T.C.

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FACULTY of ENGINEERING

COMPUTER ENGINEERING DEPARTMENT

CSE4074 – Computer Networks Homework I Report

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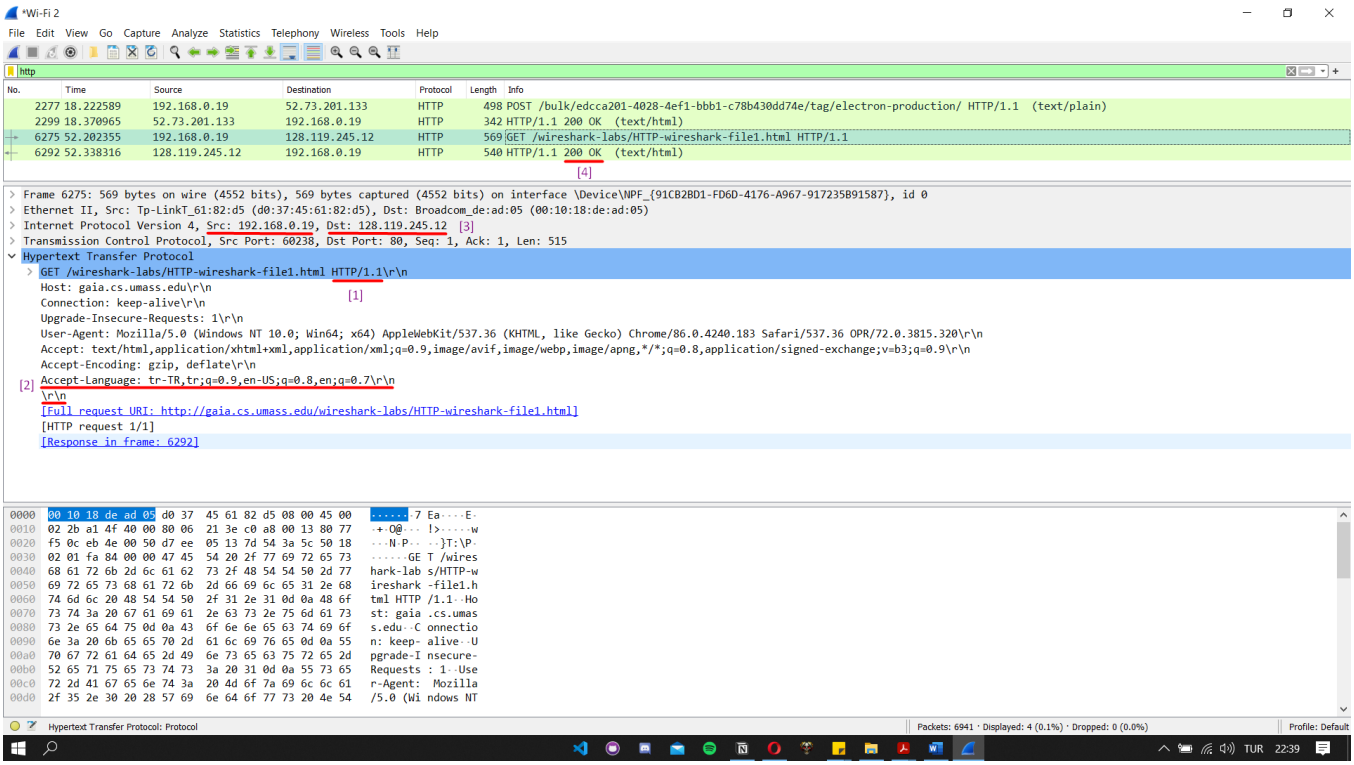
1. The Basic HTTP GET/response interaction:



