

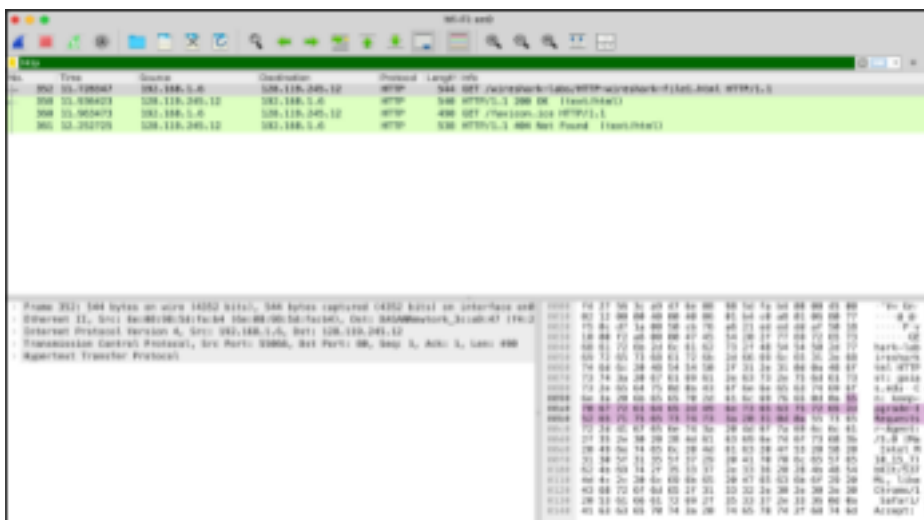
Computer Networking

Assignment - 2

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1. Is your browser running HTTP version fi.0 or fi.fi? What version of HTTP is the server running?



