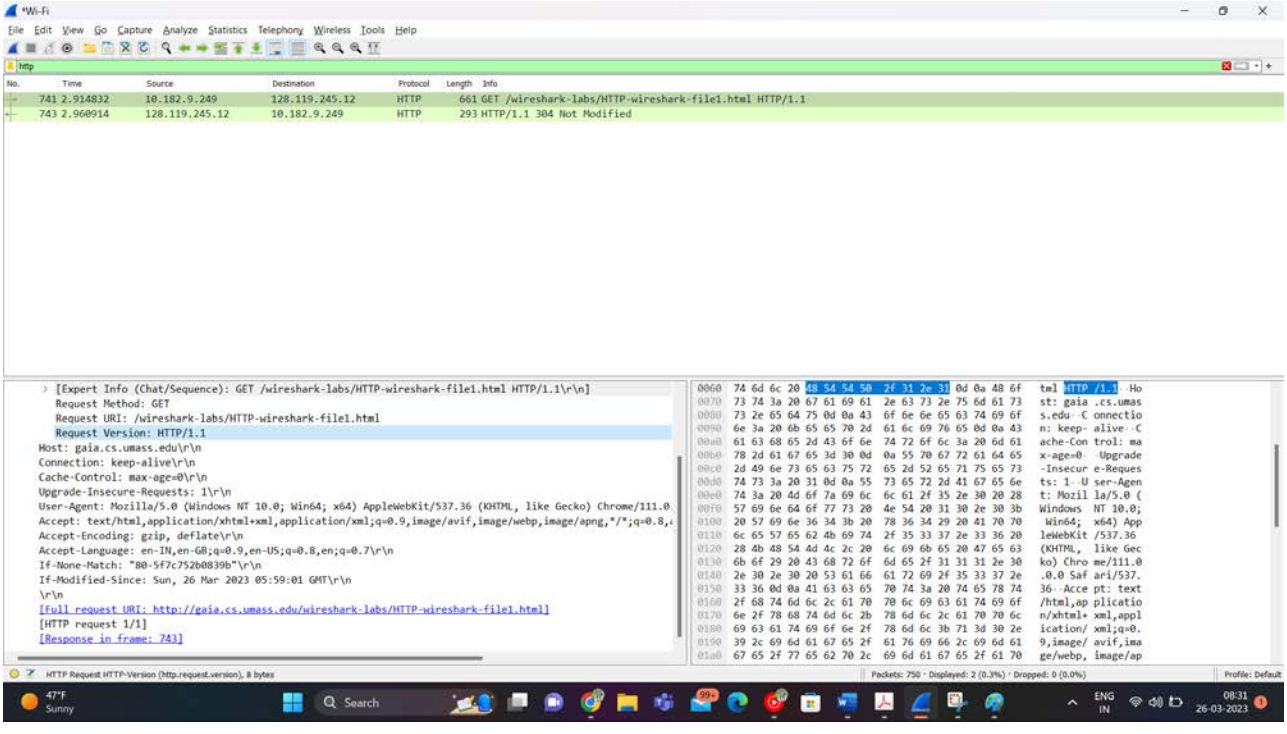
Name: Mohit Kulkarni
Student ID: 1002031021 CN Assignment 2

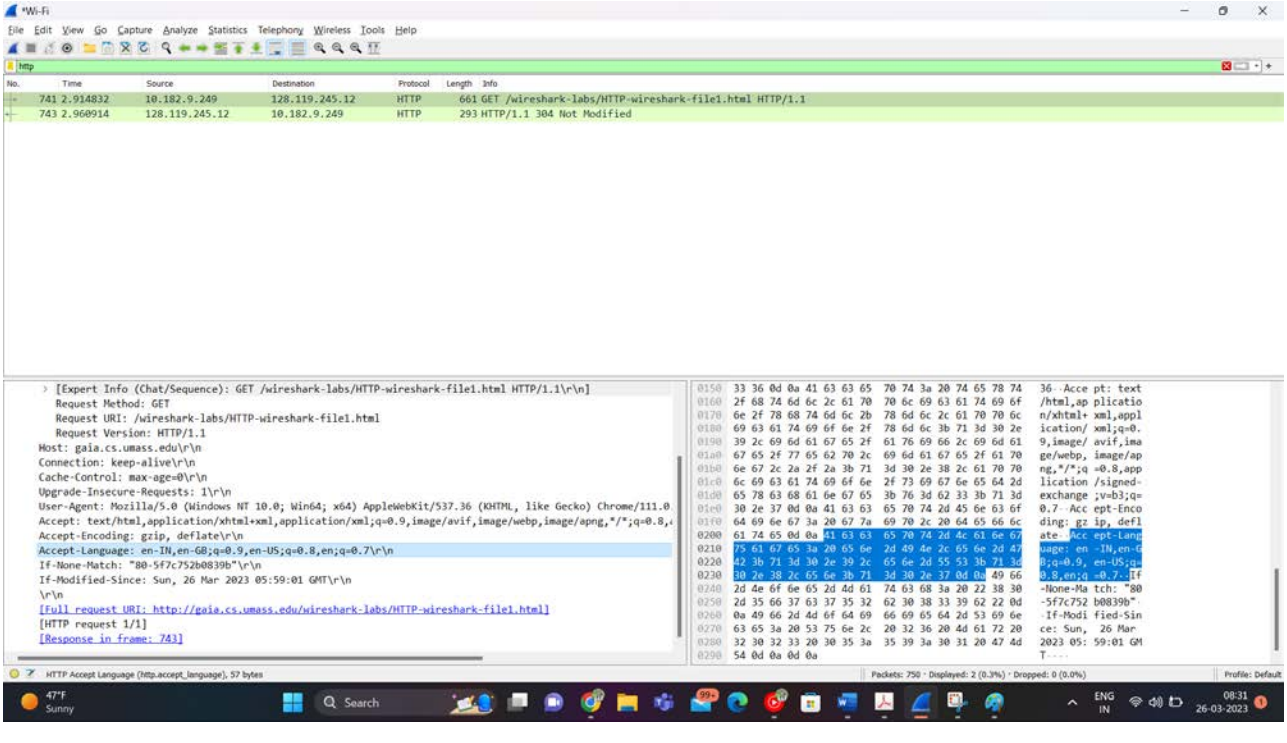
1. Is your browser running HTTP version 1.0 or 1.1? What version of HTTP is the server running?

