Wireshark Challenge [Activity]

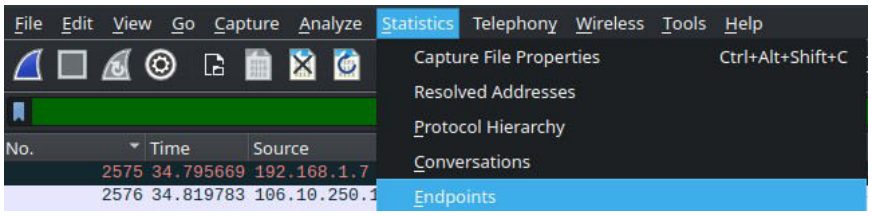
PCAP 1

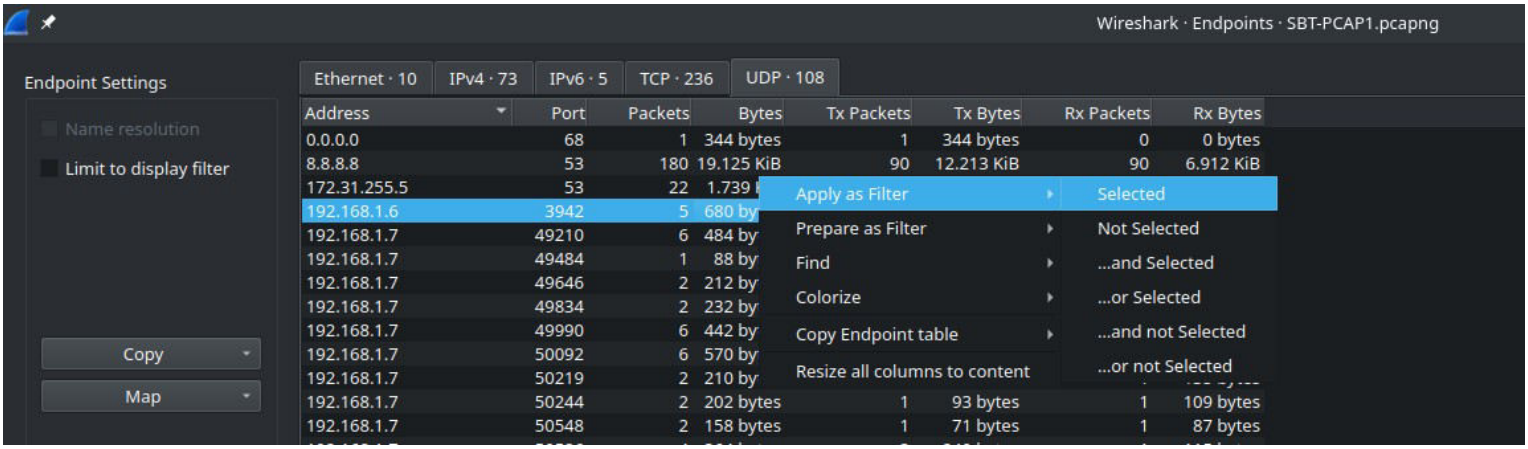
1.Which protocol was used over port 3942?

Check for the port number using the display filter. Apply the filter 'tcp.port==3942' and check if any packet with the desired port number is displayed. If not then apply the filter 'udp.port==3942' to get the desired packet. No packets will be displayed on the packet list menu for the filter 'tcp.port==3942' but for the filter 'udp.port==3942', the following packets in your packet list menu.

And here we finally go the service which is SSDP running on port 3942.

Another way is that choose endpoints property from the statistics properties. Click the UDP tab, find the packet with port number 3942 and right click on the packet, choose the apply as filter option and then click 'selected' option. After this procedure you will the get above packets in your packet list.





2.What is the IP address of the host that was pinged twice?

Asked to find the IP address that was pinged twice, so try using the display filter here . Search 'ICMP' in the display filter. Tried using ICMP here because ping operates because ping operates by means of Internet Control Message Protocol protocol. Pinging involves sending an ICMP echo request to the target host and waiting for an ICMP echo reply.

