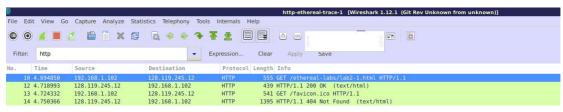
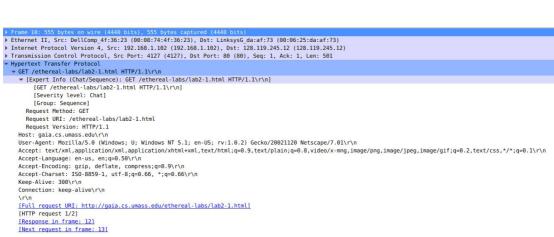
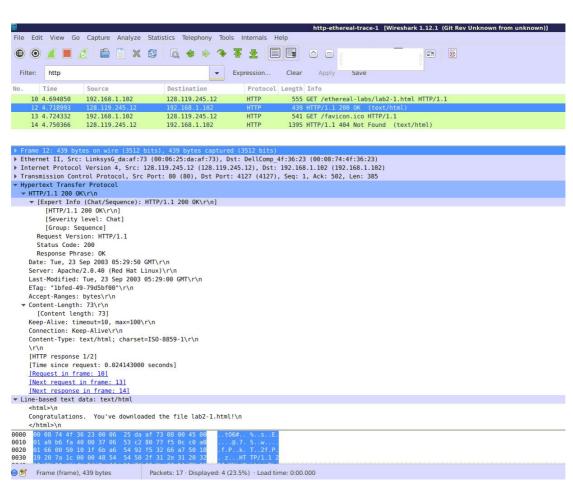
Exercise 3







Question 1:

Status code: 200 Phrase: OK

Question 2:

Last –Modified: Tue, 23 Sep 2003 05:29:00 GMT Yes. Date: Tue, 23 Sep 2003 05:29:50 GMT

The DATE header refers to the date and time when the server retrieved the object and inserted the object found into response message, then sent the message to client. While the Last –Modified date means the time and date when object was created or last –modified.

Question 3:

It is persistent connection. 'Connection: keep –alive'.

keep-Alive: אין שטע \r\n

Connection: keep-alive\r\n

\r\n

Question 4:

73 bytes.

Question 5:

Exercise 4



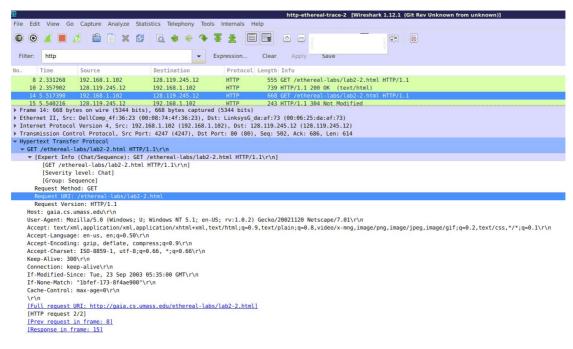
Question 1:

No.

Question 2:

Yes. Last -Modified: Tue, 23 Sep 2003 05:35:00 GMT

Question 3



Yes.

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

If-None-Match: "1bfef-173-8f4ae900"\r\n

Question 4:



Status code: 304 Phrase: Not Modified

The contents of the file was not returned explicitly. Because the request message is

in conditional GET method. The contents had been saved in Web cache before. 304 Not Modified means the object was not modified, thus the object saved in cache could be used, and the object would not be sent again in this respond message.

Question 5:

ETag: "1bfef-173-8f4ae900".

It is a 'sign' of an object in server. The server could judge whether the object is modified by using the ETag value. If not modified (then its ETag would not change), returns 304 HTTP status code.

The value didn't change.

