

# Computer Networks 1

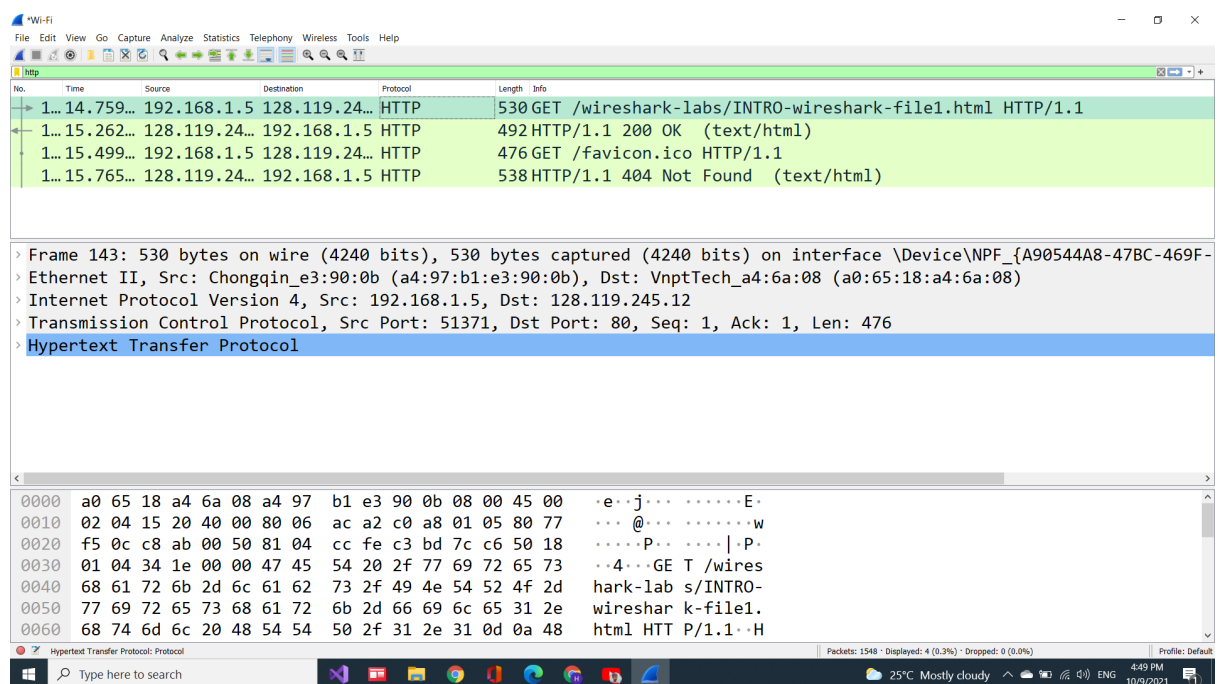
## Lab 1b

### Wireshark Intro

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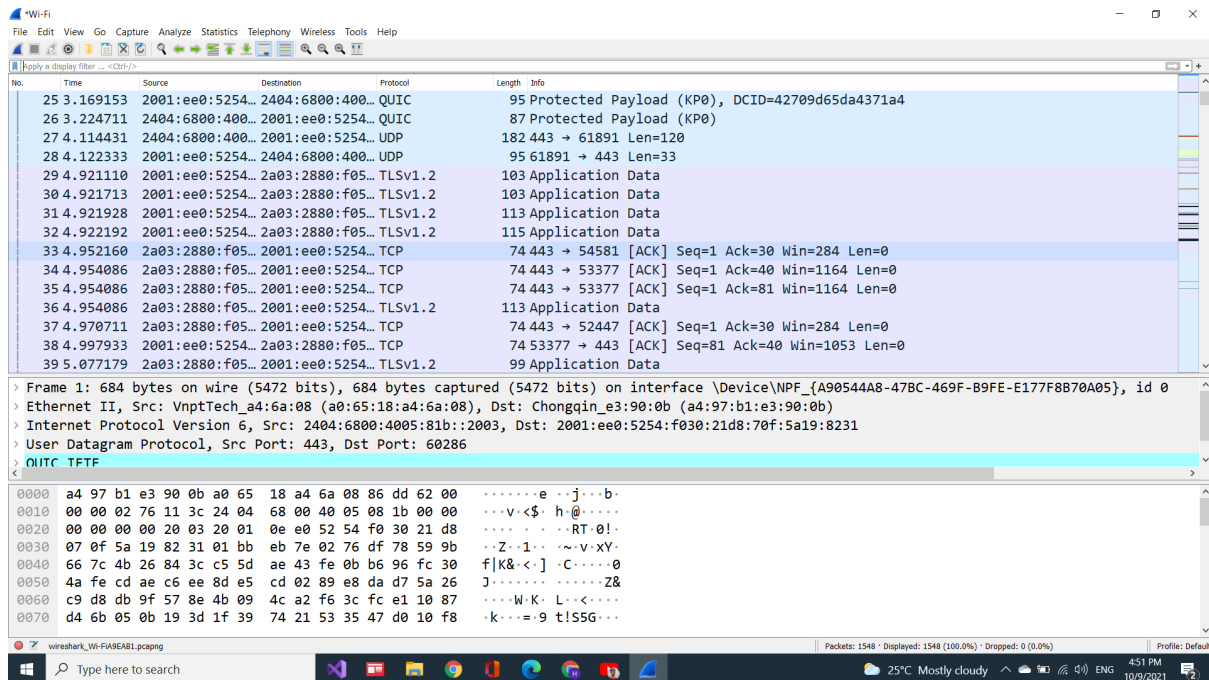
### What to hand in



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

### Answer:

- ★ HTTP
- ★ QUIC
- ★ UDP
- ★ TLSv1.2
- ★ TCP
- ★ DNS
- ★ MDNS



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 packetlisting 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.)

### Answer:

Arrival time of GET /wireshark-labs/INTRO-wireshark-file1.html HTTP/1.1 : Oct 9, 2021 16:47:01.830105000 SE Asia Standard Time

```

Frame 143: 530 bytes on wire (4240 bits), 530 bytes captured (4240 bits) on interface \Device\NPF_{A90...
  Interface id: 0 (\Device\NPF_{A90544A8-47BC-469F-B9FE-E177F8B70A05})
  Encapsulation type: Ethernet (1)
  Arrival Time: Oct 9, 2021 16:47:01.327058000 SE Asia Standard Time
  [Time shift for this packet: 0.000000000 seconds]
  Epoch Time: 1633772821.327058000 seconds
  [Time delta from previous captured frame: 0.000152000 seconds]
  [Time delta from previous displayed frame: 0.000000000 seconds]
  [Time since reference or first frame: 14.759590000 seconds]

```

Arrival time of HTTP/1.1 200 OK (text/html): Oct 9, 2021 16:47:01.830105000 SE Asia Standard Time.