Ans: Yes My browser and server both is running **HTTP with version of 1.1**



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

Ans: As highlighted in the Image the browser can accept **“en-IN,en-GB” to the server.**



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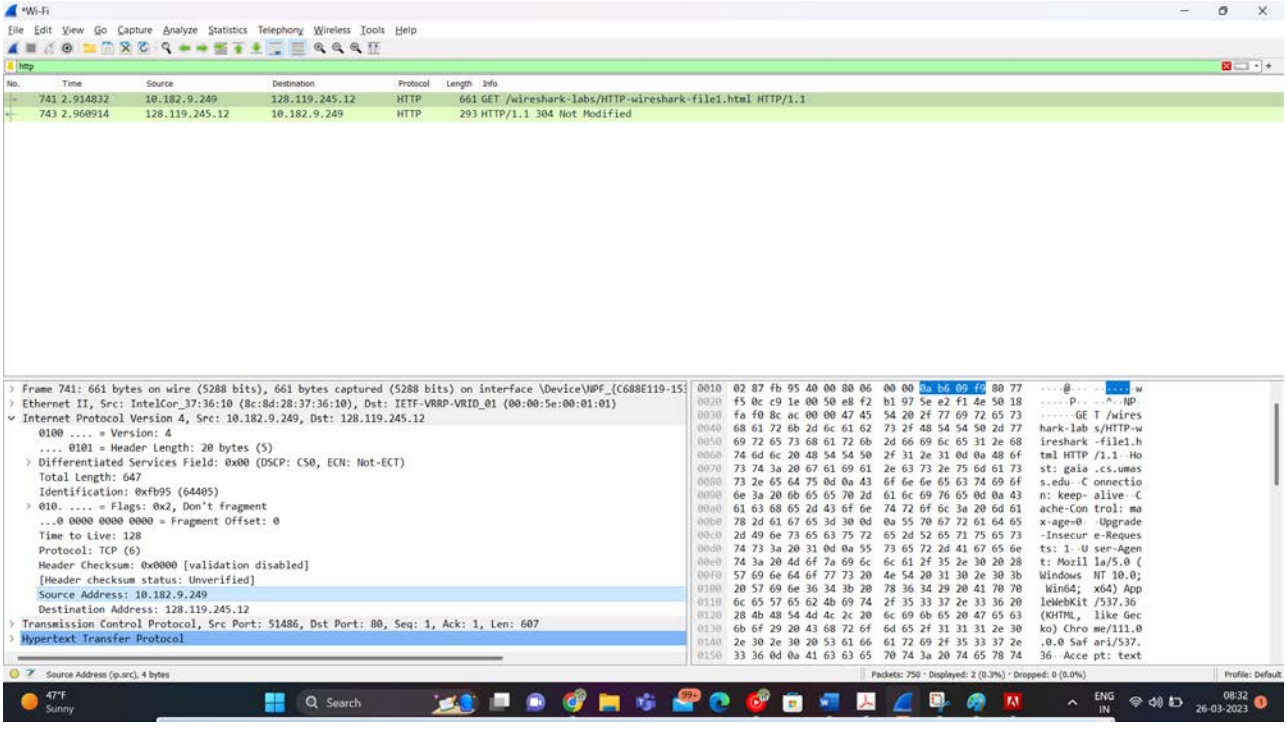
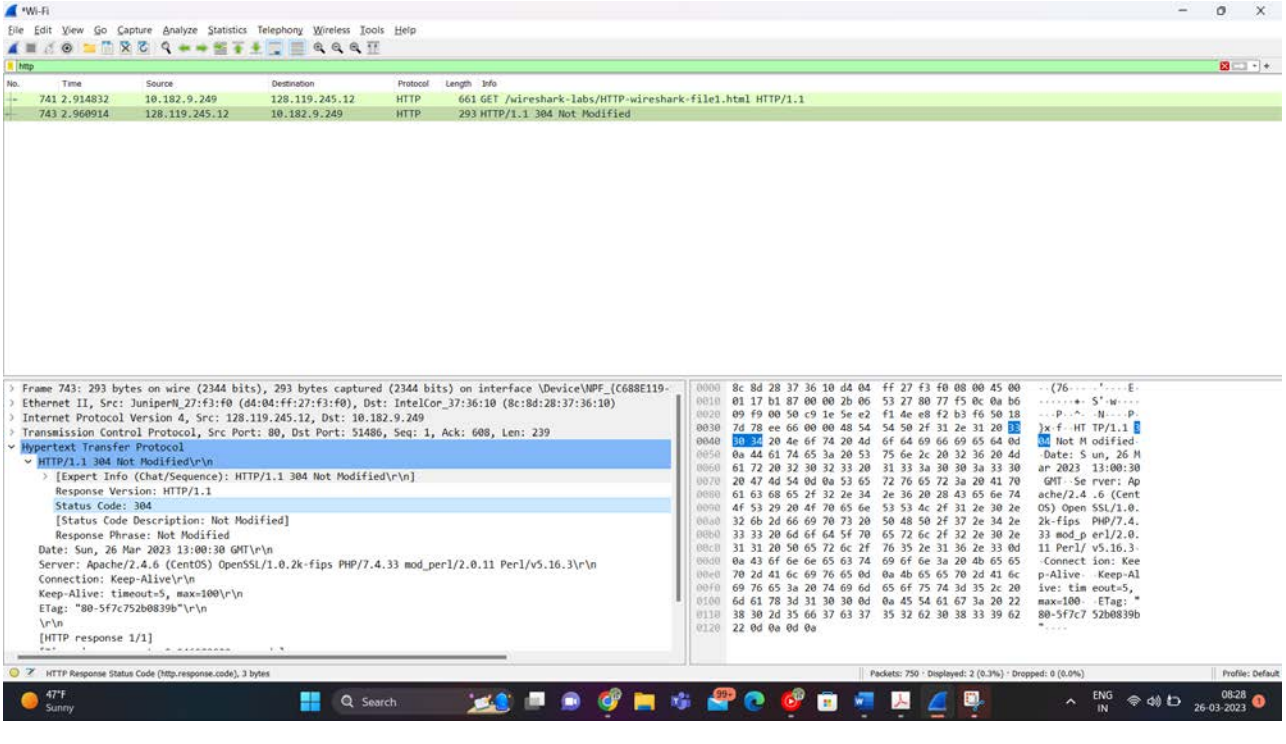
3. What is the IP address of your computer? Of the gaia.cs.umass.edu server?

