CS 224(M): Tutorial 2

Application Layer

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1.

```
dhruv @ {~} says $ telnet home.iitb.ac.in 80
Trying 10.200.17.31...
Connected to home.iitb.ac.in.
Escape character is '^]'.
GET /~dhruv.shah/cs224m.html HTTP/1.1
HOST: home.iitb.ac.in

HTTP/1.1 200 OK
Date: Fri, 05 Aug 2016 07:17:58 GMT
Server: Apache/2.4.10 (Fedora) OpenSSL/1.0.1e-fips PHP/5.5.21
Last-Modified: Fri, 05 Aug 2016 07:17:26 GMT
ETag: "53-5394ddbd44c60"
Accept-Ranges: bytes
Content-Length: 83
Content-Type: text/html; charset=UTF-8

<h2> CS224-M </h2>

You have landed at a sample webpage I made for testing telnet.
```

2.

```
dhruv @ {~} says $ telnet home.iitb.ac.in 80
Trying 10.200.17.31...
Connected to home.iitb.ac.in.
Escape character is '^]'.
GET /~dhruv.shah/cs224m.html HTTP/1.1
HOST: home.iitb.ac.in
If-None-Match: "53-5394ddbd44c60"

HTTP/1.1 304 Not Modified
Date: Fri, 05 Aug 2016 07:25:27 GMT
Server: Apache/2.4.10 (Fedora) OpenSSL/1.0.1e-fips PHP/5.5.21
ETag: "53-5394ddbd44c60"
```

3.

```
dhruv @ {~} says $ wget palantir.cse.iitb.ac.in/cs224m/test.txt
--2016-08-05 12:58:47--  http://palantir.cse.iitb.ac.in/cs224m/test.txt
Resolving palantir.cse.iitb.ac.in (palantir.cse.iitb.ac.in)... 10.129.5.183
Connecting to palantir.cse.iitb.ac.in
(palantir.cse.iitb.ac.in)|10.129.5.183|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 24 [text/plain]
Saving to: 'test.txt.1'


100%[=========================================================>] 24
--.-K/s   in 0s


2016-08-05 12:58:47 (2.20 MB/s) - 'test.txt.1' saved [24/24]
```

No.	Time	Source	Destination	Protocol	Length	Info
177	2.105529000	10.196.19.148	10.129.5.183	HTTP	202	GET /cs224m/test.txt HTTP/1.1
179	2.108356000	10.129.5.183	10.196.19.148	HTTP	373	HTTP/1.1 200 OK (text/plain)

```
▶ Frame 177: 202 bytes on wire (1616 bits), 202 bytes captured (1616 bits) on interface 0
▶ Ethernet II, Src: ac:e0:10:e0:2f:3f (ac:e0:10:e0:2f:3f), Dst: ExtremeN_83:a0:8e (00:04:96:83:a0:8e)
▶ Internet Protocol Version 4, Src: 10.196.19.148 (10.196.19.148), Dst: 10.129.5.183 (10.129.5.183)
▶ Transmission Control Protocol, Src Port: 58875 (58875), Dst Port: http (80), Seq: 1, Ack: 1, Len: 136
▼ Hypertext Transfer Protocol
  ▼ GET /cs224m/test.txt HTTP/1.1\r\n
    ▶ [Expert Info (Chat/Sequence): GET /cs224m/test.txt HTTP/1.1\r\n]
      Request Method: GET
      Request URI: /cs224m/test.txt
      Request Version: HTTP/1.1
    User-Agent: Wget/1.15 (linux-gnu)\r\n
    Accept: */*\r\n
    Host: palantir.cse.iitb.ac.in\r\n
    Connection: Keep-Alive\r\n
    \r\n
    [Full request URI: http://palantir.cse.iitb.ac.in/cs224m/test.txt]
    [HTTP request 1/1]
    [Response in frame: 179]
```

4.

180	2.582871000	10.196.19.148	10.129.5.183	HTTP	548	GET /cs224m/test.txt HTTP/1.1
182	2.591864000	10.129.5.183	10.196.19.148	HTTP	373	HTTP/1.1 200 OK (text/plain)
236	3.394900000	10.196.19.148	10.129.5.183	HTTP	500	GET /favicon.ico HTTP/1.1
237	3.396897000	10.129.5.183	10.196.19.148	HTTP	578	HTTP/1.1 404 Not Found (text/html)
296	4.248526000	10.196.19.148	10.129.5.183	HTTP	616	GET /cs224m/test.txt HTTP/1.1
297	4.250305000	10.129.5.183	10.196.19.148	HTTP	244	HTTP/1.1 304 Not Modified

```
http.last_modified == "Fri, 05 Aug 2016 04:18:08 GMT"
ETag: "18-5394b5a8ec154"\r\n
```

5.

475	4.279712000	10.196.19.148	10.129.5.183	HTTP	540	GET /cs224m/ HTTP/1.1
477	4.281542000	10.129.5.183	10.196.19.148	HTTP	845	HTTP/1.1 200 OK (text/html)
489	4.345013000	10.196.19.148	10.129.5.183	HTTP	521	GET /icons/blank.gif HTTP/1.1
490	4.346005000	10.196.19.148	10.129.5.183	HTTP	520	GET /icons/back.gif HTTP/1.1
491	4.346955000	10.129.5.183	10.196.19.148	HTTP	496	HTTP/1.1 200 OK (GIF89a)
494	4.348815000	10.196.19.148	10.129.5.183	HTTP	523	GET /icons/unknown.gif HTTP/1.1
495	4.348821000	10.129.5.183	10.196.19.148	HTTP	565	HTTP/1.1 200 OK (GIF89a)
498	4.350984000	10.129.5.183	10.196.19.148	HTTP	594	HTTP/1.1 200 OK (GIF89a)
500	4.357308000	10.196.19.148	10.129.5.183	HTTP	520	GET /icons/text.gif HTTP/1.1
501	4.359260000	10.129.5.183	10.196.19.148	HTTP	577	HTTP/1.1 200 OK (GIF89a)

6. This can be seen from this line in the Header of the HTTP Response.

```
Keep-Alive: timeout=5, max=99\r\n
Connection: Keep-Alive\r\n
```