```

Frame 149: 492 bytes on wire (3936 bits), 492 bytes captured (3936 bits) on interface \Device\NPF_{A9054...
  Interface id: 0 (\Device\NPF_{A90544A8-47BC-469F-B9FE-E177F8B70A05})
  Encapsulation type: Ethernet (1)
  Arrival Time: Oct 9, 2021 16:47:01.830105000 SE Asia Standard Time
  [Time shift for this packet: 0.000000000 seconds]
  Epoch Time: 1633772821.830105000 seconds
  [Time delta from previous captured frame: 0.000244000 seconds]
  [Time delta from previous displayed frame: 0.503047000 seconds]
  [Time since reference or first frame: 15.262637000 seconds]

```

=> The difference between 2 times: .830105000 - .830105000 ~ 0 seconds.

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

**Answer:**

Address of gaia.cs.umass.edu: 128.119.245.12

My computer's address: 192.168.1.5

No.	Time	Source	Destination	Protocol	Length	Info
...	14.75...	192.168.1.5	128.119.245.12	HTTP	5...	GET /wireshark-labs/INTRO-wireshark-file1.html
...	15.26...	128.119.245.12	192.168.1.5	HTTP	4...	HTTP/1.1 200 OK (text/html)
...	15.49...	192.168.1.5	128.119.245.12	HTTP	4...	GET /favicon.ico HTTP/1.1
...	15.76...	128.119.245.12	192.168.1.5	HTTP	5...	HTTP/1.1 404 Not Found (text/html)

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.

