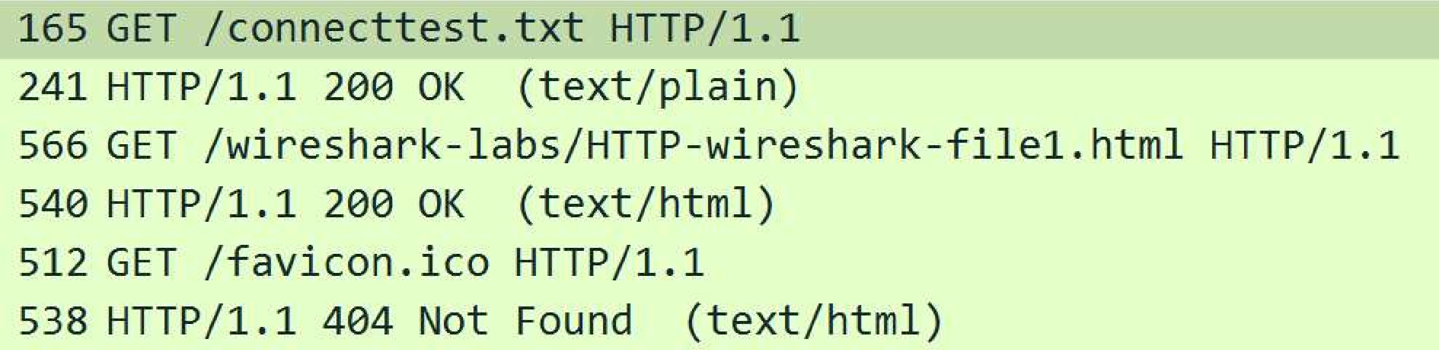
LAB2

牛庆源 PB21111733

- **1.**

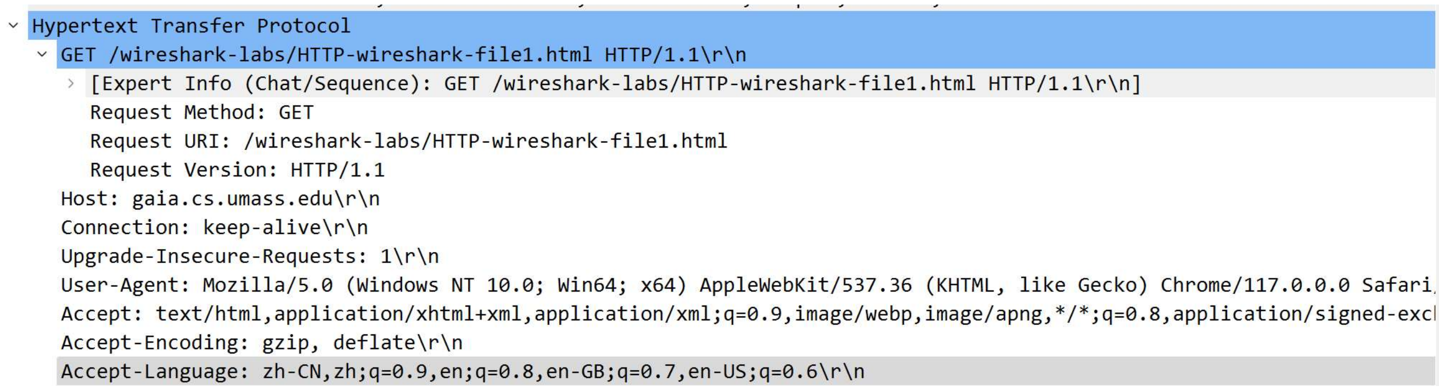
如图所示：GET和RESPONSE都是1.1，即服务器和本地都是HTTP1.1



```
165 GET /connecttest.txt HTTP/1.1
241 HTTP/1.1 200 OK  (text/plain)
566 GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1
540 HTTP/1.1 200 OK  (text/html)
512 GET /favicon.ico HTTP/1.1
538 HTTP/1.1 404 Not Found  (text/html)
```

- **2.**

如图所示：Accept-Language



```
˅ Hypertext Transfer Protocol
  ˅ GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n
    › [Expert Info (Chat/Sequence): GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n]
      Request Method: GET
      Request URI: /wireshark-labs/HTTP-wireshark-file1.html
      Request Version: HTTP/1.1
    Host: gaia.cs.umass.edu\r\n
    Connection: keep-alive\r\n
    Upgrade-Insecure-Requests: 1\r\n
    User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/117.0.0.0 Safari
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-excl
    Accept-Encoding: gzip, deflate\r\n
    Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6\r\n
```

zh-CN 中文（中国），最高优先级

zh 中文，0.9优先级

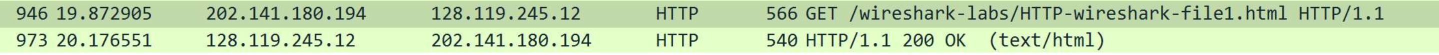
en 英语，0.8优先级

en-GB 英语（英国），0.7优先级

en-US 英语（美国），0.6优先级

- **3.**

如图所示



```
946 19.872905     202.141.180.194     128.119.245.12      HTTP      566 GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1
973 20.176551     128.119.245.12      202.141.180.194     HTTP      540 HTTP/1.1 200 OK  (text/html)
```

