Course: Computer Networks(ECE/CSC 570)
Instructor: Mihail L. Sichitiu
Description: Spring 2016, Wireshark Intro Homework 1 Solutions.
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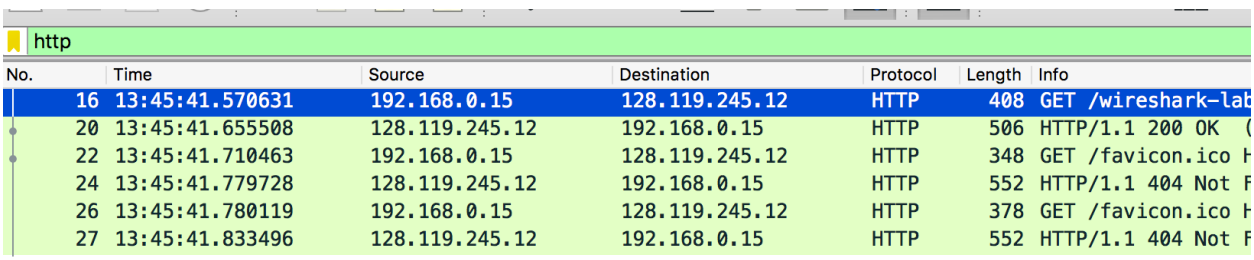
Answer to Question No. 1

The packets that we captured while retrieving the given URL are as follows.(However, we can't guarantee that all the packets listed below are relevant only to that specific URL load as there were other communications going on in that specific port of the system.)

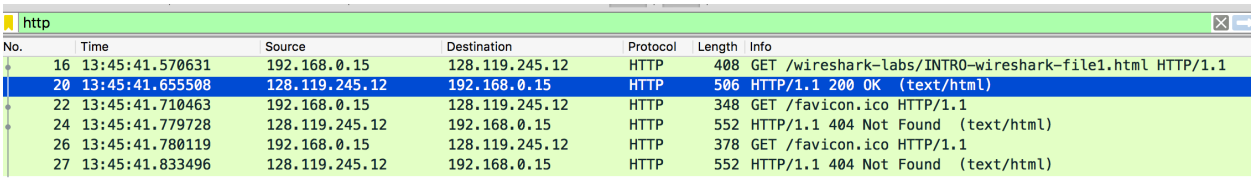
TCP
DHCPv6
ICMPv6
UDP
IGMPv2
LLMNR
SSDP
NBNS
ARP
IGMPv3
HTTP
DNS
ICMP
TLSv1.2
MDNS

Answer to Question No. 2

From the time column, the first request was sent at **13:45:41.570631** (HTTP GET)



The first HTTP OK was received at **13:45:41.655508**

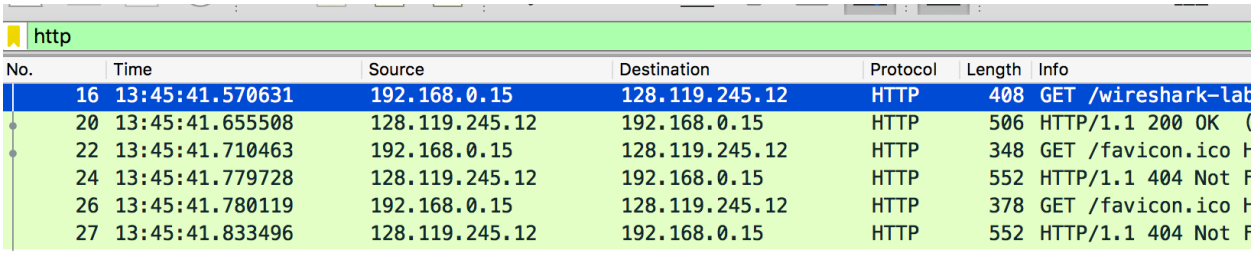


The time taken is = 41.570631 - 41.655508 = 0.084877 Seconds = 84.88 Milliseconds.

Answer to Question No. 3

From The snapshot below, we see that,

IP Address of the destination(gaia.cs.umass.edu) = **128.119.245.12**
IP Address of my machine(source) = **192.168.0.15** (Dynamically assigned IP)



Answer to Question No. 4

We select the GET packet and expanded the HTTP part. The printed packets displayed below.(Next Page)

The printed GET packet.

G:\Intro1.pcap 220 total packets, 6 shown

```
     16 4.959919       192.168.0.15          128.119.245.12        HTTP     408    GET /wireshark-labs/INTRO-wireshar
file1.html HTTP/1.1
Frame 16: 408 bytes on wire (3264 bits), 408 bytes captured (3264 bits)
Ethernet II, Src: Apple_0c:6b:03 (a0:99:9b:0c:6b:03), Dst: Netgear_f6:28:ea (50:6a:03:f6:28:ea)
Internet Protocol Version 4, Src: 192.168.0.15, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 55876 (55876), Dst Port: 80 (80), Seq: 1, Ack: 1, Len: 342
Hypertext Transfer Protocol
    GET /wireshark-labs/INTRO-wireshark-file1.html HTTP/1.1\r\n
    Host: gaia.cs.umass.edu\r\n
    User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.11; rv:43.0) Gecko/20100101 Firefox/43.0\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
    \r\n
    [Full request URI: http://gaia.cs.umass.edu/wireshark-labs/INTRO-wireshark-file1.html]
    [HTTP request 1/3]
    [Response in frame: 20]
    [Next request in frame: 22]
```

The OK packet is below.

G:\Intro1.pcap 220 total packets, 6 shown

```
     20 5.044796       128.119.245.12        192.168.0.15          HTTP     506    HTTP/1.1 200 OK  (text/html)
Frame 20: 506 bytes on wire (4048 bits), 506 bytes captured (4048 bits)
Ethernet II, Src: Netgear_f6:28:ea (50:6a:03:f6:28:ea), Dst: Apple_0c:6b:03 (a0:99:9b:0c:6b:03)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.15
Transmission Control Protocol, Src Port: 80 (80), Dst Port: 55876 (55876), Seq: 1, Ack: 343, Len: 440
Hypertext Transfer Protocol
    HTTP/1.1 200 OK\r\n
    Date: Fri, 12 Feb 2016 18:45:41 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips PHP/5.4.16 mod_perl/2.0.9dev Perl/v5.16.3\r\n
    Last-Modified: Fri, 12 Feb 2016 06:59:01 GMT\r\n
    ETag: "51-52b8d33b6c05a"\r\n
    Accept-Ranges: bytes\r\n
    Content-Length: 81\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 1/3]
    [Time since request: 0.084877000 seconds]
    [Request in frame: 16]
    [Next request in frame: 22]
    [Next response in frame: 24]
Line-based text data: text/html
```