

```
78 13.625248      192.168.0.100      128.119.245.12      HTTP      421      GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
Frame 78: 421 bytes on wire (3368 bits), 421 bytes captured (3368 bits) on interface 0
Ethernet II, Src: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf), Dst: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8)
Internet Protocol Version 4, Src: 192.168.0.100, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 51373, Dst Port: 80, Seq: 1, Ack: 1, Len: 367
Hypertext Transfer Protocol
GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1\r\n
Host: gaia.cs.umass.edu\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:58.0) Gecko/20100101 Firefox/58.0\r\n
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8\r\n
Accept-Language: en-US,en;q=0.5\r\n
Accept-Encoding: gzip, deflate\r\n
Connection: keep-alive\r\n
Upgrade-Insecure-Requests: 1\r\n
\r\n
[Full request URI: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html]
[HTTP request 1/2]
[Response in frame: 82]
[Next request in frame: 84]
82 13.644101      128.119.245.12      192.168.0.100      HTTP      1127      HTTP/1.1 200 OK (text/html)
Frame 82: 1127 bytes on wire (9016 bits), 1127 bytes captured (9016 bits) on interface 0
Ethernet II, Src: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8), Dst: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.100
Transmission Control Protocol, Src Port: 80, Dst Port: 51373, Seq: 1, Ack: 368, Len: 1073
Hypertext Transfer Protocol
HTTP/1.1 200 OK\r\n
Date: Thu, 15 Feb 2018 04:12:06 GMT\r\n
Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10 Perl/v5.16.3\r\n
Last-Modified: Wed, 14 Feb 2018 06:59:01 GMT\r\n
ETag: "2ca-56526a561fb8e"\r\n
Accept-Ranges: bytes\r\n
Content-Length: 714\r\n
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: 0.018853000 seconds]
[Request in frame: 78]
[Next request in frame: 84]
[Next response in frame: 91]
File Data: 714 bytes
Line-based text data: text/html
84 13.856106      192.168.0.100      128.119.245.12      HTTP      378      GET /pearson.png HTTP/1.1
Frame 84: 378 bytes on wire (3024 bits), 378 bytes captured (3024 bits) on interface 0
Ethernet II, Src: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf), Dst: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8)
Internet Protocol Version 4, Src: 192.168.0.100, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 51373, Dst Port: 80, Seq: 368, Ack: 1074, Len: 324
Hypertext Transfer Protocol
GET /pearson.png HTTP/1.1\r\n
Host: gaia.cs.umass.edu\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:58.0) Gecko/20100101 Firefox/58.0\r\n
Accept: */*\r\n
Accept-Language: en-US,en;q=0.5\r\n
Accept-Encoding: gzip, deflate\r\n
Referer: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html\r\n
Connection: keep-alive\r\n
\r\n
[Full request URI: http://gaia.cs.umass.edu/pearson.png]
[HTTP request 2/2]
[Prev request in frame: 78]
[Response in frame: 91]
91 13.894861      128.119.245.12      192.168.0.100      HTTP      745      HTTP/1.1 200 OK (PNG)
Frame 91: 745 bytes on wire (5960 bits), 745 bytes captured (5960 bits) on interface 0
Ethernet II, Src: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8), Dst: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.100
Transmission Control Protocol, Src Port: 80, Dst Port: 51373, Seq: 3994, Ack: 692, Len: 691
[3 Reassembled TCP Segments (3611 bytes): #87(1460), #89(1460), #91(691)]
[Frame: 87, payload: 0-1459 (1460 bytes)]
[Frame: 89, payload: 1460-2919 (1460 bytes)]
[Frame: 91, payload: 2920-3610 (691 bytes)]
[Segment count: 3]
[Reassembled TCP length: 3611]
[Reassembled TCP Data: 485454502f312e3120323030204f4b0d0a446174653a2054...]