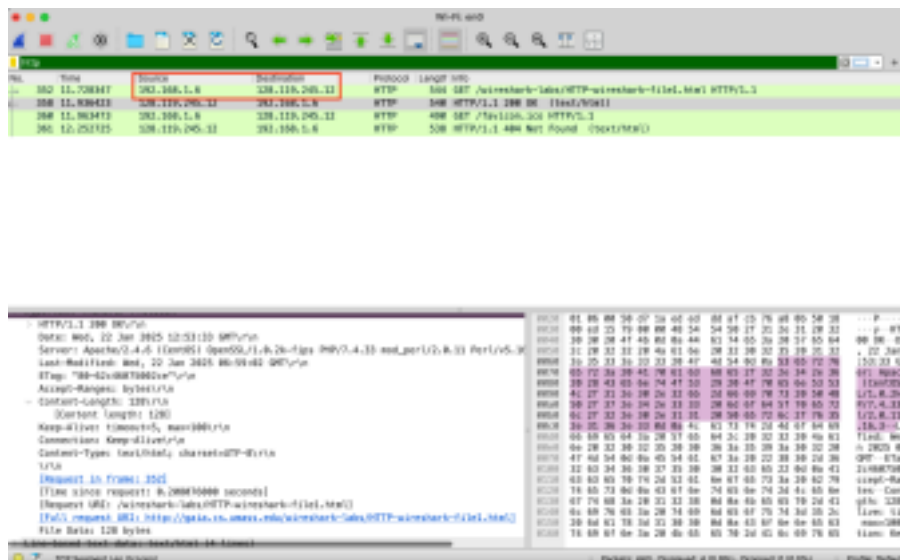
Ans:- Yes, version of HTTP 1.1

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



Ans:- en-GB, en-US

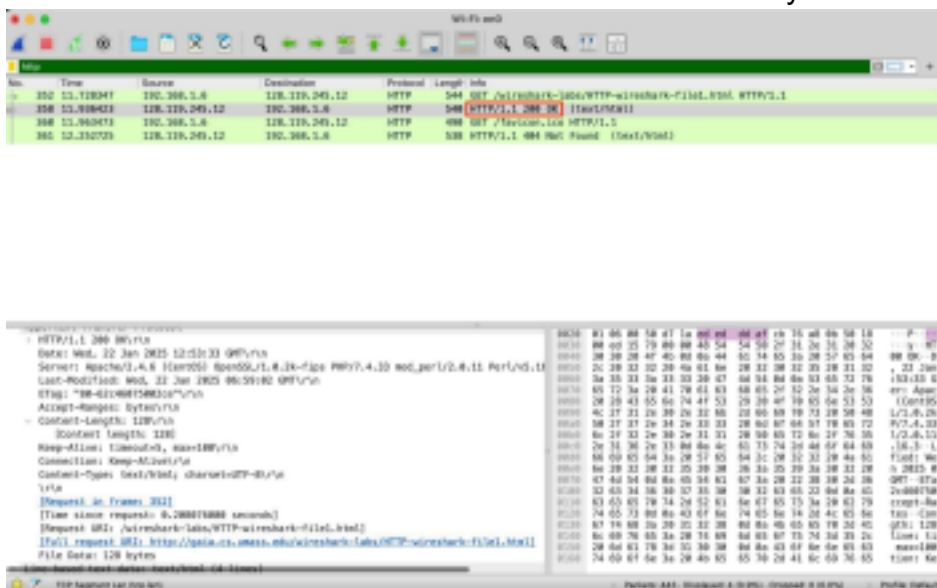
3. What is the IP address of your computer? Of the gaia.cs.umass.edu server?



Ans:- IP of

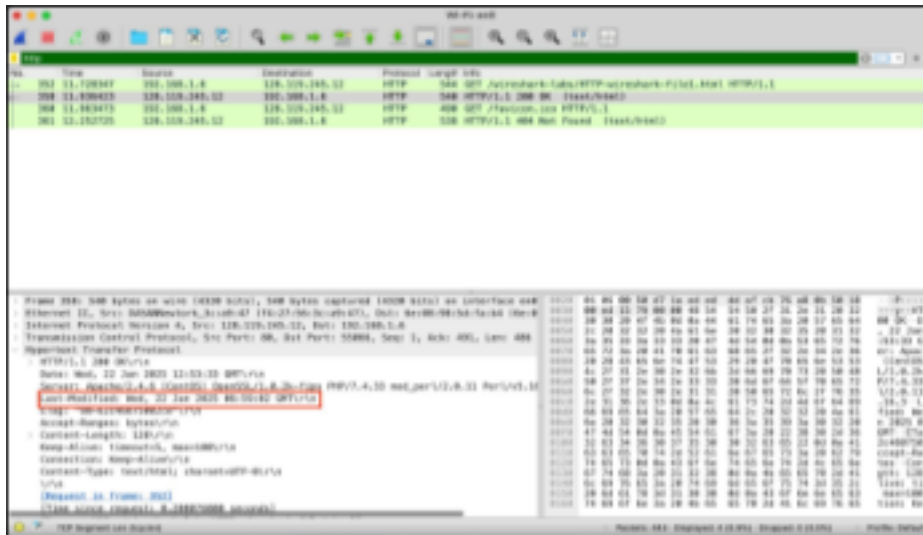
computer: 192.168.1.6,
IP of gaia.cs.umass.edu server: 128. 119.245.12

