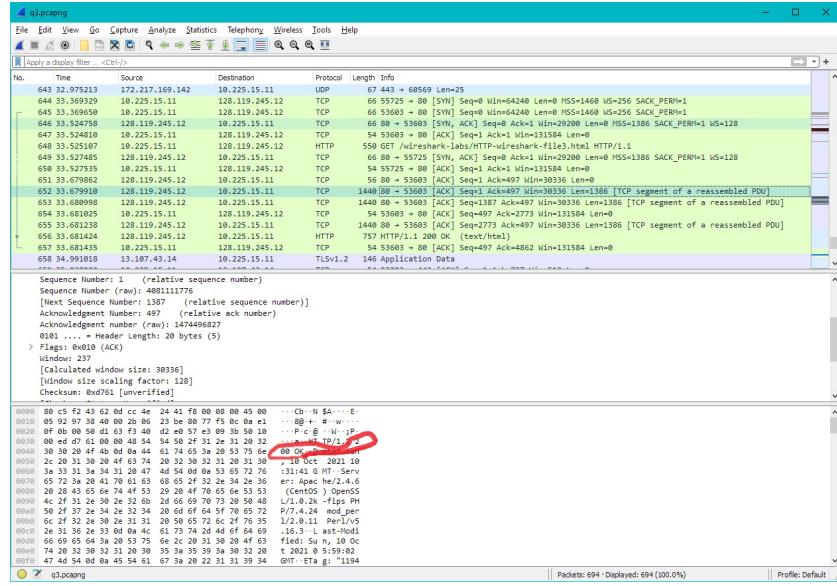
12. How many HTTP GET request messages did your browser send? Which packet number in the trace contains the GET message for the Bill or Rights?

Our browser have send only 1 HTTP GET request for the file. Packet no 648 contains the message.



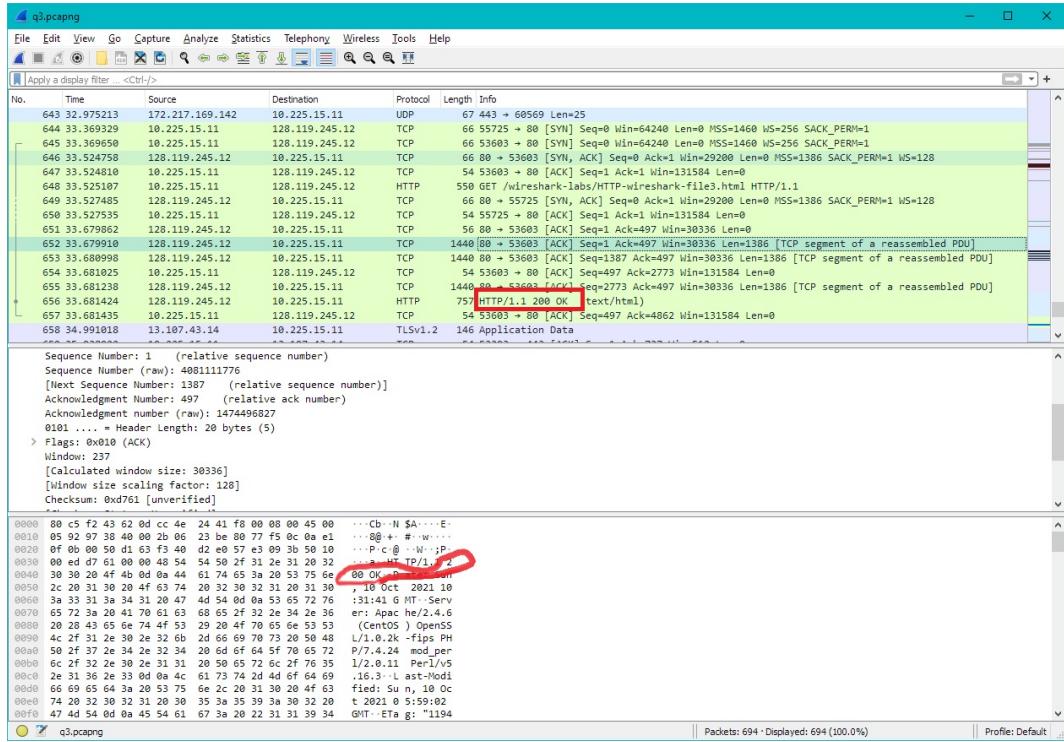
13. Which packet number in the trace contains the status code and phrase associated with the response to the HTTP GET request?