Hypertext Transfer Protocol
HTTP/1.1 200 OK\r\n
Date: Thu, 15 Feb 2018 04:12:06 GMT\r\n
Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/5.4.16 mod_perl/2.0.10 Perl/v5.16.3\r\n
Last-Modified: Sat, 06 Aug 2016 10:08:14 GMT\r\n
ETag: "cc3-539645c7f1ee7"\r\n
Accept-Ranges: bytes\r\n
```

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Content-Length: 3267\r\n
Keep-Alive: timeout=5, max=99\r\n
Connection: Keep-Alive\r\n
Content-Type: image/png\r\n
\r\n
[HTTP response 2/2]
[Time since request: 0.038755000 seconds]
[Prev request in frame: 78]
[Prev response in frame: 82]
[Request in frame: 84]
File Data: 3267 bytes
Portable Network Graphics
 99 13.907007      192.168.0.100      128.119.240.90      HTTP      392      GET /~kurose/cover_5th_ed.jpg HTTP/1.1
Frame 99: 392 bytes on wire (3136 bits), 392 bytes captured (3136 bits) on interface 0
Ethernet II, Src: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf), Dst: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8)
Internet Protocol Version 4, Src: 192.168.0.100, Dst: 128.119.240.90
Transmission Control Protocol, Src Port: 51375, Dst Port: 80, Seq: 1, Ack: 1, Len: 338
Hypertext Transfer Protocol
GET /~kurose/cover_5th_ed.jpg HTTP/1.1\r\n
Host: manic.cs.umass.edu\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:58.0) Gecko/20100101 Firefox/58.0\r\n
Accept: */*\r\n
Accept-Language: en-US,en;q=0.5\r\n
Accept-Encoding: gzip, deflate\r\n
Referer: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html\r\n
Connection: keep-alive\r\n
\r\n
[Full request URI: http://manic.cs.umass.edu/~kurose/cover_5th_ed.jpg]
[HTTP request 1/1]
[Response in frame: 102]
102 13.919199      128.119.240.90      192.168.0.100      HTTP      510      HTTP/1.1 302 Found (text/html)
Frame 102: 510 bytes on wire (4080 bits), 510 bytes captured (4080 bits) on interface 0
Ethernet II, Src: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8), Dst: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf)
Internet Protocol Version 4, Src: 128.119.240.90, Dst: 192.168.0.100
Transmission Control Protocol, Src Port: 80, Dst Port: 51375, Seq: 1, Ack: 339, Len: 456
Hypertext Transfer Protocol
HTTP/1.1 302 Found\r\n
Date: Thu, 15 Feb 2018 04:12:06 GMT\r\n
Server: Apache\r\n
Location: http://caite.cs.umass.edu/~kurose/cover_5th_ed.jpg\r\n
Content-Length: 234\r\n
Connection: close\r\n
Content-Type: text/html; charset=iso-8859-1\r\n
\r\n
[HTTP response 1/1]
[Time since request: 0.012192000 seconds]
[Request in frame: 99]
File Data: 234 bytes
Line-based text data: text/html
113 13.954683      192.168.0.100      128.119.240.90      HTTP      392      GET /~kurose/cover_5th_ed.jpg HTTP/1.1
Frame 113: 392 bytes on wire (3136 bits), 392 bytes captured (3136 bits) on interface 0
Ethernet II, Src: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf), Dst: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8)
Internet Protocol Version 4, Src: 192.168.0.100, Dst: 128.119.240.90
Transmission Control Protocol, Src Port: 51376, Dst Port: 80, Seq: 1, Ack: 1, Len: 338
Hypertext Transfer Protocol
GET /~kurose/cover_5th_ed.jpg HTTP/1.1\r\n
Host: caite.cs.umass.edu\r\n
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:58.0) Gecko/20100101 Firefox/58.0\r\n
Accept: */*\r\n
Accept-Language: en-US,en;q=0.5\r\n
Accept-Encoding: gzip, deflate\r\n
Referer: http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file4.html\r\n
Connection: keep-alive\r\n
\r\n
[Full request URI: http://caite.cs.umass.edu/~kurose/cover_5th_ed.jpg]
[HTTP request 1/1]
[Response in frame: 204]
204 14.126289      128.119.240.90      192.168.0.100      HTTP      526      HTTP/1.1 200 OK (JPEG JFIF image)
Frame 204: 526 bytes on wire (4208 bits), 526 bytes captured (4208 bits) on interface 0
Ethernet II, Src: Tp-LinkT_97:5f:e8 (60:e3:27:97:5f:e8), Dst: RivetNet_e1:f0:cf (9c:b6:d0:e1:f0:cf)
Internet Protocol Version 4, Src: 128.119.240.90, Dst: 192.168.0.100
Transmission Control Protocol, Src Port: 80, Dst Port: 51376, Seq: 100741, Ack: 339, Len: 472
[70 Reassembled TCP Segments (101212 bytes): #115(1460), #116(1460), #118(1460), #119(1460), #120(1460), #122(1460), #123(1460), #125(1460), #126(1460), #128(1460), #130(1460), #131(1460), #133(1460), #134(1460), #136(1460), #137(1460), #13]