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



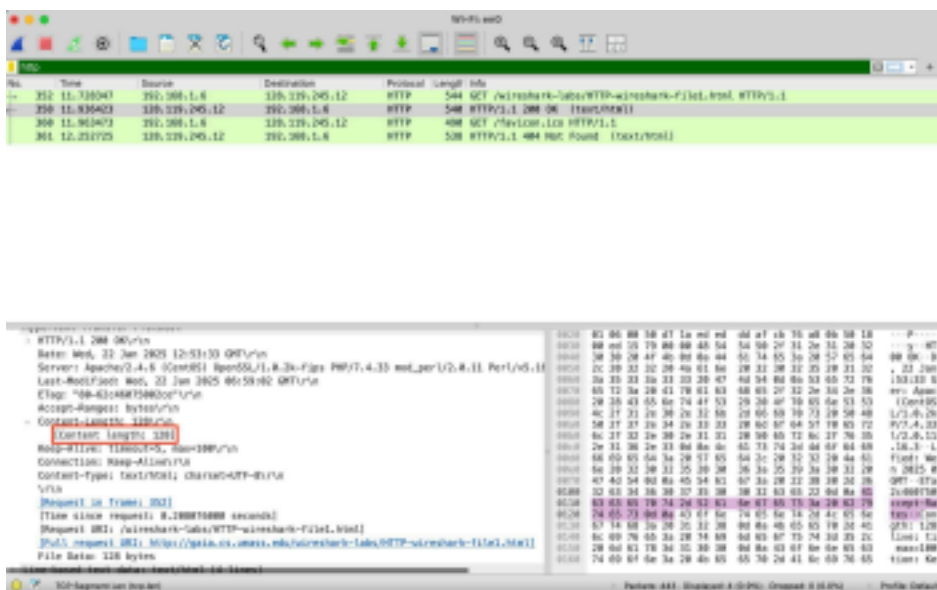
Ans:- 200 OK

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



Ans:- Wed, 22 Jan 2025 06:59:02 GMT\r\n

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



Ans:-. 128 bytes

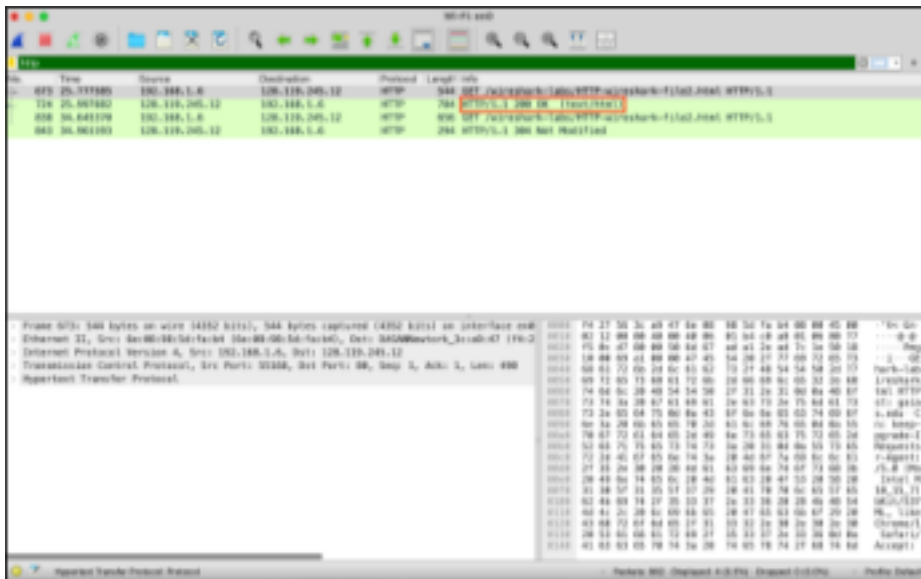
7. By inspecting the raw data in the packet content window, do you see any headers within the data that are not displayed in the packet-listing window? If so, name one. Ans:-. Yes, much info is shown in detail like the last modified cache date.

2. 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?