192.168.1.7 pinged 8.8.8.8 twice but the destination was unreachable. 192.168.1.7 pinged 8.8.4.4 twice and it was successful. So the final answer will be 8.8.4.4.

icmp

No.	Time	Source	Destination	Protocol	Length	Transmission Control Protocol	Checksum	Info
127	4.331987	192.168.1.7	8.8.8.8	ICMP	70			Destination unreachable (Port unreachable)
128	4.331987	192.168.1.7	8.8.8.8	ICMP	70			Destination unreachable (Port unreachable)
1632	22.769823	192.168.1.7	8.8.4.4	ICMP	98			Echo (ping) request id=0x4728, seq=0/0, t
1665	23.353519	8.8.4.4	192.168.1.7	ICMP	98			Echo (ping) reply id=0x4728, seq=0/0, t
1671	23.774920	192.168.1.7	8.8.4.4	ICMP	98			Echo (ping) request id=0x4728, seq=1/256,
1708	24.477631	8.8.4.4	192.168.1.7	ICMP	98			Echo (ping) reply id=0x4728, seq=1/256,

3.How many DNS query response packets were captured?

Search for DNS in the display filter and many packets will be displayed. It will contain standard query packets as well as standard query response packets in the packet list. We want only the DNS query response packets that was captured. Double left click on the info of a standard query response packet and under the flags domain right click and message as response and select the apply as filter property and choose the selected option from drop down menu. Now all standard query response packets will be displayed. Total packets displayed in the packets list window can be seen in bottom right corner. By following the above steps, the number of response packets is. 90.

dns

No.	Time	Source	Destination	Protocol	Length	Transmission Control Protocol	Checksum	Info
48	1.549630	192.168.1.7	8.8.8.8	DNS	79			Standard query 0xf7e1 A
49	1.551206	192.168.1.7	8.8.8.8	DNS	87			Standard query 0xde4e A
50	1.584401	8.8.8.8	192.168.1.7	DNS	119			Standard query response
51	1.585019	8.8.8.8	192.168.1.7	DNS	103			Standard query response

Wireshark · Packet 51 · SBT-PCAP1.pcapng

```
▸ Frame 51: 103 bytes on wire (824 bits), 103 bytes captured (824 bits) on interface en0, id 0
▸ Ethernet II, Src: Netcomm_8f:82:2b (00:60:64:8f:82:2b), Dst: Apple_93:ad:f0 (8c:85:90:93:ad:f0)
▸ Internet Protocol Version 4, Src: 8.8.8.8, Dst: 192.168.1.7
▸ User Datagram Protocol, Src Port: 53, Dst Port: 59263
▾ Domain Name System (response)
    Transaction ID: 0xde4e
  ▾ Flags: 0x8180 Standard query response, No error
      1... .... .... .... = Response: Message
      .000 0... .... .... = Opcode: Standard c
      .... .0.. .... .... = Authoritative: Ser
      .... ..0. .... .... = Truncated: Message
      .... ...1 .... .... = Recursion desired:
      .... .... 1... .... = Recursion availabl
      .... .... .0.. .... = Z: reserved (0)
      .... .... ..0. .... = Answer authenticat
      .... .... ...0 .... = Non-authenticated
      .... .... .... 0000 = Reply code: No err
    Questions: 1
    Answer RRs: 1
    Authority RRs: 0
    Additional RRs: 0

0000  8c 85 90 93 ad f0 00 60  64 8f 82 2b 08 0
0010  00 59 c0 30 00 00 7a 11  ae a4 08 08 08 0
0020  01 07 00 35 e7 7f 00 45  32 88 de 4e 81 8
0030  00 01 00 00 00 00 0b 61  70 69 2d 67 6c 6
0040  79 64 05 73 6d 6f 6f 74  05 61 70 70 6c 65 03 63   yd·smoot ·appl
0050  6f 6d 00 00 01 00 01 c0  0c 00 01 00 01 00 00 00   om····· ........
0060  b8 00 04 11 fc f9 f6                                ·******
```

for domain

ve queries

Expand Subtrees
Collapse Subtrees
Expand All
Collapse All
Apply as Filter
Prepare as Filter
Copy
Wiki Protocol Page
Filter Field Reference
Protocol Preferences