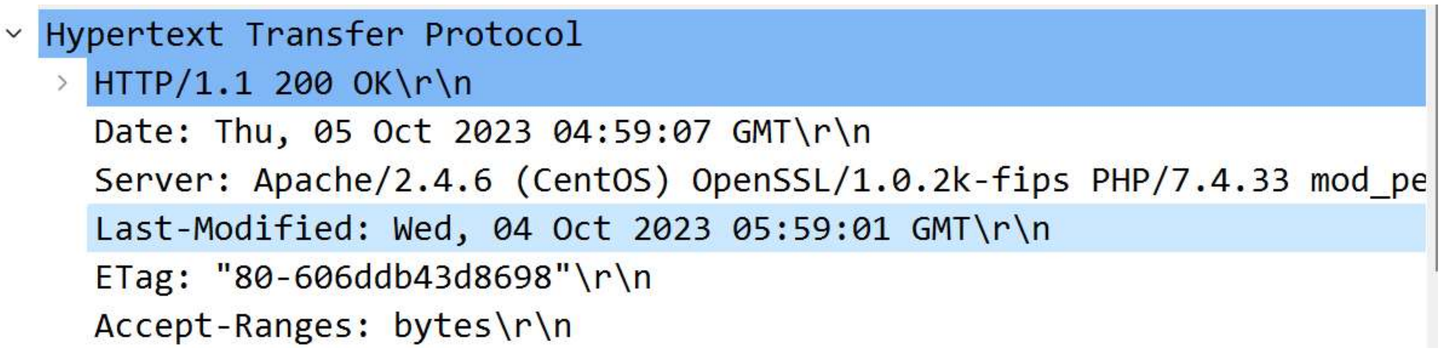
本机ip：202.141.180.194
服务器ip：128.119.245.12

- **4.**

return的如答3图所示为：200OK

- **5.**

如图所示：

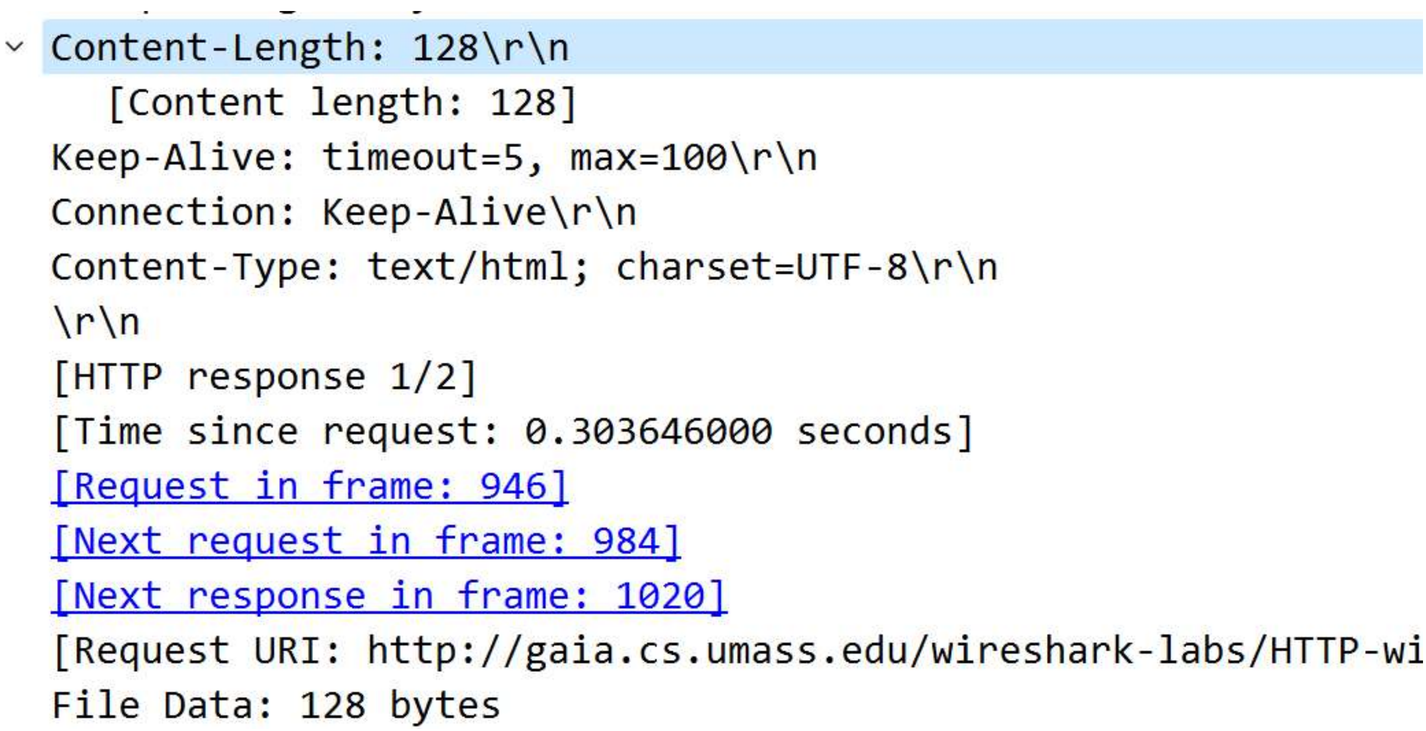


```
Hypertext Transfer Protocol
  HTTP/1.1 200 OK\r\n
  Date: Thu, 05 Oct 2023 04:59:07 GMT\r\n
  Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.33 mod_pe
  Last-Modified: Wed, 04 Oct 2023 05:59:01 GMT\r\n
  ETag: "80-606ddb43d8698"\r\n
  Accept-Ranges: bytes\r\n
```

