Exercise 3:

Q1.

Status code: 200 Phrase: OK

Q2.

Date: Tue, 23 Sep 2003 05:29:50 GMT

Last Modified: Tue, 23 Sep 2003 05:29:00 GMT

Date is when the message is generated the first time, while the last modified time is the last time the server believes that the resource is modified.

Connection is persistent by default as it is of type HTTP/1.1. Simply refer to under "connection length" tab, "Connection: Keep Alive". Non persistent connection will be displayed as "Connection: close".

Q4.

From picture 1 (below), the content length displayed as 73 bytes is the size of HTTP response in bytes.

PIC 1

Ν	0.	Time	Source	Destination	Protocol	Length Info
-	10	4.694850	192.168.1.102	128.119.245.12	HTTP	555 GET /ethereal-labs/lab2-1.html HTTP/1.1
0	- 12	4.718993	128.119.245.12	192.168.1.102	HTTP	439 HTTP/1.1 200 OK (text/html)
+	13	4.724332	192.168.1.102	128.119.245.12	HTTP	541 GET /favicon.ico HTTP/1.1
+	14	4.750366	128.119.245.12	192.168.1.102	HTTP	1395 HTTP/1.1 404 Not Found (text/html)

▼ Hypertext Transfer Protocol

▶ HTTP/1.1 200 OK\r\n

Date: Tue, 23 Sep 2003 05:29:50 GMT\r\n Server: Apache/2.0.40 (Red Hat Linux)\r\n Last-Modified: Tue, 23 Sep 2003 05:29:00 GMT\r\n ETag: "1bfed-49-79d5bf00"\r\n

Accept-Ranges: bytes\r\n

Keep-Alive: timeout=10, max=100\r\n

Connection: Keep-Alive\r\n

Content-Type: text/html; charset=ISO-8859-1\r\n

[HTTP response 1/2]

[Time since request: 0.024143000 seconds]

Request in frame: 10] [Next request in frame: 13] [Next response in frame: 14]

Q5. Data contained inside the HTTP response packet is the line based text data displayed is the response packet in picture 2:

PIC 2

No.	Time	Source	Destination	Protocol	Length Info
-	10 4.694850	192.168.1.102	128.119.245.12	HTTP	555 GET /ethereal-labs/lab2-1.html HTTP/1.1
4	12 4.718993	128.119.245.12	192.168.1.102	HTTP	439 HTTP/1.1 200 OK (text/html)
+	13 4.724332	192.168.1.102	128.119.245.12	HTTP	541 GET /favicon.ico HTTP/1.1
+	14 4.750366	128.119.245.12	192.168.1.102	HTTP	1395 HTTP/1.1 404 Not Found (text/html)

ETag: "1bfed-49-79d5bf00"\r\n
Accept-Ranges: bytes\r\n
▶ Content-Length: 73\r\n
Keep-Alive: timeout=10, max=100\r\n
Connection: Keep-Alive\r\n

Content-Type: text/html; charset=ISO-8859-1\r\n

\r\n

[HTTP response 1/2]

[HITP response 1/2]
[Time since request: 0.024143000 seconds]
[Request in frame: 10]
[Next request in frame: 13]
[Next response in frame: 14]
File Data: 73 bytes

▼ Line-based text data: text/html

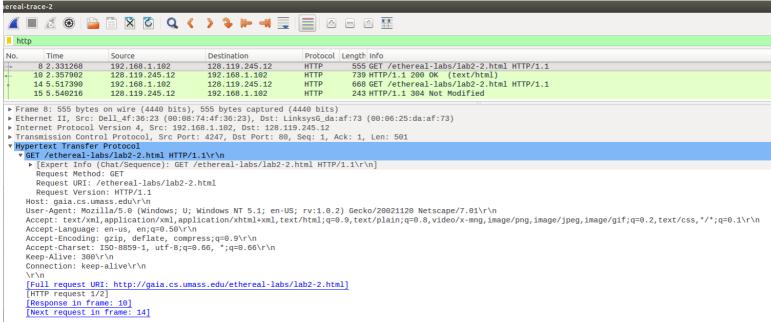
<html>\n

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

Exercise 4:

Q1.

