

MIDSEM LAB

NAME - DEV GOEL

ID - 2019A7PS0236G

Q1 -

All steps can be seen in the screenshots below:

```
goeldev@DESKTOP-IRT9VRS:/mnt/c/Users/goeld/Desktop/Bits Stuff/3-2/CN/LAB/Lab-M
idsem$ ./server 4444

goeldev@DESKTOP-IRT9VRS:/mnt/c/Users/goeld/Desktop/Bits Stuff/3-2/CN/LAB/Lab-M
idsem$ ./client 127.0.0.1 4444
```

```
519-331;
343-724;
594+594;
650-356;
464-694;
377/348;
595-438;
848-574;
49+329;
217/288;
Found - 359+319;
Answer = 718goeldev@DESKTOP-IRT9VRS:/mnt/c/Users/goeld/Desktop/Bits Stuff/3-2/
CN/LAB/Lab-Midsem$

goeldev@DESKTOP-IRT9VRS:/mnt/c/Users/goeld/Desktop/Bits Stuff/3-2/CN/LAB/Lab-M
idsem$ ./client 127.0.0.1 4444
Connected to Server -> 127.0.0.1, at Port -> 4444
31120190236
Answer = 718
goeldev@DESKTOP-IRT9VRS:/mnt/c/Users/goeld/Desktop/Bits Stuff/3-2/CN/LAB/Lab-M
idsem$
```

Q2 -

1.

No.	Date and Time	Source	Source Port	Destination	Destination Port	Protocol	Length	Info
32	2022-03-05 11:08:32	10.0.2.15	47752	34.107.221.82	80	HTTP	355	GET /canonical.html HTTP/1.1
55	2022-03-05 11:08:33	10.0.2.15	47754	34.107.221.82	80	HTTP	357	GET /success.txt?ipv4 HTTP/1.1
104	2022-03-05 11:08:33	10.0.2.15	37550	104.115.39.72	80	OCSP	477	Request
256	2022-03-05 11:08:34	10.0.2.15	37550	104.115.39.72	80	OCSP	477	Request
277	2022-03-05 11:08:34	10.0.2.15	44234	117.18.237.29	80	OCSP	478	Request
293	2022-03-05 11:08:34	10.0.2.15	37550	104.115.39.72	80	OCSP	477	Request
518	2022-03-05 11:08:36	10.0.2.15	44234	117.18.237.29	80	OCSP	478	Request
914	2022-03-05 11:08:39	10.0.2.15	50516	172.217.174.67	80	OCSP	481	Request
1032	2022-03-05 11:08:39	10.0.2.15	50516	172.217.174.67	80	OCSP	480	Request
1131	2022-03-05 11:08:40	10.0.2.15	43682	35.224.170.84	80	HTTP	143	GET / HTTP/1.1
1177	2022-03-05 11:08:41	10.0.2.15	50516	172.217.174.67	80	OCSP	480	Request
1784	2022-03-05 11:08:56	10.0.2.15	46674	3.33.152.147	80	HTTP	405	GET / HTTP/1.1
1825	2022-03-05 11:08:57	10.0.2.15	46674	3.33.152.147	80	HTTP	364	GET /favicon.ico HTTP/1.1
2180	2022-03-05 11:09:04	10.0.2.15	50518	172.217.174.67	80	OCSP	480	Request
2313	2022-03-05 11:09:07	10.0.2.15	50516	172.217.174.67	80	OCSP	481	Request
3305	2022-03-05 11:09:11	10.0.2.15	50516	172.217.174.67	80	OCSP	481	Request
4007	2022-03-05 11:09:13	10.0.2.15	50522	172.217.174.67	80	OCSP	480	Request
4026	2022-03-05 11:09:17	10.0.2.15	44238	117.18.237.29	80	OCSP	478	Request
5080	2022-03-05 11:09:18	10.0.2.15	44234	117.18.237.29	80	OCSP	478	Request

