ECS 152A - Project 2 - Part A

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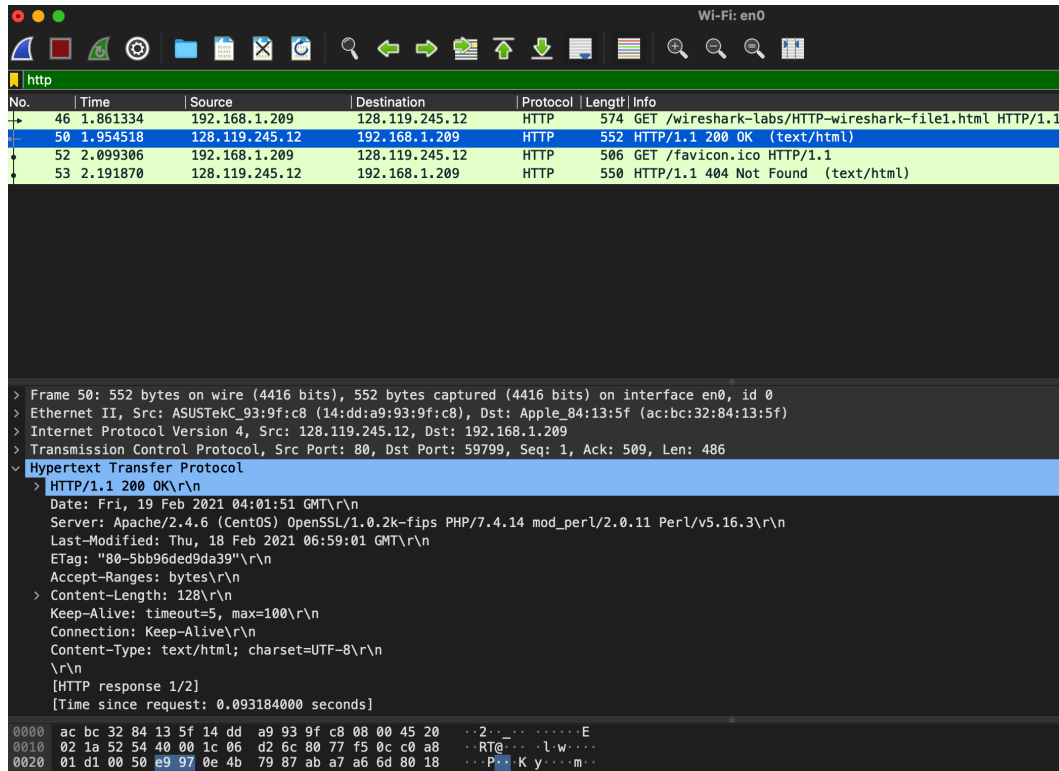## 1   The Basic HTTP GET/response interaction
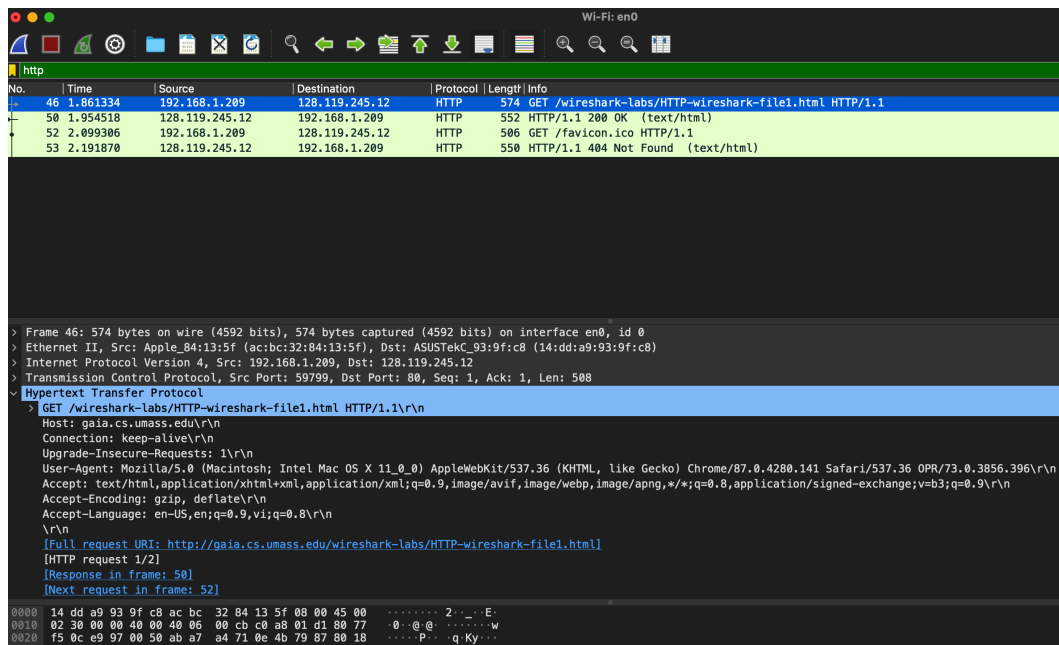