Packet 652 contains the status code and phrase. It is one of the first things that are send and we can see in the below screenshot as proof.



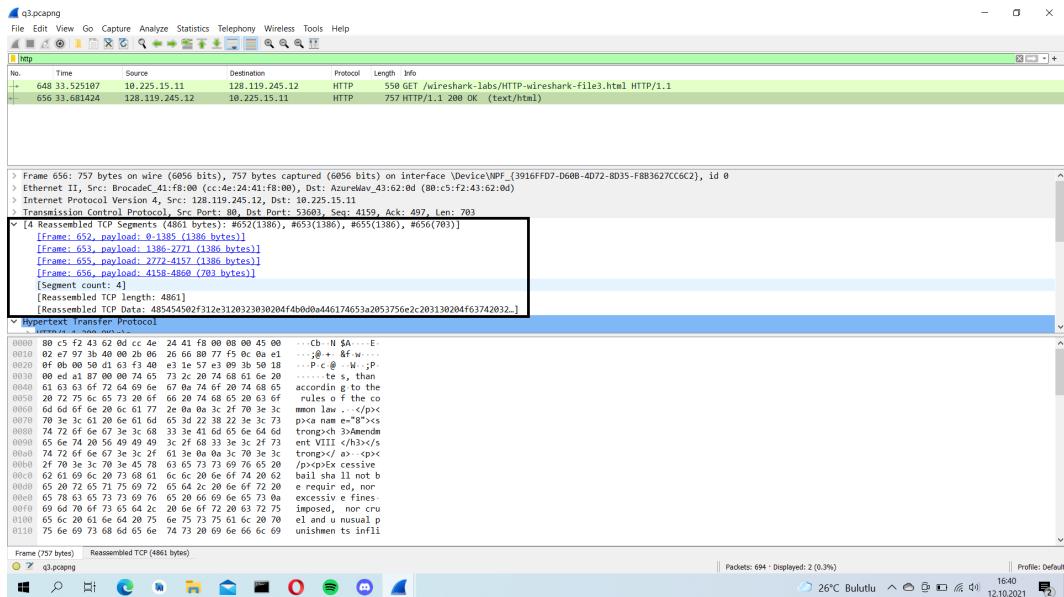
14. What is the status code and phrase in the response?

It is 200 OK as we can see from previous or below screenshot.



15. How many data-containing TCP segments were needed to carry the single HTTP response and the text of the Bill of Rights?

Total of 4 TCP segments were needed to carry the whole message.



HTML Documents with Embedded Objects

16. How many HTTP GET request messages did your browser send? To which Internet addresses were these GET requests sent?

Our browser send 3 GET request at total. First one was to the "gaia.cs.umass.edu" and second one also was to the "gaia.cs.umass.edu" third one was to the "kurose.cslash.net". Check screen shots below for proofs.

No.	Time	Source	Destination	Protocol	Length	Info
3987 9. 964165	10:22:53.55	[128.119.245.12]	[128.119.245.12]	HTTP	393	GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
4009 10. 115711	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	1355	HTTP/1.1 200 OK (text/html)
4016 10. 187027	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	508	GET /pearson.png HTTP/1.1
4022 10. 247303	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	468	GET /# cover-small.jpg HTTP/1.1
4031 10. 306274	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	225	HTTP/1.1 301 Moved Permanently
4039 10. 339540	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	893	HTTP/1.1 200 OK (PMS)

