

Lab Exercise 2: HTTP & Socket Programming

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Exercise 3:

Q1.

The status code is 200 and the phrase is OK.

Q2.

- The file is last modified on Tuesday, 23 Sep 2003, at 05:29:00 GMT.
- The response also contains a DATE header.

```
Date: Tue, 23 Sep 2003 05:29:50 GMT\r\n
```

- For the field with a DATE header, it represents the date and time at which the HTTP response was originated. But for the field with a Last-Modified header, it represents the last modified time of this html. Because these two times are similar, so the last modified time might be the time when the HTTP response began to be created.

Q3.

The connection is persistent. In both of request and response, there is a line "Connection: Keep-Alive", which means the connection is persistent.

Q4.

73 bytes

Q5.

```
<html>\n
```

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

```
</html>\n
```

Exercise 4:

Q1.

No.

Q2.

Yes. It's last modified on Tuesday, 23 Sep 2003, at 05:35:00 GMT.

Q3.

- Yes
- When "IF-MODIFIED-SINCE" is used in combination with "IF-NONE-MATCH", it will be ignored. The Etag-value of this request is "1bfef-173-6f4ae900".
When the Etag of the requested resource is same as request's, the server will send back the requested resource with a 200 status. If the Etag doesn't match, the server will use "IF-MODIFIED-SINCE" to deal with this request.

Q4.

- Status code is 304 and the phrase is NOT MODIFIED.
- The server didn't return the contents of the file.

Because the Etag in the second request is "1bfef-173-8f4ae900" ,

```
If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT\r\n
If-None-Match: "1bfef-173-8f4ae900"\r\n
```

which is same as the one in response:

```
ETag: "1bfef-173-8f4ae900"\r\n
```

According to the rule of "IF-NONE-MATCH", we need to compare it by "IF-MODIFIED-SINCE". Because the requested resource is not modified, so the response is a 304 without any body.

Q5.

- The value of the Etag field in the 2nd response message is "1bfef-173-8f4ae900". It's used to compare with the one in "IF-NONE-MATCH" field of second request.
- Not changed.