Figure 1: HTTP captured server packet

Figure 2: HTTP captured client packet

Question 1

My browser is running HTTP version 1.1. The server also runs the HTTP version 1.1.

Question 2

The languages that my browser indicate that it can accept to the server is English (US), English.

Question 3

My IP address is 192.168.1.209. The IP address of the server is 128.119.245.12.

Question 4

The status code returned from the server to my browser is HTTP/1.1 200 OK (text/html).

Question 5

The HTML file that I am retrieving was last modified at the server on Thursday, February 18, 2021 at 06:59:01 GMT.

Question 6

There are 128 bytes being returned to my browser.

Question 7

I believe that all headers are displayed in the packet-listing window.

2 The HTTP CONDITIONAL GET/response interaction

Question 8
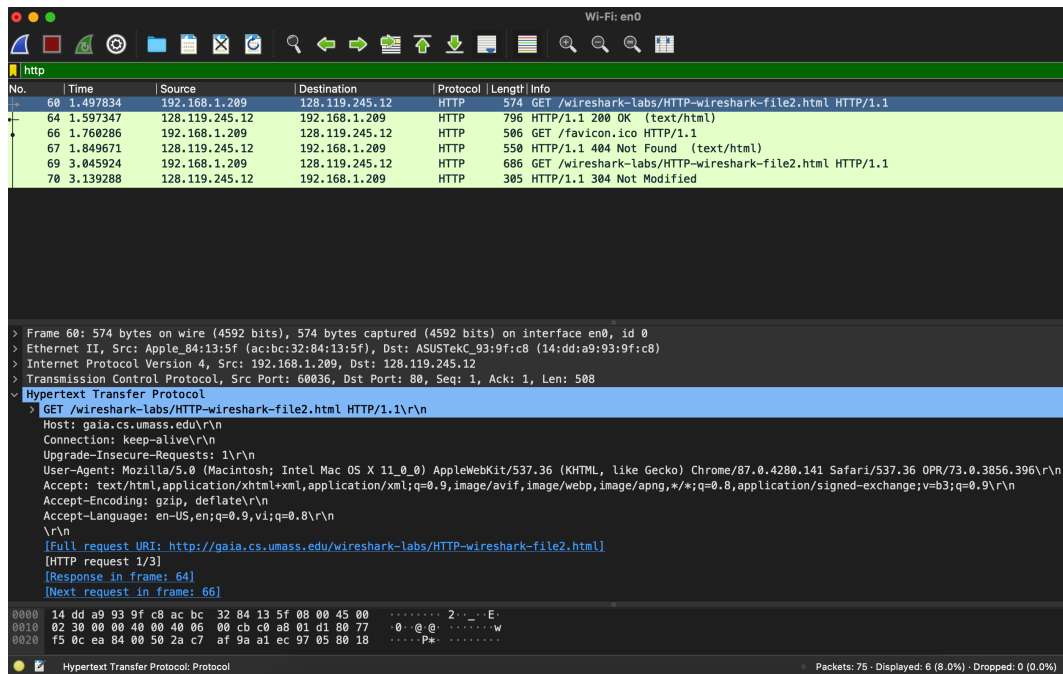

Figure 3: First HTTP captured client packet

As shown in Figure 3, there is NO "IF-MODIFIED-SINCE" line in the HTTP GET.
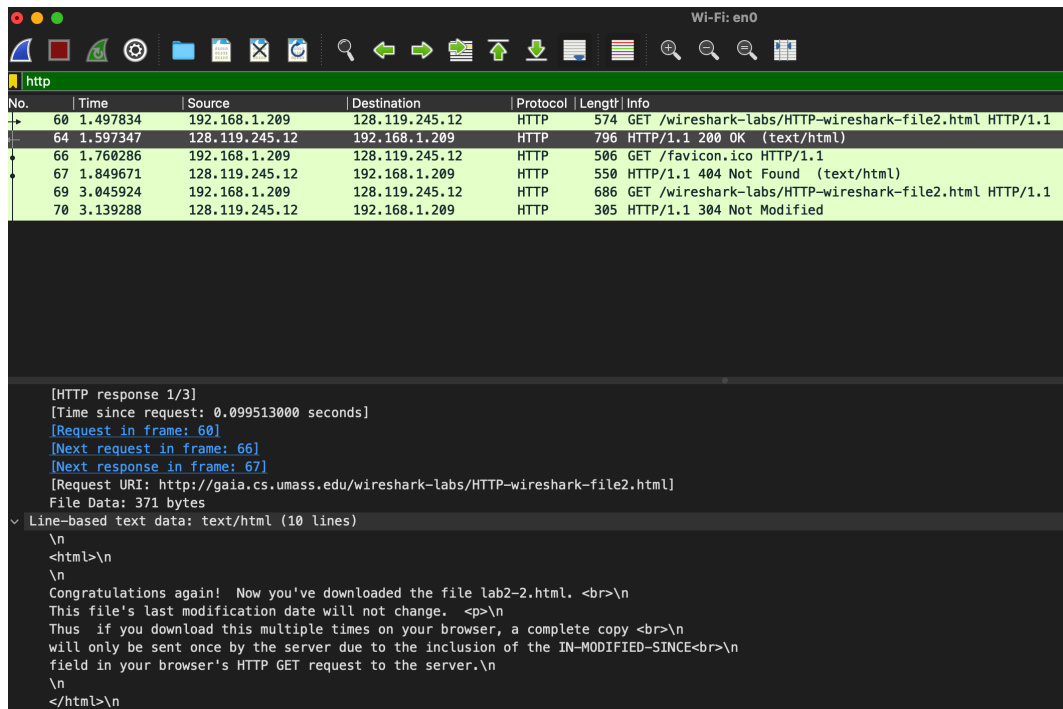
Question 9

Figure 4: First HTTP captured server packet

As shown in Figure 4, I can see that the server explicitly returned the contents of the file. I can tell by looking at the

"Line-based text data" section.
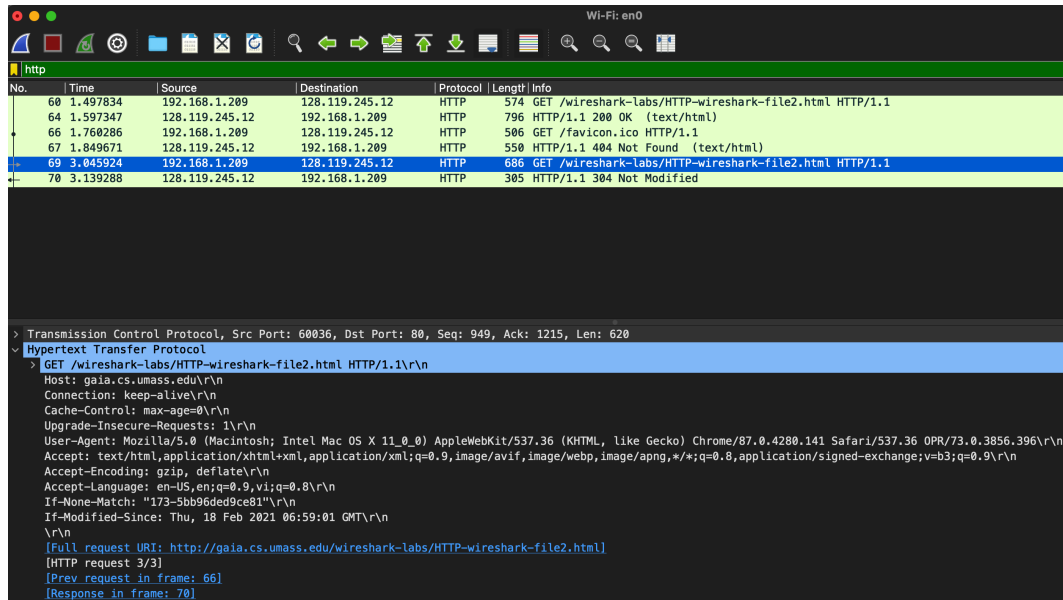
Question 10

Figure 5: Second HTTP captured server packet

As shown in Figure 5, now I can see an "IF-MODIFIED-SINCE:" line in the HTTP GET. The information that follows is: "Thu, Feb 18 2021 06:59:01 GMT\r\n" - the time and date of the last modification from previous GET request.

