/var/folders/sv/92zc6xbs7r1_32n3m4_nsyv80000gn/T/wireshark_1000 LANY4GE00.pcapng 723 total packets, 4 shown

```
No.     Time              Source          Destination          Protocol Length Info
    638 14:38:24.125155   192.168.1.210   128.119.245.12       HTTP     448    GET /
wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1
Frame 638: 448 bytes on wire (3584 bits), 448 bytes captured (3584 bits) on interface en7, id 0
```

/var/folders/sv/92zc6xbs7r1_32n3m4_nsyv80000gn/T/wireshark_1000 LANY4GE00.pcapng 723 total packets, 4 shown

```
No.     Time              Source          Destination          Protocol Length Info
    642 14:38:24.220309   128.119.245.12  192.168.1.210        HTTP     552    HTTP/1.1
200 OK (text/html)
Frame 642: 552 bytes on wire (4416 bits), 552 bytes captured (4416 bits) on interface en7, id 0

Hypertext Transfer Protocol
    HTTP/1.1 200 OK\r\n
    Date: Sun, 21 Mar 2021 21:38:24 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.14 mod_perl/2.0.11 Perl/v5.16.3\r\n
    Last-Modified: Sun, 21 Mar 2021 05:59:01 GMT\r\n
    ETag: "80-5be05a55baf1d"\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: 0.095154000 seconds]
    [Request in frame: 638]
    [Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html]
    File Data: 128 bytes
```

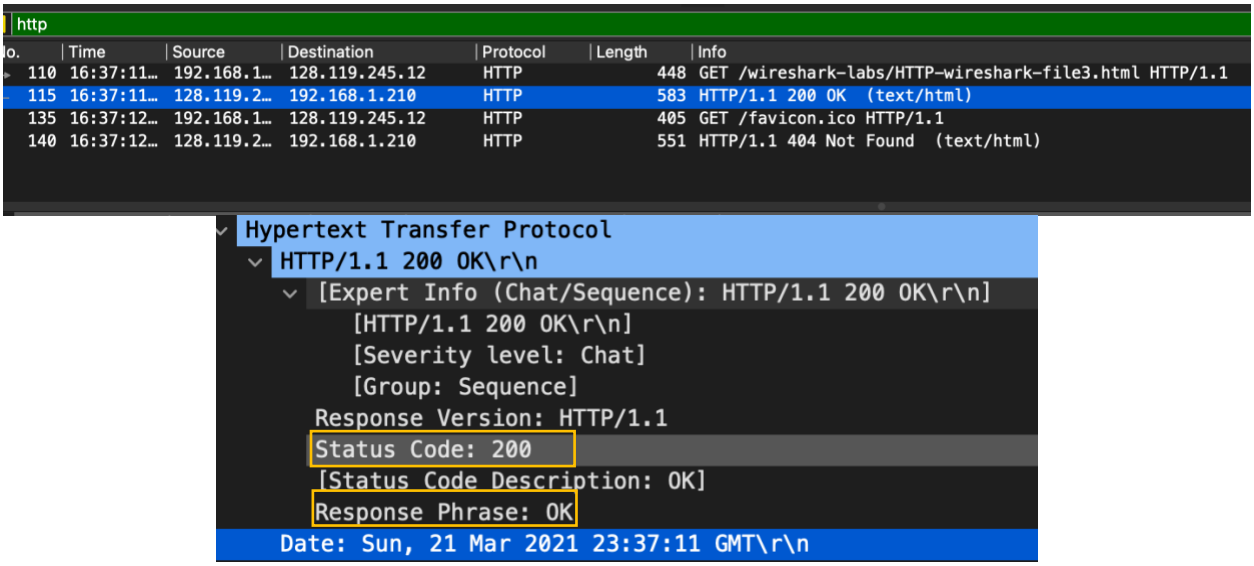
```
Hypertext Transfer Protocol
  > GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n
    Host: gaia.cs.umass.edu\r\n
    User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.16; rv:86.0) Gecko/20100101 Firefox/86.0\r\n
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8\r\n
    Accept-Language: en-US,en;q=0.5\r\n
    Accept-Encoding: gzip, deflate\r\n
```