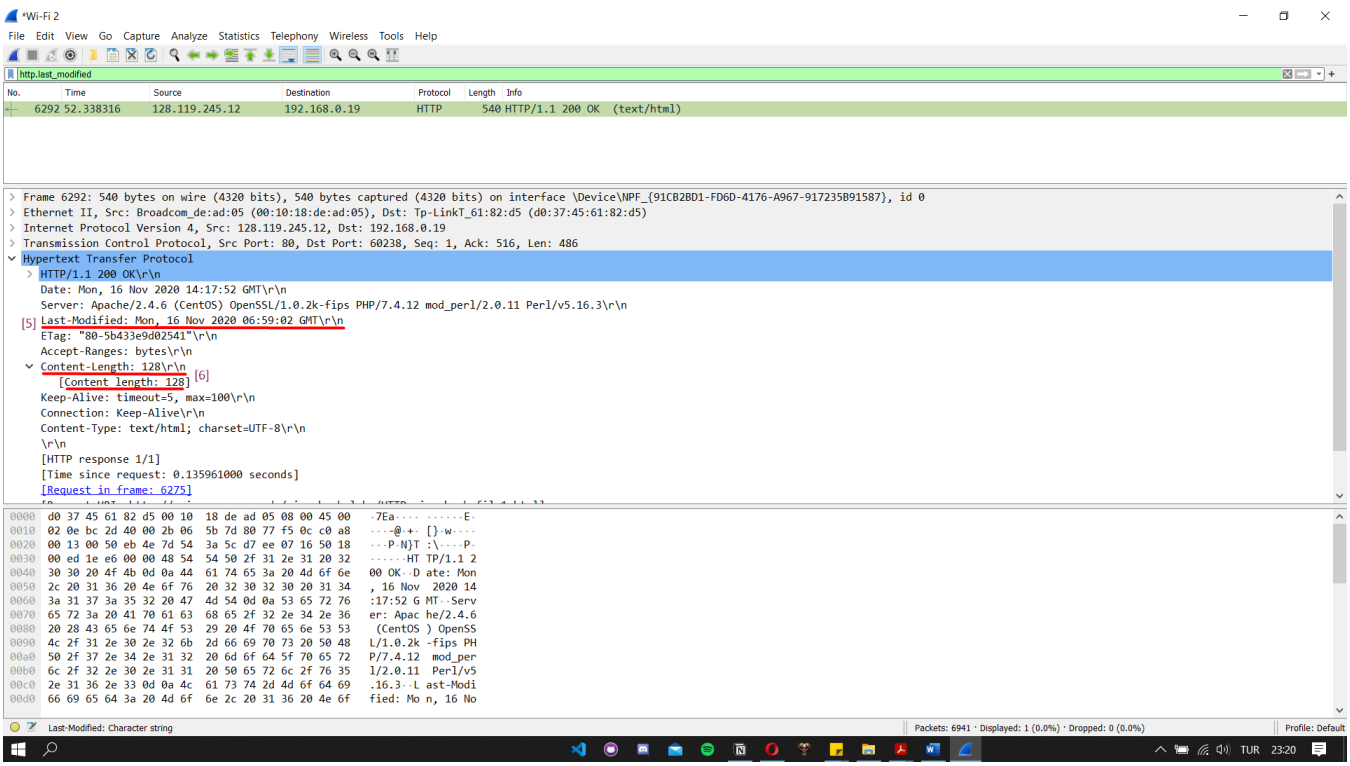
In the first and the second screenshots [1], [2], [3], [4], [5] and [6] signs correspond to demonstration of answers in ordered way in Wireshark.

1) Both server and the browser are running on HTTP version 1.1

2) Accepted language: tr-TR,tr;q=0.9,en-US;q=0.8,en;q=0.7\r\n

3) IP address of my computer (Src) : 192.168.0.19
IP address of server (Dst) : 128.119.245.12