Question 11

The HTTP status code and phrase returned from the server in response to this second HTTP GET is "HTTP/1.1 304 Not Modified". This means that the server DID NOT explicitly return the contents of the file. It is because the server loads the contents of the file from its caches.
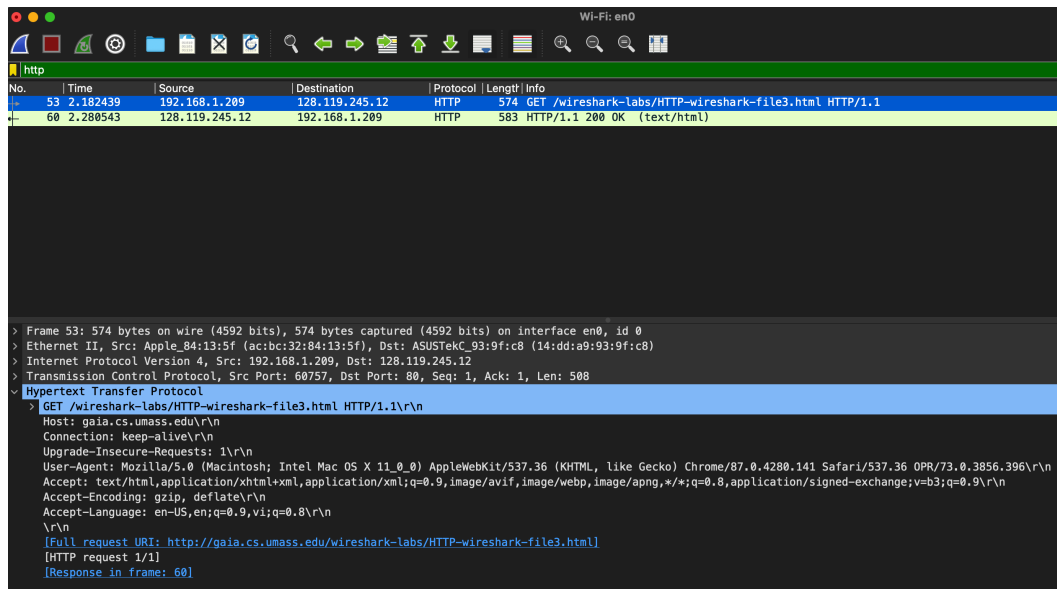
3   Retrieving Long Documents

Figure 6: GET captured packet for Part 3

Question 12

As shown in Figure 6, there is only 1 HTTP GET request sent by my browser. The packet number in the trace contains the GET message for the Bill or Rights is 53.

Question 13

The packet number in the trace contains the status code and phrase associated with the response to the HTTP GET request is 60.

Question 14

The status code and phrase in the response is "HTTP/1.1 200 OK (text/html)".
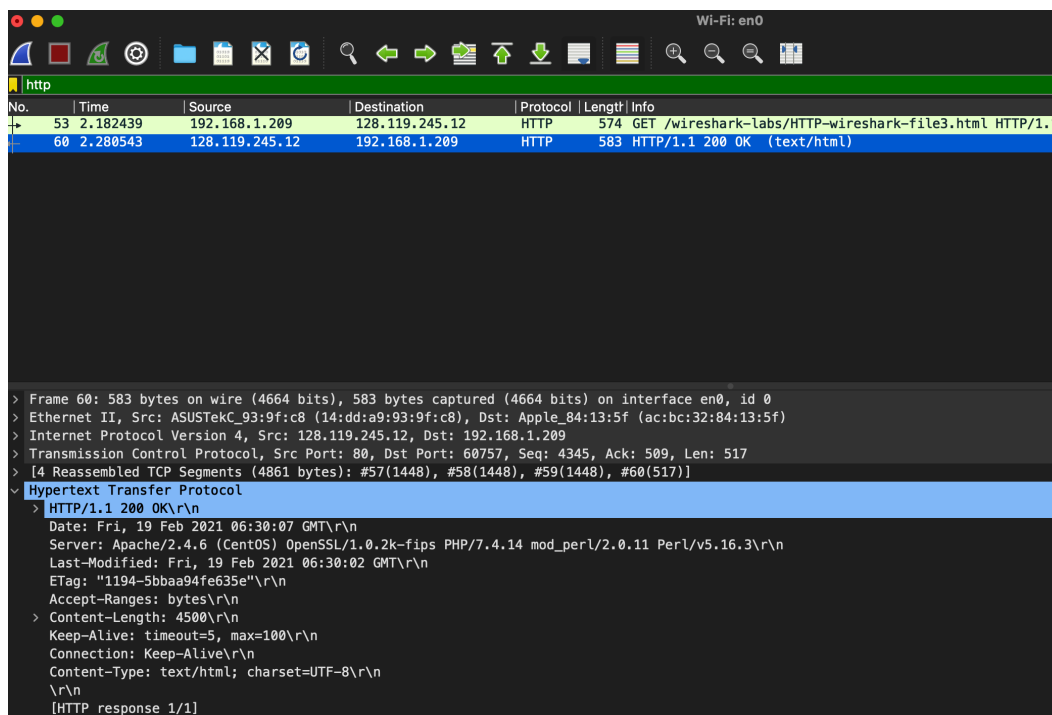
Question 15