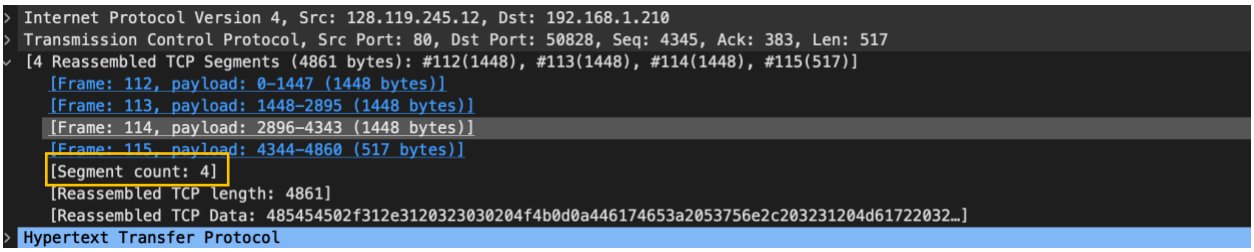
1. Browser is using HTTP version 1.1, and server is running HTTP version 1.1
2. Accept-Language: en-US,en;q=0.5 \r\n
3. My computer: 192.168.1.210, gaia.cs.umass.edu: 128.119.245.12
4. Status Code → 200 (OK)
5. Last-Modified: Sun, 21 Mar 2021 05:59:01 GMT \r\n
6. File Data: 128 bytes
7. None, I don't see any.

```
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.210
Transmission Control Protocol, Src Port: 80, Dst Port: 50576, Seq: 1, Ack: 383, Len: 730
Hypertext Transfer Protocol
Line-based text data: text/html (10 lines)
    \n
    <html>\n
    \n
    Congratulations again!  Now you've downloaded the file lab2-2.html. <br>\n
    This file's last modification date will not change.  <p>\n
    Thus  if you download this multiple times on your browser, a complete copy <br>\n
    will only be sent once by the server due to the inclusion of the IN-MODIFIED-SINCE<br>\n
    field in your browser's HTTP GET request to the server.\n
    \n
    </html>\n
    Host: gaia.cs.umass.edu\r\n
    User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.16; rv:86.0) Gecko/20100101 Firefox/
86.0\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: Sun, 21 Mar 2021 05:59:01 GMT\r\n
    If-None-Match: "173-5be05a55ba74c"\r\n
```

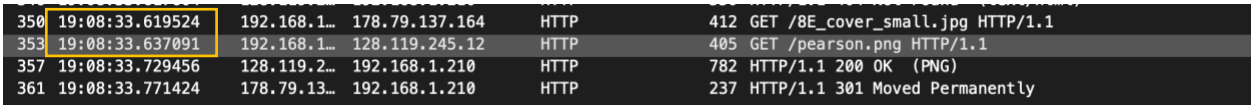
```
No.     Time               Source                Destination           Protocol Length Info
    646 16:00:34.733215    128.119.245.12        192.168.1.210         HTTP     306    HTTP/1.1
304 Not Modified
Frame 646: 306 bytes on wire (2448 bits), 306 bytes captured (2448 bits) on interface en7, id 0
Ethernet II, Src: ASUSTekC_e5:58:90 (70:4d:7b:e5:58:90), Dst: GopodGro_07:e3:5a (48:65:ee:
17:e3:5a)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.210
Transmission Control Protocol, Src Port: 80, Dst Port: 50583, Seq: 1, Ack: 495, Len: 240
Hypertext Transfer Protocol
    HTTP/1.1 304 Not Modified\r\n
    Date: Sun, 21 Mar 2021 23:00:34 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.14 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: "173-5be05a55ba74c"\r\n
    \r\n
    [HTTP response 1/1]
    [Time since request: 0.094881000 seconds]
    [Request in frame: 643]
    [Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file2.html]
```

8. No I do not see a “IF-MODIFIED-SINCE” line in the HTTP GET
9. The server did return contents of the file; I can tell by the Line-based text data field shown above.
10. If-Modified-Since: Sun, 21 Mar 2021 05:59:01 GMT\r\n
11. Status Code → 304 (Not Modified). The server did not return the contents of the file because nothing changed since it was last stored as cache. The If-Modified-Since line stored the date of when it was last modified, and the website would need to change its’ contents for it to return contents of the file.

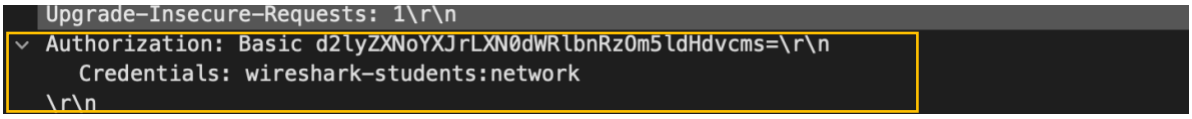




12. My browser sent one HTTP GET request message. Packet number 115 contains the GET message for the Bill of Rights.
13. Packet 115
14. Status Code → 200, Status Phrase → OK
15. 4 TCP segments



16. There is a total of 3 HTTP Get request messages sent to Host: gaia.cs.umass.edu\r\n
17. The images were downloaded serially; we can tell by the time where they are different. If the images were downloaded in parallel they both of the images would have the same time.



18. Status Code → 404, Status phrase → Unauthorized
19. The new field added was Authorization field