2023年10月4日上午05:59:01（格林威治标准时间）

- **6.**

如图所示：content length和file data

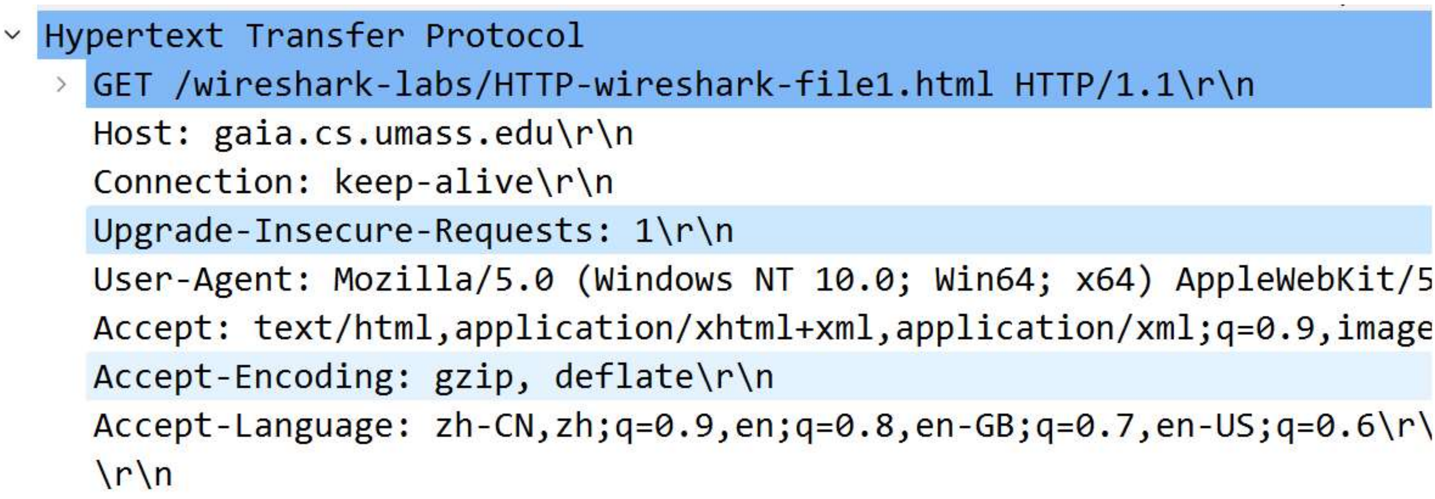


```
Content-Length: 128\r\n
   [Content length: 128]
Keep-Alive: timeout=5, max=100\r\n
Connection: Keep-Alive\r\n
Content-Type: text/html; charset=UTF-8\r\n
\r\n
[HTTP response 1/2]
[Time since request: 0.303646000 seconds]
[Request in frame: 946]
[Next request in frame: 984]
[Next response in frame: 1020]
[Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wi
File Data: 128 bytes
```