Figure 7: HTTP server packet for Part 3

As shown in Figure 7, there are 4 data-containing TCP segments that were needed to carry the single HTTP response and the text of the Bill of Rights.
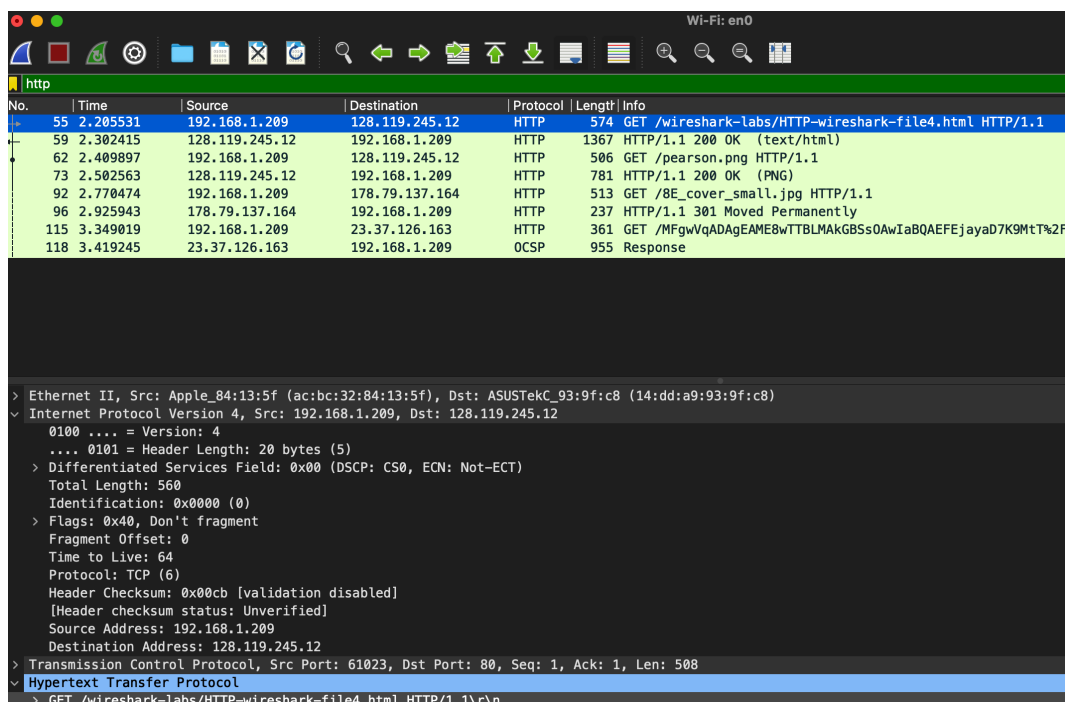
4 HTML Documents with Embedded Objects

Figure 8: HTTP GET packet for Part 4

Question 16

As shown in Figure 8, there are 3 HTTP GET request messages that my browser sent. The IP addresses these GET requests sent are: - 128.119.245.12 - 128.119.245.12 - 178.79.137.164