Ans: The IP address of my **computer** is **10.182.9.249** and IP address of the **gaia.cs.umass.edu server** is **128.119.245.12**



4. What is the status code returned from the server to your browser?
Ans: Status code which is returned from the server to the browser is **304.**



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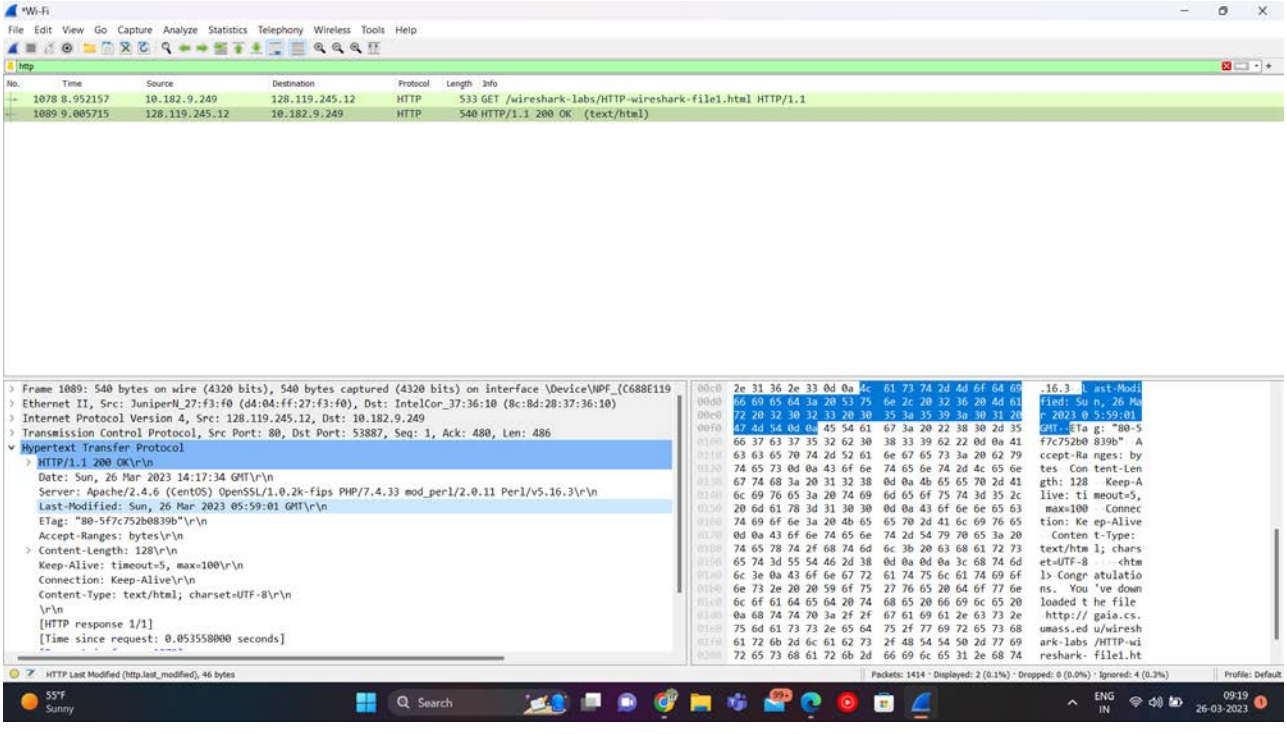
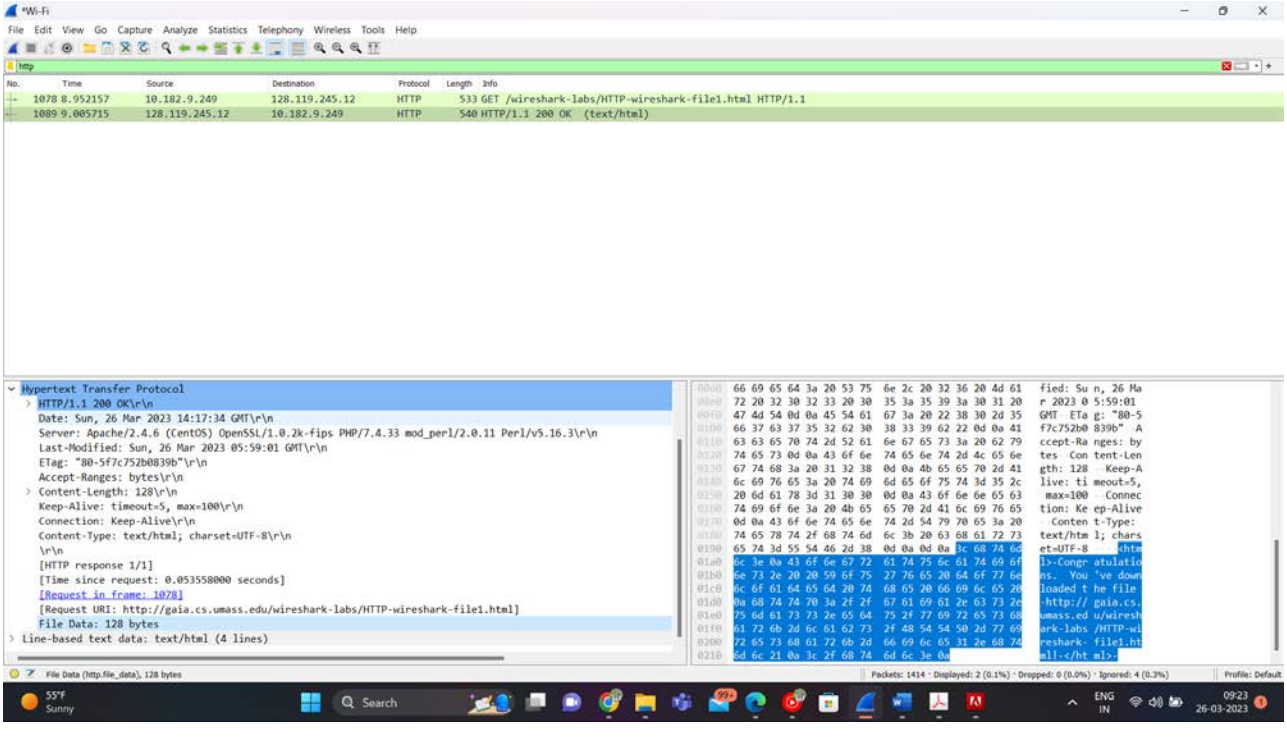
5. When was the HTML file that you are retrieving last modified at the server?