> Frame 3305: 481 bytes on wire (3848 bits), 481 bytes captured (3848 bits) on interface any, id 0

> Linux cooked capture v1

> Internet Protocol Version 4, Src: 10.0.2.15, Dst: 172.217.174.67

> Transmission Control Protocol, Src Port: 50516, Dst Port: 80, Seq: 1699, Ack: 3143, Len: 425

> Hypertext Transfer Protocol

> Online Certificate Status Protocol

Mid Sem.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http.request

No.	Date and Time	Source	Source Port	Destination
32	2022-03-05 11:08:32	10.0.2.15	47752	34.107.221.82
55	2022-03-05 11:08:33	10.0.2.15	47754	34.107.221.82
104	2022-03-05 11:08:33	10.0.2.15	37550	104.115.39.72
256	2022-03-05 11:08:34	10.0.2.15	37550	104.115.39.72
277	2022-03-05 11:08:34	10.0.2.15	44234	117.18.237.29
293	2022-03-05 11:08:34	10.0.2.15	37550	104.115.39.72
518	2022-03-05 11:08:36	10.0.2.15	44234	117.18.237.29
914	2022-03-05 11:08:39	10.0.2.15	50516	172.217.174.67
1032	2022-03-05 11:08:39	10.0.2.15	50516	172.217.174.67
1131	2022-03-05 11:08:40	10.0.2.15	43682	35.224.170.84
1177	2022-03-05 11:08:41	10.0.2.15	50516	172.217.174.67
1784	2022-03-05 11:08:56	10.0.2.15	46674	3.33.152.147
1825	2022-03-05 11:08:57	10.0.2.15	46674	3.33.152.147
2180	2022-03-05 11:09:04	10.0.2.15	50518	172.217.174.67
2313	2022-03-05 11:09:07	10.0.2.15	50516	172.217.174.67

Unexpected end of filter string.

Packets: 5544 · Displayed: 19 (0.3%) Profile: Default

2.

Mid Sem.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http.response

No.	Date and Time	Source	Source Port	Destination
34	2022-03-05 11:08:33	34.107.221.82	80	10.0.2.15
61	2022-03-05 11:08:33	34.107.221.82	80	10.0.2.15
121	2022-03-05 11:08:33	104.115.39.72	80	10.0.2.15
266	2022-03-05 11:08:34	104.115.39.72	80	10.0.2.15
307	2022-03-05 11:08:34	117.18.237.29	80	10.0.2.15
309	2022-03-05 11:08:34	104.115.39.72	80	10.0.2.15
520	2022-03-05 11:08:36	117.18.237.29	80	10.0.2.15
951	2022-03-05 11:08:39	172.217.174.67	80	10.0.2.15
1054	2022-03-05 11:08:40	172.217.174.67	80	10.0.2.15
1191	2022-03-05 11:08:41	172.217.174.67	80	10.0.2.15
1230	2022-03-05 11:08:41	35.224.170.84	80	10.0.2.15
1798	2022-03-05 11:08:56	3.33.152.147	80	10.0.2.15
2182	2022-03-05 11:09:04	172.217.174.67	80	10.0.2.15
2364	2022-03-05 11:09:07	172.217.174.67	80	10.0.2.15
3327	2022-03-05 11:09:11	172.217.174.67	80	10.0.2.15

Response: Boolean

Packets: 5544 · Displayed: 18 (0.3%) Profile: Default

3.

http contains sougata-sen					
No.	Date and Time	Source	Source Port	Destination	
1784	2022-03-05 11:08:56	10.0.2.15	46674	3.33.152.147	8
1798	2022-03-05 11:08:56	3.33.152.147	80	10.0.2.15	4
1825	2022-03-05 11:08:57	10.0.2.15	46674	3.33.152.147	8
< >					
> Frame 1798: 730 bytes on wire (5840 bits), 730 bytes captured (5840 bits) on interface any, id 0					
> Linux cooked capture v1					
> Internet Protocol Version 4, Src: 3.33.152.147, Dst: 10.0.2.15					
> Transmission Control Protocol, Src Port: 80, Dst Port: 46674, Seq: 1, Ack: 350, Len: 674					
> Hypertext Transfer Protocol					
> Line-based text data: text/html (11 lines)					