Apply as Filter: dns.flags.response == 1
Selected
Not Selected
...and Selected
...or Selected
...and not Selected
...or not Selected

dns.flags.response == 1

No.	Time	Source	Destination	Protocol	Length	Transmission Cor
50	1.584401	8.8.8.8	192.168.1.7	DNS	119	
51	1.585019	8.8.8.8	192.168.1.7	DNS	103	
112	3.623665	8.8.8.8	192.168.1.7	DNS	161	
113	3.623669	8.8.8.8	192.168.1.7	DNS	90	
124	4.331934	8.8.8.8	192.168.1.7	DNS	90	
126	4.331938	8.8.8.8	192.168.1.7	DNS	161	
402	7.800223	8.8.8.8	192.168.1.7	DNS	184	
445	8.004306	8.8.8.8	192.168.1.7	DNS	136	
501	8.413789	8.8.8.8	192.168.1.7	DNS	91	
529	8.623308	8.8.8.8	192.168.1.7	DNS	139	
568	9.102607	8.8.8.8	192.168.1.7	DNS	128	
643	10.471314	8.8.8.8	192.168.1.7	DNS	171	

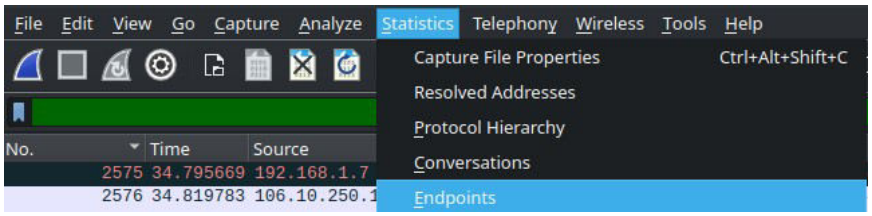
```
▸ Frame 51: 103 bytes on wire (824 bits), 103 bytes capt
▸ Ethernet II, Src: Netcomm_8f:82:2b (00:60:64:8f:82:2b)
▸ Internet Protocol Version 4, Src: 8.8.8.8, Dst: 192.16
▸ User Datagram Protocol, Src Port: 53, Dst Port: 59263
▾ Domain Name System (response)
    Transaction ID: 0xde4e
  ▾ Flags: 0x8180 Standard query response, No error
      1... .... .... .... = Response: Message is a resp
      .000 0... .... .... = Opcode: Standard query (0)
      .... .0.. .... .... = Authoritative: Server is nc
      .... ..0. .... .... = Truncated: Message is not t
      .... ...1 .... .... = Recursion desired: Do query
      .... .... 1... .... = Recursion available: Server
      .... .... .0.. .... = Z: reserved (0)
```

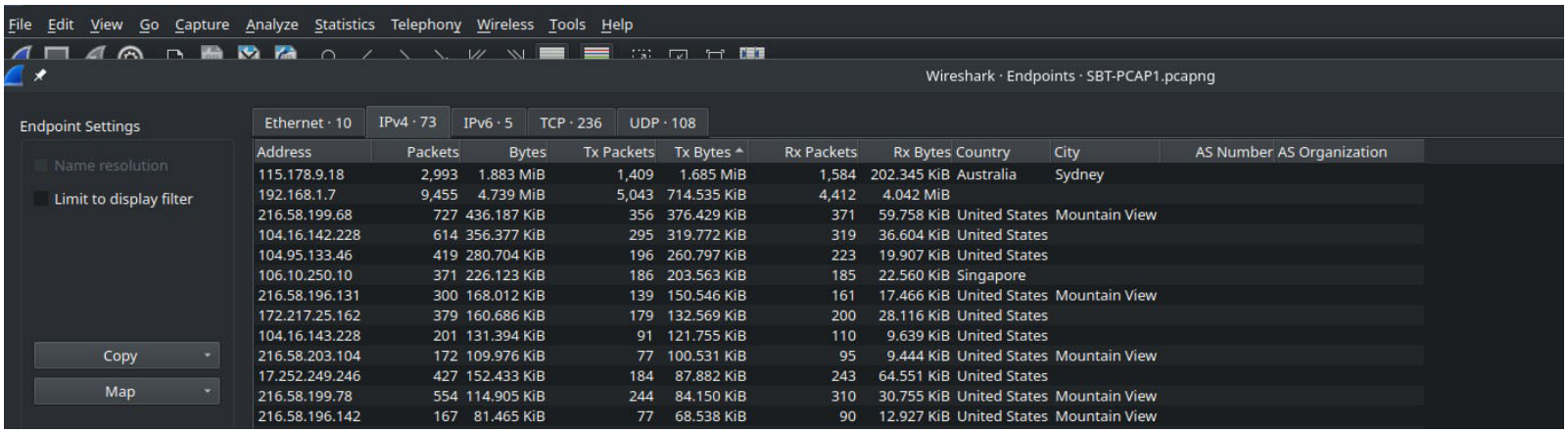
```
0000  8c 85 90 93 ad f0 00 60  64 8f 82 2b
0010  00 59 c0 30 00 00 7a 11  ae a4 08 08
0020  01 07 00 35 e7 7f 00 45  32 88 de 4e
0030  00 01 00 00 00 00 0b 61  70 69 2d 67
0040  79 64 05 73 6d 6f 6f 74  05 61 70 70
0050  6f 6d 00 00 01 00 01 c0  0c 00 01 00
0060  b8 00 04 11 fc f9 f6
```