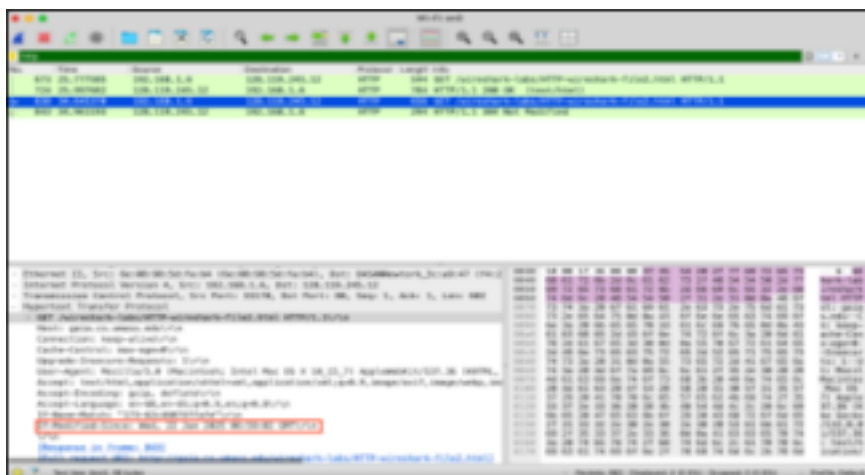
Ans:- No

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



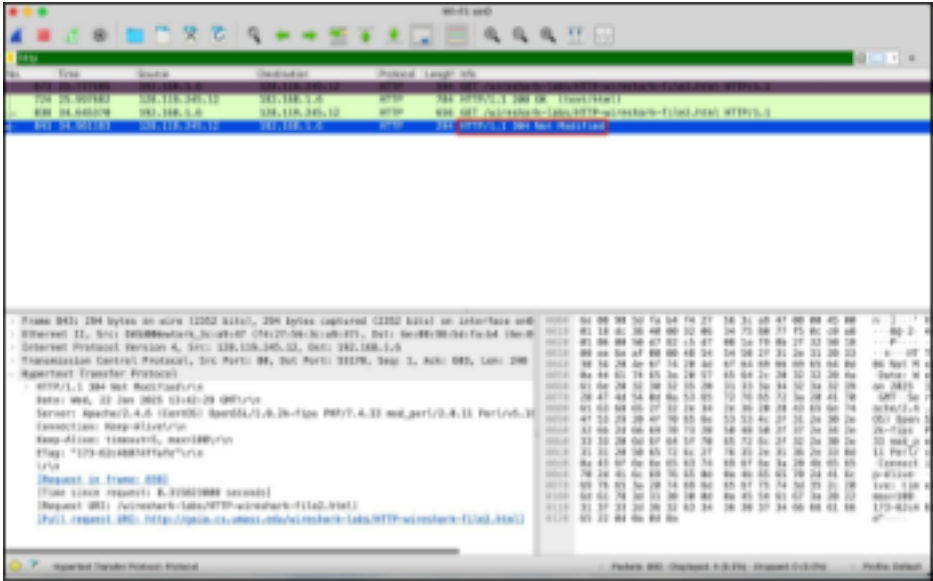
Ans:-. No , Because 200 OK status code and a text/html which means the server explicitly returns the contents of the file.

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?



Ans:- Yes, Wed, 22 Jan 2025 08:10:12 GMT\r\n

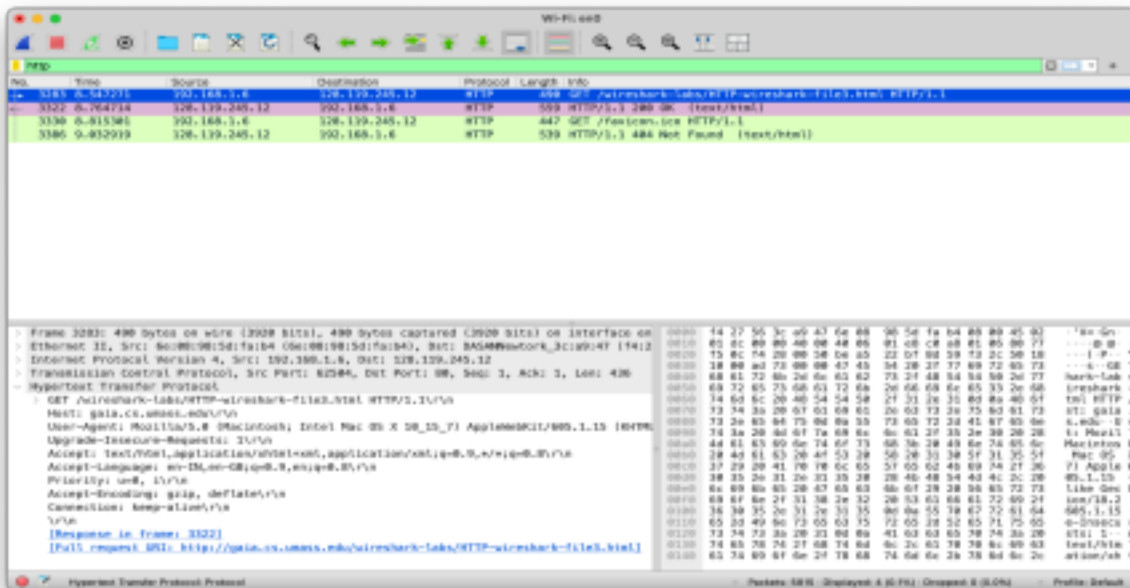
11. What is the HTTP status code and phrase returned from the server in response to this second HTTP GET? Did the server explicitly return the contents of the file? Explain.