Frame 3987: 393 bytes on wire (4480 bits), 393 bytes captured (4480 bits) on Interface 'U/Device/WPF_{3916FFD7-060B-4072-B035-F883627CC6C2}', id 0
> Ethernet II, Src: Azuravel_43:62 (08:c5:f2:43:62:0d), Dst: 02:eb:52:0a:97:e1 (02:eb:52:0a:97:e1)
> Internet Protocol Version 4, Src: 10.225.15.11, Dst: 128.119.245.12
> Transmission Control Protocol, Src Port: 49986, Dst Port: 80, Seq: 1, Ack: 1, Len: 501
> GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1\r\n
Host: gaia.cs.umass.edu\r\n
Connection: keep-alive\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/94.0.4606.71 Safari/537.36 Edg/94.0.992.38\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: tr,en;q=0.9,en-GB;q=0.8,en-US;q=0.7\r\n
Vary: *\r\n
[Full request URL: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html]
[HTTP request 1/2]
[Response in frame: 4009]
[Next request in frame: 4016]

0000 02 e0 52 0a 97 e1 80 c5 F2 43 62 0d 08 00 45 00 .R.....Cb-E.
0010 02 1d f1 f5 40 00 80 06 49 76 0a e1 0f 0b 00 77 ..@....Iv.....w.
0020 f5 0c c3 d2 00 50 a9 78 7d 0d e1 ce b4 eb 50 18 ..@P xP.

No.	Time	Source	Destination	Protocol	Length	Info
3987 9. 964165	10:22:53.55	[128.119.245.12]	[128.119.245.12]	HTTP	393	GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
4009 10. 115711	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	1355	HTTP/1.1 200 OK (text/html)
4016 10. 187027	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	508	GET /pearson.png HTTP/1.1
4022 10. 247303	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	468	GET /# cover-small.jpg HTTP/1.1
4031 10. 306274	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	225	HTTP/1.1 301 Moved Permanently
4039 10. 339540	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	893	HTTP/1.1 200 OK (PMS)

Frame 4009: 501 bytes on wire (4880 bits), 501 bytes captured (4880 bits) on Interface 'U/Device/WPF_{3916FFD7-060B-4072-B035-F883627CC6C2}', id 0
> Ethernet II, Src: Azuravel_43:62 (08:c5:f2:43:62:0d), Dst: 02:eb:52:0a:97:e1 (02:eb:52:0a:97:e1)
> Internet Protocol Version 4, Src: 10.225.15.11, Dst: 128.119.245.12
> Transmission Control Protocol, Src Port: 49986, Dst Port: 80, Seq: 1, Ack: 1, Len: 447
> GET /pearson.png HTTP/1.1\r\n
Host: gaia.cs.umass.edu\r\n
Connection: keep-alive\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/94.0.4606.71 Safari/537.36 Edg/94.0.992.38\r\n
Accept: image/webp,image/apng,image/*,*/*;q=0.8\r\n
Referer: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html\r\n
Accept-Encoding: gzip, deflate\r\n
Accept-Language: tr,en;q=0.9,en-GB;q=0.8,en-US;q=0.7\r\n
Vary: *\r\n
[Full request URL: http://gaia.cs.umass.edu/pearson.png]
[HTTP request 2/2]
[Response in frame: 2009]
[Next request in frame: 4039]

0000 02 e0 52 0a 97 e1 80 c5 F2 43 62 0d 08 00 45 00 .R.....Cb-E.
0010 01 c7 1f f5 40 00 80 06 49 e9 0a e1 0f 0b 00 77 ..@....Iv.....w.
0020 f5 0c c3 d2 00 50 a9 78 7f 02 e1 ce c4 eb 50 18 ..@P xP.