4) Status code: 200 OK

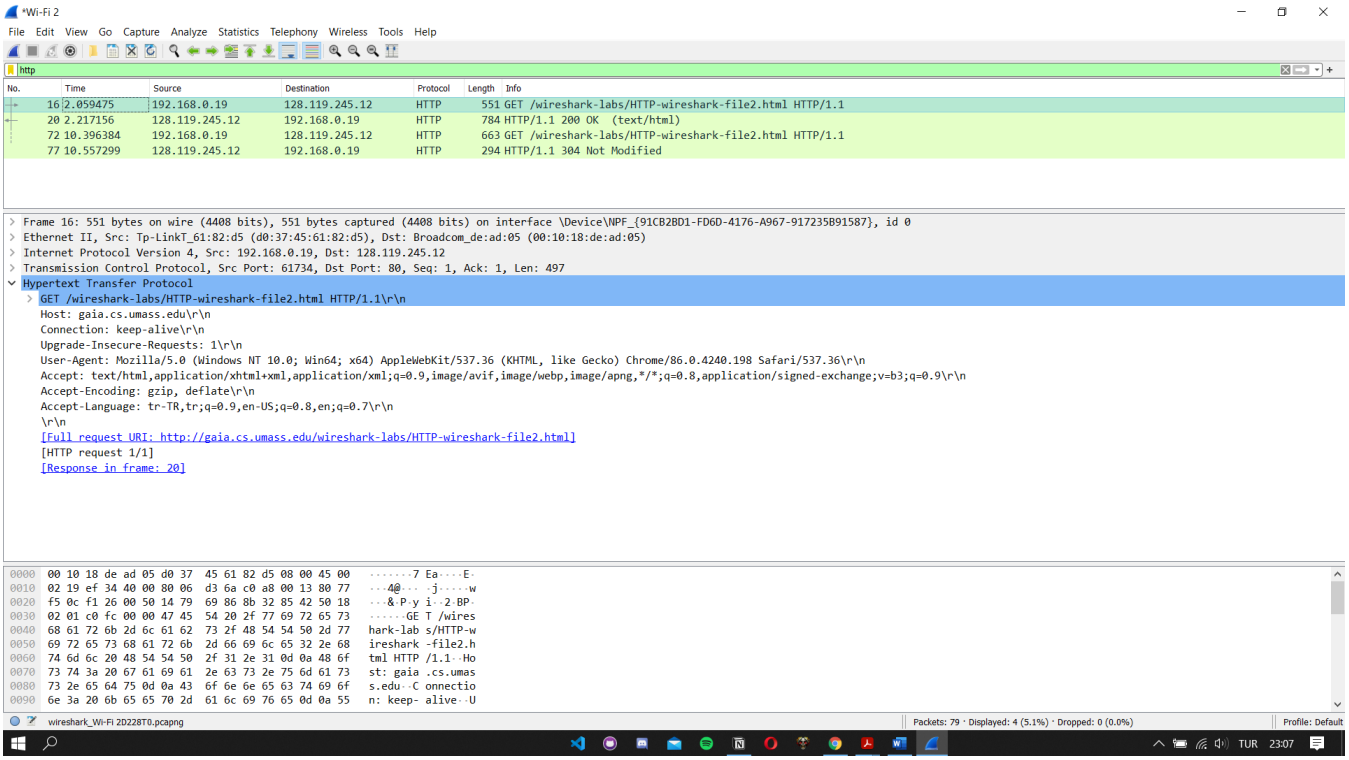


5) In order to display this, another filter called “http.last_modified” is used. Last modification: Mon, 16 Nov 2020 06:59:02 GMT\r\n

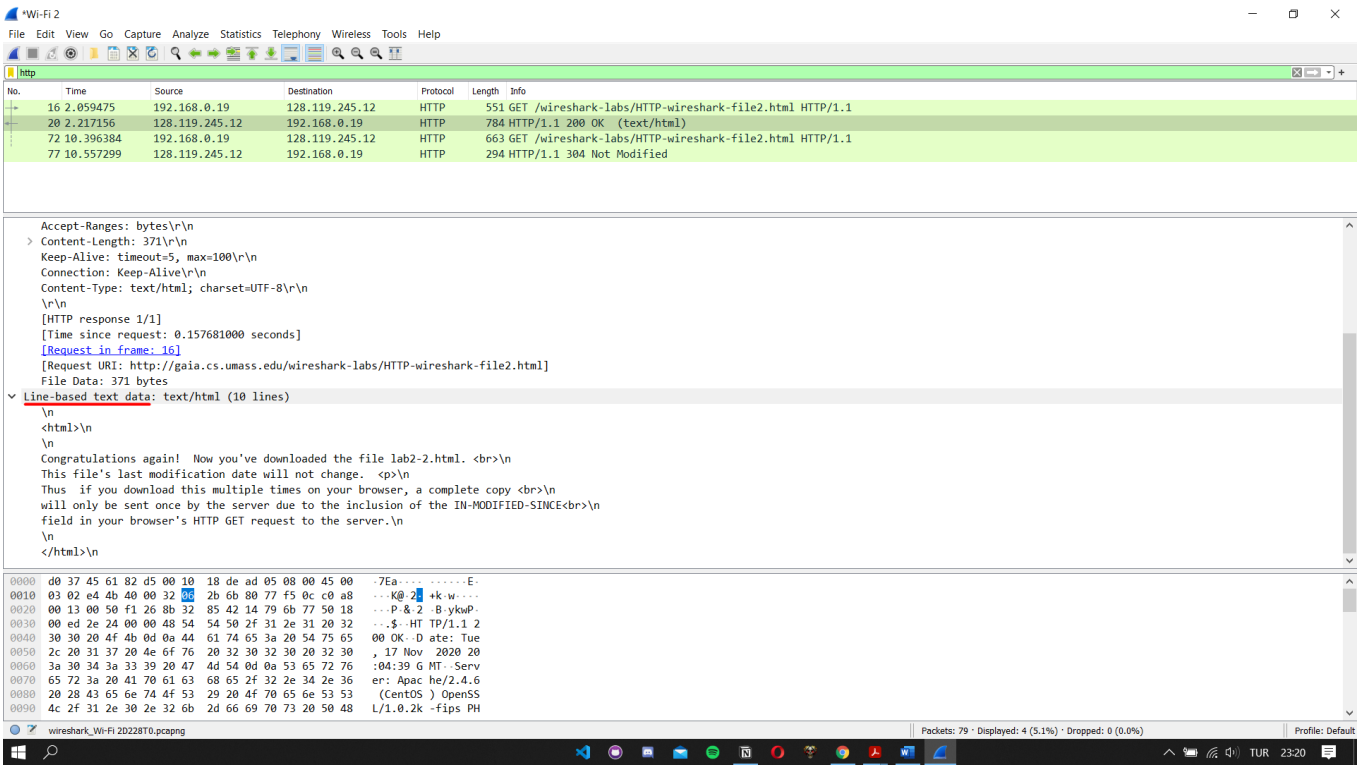
6) Length of content: 128 bytes

7) No, every header within the data is displayed in the packet-listing window.