4. Go to Column Preferences -> Add the required columns. The steps are shown in the screenshots below:

Mid Sem.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/>

No.	Date and Time	Protocol	Length	Info
1	2022-03-05 11:08:08	UDP	45	33948 → 33948 Len=1
2	2022-03-05 11:08:08	UDP	65	47041 → 47041 Len=1
3	2022-03-05 11:08:08	DNS	84	Standard query 0x14f
4	2022-03-05 11:08:08	DNS	72	Standard query 0xc4e
5	2022-03-05 11:08:08	DNS	328	Standard query respo
6	2022-03-05 11:08:08	DNS	283	Standard query respo
7	2022-03-05 11:08:24	DNS	102	Standard query 0x4d6
8	2022-03-05 11:08:24	DNS	163	Standard query respo
9	2022-03-05 11:08:24	DNS	102	Standard query 0x71b
10	2022-03-05 11:08:24	DNS	102	Standard query 0x30a
11	2022-03-05 11:08:24	DNS	163	Standard query respo
12	2022-03-05 11:08:24	DNS	102	Standard query respo
13	2022-03-05 11:08:24	DNS	117	Standard query 0x98d
14	2022-03-05 11:08:24	DNS	117	Standard query 0x6e5
15	2022-03-05 11:08:24	DNS	186	Standard query respo
16	2022-03-05 11:08:24	DNS	106	Standard query 0x6e5
17	2022-03-05 11:08:24	DNS	175	Standard query respo

Frame 1: 45 bytes on wire (360 bits)
 Linux cooked capture v1
 Internet Protocol Version 4, Src: 192.168.1.100, Dst: 192.168.1.1
 User Datagram Protocol, Src Port: 33948, Dst Port: 33948
 Data (1 byte)

0000 00 00 03 04 00 06 00 00 00 00 00 00 08 00
 0010 45 b8 00 1d 2c 55 40 00 40 11 0f c1 7f 00 00 01 E...U@. @...
 0020 7f 00 00 01 84 9c 84 9c 00 09 fe 1c 00
 0030

Align Left
 Align Center
 Align Right
 Column Preferences...
 Edit Column
 Resize to Contents
 Resize Column to Width...
 Resolve Names

☒ No. Number
☒ Date and Time UTC date, as YYYY-MM-DD, and time
☒ Time Time (format as specified)
☒ Source Source address
☒ Source Port Src port (unresolved)
☒ Destination Destination address
☒ Destination Port Dest port (unresolved)
☒ HTTP Host
☒ Protocol Protocol
☒ Length Packet length (bytes)
☒ HTTP Host http.host
☒ HTTPS Server tls.handshake.extensions_server_name
☒ Info Information
 Remove this Column

Wireshark - Preferences

Appearance

Columns

Font and Colors

Layout

Capture

Expert

Filter Buttons

Name Resolution

Protocols

RSA Keys

Statistics

Advanced

Displayed	Title	Type	Fields	Field Occurrence
<input checked="" type="checkbox"/>	No.	Number		
<input checked="" type="checkbox"/>	Date and Time	UTC date, as YYYY-MM-DD, and time		
<input checked="" type="checkbox"/>	Source	Source address		
<input checked="" type="checkbox"/>	Destination	Destination address		
<input checked="" type="checkbox"/>	Protocol	Protocol		
<input checked="" type="checkbox"/>	Length	Packet length (bytes)		
<input checked="" type="checkbox"/>	Info	Information		