No.	Time	Source	Destination	Protocol	Length	Info
3987 9. 964165	10:22:53.55	[128.119.245.12]	[128.119.245.12]	HTTP	393	GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
4009 10. 115711	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	1355	HTTP/1.1 200 OK (text/html)
4016 10. 187027	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	508	GET /pearson.png HTTP/1.1
4022 10. 247303	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	468	GET /# cover-small.jpg HTTP/1.1
4031 10. 306274	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	225	HTTP/1.1 301 Moved Permanently
4039 10. 339540	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	893	HTTP/1.1 200 OK (PMS)

Frame 4016: 468 bytes on wire (3744 bits), 468 bytes captured (3744 bits) on Interface 'U/Device/WPF_{3916FFD7-060B-4072-B035-F883627CC6C2}', id 0
> Ethernet II, Src: Azuravel_43:62 (08:c5:f2:43:62:0d), Dst: 02:eb:52:0a:97:e1 (02:eb:52:0a:97:e1)
> Internet Protocol Version 4, Src: 10.225.15.11, Dst: 128.119.245.12
> Transmission Control Protocol, Src Port: 49986, Dst Port: 80, Seq: 1, Ack: 414
> GET /pearson.png HTTP/1.1\r\n
Host: gaia.cs.umass.edu\r\n
Connection: keep-alive\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/94.0.4606.71 Safari/537.36 Edg/94.0.992.38\r\n
Accept: image/webp,image/apng,image/*,*/*;q=0.8\r\n
Referer: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html\r\n
Accept-Encoding: gzip, deflate\r\n
Accept-Language: tr,en;q=0.9,en-GB;q=0.8,en-US;q=0.7\r\n
Vary: *\r\n
[Full request URL: http://gaia.cs.umass.edu/pearson.png]
[HTTP request 2/2]
[Response in frame: 4009]
[Next request in frame: 4039]

0000 02 e0 52 0a 97 e1 80 c5 F2 43 62 0d 08 00 45 00 .R.....Cb-E.
0010 01 c7 1f f5 40 00 80 06 49 e9 0a e1 0f 0b 00 77 ..@....Iv.....w.
0020 f5 0c c3 d2 00 50 a9 78 7f 02 e1 ce c4 eb 50 18 ..@P xP.

No.	Time	Source	Destination	Protocol	Length	Info
3987 9. 964165	10:22:53.55	[128.119.245.12]	[128.119.245.12]	HTTP	393	GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
4009 10. 115711	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	1355	HTTP/1.1 200 OK (text/html)
4016 10. 187027	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	508	GET /pearson.png HTTP/1.1
4022 10. 247303	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	468	GET /# cover-small.jpg HTTP/1.1
4031 10. 306274	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	225	HTTP/1.1 301 Moved Permanently
4039 10. 339540	10:22:55.11	[128.119.245.12]	[128.119.245.12]	HTTP	893	HTTP/1.1 200 OK (PMS)

Frame 4039: 1058 bytes on wire (1058 bits), 1058 bytes captured (1058 bits) on Interface 'U/Device/WPF_{3916FFD7-060B-4072-B035-F883627CC6C2}', id 0
> Ethernet II, Src: Azuravel_43:62 (08:c5:f2:43:62:0d), Dst: 02:eb:52:0a:97:e1 (02:eb:52:0a:97:e1)
> Internet Protocol Version 4, Src: 10.225.15.11, Dst: 128.119.245.12
> Transmission Control Protocol, Src Port: 52044, Dst Port: 80, Seq: 1, Ack: 1, Len: 1058
> GET /# cover-small.jpg HTTP/1.1\r\n
Host: kurose.cslash.net\r\n
Connection: keep-alive\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/94.0.4606.71 Safari/537.36 Edg/94.0.992.38\r\n
Accept: image/webp,image/apng,image/*,*/*;q=0.8\r\n
Referer: http://kurose.cslash.net/\r\n
Accept-Encoding: gzip, deflate\r\n
Accept-Language: tr,en;q=0.9,en-GB;q=0.8,en-US;q=0.7\r\n
Vary: *\r\n
[Full request URL: http://kurose.cslash.net/# cover-small.jpg]
[HTTP request 1/1]
[Response in frame: 4031]

0000 02 e0 52 0a 97 e1 80 c5 F2 43 62 0d 08 00 45 00 .R.....Cb-E.
0010 01 c7 1f f5 40 00 80 06 53 57 68 21 0f 24 00 00 ..@....M..O.
0020 89 ad c8 00 80 06 53 57 68 21 0f 24 00 00 ..@P xP.