Ans: **Sun, 26 Mar 2023 05:59:01 GMT\r\n** as last modified at the server



6. How many bytes of content are being returned to your browser?
Ans: **128 bytes** of content



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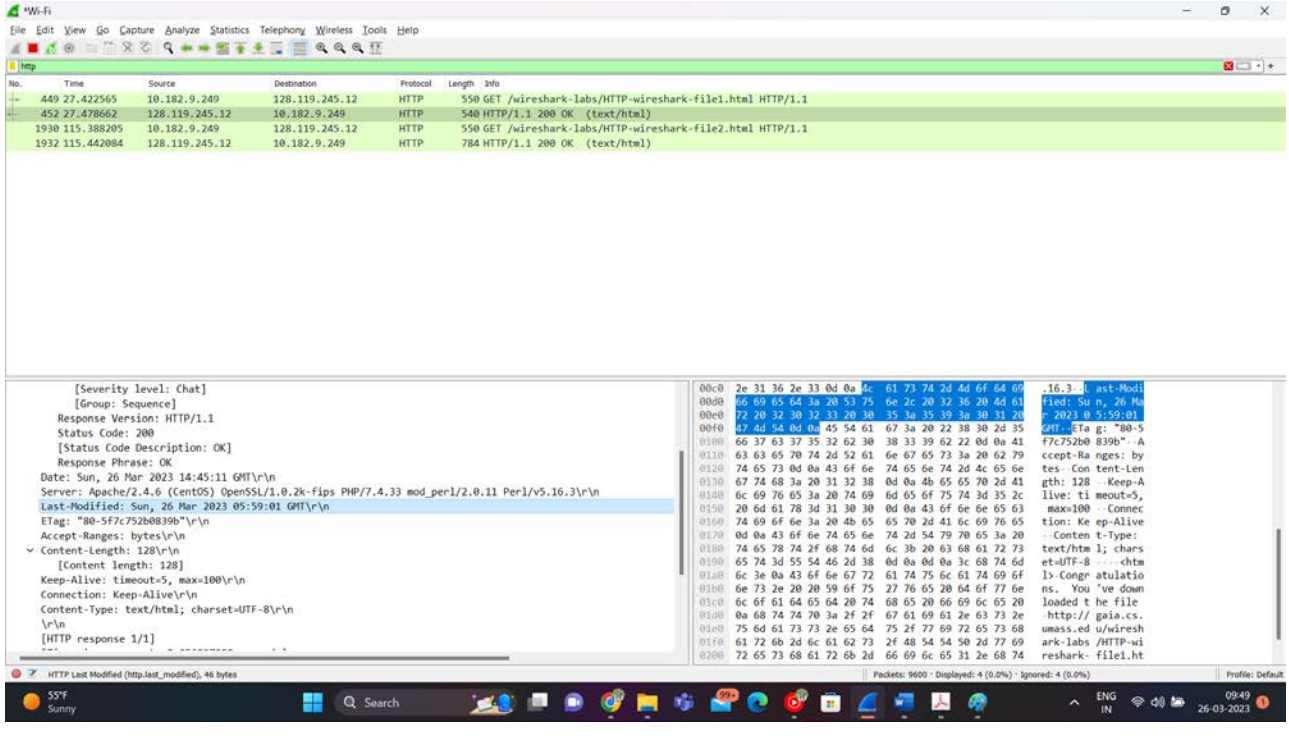
7. By inspecting the raw data in the packet content window, do you see any headers within the data that are not displayed in the packet-listing window? If so, name one.

Ans: **No**, I do not see any headers within the data in the packet-listing window. As all of the data can be found in raw data.

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,** I can see there is “IF-MODIFIED-SINCE” line in the HTTP GET.



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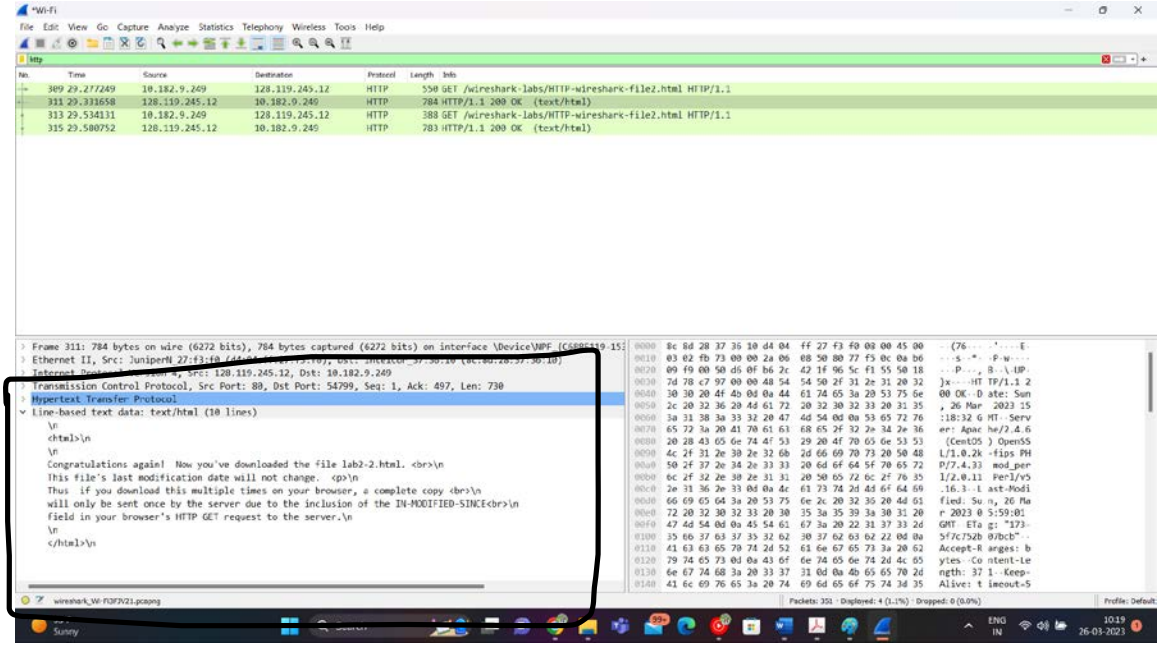
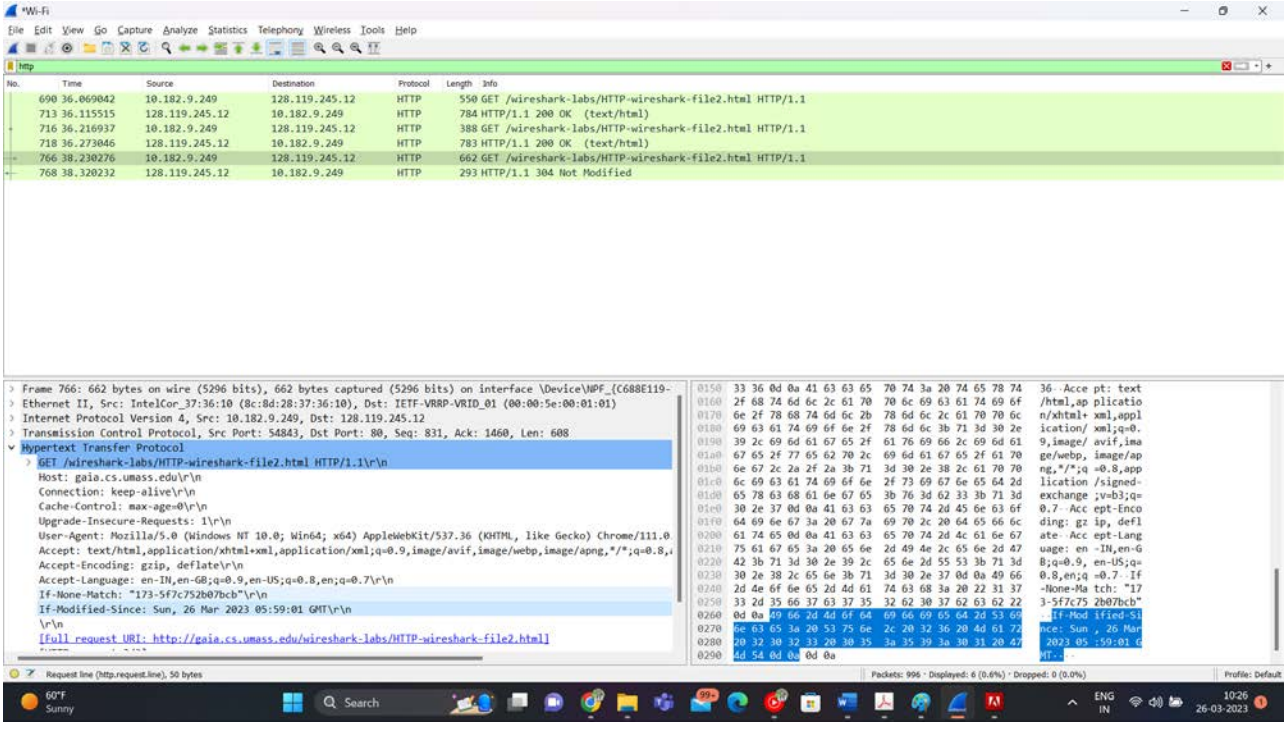
9. Inspect the contents of the server response. Did the server explicitly return the contents of the file? How can you tell?
Ans: Yes as you can see the **Line-based text data** with 10 lines



