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Data Com.
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February 5,2017

1. List 3 different protocols that appear in the protocol column in the unfiltered packet-listing window in step 7 above.

HTTP
TCP
NBNS

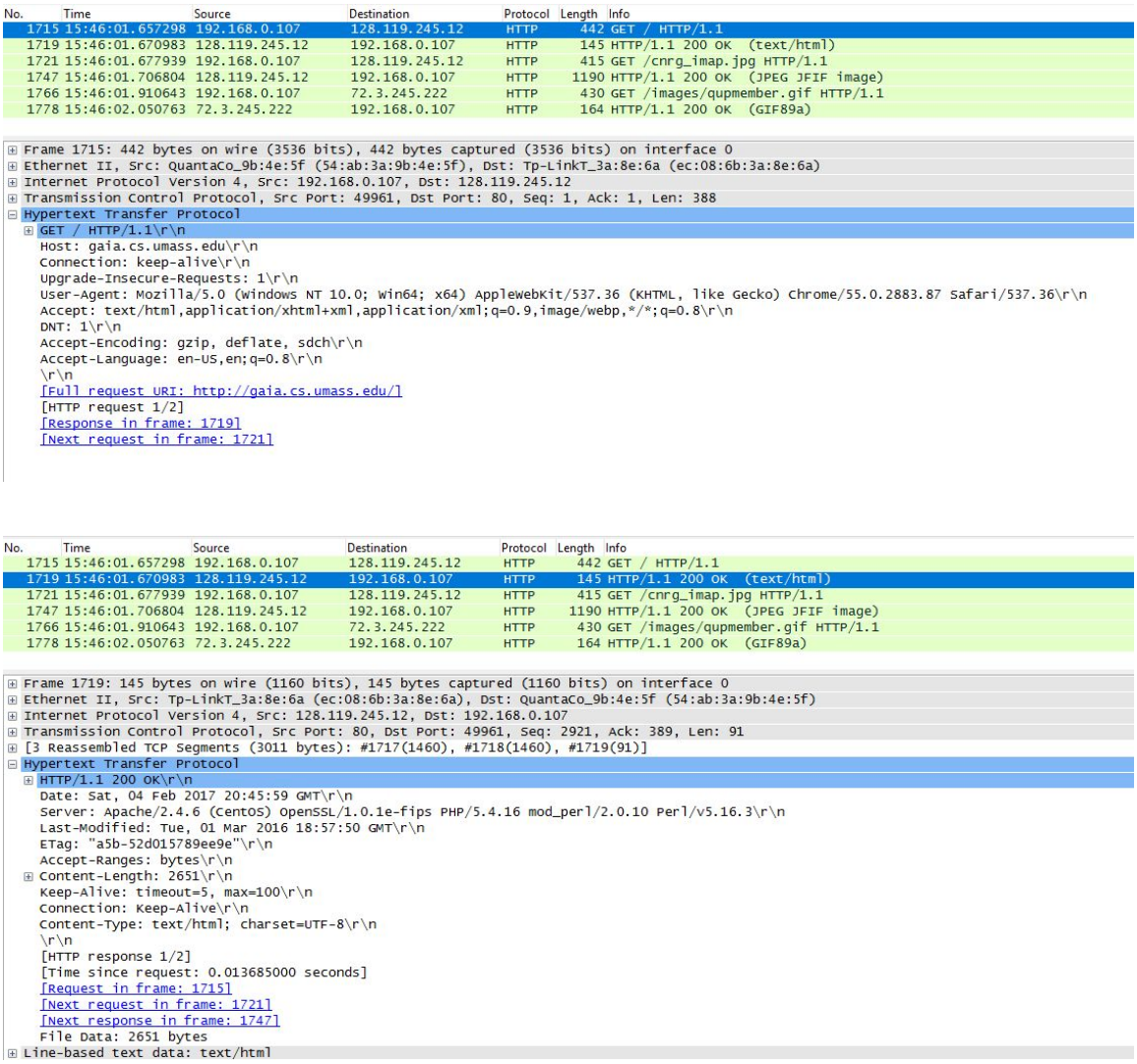
2. How long did it take from when the HTTP GET message was sent until the HTTP OK reply was received? (By default, the value of the Time column in the packet-listing window is the amount of time, in seconds, since Wireshark tracing began. To display the Time field in time-of-day format, select the Wireshark *View* pull down menu, then select Time *Display Format*, then select *Time-of-day*.)

15:46:01.657298-SENT
15:30:01.670983-OK

3. What is the Internet address of the gaia.cs.umass.edu (also known as wwwnet.cs.umass.edu)? What is the Internet address of your computer?