[Frame: 115, payload: 0-1459 (1460 bytes)]
[Frame: 116, payload: 1460-2919 (1460 bytes)]
[Frame: 118, payload: 2920-4379 (1460 bytes)]
[Frame: 119, payload: 4380-5839 (1460 bytes)]
[Frame: 120, payload: 5840-7299 (1460 bytes)]
[Frame: 122, payload: 7300-8759 (1460 bytes)]
[Frame: 123, payload: 8760-10219 (1460 bytes)]
```

[Frame: 125, payload: 10220-11679 (1460 bytes)]  
[Frame: 126, payload: 11680-13139 (1460 bytes)]  
[Frame: 128, payload: 13140-14599 (1460 bytes)]  
[Frame: 130, payload: 14600-16059 (1460 bytes)]  
[Frame: 131, payload: 16060-17519 (1460 bytes)]  
[Frame: 133, payload: 17520-18979 (1460 bytes)]  
[Frame: 134, payload: 18980-20439 (1460 bytes)]  
[Frame: 136, payload: 20440-21899 (1460 bytes)]  
[Frame: 137, payload: 21900-23359 (1460 bytes)]  
[Frame: 138, payload: 23360-24819 (1460 bytes)]  
[Frame: 139, payload: 24820-26279 (1460 bytes)]  
[Frame: 140, payload: 26280-27739 (1460 bytes)]  
[Frame: 141, payload: 27740-29199 (1460 bytes)]  
[Frame: 142, payload: 29200-30659 (1460 bytes)]  
[Frame: 143, payload: 30660-32119 (1460 bytes)]  
[Frame: 144, payload: 32120-33579 (1460 bytes)]  
[Frame: 145, payload: 33580-35039 (1460 bytes)]  
[Frame: 147, payload: 35040-36499 (1460 bytes)]  
[Frame: 149, payload: 36500-37959 (1460 bytes)]  
[Frame: 150, payload: 37960-39419 (1460 bytes)]  
[Frame: 152, payload: 39420-40879 (1460 bytes)]  
[Frame: 153, payload: 40880-42339 (1460 bytes)]  
[Frame: 155, payload: 42340-43799 (1460 bytes)]  
[Frame: 156, payload: 43800-45259 (1460 bytes)]  
[Frame: 157, payload: 45260-46719 (1460 bytes)]  
[Frame: 158, payload: 46720-48179 (1460 bytes)]  
[Frame: 159, payload: 48180-49639 (1460 bytes)]  
[Frame: 160, payload: 49640-51099 (1460 bytes)]  
[Frame: 161, payload: 51100-52559 (1460 bytes)]  
[Frame: 162, payload: 52560-54019 (1460 bytes)]  
[Frame: 163, payload: 54020-55479 (1460 bytes)]  
[Frame: 164, payload: 55480-56939 (1460 bytes)]  
[Frame: 166, payload: 56940-58399 (1460 bytes)]  
[Frame: 167, payload: 58400-59859 (1460 bytes)]  
[Frame: 168, payload: 59860-61319 (1460 bytes)]  
[Frame: 170, payload: 61320-62779 (1460 bytes)]  
[Frame: 172, payload: 62780-64239 (1460 bytes)]  
[Frame: 173, payload: 64240-65699 (1460 bytes)]  
[Frame: 175, payload: 65700-67159 (1460 bytes)]  
[Frame: 176, payload: 67160-68619 (1460 bytes)]  
[Frame: 177, payload: 68620-70079 (1460 bytes)]  
[Frame: 178, payload: 70080-71539 (1460 bytes)]  
[Frame: 179, payload: 71540-72999 (1460 bytes)]  
[Frame: 181, payload: 73000-74459 (1460 bytes)]  
[Frame: 182, payload: 74460-75919 (1460 bytes)]  
[Frame: 183, payload: 75920-77379 (1460 bytes)]  
[Frame: 184, payload: 77380-78839 (1460 bytes)]  
[Frame: 185, payload: 78840-80299 (1460 bytes)]  
[Frame: 186, payload: 80300-81759 (1460 bytes)]  
[Frame: 187, payload: 81760-83219 (1460 bytes)]  
[Frame: 188, payload: 83220-84679 (1460 bytes)]  
[Frame: 189, payload: 84680-86139 (1460 bytes)]  
[Frame: 190, payload: 86140-87599 (1460 bytes)]  
[Frame: 192, payload: 87600-89059 (1460 bytes)]  
[Frame: 193, payload: 89060-90519 (1460 bytes)]  
[Frame: 194, payload: 90520-91979 (1460 bytes)]  
[Frame: 195, payload: 91980-93439 (1460 bytes)]  
[Frame: 197, payload: 93440-94899 (1460 bytes)]  
[Frame: 198, payload: 94900-96359 (1460 bytes)]  
[Frame: 200, payload: 96360-97819 (1460 bytes)]  
[Frame: 202, payload: 97820-99279 (1460 bytes)]  
[Frame: 203, payload: 99280-100739 (1460 bytes)]  
[Frame: 204, payload: 100740-101211 (472 bytes)]  
[Segment count: 70]  
[Reassembled TCP length: 101212]  
[Reassembled TCP Data: 485454502f312e3120323030204f4b0d0a446174653a2054...]

# Hypertext Transfer Protocol

HTTP/1.1 200 OK\r\n  
Date: Thu, 15 Feb 2018 04:12:06 GMT\r\n  
Server: Apache\r\n  
Last-Modified: Tue, 15 Sep 2009 18:23:27 GMT\r\n  
ETag: "78004-18a68-473a1e0e6e5c0"\r\n  
Accept-Ranges: bytes\r\n  
Content-Length: 100968\r\n  
Connection: close\r\n  
Content-Type: image/jpeg\r\n  
\r\n  
[HTTP response 1/1]  
[Time since request: 0.171606000 seconds]  
[Request in frame: 113]  
File Data: 100968 bytes

# JPEG File Interchange Format