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,** second HTTP GET request from the browser to the server we can see that “**IF-MODIFIED-SINCE:**” line in the HTTP GET” as you can see in the image below.



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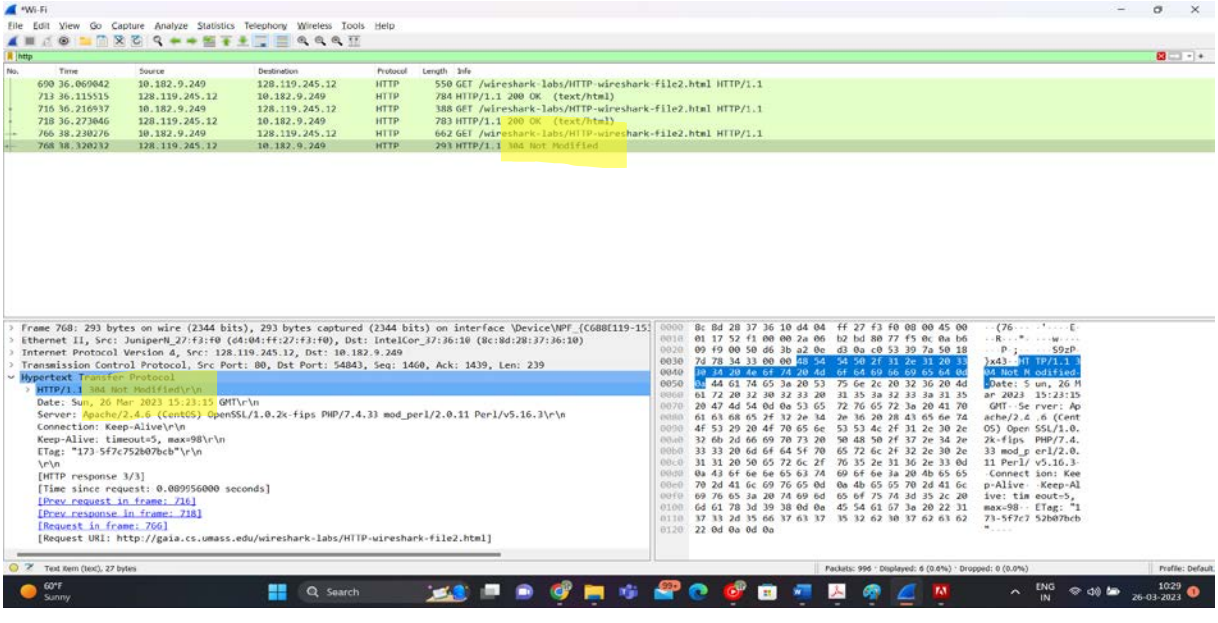
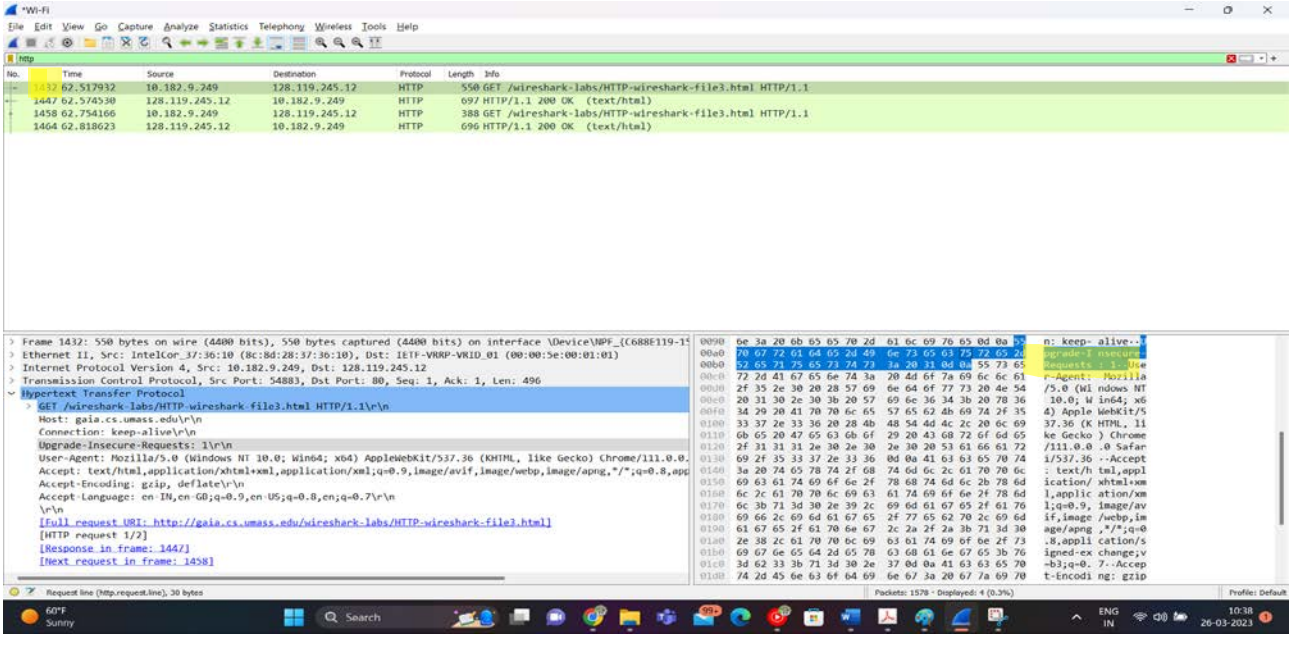
11. What is the HTTP status code and phrase returned from the server in response to this second HTTP GET? Did the server explicitly return the contents of the file? Explain
Ans: The phrase returned for the second one is **“HTTP1.1/ 304 Not Modified”.** As the server did not return the contents of the file but the browser returned the contents from the cache memory.