128 bytes

- **7.**

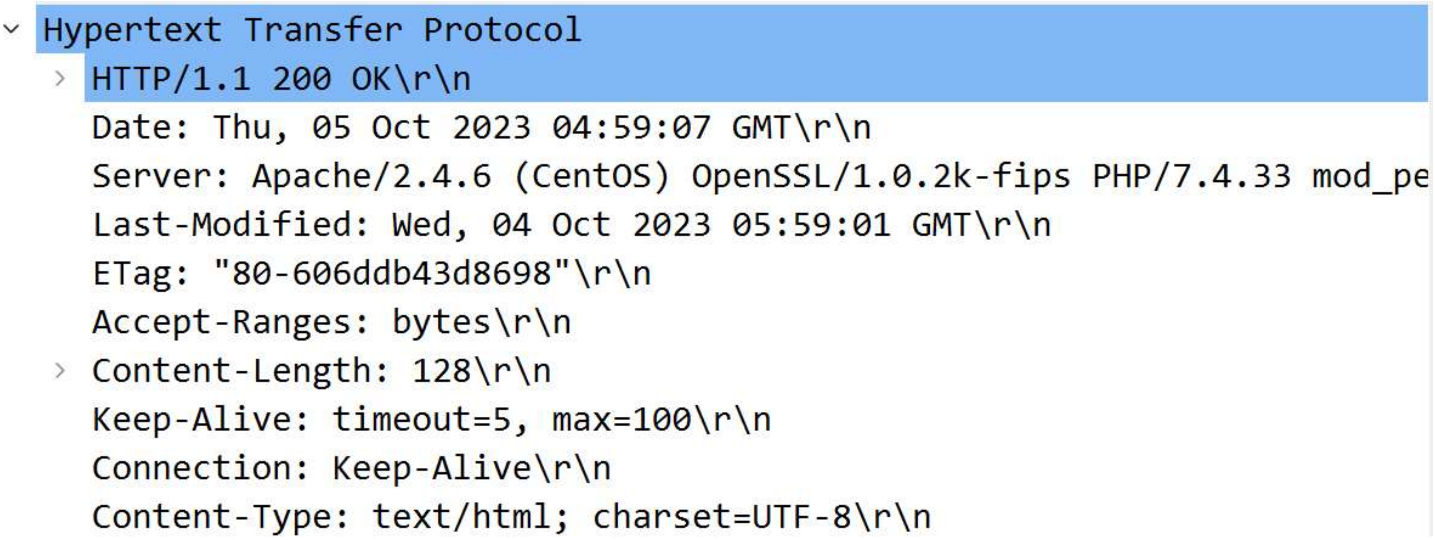
请求报文如图所示：



```
Hypertext Transfer Protocol
  GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1\r\n
  Host: gaia.cs.umass.edu\r\n
  Connection: keep-alive\r\n
  Upgrade-Insecure-Requests: 1\r\n
  User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/5
  Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image
  Accept-Encoding: gzip, deflate\r\n
  Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6\r\
  \r\n
```

Host,Connection,User-Agent等

响应报文如图所示：

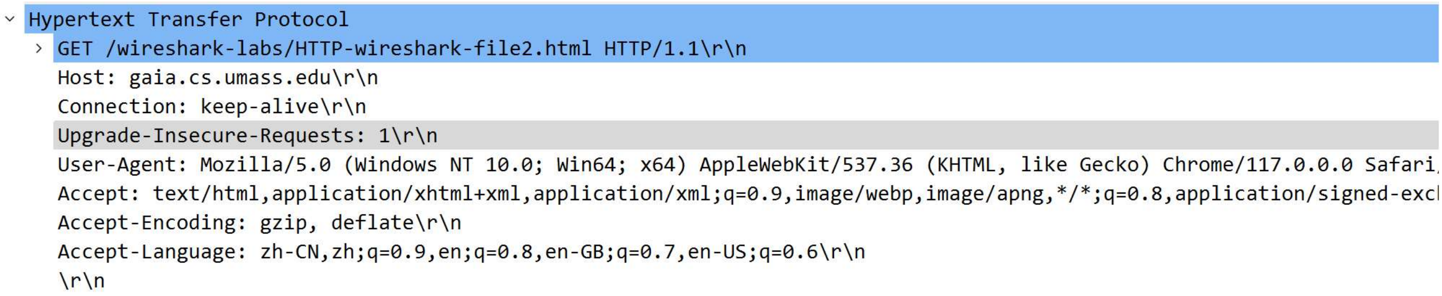


```
Hypertext Transfer Protocol
  HTTP/1.1 200 OK\r\n
  Date: Thu, 05 Oct 2023 04:59:07 GMT\r\n
  Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.33 mod_pe
  Last-Modified: Wed, 04 Oct 2023 05:59:01 GMT\r\n
  ETag: "80-606ddb43d8698"\r\n
  Accept-Ranges: bytes\r\n
  Content-Length: 128\r\n
  Keep-Alive: timeout=5, max=100\r\n
  Connection: Keep-Alive\r\n
  Content-Type: text/html; charset=UTF-8\r\n
```