17. Can you tell whether your browser downloaded the two images serially, or whether they were downloaded from the two web sites in parallel? Explain.

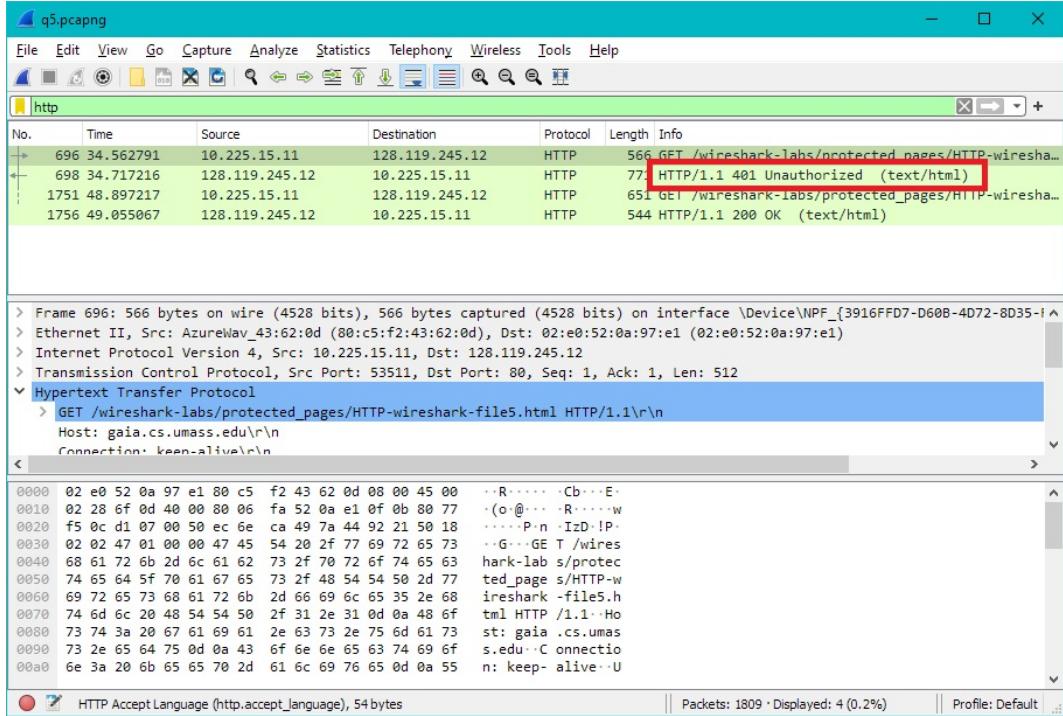
We can easily tell it is parallel download because GET request happen sequentially and even "8E_cover_small.jpg" returns before other request completes. Check below screenshot and colouring.

No.	Time	Source	Destination	Protocol	Length	Info
3987	9.964165	10.225.15.11	128.119.245.12	HTTP	555	GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
4009	10.115711	128.119.245.12	10.225.15.11	HTTP	1355	HTTP/1.1 200 OK (text/html)
4016	10.187027	10.225.15.11	128.119.245.12	HTTP	501	GET /pearson.png HTTP/1.1
4022	10.247303	10.225.15.11	178.79.137.164	HTTP	468	GET /8E_cover_small.jpg HTTP/1.1
4031	10.306274	178.79.137.164	10.225.15.11	HTTP	225	HTTP/1.1 301 Moved Permanently
4039	10.339540	128.119.245.12	10.225.15.11	HTTP	893	HTTP/1.1 200 OK (PNG)