+ - ☒ Show displayed columns only

OK Cancel Help

▼ Appearance

Columns

Font and Colors

Layout

Capture

Expert

Filter Buttons

Name Resolution

> Protocols

RSA Keys

> Statistics

Advanced

Displayed	Title	Type	Fields	Field Occurrence
<input checked="" type="checkbox"/>	No.	Number		
<input checked="" type="checkbox"/>	Date and Time	UTC date, as YYYY-MM-DD, and time		
<input checked="" type="checkbox"/>	Source	Source address		
<input checked="" type="checkbox"/>	Destination	Destination address		
<input checked="" type="checkbox"/>	Protocol	Protocol		
<input checked="" type="checkbox"/>	Length	Packet length (bytes)		
<input checked="" type="checkbox"/>	Info	Information		
<input checked="" type="checkbox"/>	New Column	Number		

< >

+

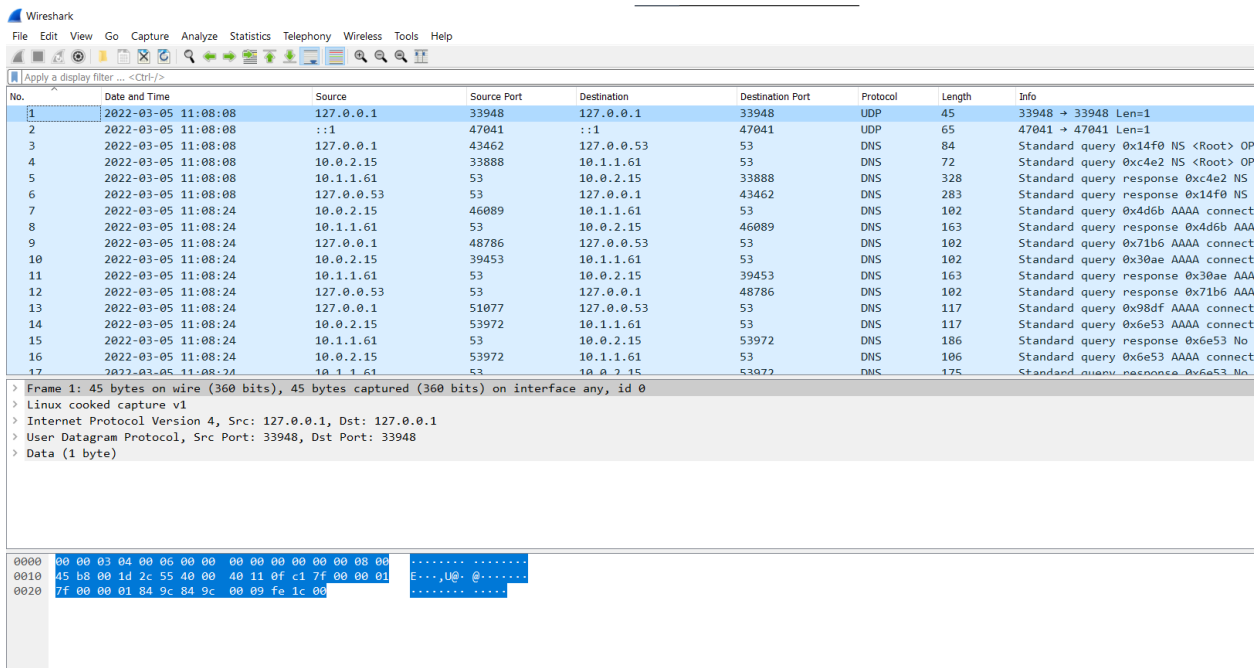
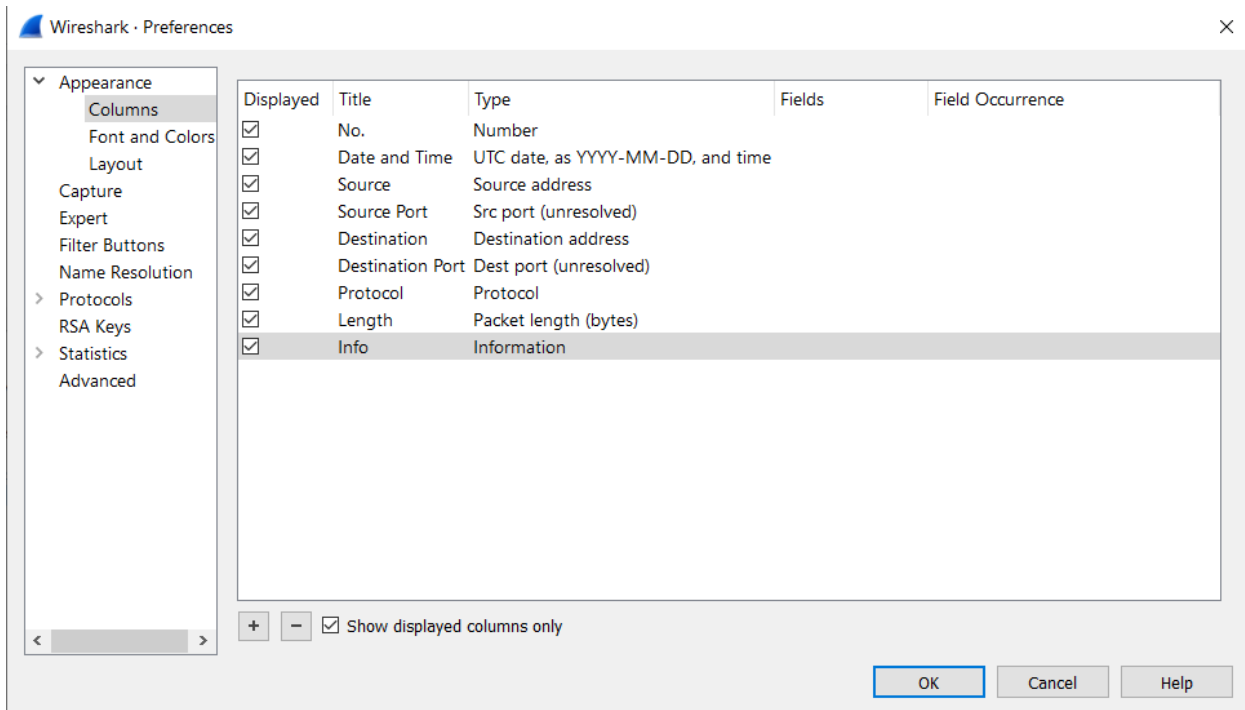
-