Is the message a response? (dns.flags.response), 2 bytes | Packets: 9515 · Displayed: 90 (0.9%) | Profile: Default

4.What is the IP address of the host which sent the most number of bytes?

Select the statistics tab from main menu and choose end point property of the statistics tab. Select IPV4 address tab from the pop up window (I chose IPv4 since the format is of a IPv4 address). Double click on the Txbytes column header to sort it in descending order and the first ip address displayed will the answer. By following the above procedure we get 115.178.9.18.





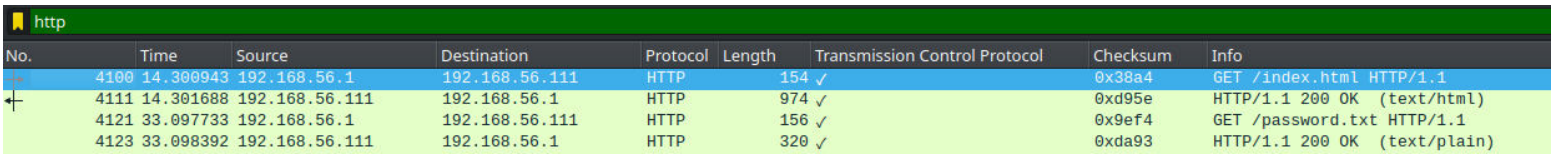
Address	Packets	Bytes	Tx Packets	Tx Bytes	Rx Packets	Rx Bytes	Country	City	AS Number	AS Organization
115.178.9.18	2,993	1.883 MiB	1,409	1.685 MiB	1,584	202.345 KiB	Australia	Sydney		
192.168.1.7	9,455	4.739 MiB	5,043	714.535 KiB	4,412	4.042 MiB				
216.58.199.68	727	436.187 KiB	356	376.429 KiB	371	59.758 KiB	United States	Mountain View		
104.16.142.228	614	356.377 KiB	295	319.772 KiB	319	36.604 KiB	United States			
104.95.133.46	419	280.704 KiB	196	260.797 KiB	223	19.907 KiB	United States			
106.10.250.10	371	226.123 KiB	186	203.563 KiB	185	22.560 KiB	Singapore			
216.58.196.131	300	168.012 KiB	139	150.546 KiB	161	17.466 KiB	United States	Mountain View		
172.217.25.162	379	160.686 KiB	179	132.569 KiB	200	28.116 KiB	United States			
104.16.143.228	201	131.394 KiB	91	121.755 KiB	110	9.639 KiB	United States			
216.58.203.104	172	109.976 KiB	77	100.531 KiB	95	9.444 KiB	United States	Mountain View		
17.252.249.246	427	152.433 KiB	184	87.882 KiB	243	64.551 KiB	United States			
216.58.199.78	554	114.905 KiB	244	84.150 KiB	310	30.755 KiB	United States	Mountain View		
216.58.196.142	167	81.465 KiB	77	68.538 KiB	90	12.927 KiB	United States	Mountain View		