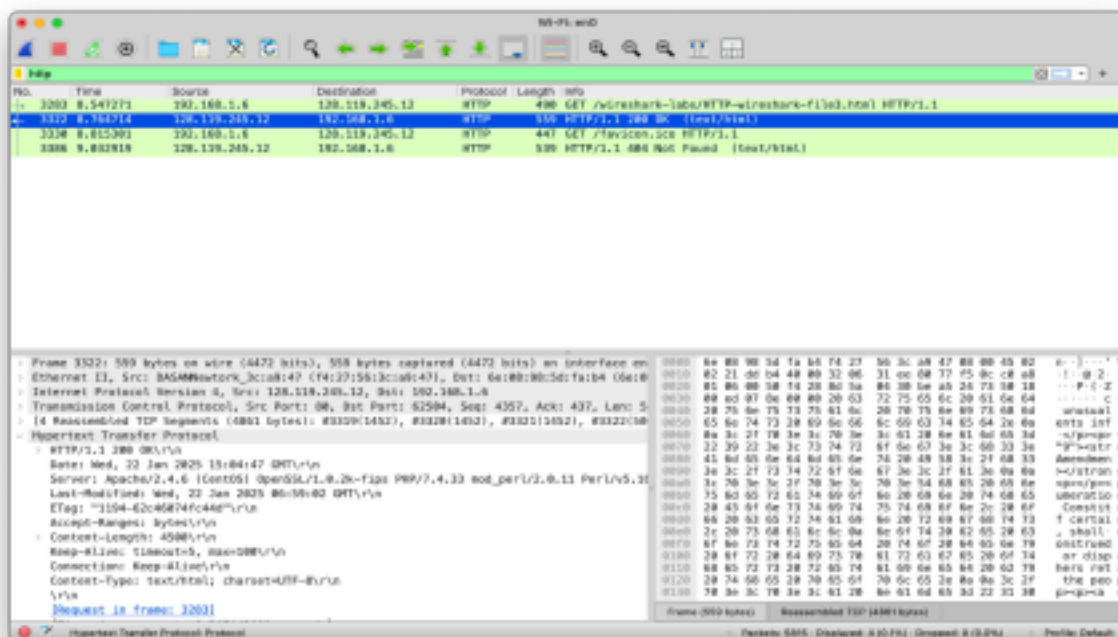
Ans:-status code 304
phrase = Not Modified
No server did not explicitly return the contents of the file Because
the last modified was available on cache.

3. 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?



Ans:- Number of Get requests sent: 1. Packet number 3283
13. Which packet number in the trace contains the status code and phrase associated with the response to the HTTP GET request?



Ans:-. Packet number 3322

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

Ans:-. Server response 200 and phrase OK.

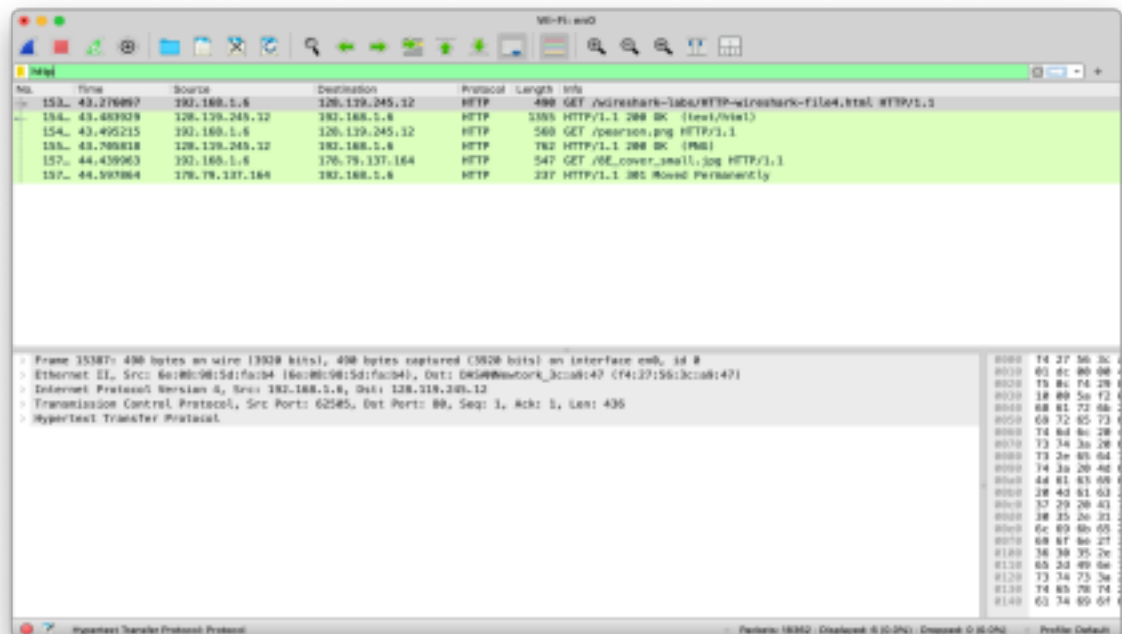
15. How many data-containing TCP segments were needed to carry the single HTTP response and the text of the Bill of Rights?