Question 17

From the Figure 8, since my browser downloaded both of the images over the TCP protocol, hence it means that they were downloaded serially.
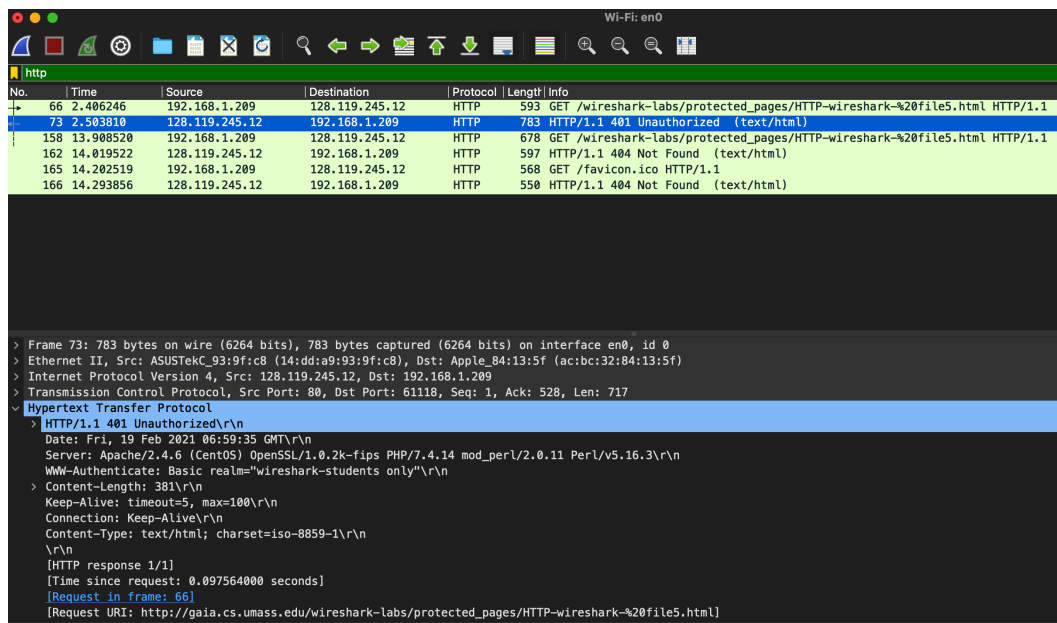
5 HTTP Authentication

Question 18

Figure 9: HTTP server packet for Part 5

As shown in Figure 9, the server's response (status code and phrase) in response to the initial HTTP GET message from my browser is "HTTP/1.1 401 Unauthorized (text/html)".
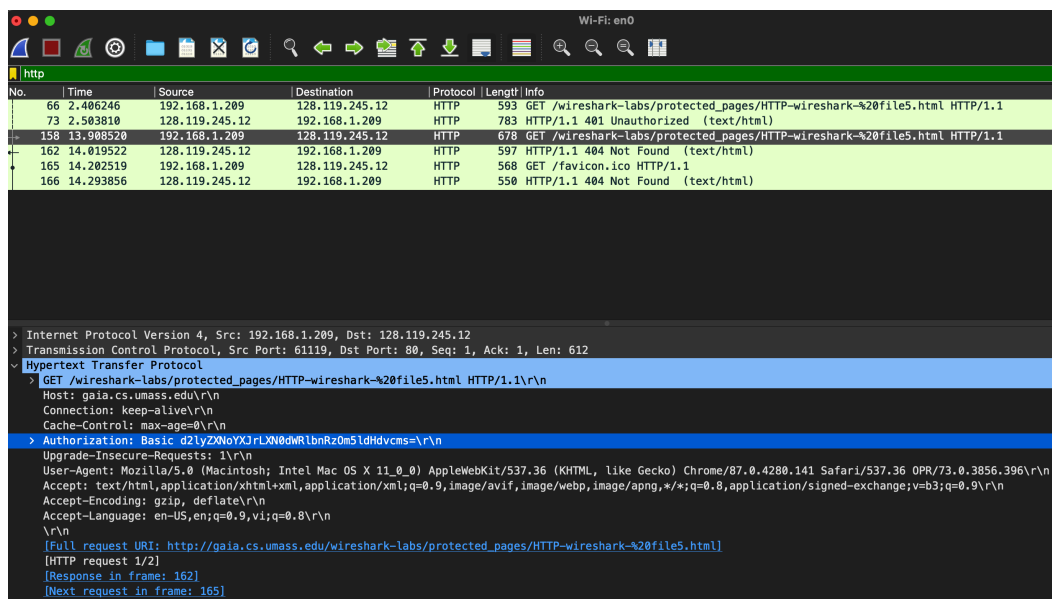
Question 19

Figure 10: Second HTTP GET packet for Part 5

As shown in Figure 10, when my browser sends the HTTP GET message for the second time, the new field is: "Authorization:

Basic d2lyZXNoYXJrLXN0dWRlbnRzOm5ldHdvcms=\r\n"