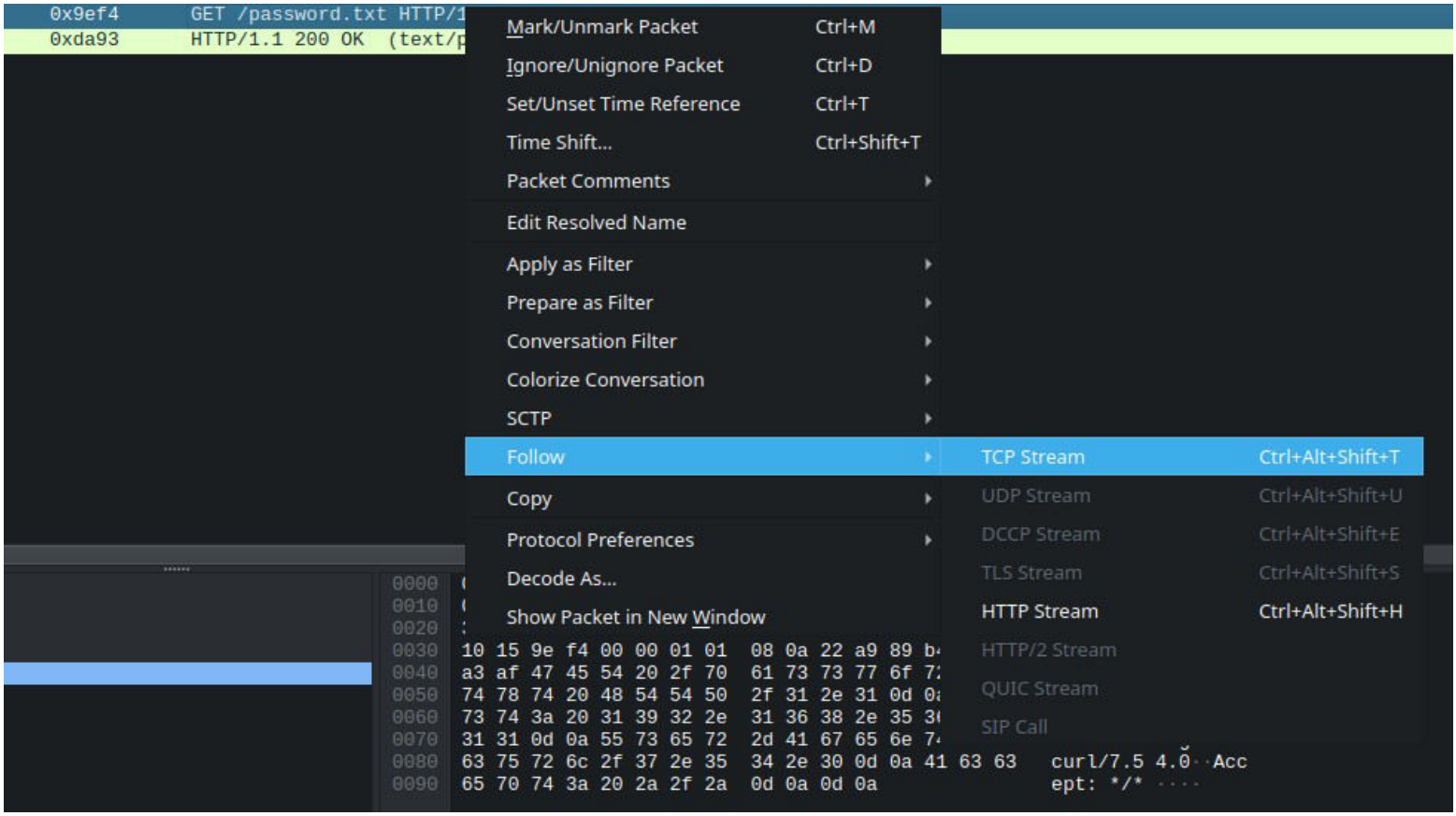
PCAP 2

1.What is the WebAdmin password?

To get the password, so start with searching http in the display filter. Four packets will be displayed in the packet display window. Read through the the info column of all the packets. There is a packet with get request for password.txt file. Then analyze the get request from the client and response from the server in human readable format. Now right click on the packet and select follow property and click tcp stream option to get the human readable format the conversation.