HTTP Authentication

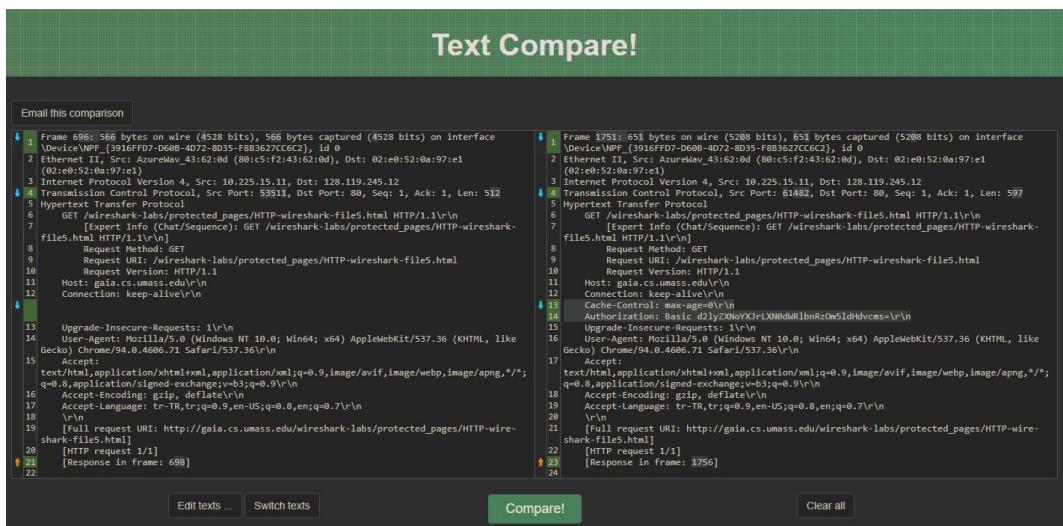
18. What is the server's response (status code and phrase) in response to the initial HTTP GET message from your browser?

401 Unauthorized which can be seen in the screenshot.



19. When your browser's sends the HTTP GET message for the second time, what new field is included in the HTTP GET message?

We can see fields "Cache-Control:" and "Authorization:" are new on second GET request. See below screenshot for a compression and check other two screen shots in the next page for a proof. As we can see these fields are in the second request while they are not in the first.



q5pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http

No.	Time	Source	Destination	Protocol	Length	Info
696	34.562791	10.225.15.11	128.119.245.12	HTTP	566	GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1
698	34.717216	128.119.245.12	10.225.15.11	HTTP	771	HTTP/1.1 401 Unauthorized (text/html)
1751	48.897217	10.225.15.11	128.119.245.12	HTTP	651	GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1
1756	49.055067	128.119.245.12	10.225.15.11	HTTP	544	HTTP/1.1 200 OK (text/html)

```
> Frame 696: 566 bytes on wire (4528 bits), 566 bytes captured (4528 bits) on interface \Device\NPF_{3916FFD7-D60B-4D72-8D35-F8B3627CC6C2}, id 0
> Ethernet II, Src: AzureNv_43:62:0d (00:c5:f2:43:62:0d), Dst: 02:e0:52:08:97:e1 (02:e0:52:08:97:e1)
> Internet Protocol Version 4, Src: 10.225.15.11, Dst: 128.119.245.12
> Transmission Control Protocol, Src Port: 53511, Dst Port: 80, Seq: 1, Ack: 1, Len: 512
HyperText Transfer Protocol
  > GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1\r\n
    > [Expert Info (Chat/Sequence): GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1\r\n]
      Request Method: GET
      Request URI: /wireshark-labs/protected_pages/HTTP-wireshark-file5.html
      Request Version: HTTP/1.1
      Host: gaia.cs.umass.edu\r\n
      Connection: keep-alive\r\n
      Upgrade-Insecure-Requests: 1\r\n
      User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/94.0.4606.71 Safari/537.36\r\n
      Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,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: tr-TR,tr;q=0.9,en-US;q=0.8,en;q=0.7\r\n
    \r\n
    [Full request URI: http://gaia.cs.umass.edu/wireshark-labs/protected_pages/HTTP-wireshark-file5.html]
    [HTTP request 1/1]
    [Response in frame: 698]
```