128.119.245.12-gaia.cs.umass.edu
192.168.0.107- My computer

4. Print the two HTTP messages (GET and OK) referred to in question 2 above. To do so, select *Print* from the Wireshark *File* command menu, and select the "*Selected Packet Only"* and *"Print as displayed"* radial buttons, and then click OK.



No.	Time	Source	Destination	Protocol	Length	Info
1715	15:46:01.657298	192.168.0.107	128.119.245.12	HTTP	442	GET / HTTP/1.1
1719	15:46:01.670983	128.119.245.12	192.168.0.107	HTTP	145	HTTP/1.1 200 OK (text/html)
1721	15:46:01.677939	192.168.0.107	128.119.245.12	HTTP	415	GET /cnrg_imap.jpg HTTP/1.1
1747	15:46:01.706804	128.119.245.12	192.168.0.107	HTTP	1190	HTTP/1.1 200 OK (JPEG JFIF image)
1766	15:46:01.910643	192.168.0.107	72.3.245.222	HTTP	430	GET /images/qupmember.gif HTTP/1.1
1778	15:46:02.050763	72.3.245.222	192.168.0.107	HTTP	164	HTTP/1.1 200 OK (GIF89a)

```
⊞ Frame 1715: 442 bytes on wire (3536 bits), 442 bytes captured (3536 bits) on interface 0
⊞ Ethernet II, Src: QuantaCo_9b:4e:5f (54:ab:3a:9b:4e:5f), Dst: Tp-LinkT_3a:8e:6a (ec:08:6b:3a:8e:6a)
⊞ Internet Protocol Version 4, Src: 192.168.0.107, Dst: 128.119.245.12
⊞ Transmission Control Protocol, Src Port: 49961, Dst Port: 80, Seq: 1, Ack: 1, Len: 388
⊟ Hypertext Transfer Protocol
  ⊞ GET / 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/55.0.2883.87 Safari/537.36\r\n
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8\r\n
    DNT: 1\r\n
    Accept-Encoding: gzip, deflate, sdch\r\n
    Accept-Language: en-US,en;q=0.8\r\n
    \r\n
    [Full request URI: http://gaia.cs.umass.edu/]
    [HTTP request 1/2]
    [Response in frame: 1719]
    [Next request in frame: 1721]
```


No.	Time	Source	Destination	Protocol	Length	Info
1715	15:46:01.657298	192.168.0.107	128.119.245.12	HTTP	442	GET / HTTP/1.1
1719	15:46:01.670983	128.119.245.12	192.168.0.107	HTTP	145	HTTP/1.1 200 OK (text/html)
1721	15:46:01.677939	192.168.0.107	128.119.245.12	HTTP	415	GET /cnrg_imap.jpg HTTP/1.1
1747	15:46:01.706804	128.119.245.12	192.168.0.107	HTTP	1190	HTTP/1.1 200 OK (JPEG JFIF image)
1766	15:46:01.910643	192.168.0.107	72.3.245.222	HTTP	430	GET /images/qupmember.gif HTTP/1.1
1778	15:46:02.050763	72.3.245.222	192.168.0.107	HTTP	164	HTTP/1.1 200 OK (GIF89a)

```
⊞ Frame 1719: 145 bytes on wire (1160 bits), 145 bytes captured (1160 bits) on interface 0
⊞ Ethernet II, Src: Tp-LinkT_3a:8e:6a (ec:08:6b:3a:8e:6a), Dst: QuantaCo_9b:4e:5f (54:ab:3a:9b:4e:5f)
⊞ Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.107
⊞ Transmission Control Protocol, Src Port: 80, Dst Port: 49961, Seq: 2921, Ack: 389, Len: 91
⊞ [3 Reassembled TCP Segments (3011 bytes): #1717(1460), #1718(1460), #1719(91)]
⊟ Hypertext Transfer Protocol
  ⊞ HTTP/1.1 200 OK\r\n
    Date: Sat, 04 Feb 2017 20:45:59 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips PHP/5.4.16 mod_perl/2.0.10 Perl/v5.16.3\r\n
    Last-Modified: Tue, 01 Mar 2016 18:57:50 GMT\r\n
    ETag: "a5b-52d015789ee9e"\r\n
    Accept-Ranges: bytes\r\n
  ⊞ Content-Length: 2651\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: 0.013685000 seconds]
    [Request in frame: 1715]
    [Next request in frame: 1721]
    [Next response in frame: 1747]
    File Data: 2651 bytes
⊞ Line-based text data: text/html
```