

```
159 2.067181 192.168.1.11 128.119.245.12 HTTP 440 GET /favicon.ico HTTP/1.1
164 2.090141 128.119.245.12 192.168.1.11 HTTP 539 HTTP/1.1 404 Not Found (text/html)
```

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

Both server and client are HTTP v1.1

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

US English

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

Client IP : 192.168.1.11

Server IP : 128.119.245.12

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

404 Not Found

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

Tue, 31 Jan 2017 05:50:12 GMT

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

209

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.

Don't see any headers in the 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?

There is no "IF-MODIFIED-SINCE"

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

The first return request has line based text data, which is the HTML 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?

If-Modified-Since: Tue, 31 Jan 2017 06:15:01 GMT

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.

The second request returns with a "Not Modified" header, it does not return the contents of the file, and the length is much smaller than the first request return.

12. How many HTTP GET request messages did your browser send? Which packet number in the trace contains the GET message for the Bill of Rights?

A single GET was sent. Packet number 129.

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

Packet 135.

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

Status code 200, 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?

Four reassembled TCP segments.

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

Four GET requests were sent. Two were sent to the address 128.119.245.12. Two more were sent to the address 128.119.240.90

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.

The downloads were performed in series. The first request for the HTTP page was packet 31, the HTTP return was 33. The GET for the first image was packet 34, and the return was packet 39. The second image had a GET at packet 49 to a new address, which returned a FOUND status code in packet 54. Then packet 64 sent the final GET for the second image, which was returned at packet 164.

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

401 Authorization Required

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

Authorization: Basic ZXRoLXN0dWRlbnRzOm5ldHdvcmtz\r\n