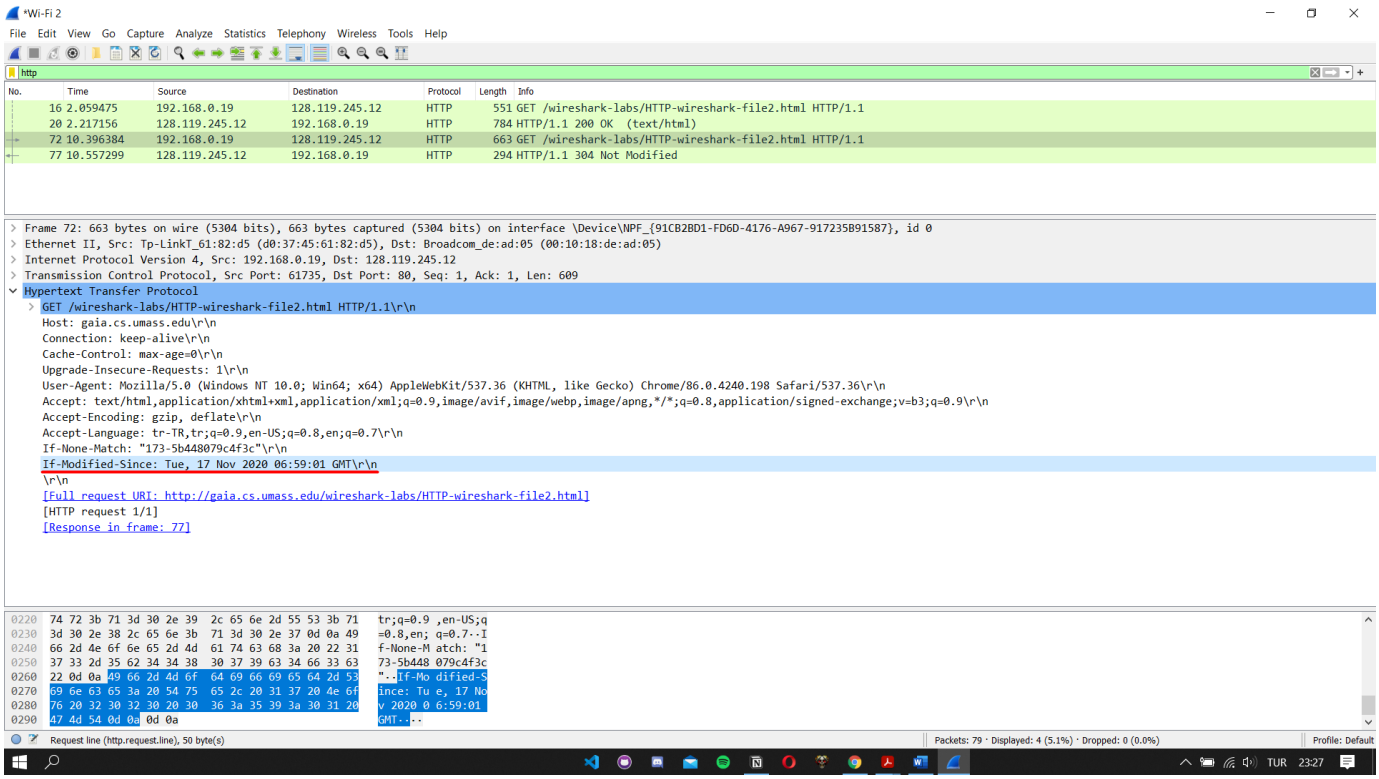
2. The HTTP CONDITIONAL GET/response interaction:



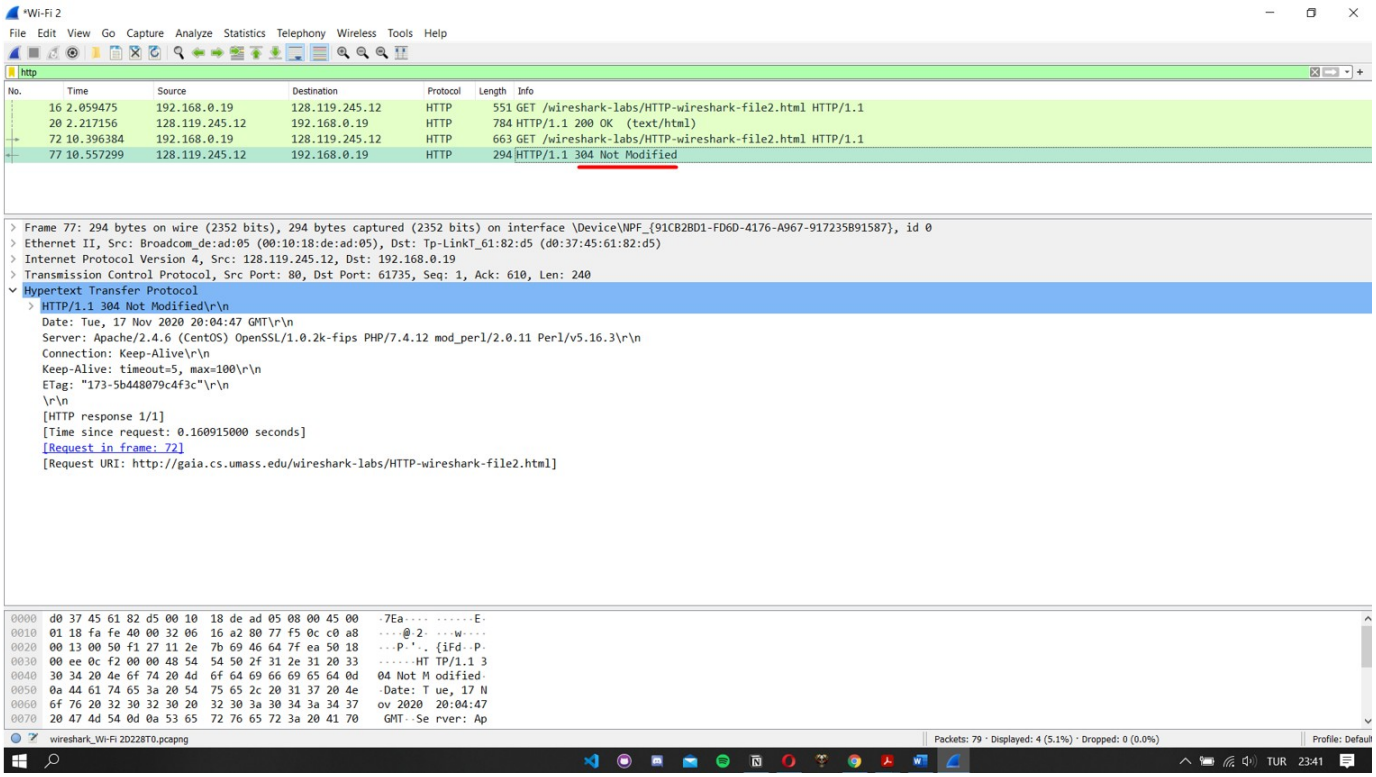
8) No, as inspected from the image above, there is not any line called “IF-MODIFIED-SINCE” in the first HTTP GET.



9) Yes, it did. As I inspected in the image above, returned contents of the file can be seen under the header of “line-based text data”.