Date,Server,Last-Modified等

- **8.**

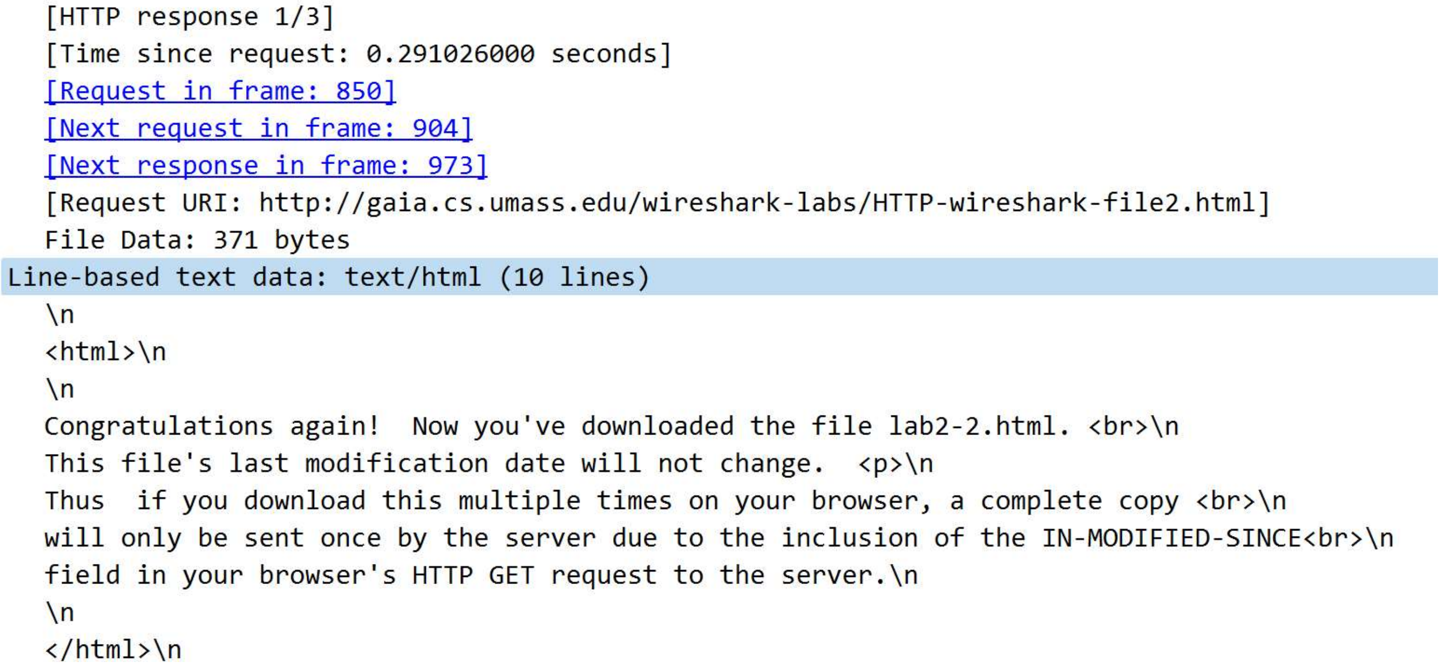
如下图所示：没有IF-MODIFIED-SINCE



```
Hypertext Transfer Protocol
  GET /wireshark-labs/HTTP-wireshark-file2.html HTTP/1.1\r\n
  Host: gaia.cs.umass.edu\r\n
  Connection: keep-alive\r\n
  Upgrade-Insecure-Requests: 1\r\n
  User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/117.0.0.0 Safari
  Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-excl
  Accept-Encoding: gzip, deflate\r\n
  Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6\r\n
  \r\n
```

- **9.**

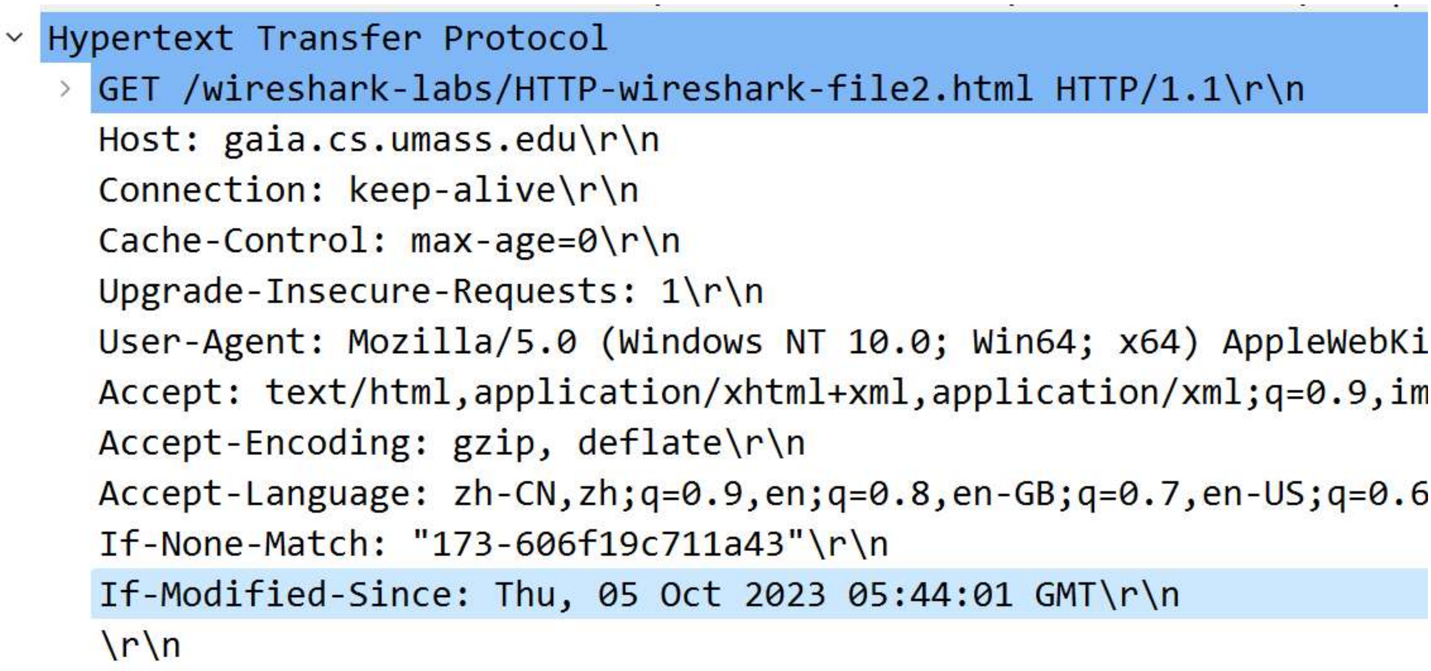
有返回内容，如下图所示：



```
    [HTTP response 1/3]
    [Time since request: 0.291026000 seconds]
    [Request in frame: 850]
    [Next request in frame: 904]
    [Next response in frame: 973]
    [Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file2.html]
    File Data: 371 bytes
Line-based text data: text/html (10 lines)
    \n
    <html>\n
    \n
    Congratulations again!  Now you've downloaded the file lab2-2.html. <br>\n
    This file's last modification date will not change.  <p>\n
    Thus  if you download this multiple times on your browser, a complete copy <br>\n
    will only be sent once by the server due to the inclusion of the IN-MODIFIED-SINCE<br>\n
    field in your browser's HTTP GET request to the server.\n
    \n
    </html>\n
```