☒ Show displayed columns only

OK

Cancel

Help



5.

6.

tcp contains sougata-sen								
No.	Time	Source	Destination	Source Port	Destination Port	Protocol	Length	Info
1784	0.000	10.0.2.15	3.33.152.147	46674	80	HTTP	405	GET / HTTP/1.1
1798	0.543	3.33.152.147	10.0.2.15	80	46674	HTTP	730	HTTP/1.1 200 OK (text/html)
1825	0.337	10.0.2.15	3.33.152.147	46674	80	HTTP	364	GET /favicon.ico HTTP/1.1

Internet Protocol Version 4, Src: 3.33.152.147, Dst: 10.0.2.15

Transmission Control Protocol, Src Port: 80, Dst Port: 46674, Seq: 1, Ack: 350, Len: 674

Source Port: 80

Destination Port: 46674

[Stream index: 57]

[Conversation completeness: Complete, WITH_DATA (63)]

[TCP Segment Len: 674]

Sequence Number: 1 (relative sequence number)

Sequence Number (raw): 2536200706

[Next Sequence Number: 675 (relative sequence number)]

Acknowledgment Number: 350 (relative ack number)

Acknowledgment number (raw): 717666427

0101 = Header Length: 20 bytes (5)

Flags: 0x018 (PSH, ACK)

Window: 65535

[Calculated window size: 65535]

[Window size scaling factor: -2 (no window scaling used)]

Checksum: 0x247b [unverified]

[Checksum Status: Unverified]

Unsent Data: 0