0000 02 e0 52 89 97 e1 80 c5 f2 43 62 0d 08 00 45 00 ..R.....:C0...E
0010 02 20 5f 8d 40 00 00 00 f1 52 0e e1 0f d0 00 77 .(o @...:R....W
0020 f5 8c d1 87 00 50 ec 6e ca 49 7a 04 92 21 50 18 ..G...:Pn IaD:IP
0030 02 02 47 01 20 00 00 47 45 54 20 2f 77 69 72 65 73 ..G...:GE T/wires
0040 68 61 72 6b 2d 6c 61 62 73 2f 70 72 6f 74 65 63 hark-lab s/protec
0050 74 65 64 5f 70 61 67 65 73 2f 48 54 54 50 2d 77 ted_page s/HTTP-w
0060 69 72 65 73 68 61 72 6b 2d 66 69 6c 65 35 2e 68 ireshark -file5.h

Packets: 1809 · Displayed: 4 (0.2%) Profile: Default

q5pcapng

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http

No.	Time	Source	Destination	Protocol	Length	Info
696	34.562791	10.225.15.11	128.119.245.12	HTTP	566	GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1
698	34.717216	128.119.245.12	10.225.15.11	HTTP	771	HTTP/1.1 401 Unauthorized (text/html)
1751	48.897217	10.225.15.11	128.119.245.12	HTTP	651	GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1
1756	49.055067	128.119.245.12	10.225.15.11	HTTP	544	HTTP/1.1 200 OK (text/html)

```
> Frame 1751: 651 bytes on wire (5208 bits), 651 bytes captured (5208 bits) on interface \Device\NPF_{3916FFD7-D60B-4D72-8D35-F8B3627CC6C2}, id 0
> Ethernet II, Src: AzureNv_43:62:0d (00:c5:f2:43:62:0d), Dst: 02:e0:52:08:97:e1 (02:e0:52:08:97:e1)
> Internet Protocol Version 4, Src: 10.225.15.11, Dst: 128.119.245.12
> Transmission Control Protocol, Src Port: 61482, Dst Port: 80, Seq: 1, Ack: 1, Len: 597
HyperText Transfer Protocol
  > GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1\r\n
    > [Expert Info (Chat/Sequence): GET /wireshark-labs/protected_pages/HTTP-wireshark-file5.html HTTP/1.1\r\n]
      Request Method: GET
      Request URI: /wireshark-labs/protected_pages/HTTP-wireshark-file5.html
      Request Version: HTTP/1.1
      Host: gaia.cs.umass.edu\r\n
      Connection: keep-alive\r\n
      Cache-Control: max-age=0\r\n
      Authorization: Basic d2lyZXNvXJrLXN0dwRlbnRzOm5ldHdvcmcs=\r\n
    \r\n
    [Full request URI: http://gaia.cs.umass.edu/wireshark-labs/protected_pages/HTTP-wireshark-file5.html]
    [HTTP request 1/1]
    [Response in frame: 1756]
```

0080 6e 3a 20 8b 65 65 70 2d 61 6c 69 75 65 0d 0e 43 n: keep-alive\r\n
0081 61 63 68 65 2d 43 6f 6e 74 72 6f 6c 3a 20 64 61 Cache-Control: no
0082 70 2d 61 67 65 3d 30 0d 0a 41 75 74 68 6f 72 69 -age=0\r\n
0083 6c 79 5a 58 4e 6f 59 58 4a 72 4c 58 4e 30 64 57 Authorization: Basic d2
0084 6c 79 5a 58 4e 6f 59 58 4a 72 4c 58 4e 30 64 57 lyZXNvXJrLXN0dw
0085 52 6c 62 6e 52 7a 4f 6d 35 6c 64 48 64 76 63 6d RlbnRzOm5ldHdvcm
0086 73 3d 0d 0a 55 70 67 72 61 64 65 2d 49 6e 73 65 s=-Upgr ade-Inse

Packets: 1809 · Displayed: 4 (0.2%) Profile: Default

REFERENCES

LaTex Tutorials
Assignment Paper
Wireshark FAQ
Wireshark User's Guide