- **10.**

有，报头后内容是Last-Modified的时间

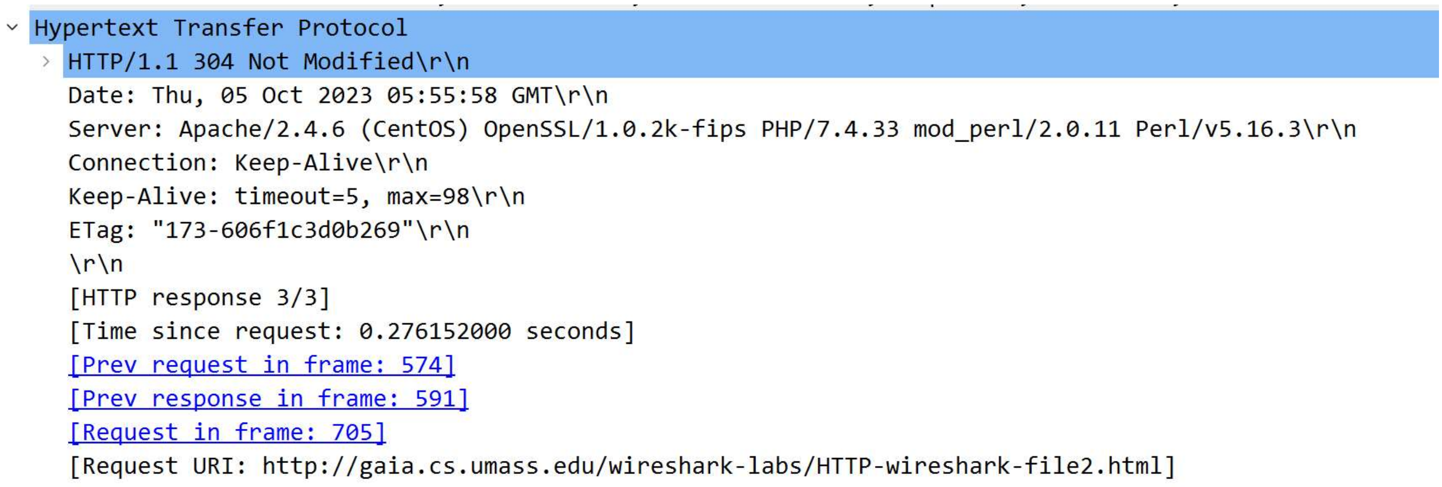


```
∨ Hypertext Transfer Protocol
  > GET /wireshark-labs/HTTP-wireshark-file2.html HTTP/1.1\r\n
    Host: gaia.cs.umass.edu\r\n
    Connection: keep-alive\r\n
    Cache-Control: max-age=0\r\n
    Upgrade-Insecure-Requests: 1\r\n
    User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKi
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,im
    Accept-Encoding: gzip, deflate\r\n
    Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6
    If-None-Match: "173-606f19c711a43"\r\n
    If-Modified-Since: Thu, 05 Oct 2023 05:44:01 GMT\r\n
    \r\n
```