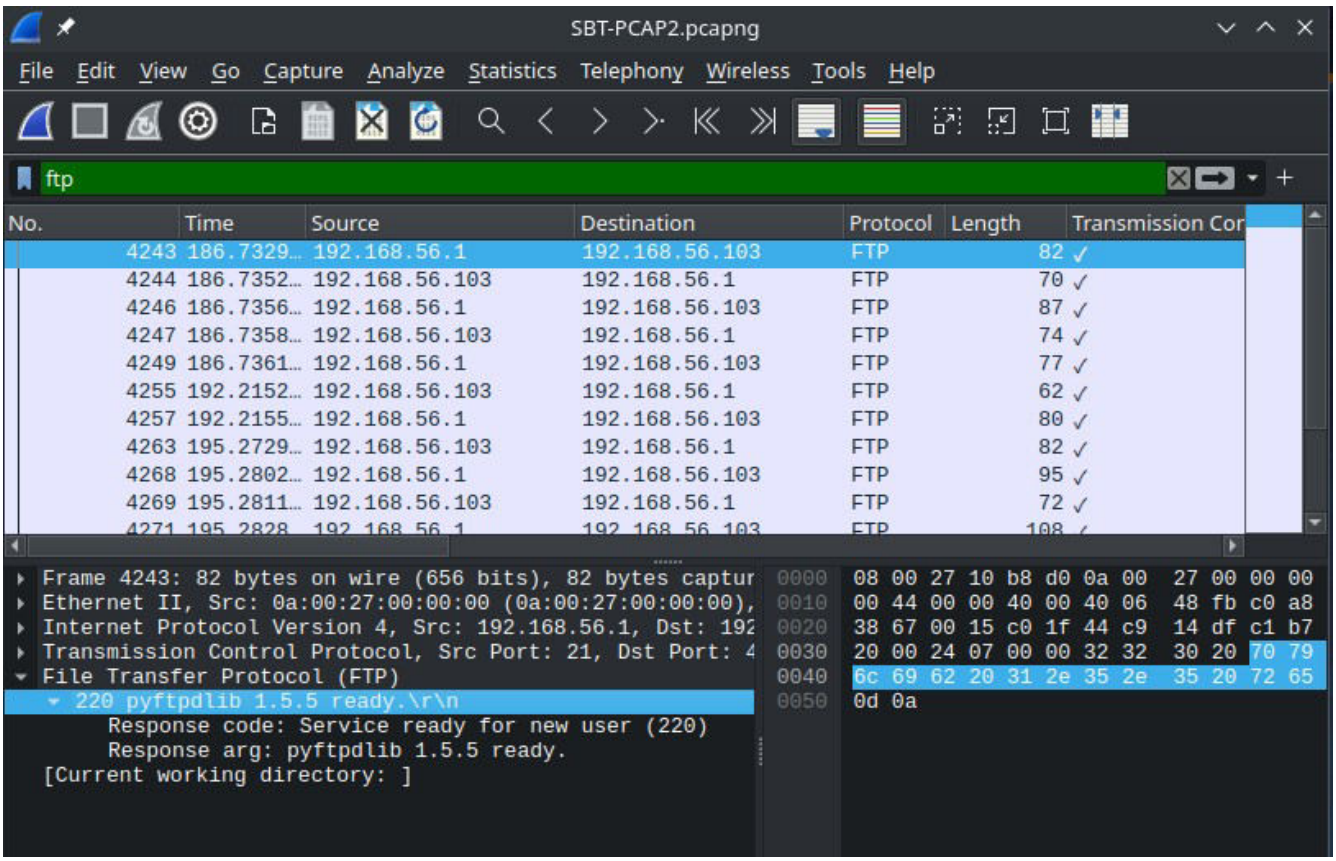
By following the above procedure we will the web admin password as sbt123.