**Answer:**

No. Time Source Destination Protocol Length Info

143 14.759590 192.168.1.5 128.119.245.12 HTTP 530 GET

/wireshark-labs/INTRO-wireshark-file1.html HTTP/1.1

Frame 143: 530 bytes on wire (4240 bits), 530 bytes captured (4240 bits) on

interface \Device\NPF\_{A90544A8-47BC-469F-B9FE-E177F8B70A05}, id 0

Interface id: 0 (\Device\NPF\_{A90544A8-47BC-469F-B9FE-E177F8B70A05})

Encapsulation type: Ethernet (1)

Arrival Time: Oct 9, 2021 16:47:01.327058000 SE Asia Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1633772821.327058000 seconds

[Time delta from previous captured frame: 0.000152000 seconds]

[Time delta from previous displayed frame: 0.000000000 seconds]

[Time since reference or first frame: 14.759590000 seconds]

Frame Number: 143

Frame Length: 530 bytes (4240 bits)

Capture Length: 530 bytes (4240 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:tcp:http]

[Coloring Rule Name: HTTP]

[Coloring Rule String: http || tcp.port == 80 || http2]

Ethernet II, Src: Chongqin\_e3:90:0b (a4:97:b1:e3:90:0b), Dst: VnptTech\_a4:6a:08

(a0:65:18:a4:6a:08)

Internet Protocol Version 4, Src: 192.168.1.5, Dst: 128.119.245.12

Transmission Control Protocol, Src Port: 51371, Dst Port: 80, Seq: 1, Ack: 1, Len: 476

Hypertext Transfer Protocol

No. Time Source Destination Protocol Length Info

149 15.262637 128.119.245.12 192.168.1.5 HTTP 492 HTTP/1.1 200 OK (text/html)

Frame 149: 492 bytes on wire (3936 bits), 492 bytes captured (3936 bits) on interface \Device\NPF\_{A90544A8-47BC-469F-B9FE-E177F8B70A05}, id 0

Interface id: 0 (\Device\NPF\_{A90544A8-47BC-469F-B9FE-E177F8B70A05})

Encapsulation type: Ethernet (1)

Arrival Time: Oct 9, 2021 16:47:01.830105000 SE Asia Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1633772821.830105000 seconds

[Time delta from previous captured frame: 0.000244000 seconds]

[Time delta from previous displayed frame: 0.503047000 seconds]

[Time since reference or first frame: 15.262637000 seconds]

Frame Number: 149

Frame Length: 492 bytes (3936 bits)

Capture Length: 492 bytes (3936 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:tcp:http:data-text-lines]

[Coloring Rule Name: HTTP]

[Coloring Rule String: http || tcp.port == 80 || http2]

