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Data Communications - I

Lab

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1. The basic HTTP GET / response interaction

<i> My browser is running on HTTP/v.1.1
The server is also running on HTTP/v.1.1

<ii> My browser indicates that it can accept the following language

Accept-language: en-US, en-IN; q=0.8, en;
q=0.6, kn; q=0.4, hi; q=0.2 /r/n

<iii> Ip address of my computer is

10.253.84.210

Ip address of gaia.cs.umass.edu is

128.119.245.12

<iv> Status code returned from server to browser is "200 OK".

<v> The html file that I am retrieving was last modified at the server at

Wed, 12 Oct 2016 23:52:22 GMT/r/n

<vi> The number of bytes of content ~~are~~ being returned to my browser are: 542

<vii> I could not find any headers.

<viii> From the first HTTP GET request from my browser to the server "IF-MODIFIED-SINCE" line in the HTTP GET is not found.

<ix> YES, the server explicitly returned the content of the file as we can see the status code "200 OK" and we can also see the last modified date.

<x> By inspecting the contents of second HTTP-GET request from browser to server, we can see "IF-MODIFIED-SINCE" line in HTTP GET
IF-Modified-Since: Wed, 12 Oct 2016 05:59:01 GMT \r\n

<xi> HTTP status code & phrase returned from the server in response to this second HTTP GET is "304 Not Modified"

In ~~the~~ ~~2nd~~ The server did not return the contents of the file. Because the 'cache' was cleared.

[NOTE: From viii to xi: The HTTP CONDITIONAL GET / response interaction]

3. Retreiving Long Documents

<xii> Browser sent two HTTP GET request.
Packet number that contains 'GET' is 486
and 510.

<xiii> The packet number 492 in the trace
contains the status code and and
phrase associated with the response to the
HTTP GET request.

<xiv> The status code & phrase in response is
"200 OK" and "HTTP/1.1 200 OK (text/html)"

<xv> The number of TCP segments needed were
5 to carry the single HTTP response & the
text of the Bill of Rights.

4. HTML Documents with Embedded objects

<xvi> My browser sent 5 HTTP GET request
messages.

The addresses are:

* 128.119.245.12

* 128.119.240.90

* 128.119.245.12

* 128.119.240.90

* 128.119.245.12

(4)
<xvii> The images are downloaded in parallel.

The packets from JPEG & GIF arrive in different TCP packets. Browser has sent out both commands ~~by~~^{to} the server & simply accepts all the incoming TCP packets re-assembling them later.

5. HTTP Authentication

<xviii> Server's response in response to the initial HTTP GET message from my browser is, "401 Unauthorized" (text/html)

<xix> when my browser sends HTTP GET message for the second time, the ~~an~~ new field included in HTTP GET message is "Authorization & Credentials" and the details of it.