- **11.**

如图所示：304 Not Modified

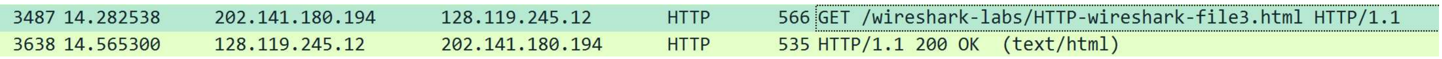
该网页上次访问过没有修改，且在本地有缓存，所以没有返回文件内容



```
⌄ Hypertext Transfer Protocol
  › HTTP/1.1 304 Not Modified\r\n
    Date: Thu, 05 Oct 2023 05:55:58 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.33 mod_perl/2.0.11 Perl/v5.16.3\r\n
    Connection: Keep-Alive\r\n
    Keep-Alive: timeout=5, max=98\r\n
    ETag: "173-606f1c3d0b269"\r\n
    \r\n
    [HTTP response 3/3]
    [Time since request: 0.276152000 seconds]
    [Prev request in frame: 574]
    [Prev response in frame: 591]
    [Request in frame: 705]
    [Request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file2.html]
```

- **12.**

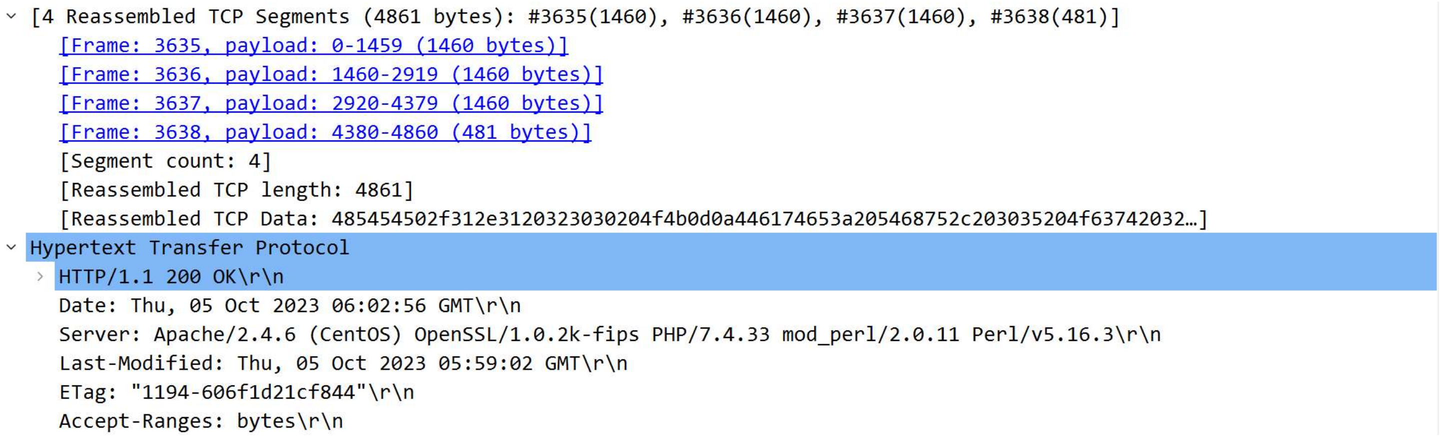
如图所示：一个get，包号3487



```
3487 14.282538    202.141.180.194    128.119.245.12     HTTP     566 GET /wireshark-labs/HTTP-wireshark-file3.html HTTP/1.1
3638 14.565300    128.119.245.12     202.141.180.194    HTTP     535 HTTP/1.1 200 OK  (text/html)
```

- **13.**

如答12图所示：包号3638，内容以及关联如下图



```
⌄ [4 Reassembled TCP Segments (4861 bytes): #3635(1460), #3636(1460), #3637(1460), #3638(481)]
    [Frame: 3635, payload: 0-1459 (1460 bytes)]
    [Frame: 3636, payload: 1460-2919 (1460 bytes)]
    [Frame: 3637, payload: 2920-4379 (1460 bytes)]
    [Frame: 3638, payload: 4380-4860 (481 bytes)]
    [Segment count: 4]
    [Reassembled TCP length: 4861]
    [Reassembled TCP Data: 485454502f312e3120323030204f4b0d0a446174653a205468752c203035204f63742032…]
⌄ Hypertext Transfer Protocol
  › HTTP/1.1 200 OK\r\n
    Date: Thu, 05 Oct 2023 06:02:56 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.33 mod_perl/2.0.11 Perl/v5.16.3\r\n
    Last-Modified: Thu, 05 Oct 2023 05:59:02 GMT\r\n
    ETag: "1194-606f1d21cf844"\r\n
    Accept-Ranges: bytes\r\n
```