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: There is **One** HTTP GET request message which was sent by my browser.

Packet Number 1432 has the trace content of the GET message from the browser



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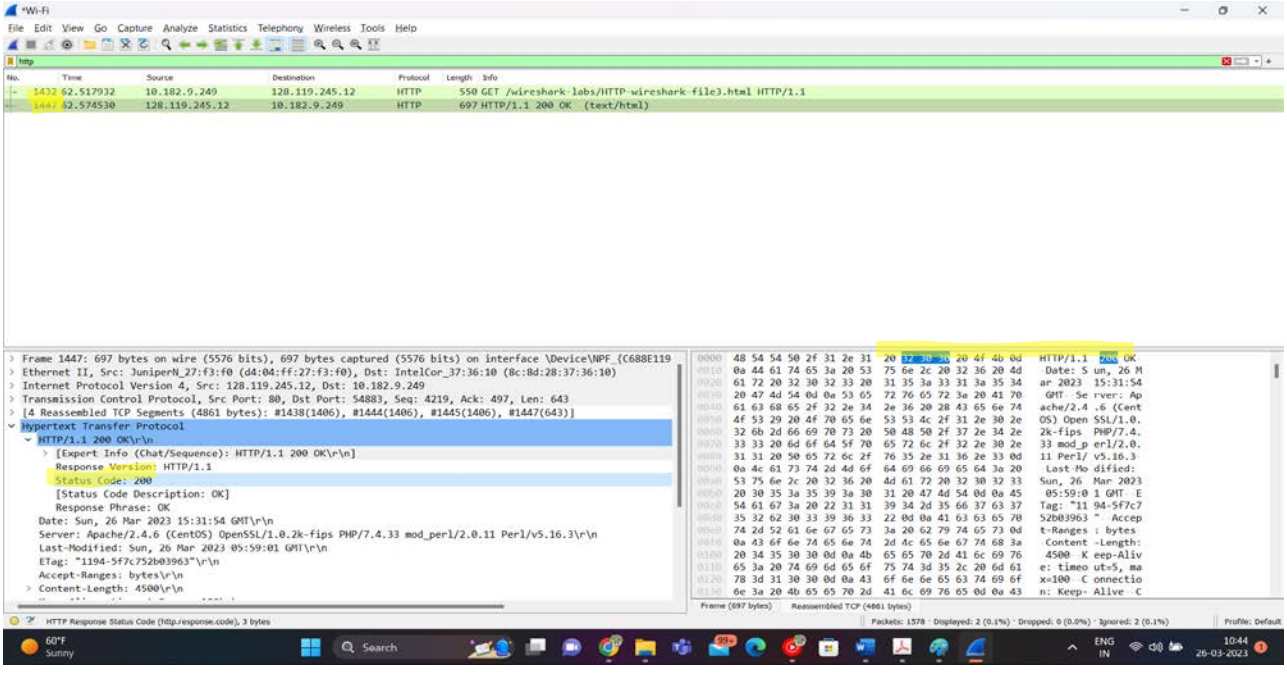
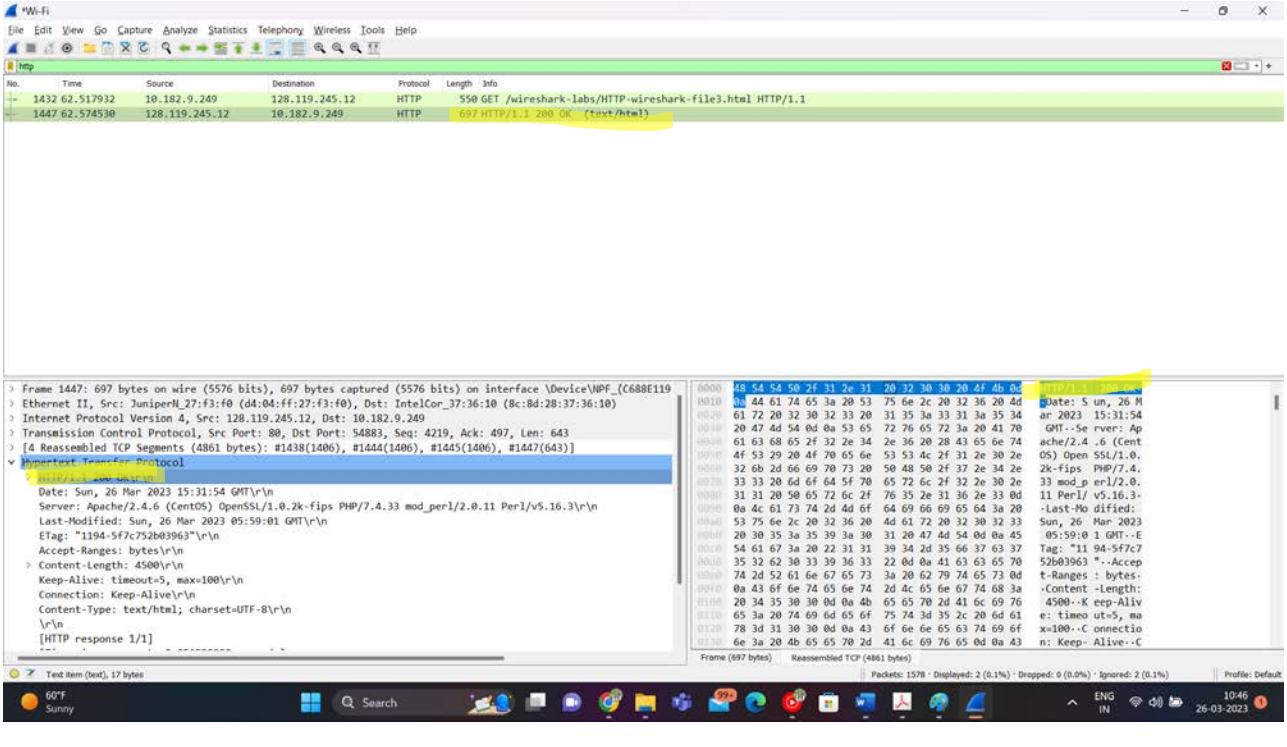
13. Which packet number in the trace contains the status code and phrase associated with the response to the HTTP GET request?
Ans: The **1447 packet number** in the trace contains the status code and phrase associated with the response to the HTTP GET request