Exercise 5

File 'PingClient.py' has been attached.

```
Received from 127.0.0.1: PING 3344 Sun Jun 21 18:42:48 2020
   Reply sent.
Received from 127.0.0.1: PING 3345 Sun Jun 21 18:42:48 2020
   Reply sent.
Received from 127.0.0.1: PING 3331 Sun Jun 21 18:42:52 2020
   Reply sent.
Received from 127.0.0.1: PING 3332 Sun Jun 21 18:42:52 2020
   Reply not sent.
Received from 127.0.0.1: PING 3333 Sun Jun 21 18:42:52 2020
   Reply not sent.
Received from 127.0.0.1: PING 3334 Sun Jun 21 18:42:53 2020
   Reply sent.
Received from 127.0.0.1: PING 3335 Sun Jun 21 18:42:53 2020
   Reply sent.
Received from 127.0.0.1: PING 3336 Sun Jun 21 18:42:53 2020
   Reply sent.
Received from 127.0.0.1: PING 3337 Sun Jun 21 18:42:53 2020
   Reply not sent.
Received from 127.0.0.1: PING 3338 Sun Jun 21 18:42:54 2020
   Reply sent.
Received from 127.0.0.1: PING 3339 Sun Jun 21 18:42:54 2020
   Reply sent.
Received from 127.0.0.1: PING 3340 Sun Jun 21 18:42:54 2020
   Reply sent.
Received from 127.0.0.1: PING 3341 Sun Jun 21 18:42:54 2020
   Reply sent.
Received from 127.0.0.1: PING 3342 Sun Jun 21 18:42:55 2020
   Reply sent.
Received from 127.0.0.1: PING 3343 Sun Jun 21 18:42:55 2020
   Reply not sent.
Received from 127.0.0.1: PING 3344 Sun Jun 21 18:42:55 2020
   Reply not sent.
Received from 127.0.0.1: PING 3345 Sun Jun 21 18:42:56 2020
```

```
[wagner % python PingClient.py 127.0.0.1 12000
ping to 127.0.0.1, seq = 3331, rtt = 136 ms
ping to 127.0.0.1, seq = 3332, rtt = 163 ms
ping to 127.0.0.1, seq = 3333, time out
ping to 127.0.0.1, seq = 3334, time out
ping to 127.0.0.1, seq = 3335, rtt = 98 ms
ping to 127.0.0.1, seq = 3336, rtt = 136 ms
ping to 127.0.0.1, seq = 3337, rtt = 60 ms
ping to 127.0.0.1, seq = 3338, rtt = 92 ms
ping to 127.0.0.1, seq = 3339, rtt = 177 ms
ping to 127.0.0.1, seq = 3340, rtt = 29 ms
ping to 127.0.0.1, seq = 3341, rtt = 124 ms
ping to 127.0.0.1, seq = 3342, rtt = 148 ms
ping to 127.0.0.1, seq = 3343, rtt = 63 ms
ping to 127.0.0.1, seq = 3344, rtt = 25 ms
ping to 127.0.0.1, seq = 3345, rtt = 107 ms
rtt min/avg/max = 25/104/177 ms
wagner % python PingClient.py 127.0.0.1 12000
ping to 127.0.0.1, seq = 3331, rtt = 56 ms
ping to 127.0.0.1, seq = 3332, rtt = 77 \text{ ms}
ping to 127.0.0.1, seq = 3333, rtt = 146 ms
ping to 127.0.0.1, seq = 3334, rtt = 132 ms
ping to 127.0.0.1, seq = 3335, time out
ping to 127.0.0.1, seq = 3336, rtt = 40 ms
ping to 127.0.0.1, seq = 3337, rtt = 155 ms
ping to 127.0.0.1, seq = 3338, time out
ping to 127.0.0.1, seq = 3339, rtt = 37 ms
ping to 127.0.0.1, seq = 3340, rtt = 100 ms
ping to 127.0.0.1, seq = 3341, rtt = 34 ms
ping to 127.0.0.1, seq = 3342, rtt = 161 ms
ping to 127.0.0.1, seq = 3343, rtt = 3 ms
ping to 127.0.0.1, seq = 3344, rtt = 59 ms
ping to 127.0.0.1, seq = 3345, rtt = 100 ms
rtt min/avg/max = 3/85/161 ms
[wagner % python PingClient.py 127.0.0.1 12000
ping to 127.0.0.1, seq = 3331, rtt = 156 ms
ping to 127.0.0.1, seq = 3332, time out
ping to 127.0.0.1, seq = 3333, time out
ping to 127.0.0.1, seq = 3334, rtt = 81 ms
ping to 127.0.0.1, seq = 3335, rtt = 174 ms
ping to 127.0.0.1, seq = 3336, rtt = 179 ms
ping to 127.0.0.1, seq = 3337, time out
ping to 127.0.0.1, seq = 3338, rtt = 175 ms
ping to 127.0.0.1, seq = 3339, rtt = 181 ms
ping to 127.0.0.1, seq = 3340, rtt = 95 \text{ ms}
ping to 127.0.0.1, seq = 3341, rtt = 111 ms
ping to 127.0.0.1, seq = 3342, rtt = 163 ms
ping to 127.0.0.1, seq = 3343, time out
ping to 127.0.0.1, seq = 3344, time out
ping to 127.0.0.1, seq = 3345, rtt = 30 \text{ ms}
rtt min/avg/max = 30/134/181 ms
wagner %
```