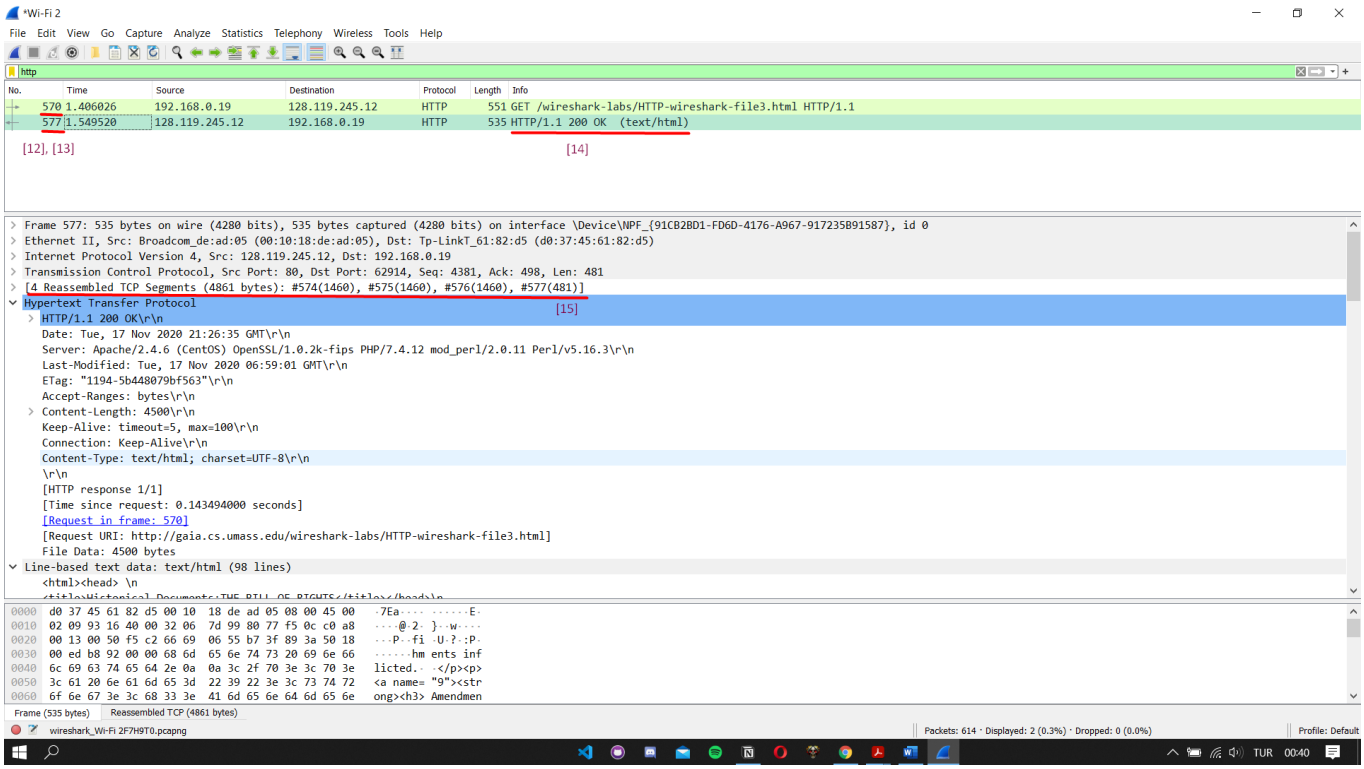


10) Yes, for the case of the second HTTP GET request, there is a line called “IF-MODIFIED-SINCE”.
Followed information in the header is, “Tue, 17 Nov 2020 06:59:01 GMT\r\n



11) Status code and the phrase returned: “304: Not Modified”.
No, server did not explicitly return the contents. I assume, since it is not modified since the first HTTP GET request, there was not anything different to show.

3. Retrieving Long Documents:



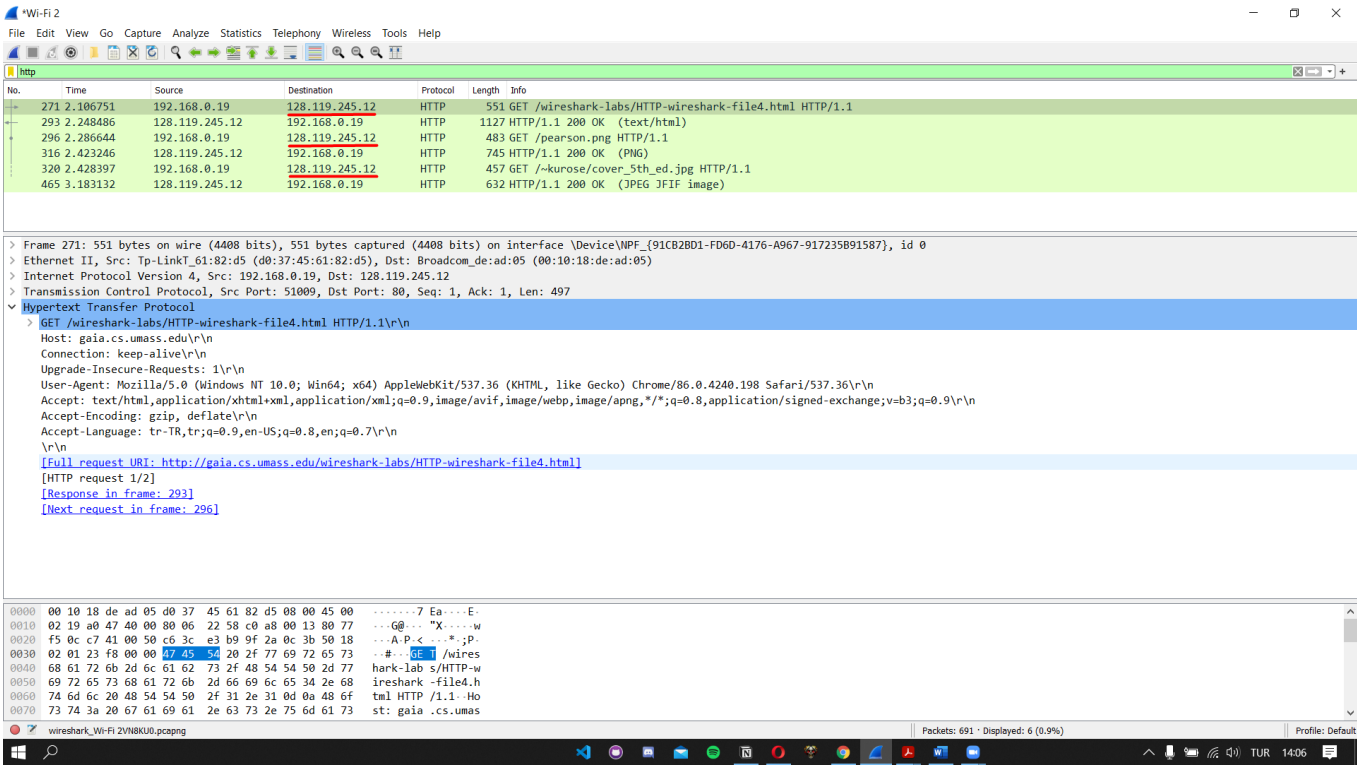
12) As, it is inspected in above image, only 1 HTTP GET request messages sent. Packet that has the number 570, contains the GET message for the Bill of Rights.