14. What is the status code and phrase in the response?
Ans: The status code and phrase in the response is "**HTTP1.1/ 200 OK**"



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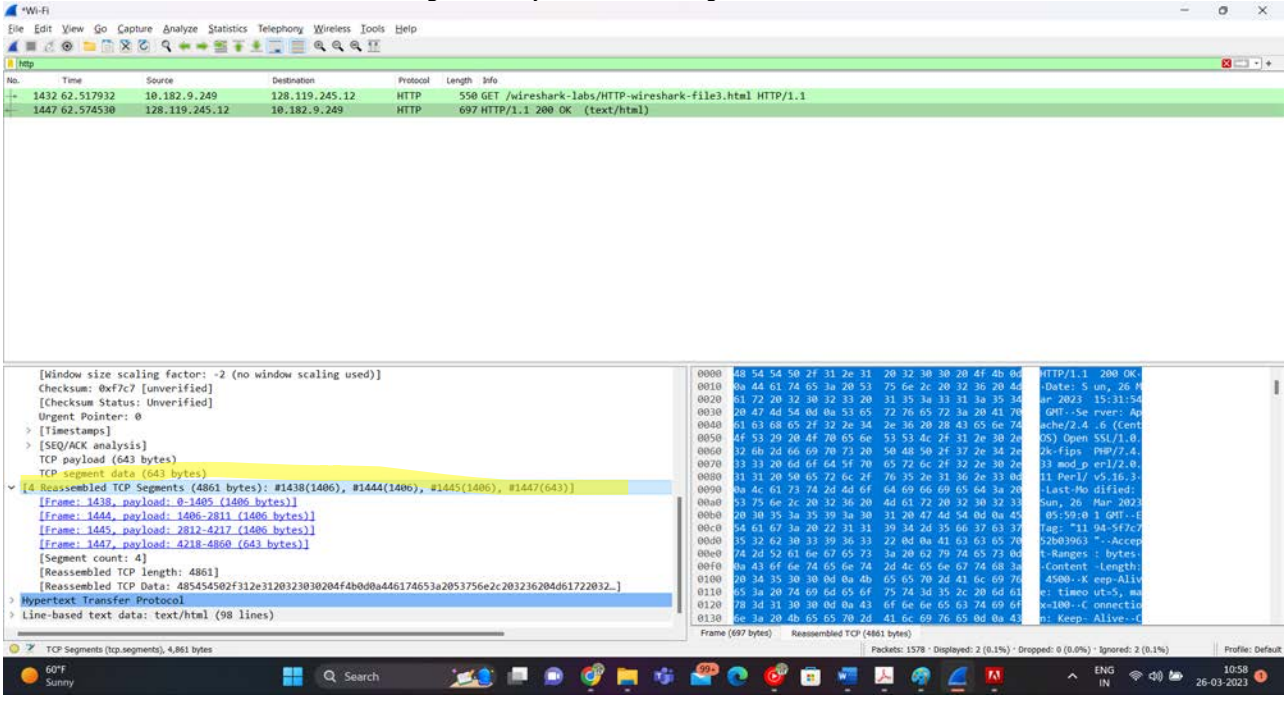
15. How many data-containing TCP segments were needed to carry the single HTTP response and the text of the Bill of Rights?

Ans: The Data was sent in **4 Reassembled Segments** as you can see the segment count as 4



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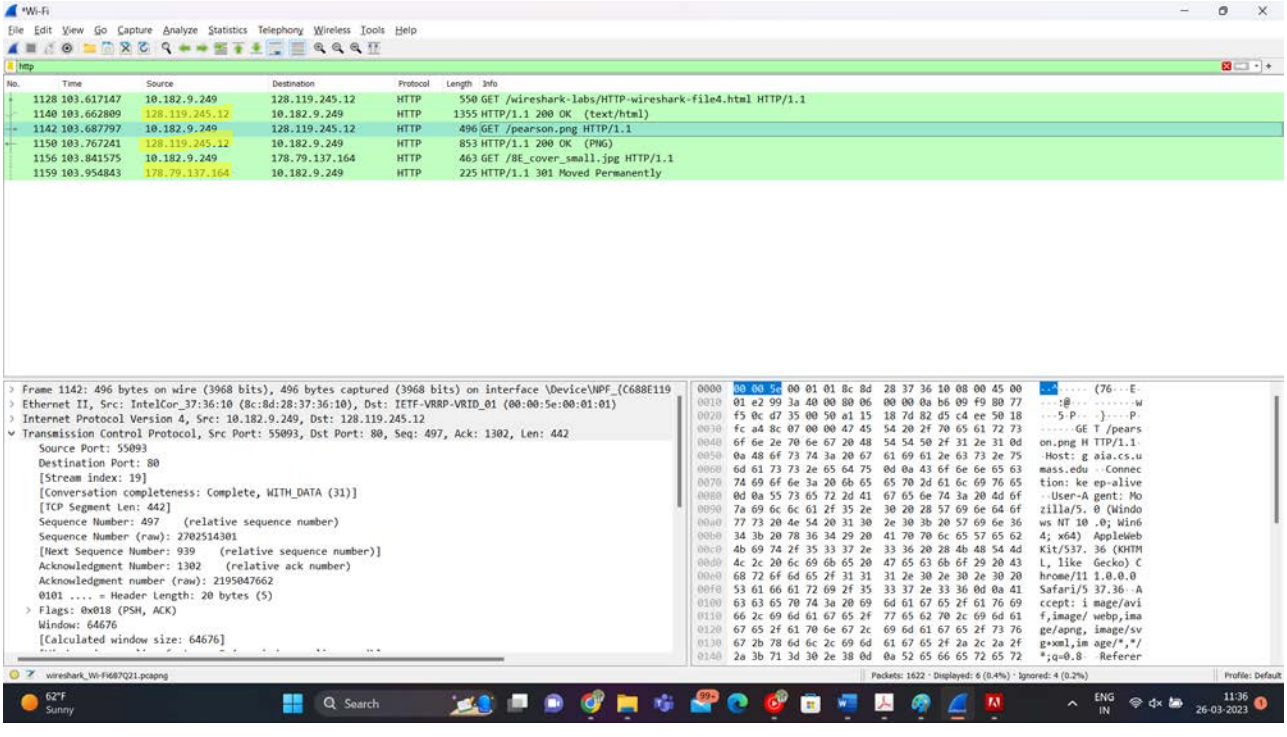
16. How many HTTP GET request messages did your browser send? To which Internet addresses were these GET requests sent?