- **14.**

200OK

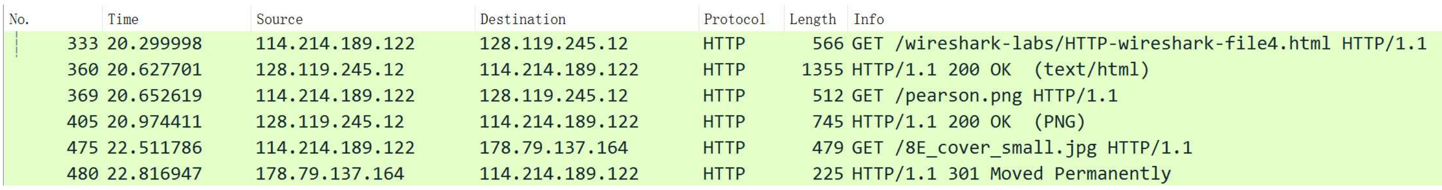
- **15.**

如答13图所示：四个TCP

分别为3635,3636,3637,3638

- **16.**

三个GET



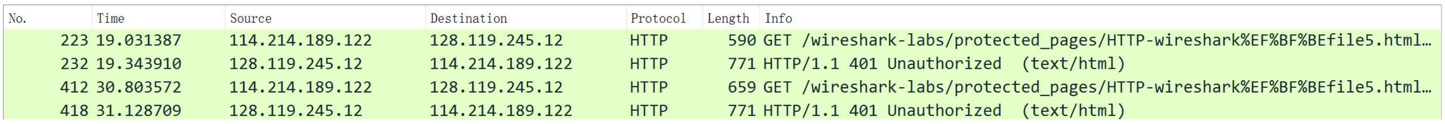
No.	Time	Source	Destination	Protocol	Length	Info
333	20.299998	114.214.189.122	128.119.245.12	HTTP	566	GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
360	20.627701	128.119.245.12	114.214.189.122	HTTP	1355	HTTP/1.1 200 OK (text/html)
369	20.652619	114.214.189.122	128.119.245.12	HTTP	512	GET /pearson.png HTTP/1.1
405	20.974411	128.119.245.12	114.214.189.122	HTTP	745	HTTP/1.1 200 OK (PNG)
475	22.511786	114.214.189.122	178.79.137.164	HTTP	479	GET /8E_cover_small.jpg HTTP/1.1
480	22.816947	178.79.137.164	114.214.189.122	HTTP	225	HTTP/1.1 301 Moved Permanently

- **17.**

如上图时间所示，不是并行到达，有先后顺序

- **18.**

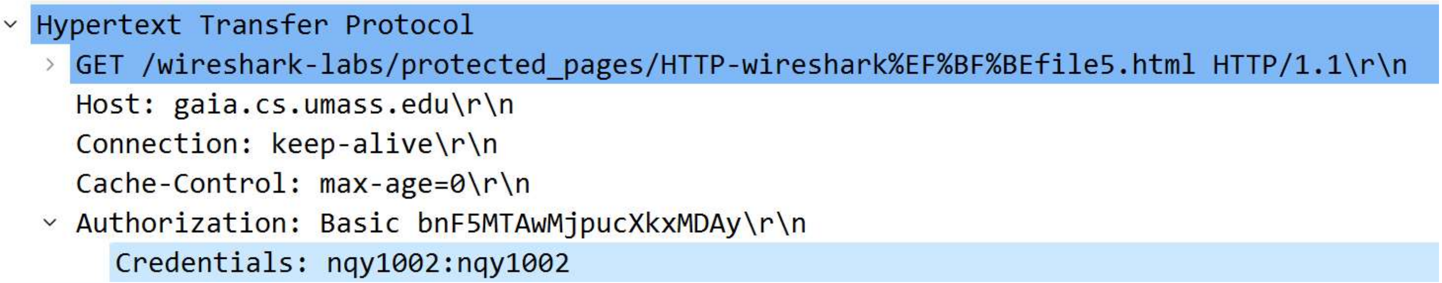
如下图所示，401 Unauthorized



No.	Time	Source	Destination	Protocol	Length	Info
223	19.031387	114.214.189.122	128.119.245.12	HTTP	590	GET /wireshark-labs/protected_pages/HTTP-wireshark%EF%BF%BEfile5.html…
232	19.343910	128.119.245.12	114.214.189.122	HTTP	771	HTTP/1.1 401 Unauthorized (text/html)
412	30.803572	114.214.189.122	128.119.245.12	HTTP	659	GET /wireshark-labs/protected_pages/HTTP-wireshark%EF%BF%BEfile5.html…
418	31.128709	128.119.245.12	114.214.189.122	HTTP	771	HTTP/1.1 401 Unauthorized (text/html)

- **19.**

如下图所示：已经带有Authorization信息，即我输入的nqy1002



```
v Hypertext Transfer Protocol
  > GET /wireshark-labs/protected_pages/HTTP-wireshark%EF%BF%BEfile5.html HTTP/1.1\r\n
    Host: gaia.cs.umass.edu\r\n
    Connection: keep-alive\r\n
    Cache-Control: max-age=0\r\n
  v Authorization: Basic bnF5MTAwMjpucXkxMDAy\r\n
      Credentials: nqy1002:nqy1002
```