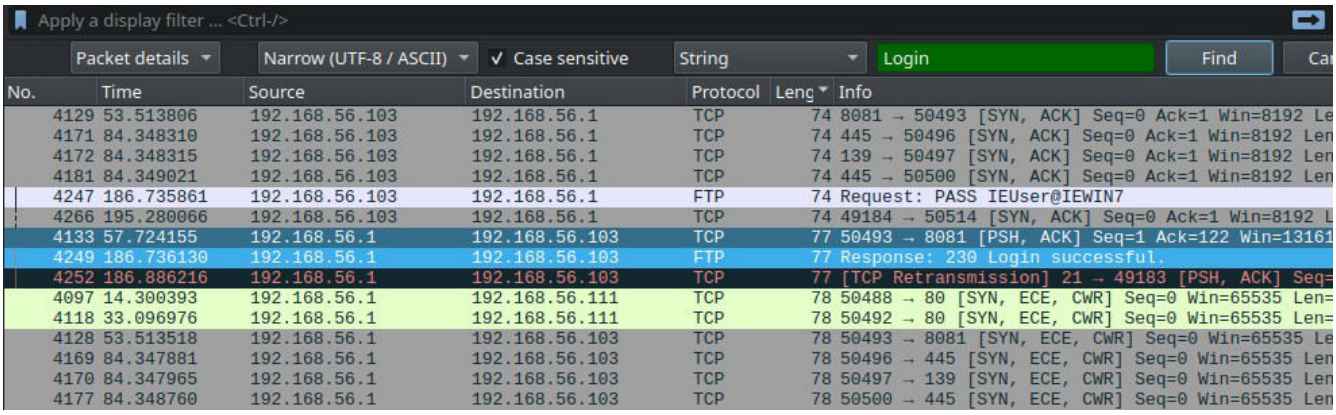
2.What is the version number of the attacker's FTP server?

Search ftp in the display filter and go to the file transfer protocol header in packet header window. There you will find the version of the ftp i.e. 1.5.5.

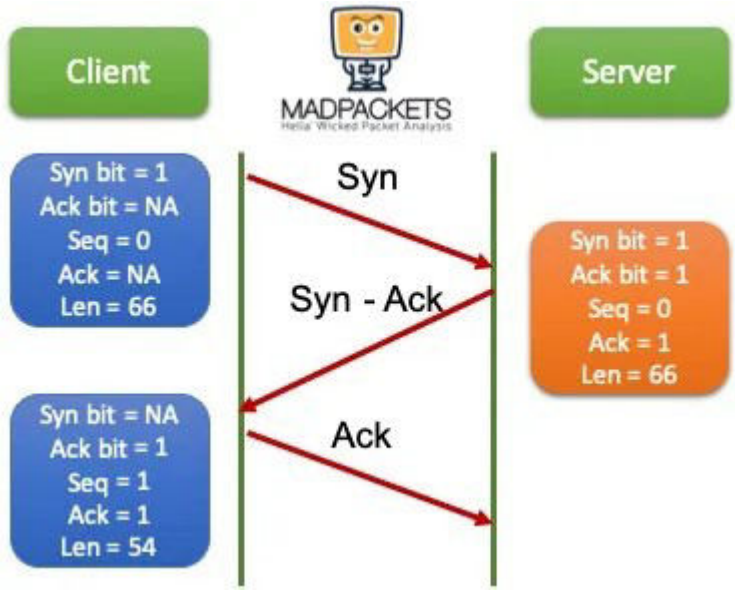


3. Which port was used to gain access to the victim Windows host?

Click the edit tab in top menu bar and choose find the packet option. Search for login in string mode.(If the hacker entered the network then he should have logged in successfully so searched login). See ACK packet before the login successful packet. Then found the port number 8081.



Note: To get a clear understanding of this question. Learn how the tcp protocol/three way handshake works.



4.What is the name of a confidential file on the Windows host?

Check out the packet with the port 8081 immediately above the login successful packet. Click the follow option and tcp stream. The pop-up window will display the name of the file. That is Employee_Information_CONFIDENTIAL.txt

```
09/16/2019  05:22 PM                 0 .lock
08/22/2019  04:59 AM            30,000 BOF.m3u
04/20/1997  03:43 PM             9,728 CODBCLog.dll
12/04/1995  02:08 PM            27,136 Ctl3d32.dll.nt
01/31/1996  01:28 PM            26,624 Ctl3d32.dll.Win95
08/20/2019  01:40 AM             1,041 Easy RM to MP3 Converter.lnk
08/22/2019  04:59 AM               107 EasyRM.py
02/08/2020  03:44 PM               379 Employee_Information_CONFIDENTIAL.txt
01/02/2018  05:21 PM               830 eula.lnk
```

5.What is the name of the log file that was created at 4:51 AM on the Windows host?

In the previous window itself, the name was displayed. The file name is LogFile.log

```
07/16/2019  04:51 AM               585 LogFile.log
```