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> Frame 3322: 559 bytes on wire (4472 bits), 559 bytes captured (4472 bits) on interface en0, id 0
> Ethernet II, Src: DASHNetwork_3c1a9b47 (f4:27:56:3c1a9b47), Dst: 6e108198:5d1fa1b4 (6e108198:5d1fa1b4)
> Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.6
> Transmission Control Protocol, Src Port: 80, Dst Port: 62504, Seq: 4357, Ack: 437, Len: 585
- [4 Reassembled TCP Segments (4861 bytes): #3319(1452), #3320(1452), #3321(1452), #3322(585)]
  [Frame: 3319, payload: 0-1451 (1452 bytes)]
  [Frame: 3320, payload: 1452-2903 (1452 bytes)]
  [Frame: 3321, payload: 2904-4355 (1452 bytes)]
  [Frame: 3322, payload: 4356-4860 (505 bytes)]
  [Segment count: 4]
  [Reassembled TCP length: 4861]
  [Reassembled TCP Data ...]: 485454502f312e3120323030204f46b0d0a46174653a205765642c203232204a616e20323032352031353a30343a3437204746540d...
> Hypertext Transfer Protocol
> Line-based text data: text/html (98 lines)
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Ans:- Number of TCP segments is 4.

4. 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?

Ans:- Browser sent 3 GET requests.

First 2 GET requests IP address: 128.119.245.12,

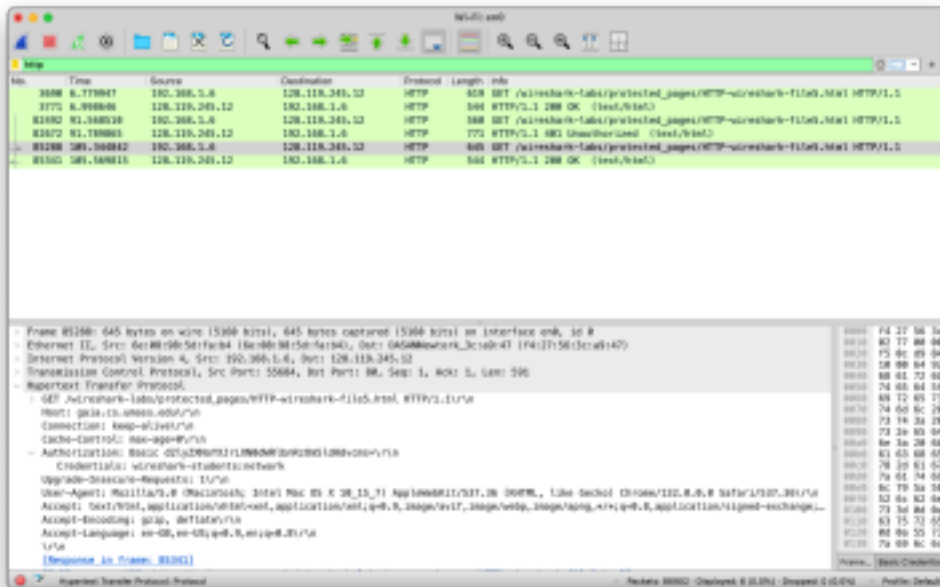
Third GET requests IP address: 178.79.137.164

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

Ans:-. Yes, the 2 Picture files were downloaded Serially. We can tell that from the arrival time as well as the difference in the timestamp in the packet-listing window.

5 HTTP Authentication

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



Ans:-.The first GET request gets a status code of 401 from the server.

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

Ans:-. The second GET request gets a status code of 200 from the server and a new field **Authorization: Basic d2lyZXNoYXJrLXN0dWRIbnRzOm5ldHdvcms=** Credentials: **wireshark-students:network**

This field contains the credentials entered for the website.