

Lab2

Exercise 3

Question 1: What is the status code and phrase returned from the server to the client browser?

Answer: 200 OK

Question 2: When was the HTML file that the browser is retrieving last modified at the server? Does the response also contain a DATE header? How are these two fields different?

Answer: Tue, 23 Sep 2003 05:29:00 GMT. Yes, the response also contains a DATE header. The date it was last modified is when the server thinks the resource was last modified. The date in the date header is the date and time at which the message was first created.

Question 3: Is the connection established between the browser and the server persistent or non-persistent? How can you infer this?

Answer: It is persistent. Because there is "HTTP/1.1" and this type of connection is persistent by default.

Question 4: How many bytes of content are being returned to the browser?

Answer: 72 bytes.

Question 5: What is the data contained inside the HTTP response packet?

Answer: text/html; charset=ISO-8859-1 → line-based text data.

Exercise 4

Question 1: Inspect the contents of the first HTTP GET request from the browser to the server. Do you see an "IF-MODIFIED-SINCE" line in the HTTP GET?

Answer: No.

Question 2: Does the response indicate the last time that the requested file was modified?

Answer: Yes.

Question 3: Now inspect the contents of the second HTTP GET request from the browser to the server. Do you see an "IF-MODIFIED-SINCE:" and "IF-NONE-MATCH" lines in the HTTP GET? If so, what information is contained in these header lines?

Answer: Yes.

If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT\r\n → a date

If-None-Match: "1bfef-173-8f4ae900"\r\n → an Etag value

Question 4: 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.

Answer: 304 Not Modified. No. Because 304 Not Modified is an HTTP status code that is returned to the client when the cached copy of a particular file is up to date with the server.

Question 5: What is the value of the Etag field in the 2nd response message and how it is used? Has this value changed since the 1st response message was received?

Answer: ETag: "1bfef-173-8f4ae900". The Etag header is the identifier for a specific version of a resource. When a request is made from the browser for the same file again, the If-Modified-Since header is sent to the server. If this value and the server's ETag value for that file are both the same, the server sends back the 304 Not Modified HTTP status rather than 200 status. No, the Etag value hasn't been changed.

Exercise 5

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z5261703@corelli:/tmp_amd/adams/export/adams/4/z5261703/cs3331/lab2$ java PingClient 127.0.0.1 80
00
ping to 127.0.0.1, seq = 3331, rtt = 142 ms
ping to 127.0.0.1, seq = 3332, rtt = 125 ms
ping to 127.0.0.1, seq = 3333, rtt = 193 ms
ping to 127.0.0.1, seq = 3334, rtt = 97 ms
ping to 127.0.0.1, seq = 3335, rtt = 154 ms
ping to 127.0.0.1, seq = 3336, rtt = 22 ms
ping to 127.0.0.1, seq = 3337, rtt = 140 ms
ping to 127.0.0.1, seq = 3338, rtt = 186 ms
ping to 127.0.0.1, seq = 3339, rtt = timeout
ping to 127.0.0.1, seq = 3340, rtt = timeout
ping to 127.0.0.1, seq = 3341, rtt = 76 ms
ping to 127.0.0.1, seq = 3342, rtt = 69 ms
ping to 127.0.0.1, seq = 3343, rtt = 18 ms
ping to 127.0.0.1, seq = 3344, rtt = 108 ms
ping to 127.0.0.1, seq = 3345, rtt = timeout
min = 18 ms, max = 193 ms, avg = 88 ms
```