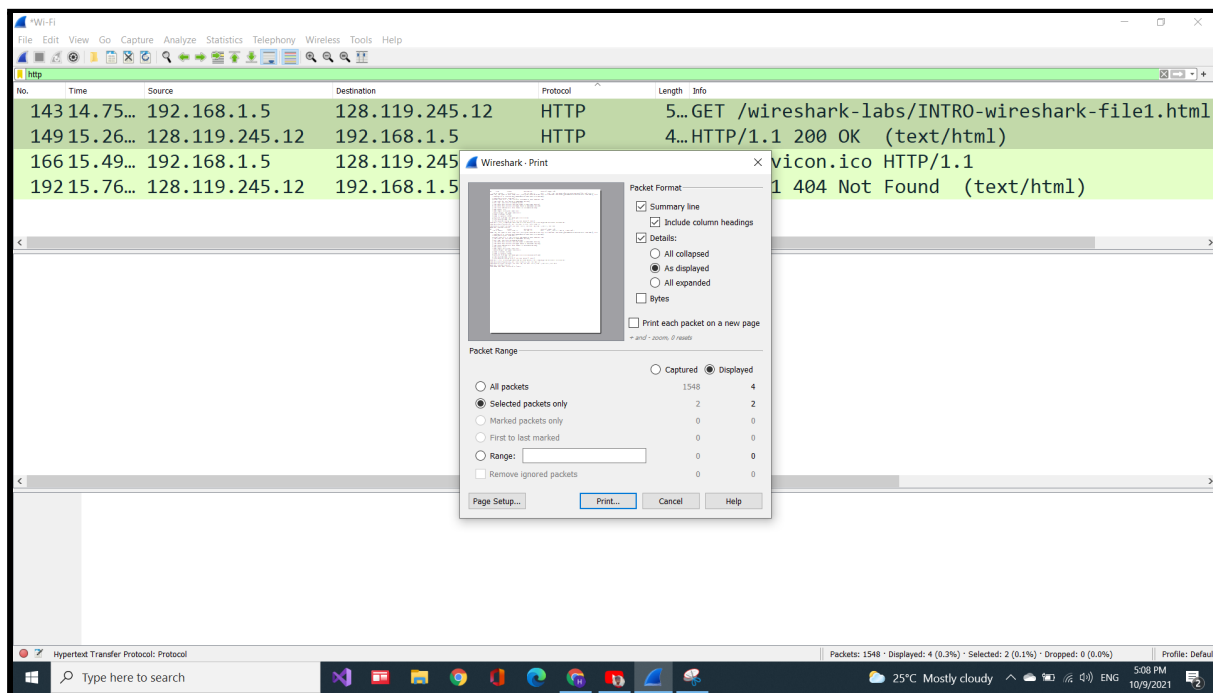
Ethernet II, Src: VnptTech\_a4:6a:08 (a0:65:18:a4:6a:08), Dst: Chongqin\_e3:90:0b (a4:97:b1:e3:90:0b)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.5

Transmission Control Protocol, Src Port: 80, Dst Port: 51371, Seq: 1, Ack: 477, Len: 438

Hypertext Transfer Protocol

Line-based text data: text/html (3 lines)



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No.    Time           Source            Destination      Protocol Length Info
143 14.759590      192.168.1.5       128.119.245.12   HTTP             530    GET /wireshark-labs/INTRO-wireshark-file1.html HTTP/1.1
Frame 143: 530 bytes on wire (4240 bits), 530 bytes captured (4240 bits) on interface \Device\NPF_{A90544A8-47BC-469F-B9FE-E177F8B70A05}, id 0
Interface id: 0 (\Device\NPF_{A90544A8-47BC-469F-B9FE-E177F8B70A05})
Encapsulation type: Ethernet (1)
Arrival Time: Oct 9, 2021 16:47:01.327058000 SE Asia Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1633772821.327058000 seconds
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Frame Number: 143
Frame Length: 530 bytes (4240 bits)
Capture Length: 530 bytes (4240 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp:http]
[Coloring Rule Name: HTTP]
[Coloring Rule String: http || tcp.port == 80 || http2]
Ethernet II, Src: Chongqin_e3:90:0b (a4:97:b1:e3:90:0b), Dst: VnptTech_a4:6a:08 (a0:65:18:a4:6a:08)
Internet Protocol Version 4, Src: 192.168.1.5, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 51371, Dst Port: 80, Seq: 1, Ack: 1, Len: 476
Hypertext Transfer Protocol
No.    Time           Source            Destination      Protocol Length Info
149 15.262637      128.119.245.12    192.168.1.5     HTTP             492    HTTP/1.1 200 OK (text/html)
Frame 149: 492 bytes on wire (3936 bits), 492 bytes captured (3936 bits) on interface \Device\NPF_{A90544A8-47BC-469F-B9FE-E177F8B70A05}, id 0
Interface id: 0 (\Device\NPF_{A90544A8-47BC-469F-B9FE-E177F8B70A05})
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[Time since reference or first frame: 15.262637000 seconds]
Frame Number: 149
Frame Length: 492 bytes (3936 bits)
Capture Length: 492 bytes (3936 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:tcp:http:data-text-lines]
[Coloring Rule Name: HTTP]
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Ethernet II, Src: VnptTech_a4:6a:08 (a0:65:18:a4:6a:08), Dst: Chongqin_e3:90:0b (a4:97:b1:e3:90:0b)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.5
Transmission Control Protocol, Src Port: 80, Dst Port: 51371, Seq: 1, Ack: 477, Len: 438
Hypertext Transfer Protocol
Line-based text data: text/html (3 lines)

```