13) Packet number 577, contains the status code and phrase associated with the response to the HTTP GET request.

14) Status code and phrase in response: “200 OK”.

15) For this purpose, 4 TCP segments needed with 1460, 1460, 1460 and 481 bytes respectively.

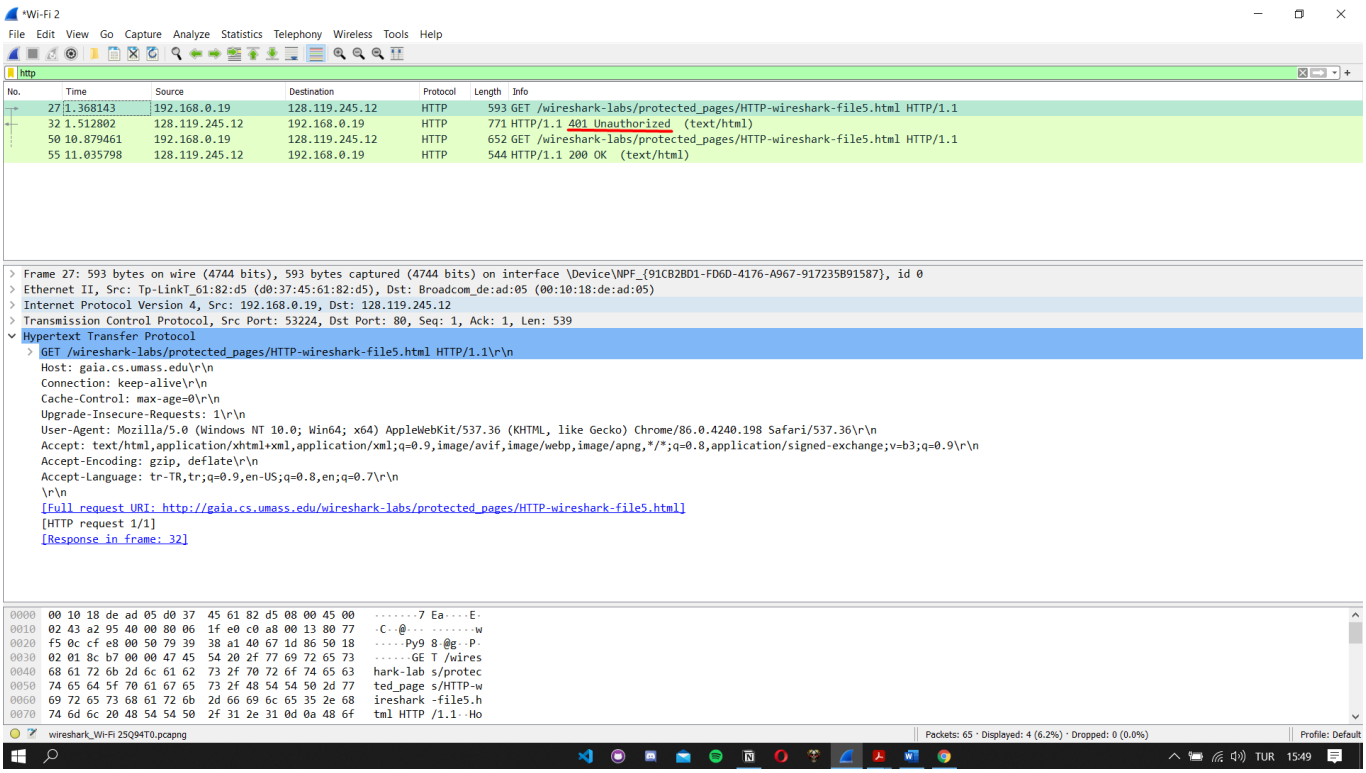
4. HTML Documents with Embedded Objects:



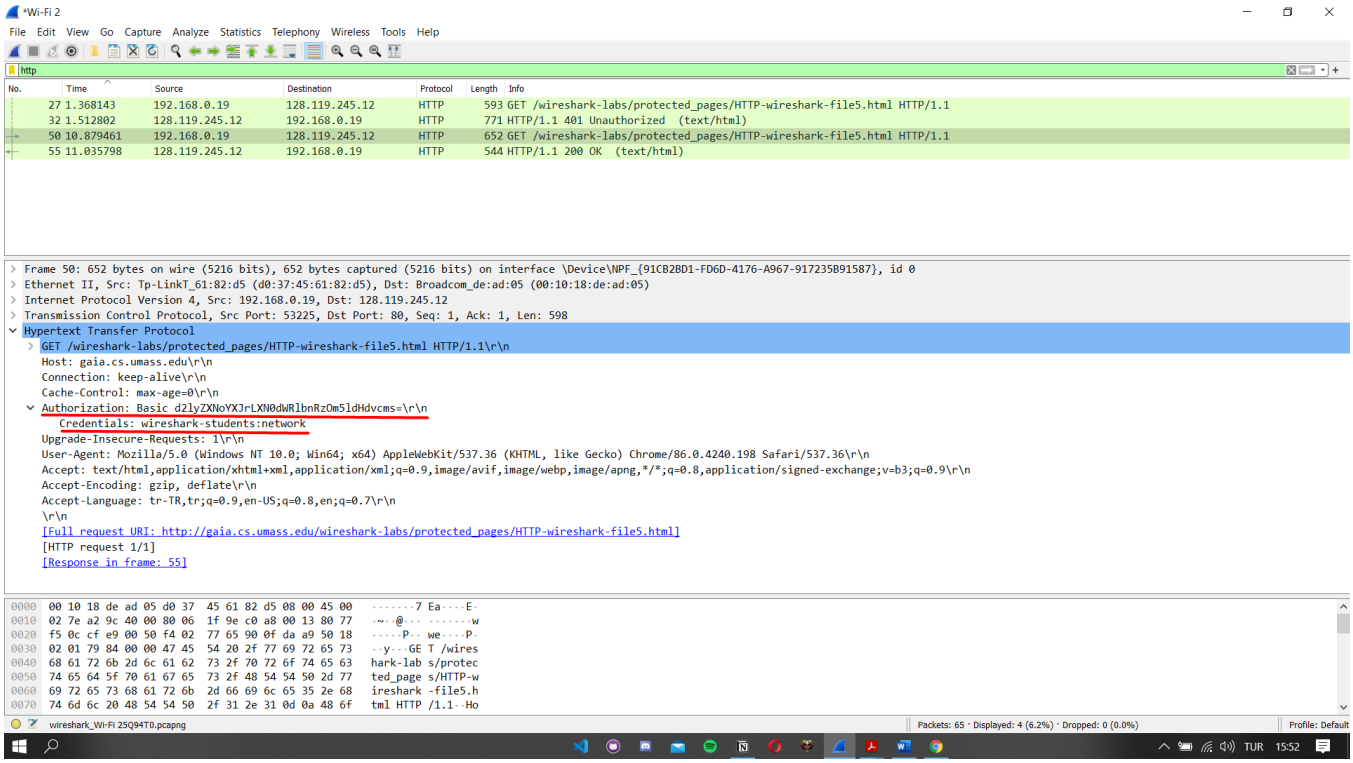
16) As inspected in above image, there are 3 HTTP GET request messages sent that browser sent. All three of them has the same destination internet address: 128.119.245.12

17) Browser did download the two images serially. Because, the packets create “reaction” waiting the previous packets “reaction”. In other words, packets are responding sequentially. This can be observed in the image above, time values follow each other.
If they were downloaded parallelly, they would act in the same time slot/value.

5. HTTP Authentication:



18) Server's response to the initial HTTP GET message is (status code and phrase): "401: Unauthorized".



19) For the second HTTP GET message, a new field called "Authorization" is included which contains the informations: "Authorization: Basic", which contains encoded string representation and "Credentials", which contains "user name" and "password". This also can be approved with status code and phrase returned from server, which is "200 OK".