PIC 3



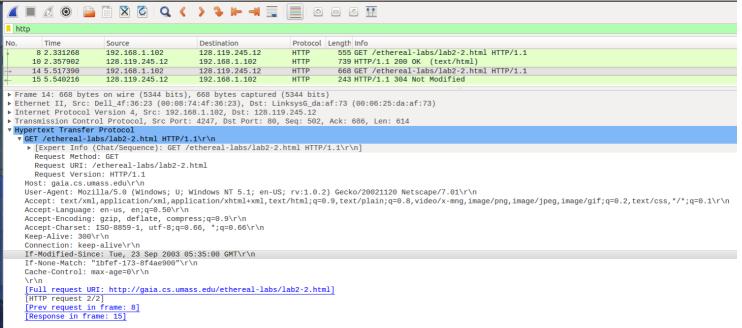
PIC 4

	T'	6	DNN	Deebes 1	1				
ο.	Time	Source	Destination		Length Info	/4 4			
	8 2.331268	192.168.1.102	128.119.245.12	HTTP	555 GET /ethereal-labs/lab2-2.html HTTP	1.1			
	10 2.357902	128.119.245.12	192.168.1.102	HTTP	739 HTTP/1.1 200 OK (text/html)	,			
	14 5.517390	192.168.1.102	128.119.245.12	HTTP	668 GET /ethereal-labs/lab2-2.html HTTP	1.1			
	15 5.540216	128.119.245.12	192.168.1.102	HTTP	243 HTTP/1.1 304 Not Modified				
Fr	ame 10: 739 byte	es on wire (5912 bits)	, 739 bytes captured	d (5912 bits)					
Et	thernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Dst: Dell_4f:36:23 (00:08:74:4f:36:23)								
Ir	nternet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.102								
Tr	Transmission Control Protocol, Src Port: 80, Dst Port: 4247, Seq: 1, Ack: 502, Len: 685								
/ Hy	Hypertext Transfer Protocol								
₹	HTTP/1.1 200 OK	\r\n							
	▶ [Expert Info	(Chat/Sequence): HTTP	/1.1 200 OK\r\n]						
	Request Versi	on: HTTP/1.1							
	Status Code: 200								
	Response Phrase: 0K								
	Date: Tue, 23 Sep 2003 05:35:50 GMT\r\n								
	Server: Apache/2.0.40 (Red Hat Linux)\r\n								
	Last-Modified: Tue, 23 Sep 2003 05:35:00 GMT\r\n								
	ETag: "1bfef-173-8f4ae900"\r\n								
	Accept-Ranges: bytes\r\n								
▶	Content-Length:								
	Keep-Alive: timeout=10, max=100\r\n								
	Connection: Kee								
	Content-Type: text/html; charset=ISO-8859-1\r\n								
	\r\n								
	[HTTP response 1/2]								
	[Time since request: 0.026634000 seconds]								
	[Request in frame: 8]								
	[Next request i								
	[Next response in frame: 15]								
	File Data: 371	,							
Li	ne-based text da	ata: text/html							
	\n								
	<html>\n</html>								
	\n								
		again! Now you've d			\n				
		t modification date w							
	Thus if you download this multiple times on your browser, a complete copy 								
	will only be sent once by the server due to the inclusion of the IN-MODIFIED-SINCE								
		rowser's HTTP GET req	uest to the server. $ackslash$	n					
	\n								
	\n								

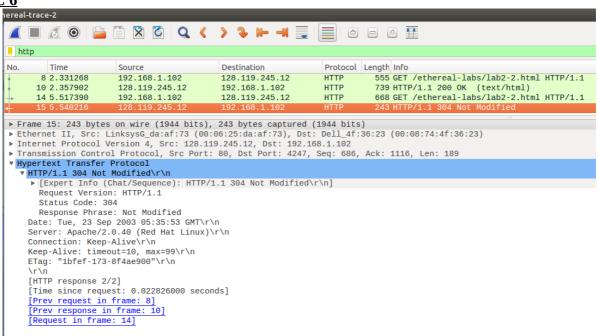
Q2.

Yes. From above picture 4, the file is last modified Tue, 23 Sep 2003 05:35:50

PIC 5



PIC 6



Q3, Q4.

Yes. IF-MODIFIED-SINCE displays the date of the last modification did on the file from a past GET request. IF-NONE-MATCH displays the ETAG value. The value shown depends on whether it is the same ETAG as the server's, if true, status code 304 and empty body is returned back. In this case, code 304 and the phrase "Not Modified" is returned. The server did not explicitly return the contents as code 304 infer that an empty body is returned.

Q3, Q4.

"ETAG" has not changed from 1st to 2nd response. "ETAG" of the 1st response (server side) is compared with the one received in request header. It is compared through server-side logic that checks whether a new copy of resource is needed judging if "ETAG" in both responses are the same. The result of the comparison is displayed through IF-NONE-MATCH header as a "ETAG" value in 2nd response. This "ETAG" value helps to infer whether the requested resources needed to be updated or not.