Ans : The browser has sent **3 HTTP GET request** messages. They are **the home page, pearson.png** and

8E_cover_small.jpg

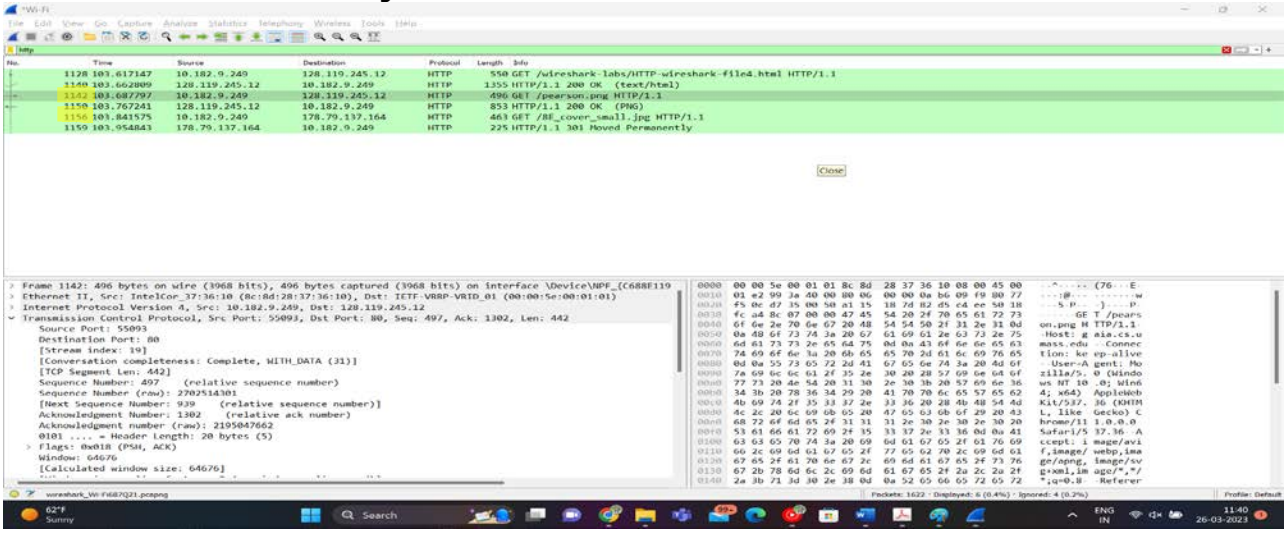
The IP address for those are:

- Home page is **128.119.245.12**
- Pearson.png is 128.119.245.12
- 8E_cover_small.jpg is **178.79.137.164**



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.

Ans: My browser downloaded the image files **serially** as two images separately. As **the time period** noted in the image you can observe that it is different. The time for **first image is 1142** and for the **second is 1156.**



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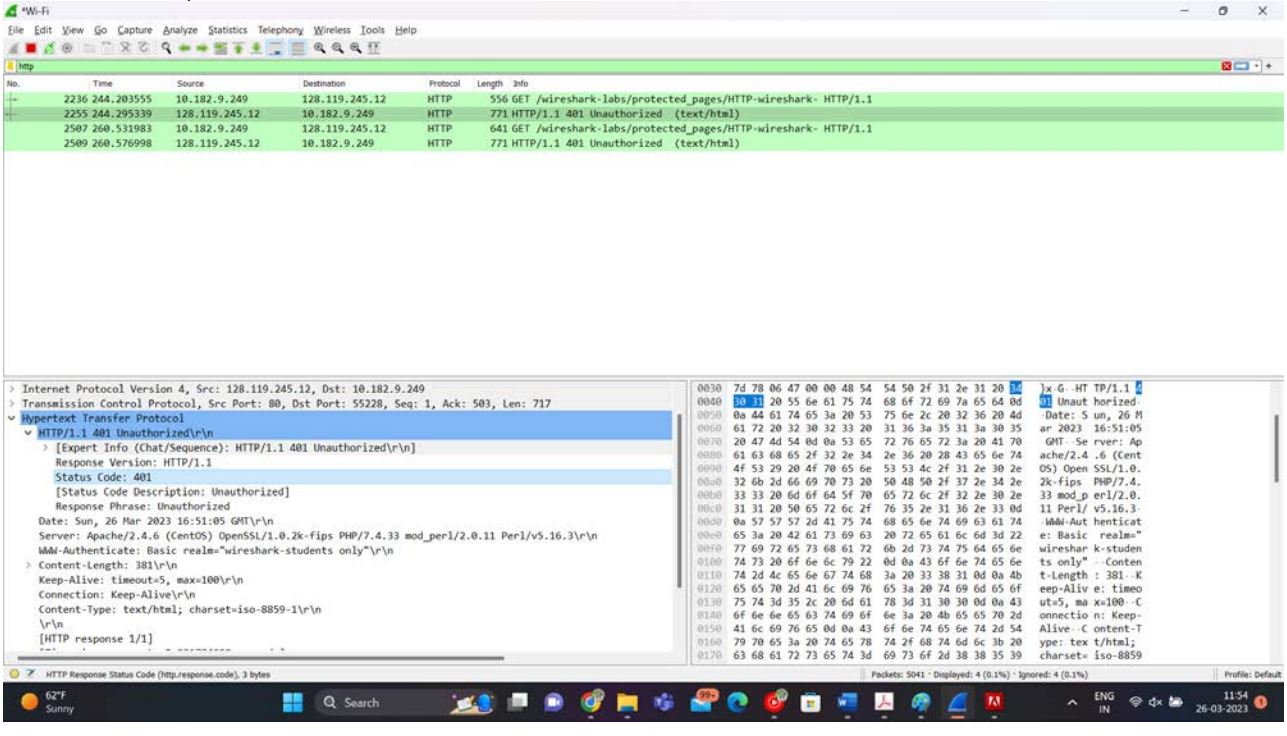
18. What is the server's response (status code and phrase) in response to the initial HTTP GET message from your browser?

Ans: The Server Response is **HTTP/1.1 401 Unauthorized\r\n** and the Status code is **401.**



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

Ans: When I send the user name and password authentication for the second time to the browser it states HTTP GET message with "**Authorization**". This is cause because of sending the username and password twice to the browser.