

Ex3:

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

Answer 1: Status code is 200 and phrase is "OK\r\n"

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 2: The last date is 23 Sep 2003 at 05:29:50 GMT. Yes, the response contain a DATE header. The time for DATE is 50 seconds later. The "Date" field is to tell browser when sever send this file. The "Last-Modified" field is a attribute which indicates the last time this file was modified at sever end. And when next time browser request same url, brower will send a message includes this attribute, if this attribute did not change, sever will not send this field again for saving time.

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

Answer 3: This connection should be persistent . HTTP 1.1 is persistent connection default unless the connection: close. But this connection is keep-alive.

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

Answer 4: 73 bytes

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

Answer 5:

```
<html>\n
Congratulations.  You've downloaded the file lab2-1.html!\n
</html>\n
```

Ex4:

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 1:

No, I did not see an "IF-MODIFIED-SINCE" line.

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

Answer 2:

Yes, the last time that file was modified is "Tue, 23 Sep 2003 05:35:00 GMT"

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 3:

Yes, the value of "IF-MODIFIED-SINCE" line in GET is "If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT" and the value of "IF-NONE\_MATCH" is "If-None-Match: 1bfef-173-8f4ae900"

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 4:

Response of Second HTTP GET's status code is "304".

The server did not return the contents of the file, instead, the server returned a value indicating the file was not modified, which means the file in cache is valid and client can use the former file to save time.

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

Answer 5:

Etag field in 2<sup>nd</sup> is "ETag: "1bfef-173-8f4ae900"". The value of Etag has not been changed since 1<sup>st</sup> response message received.

When first GET method used, server respond with a file. The client received it with an Etag.

When second GET method used, it used "IF-NONE-MATCH", which means the server has to check file's Etag. Server will return a 200 status code when there is no files has same Etag as requesting file. In this case, server return a code '304' indicate server has found a matched Etag file.

Ex5:

Answer 5

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Terminal
File Edit View Terminal Go Help
z5167157@tabla13:~/Documents/9331/lab2$ python3 PingClient.py 127.0.0.1 2000
Ping to 127.0.0.1, seq = 0, rtt = 82 ms
Message lost
Ping to 127.0.0.1, seq = 1, rtt = 97 ms
Ping to 127.0.0.1, seq = 2, rtt = 7 ms
Ping to 127.0.0.1, seq = 3, rtt = 179 ms
Ping to 127.0.0.1, seq = 4, rtt = 107 ms
Ping to 127.0.0.1, seq = 5, rtt = 6 ms
Message lost
Message lost
Message lost
Ping to 127.0.0.1, seq = 6, rtt = 188 ms
Ping to 127.0.0.1, seq = 7, rtt = 46 ms
Ping to 127.0.0.1, seq = 8, rtt = 60 ms
Message lost
Message lost
Ping to 127.0.0.1, seq = 9, rtt = 12 ms
Minimum RTT is 6 ms, maximum RTT is 188 ms, average RTT is 78 ms
z5167157@tabla13:~/Documents/9331/lab2$
```