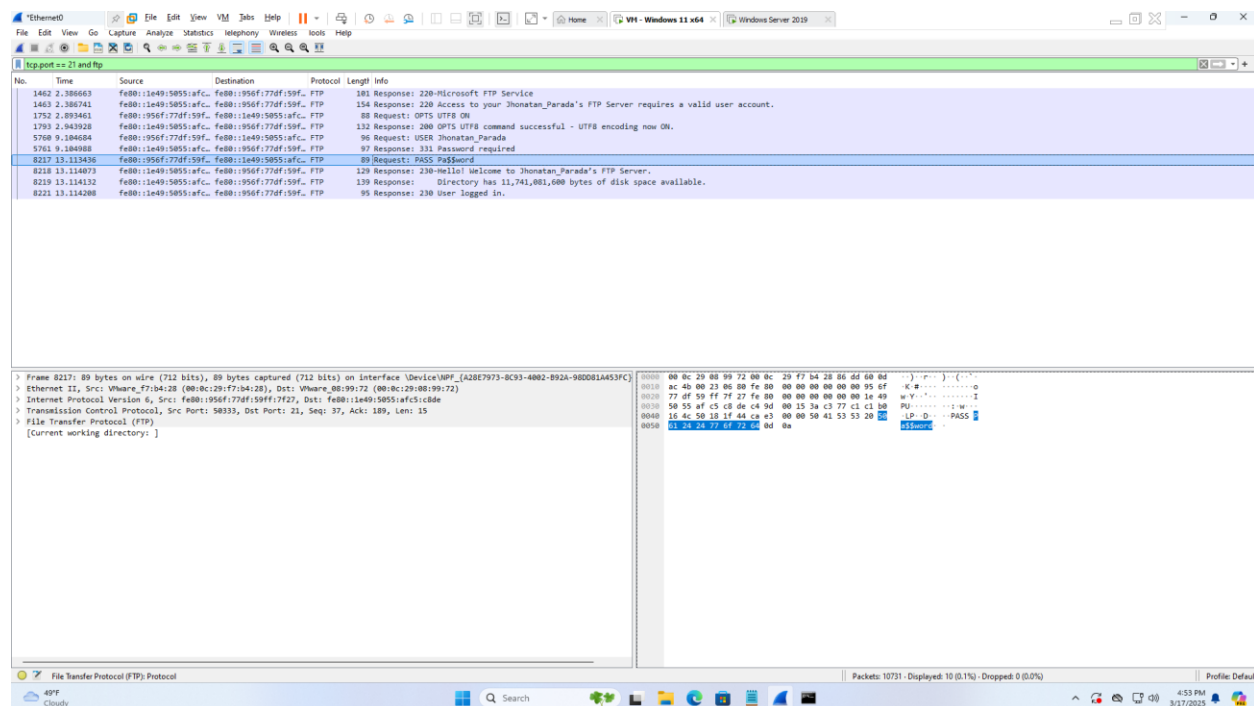


Lab 6-2

ET725

Jhonatan Parada T

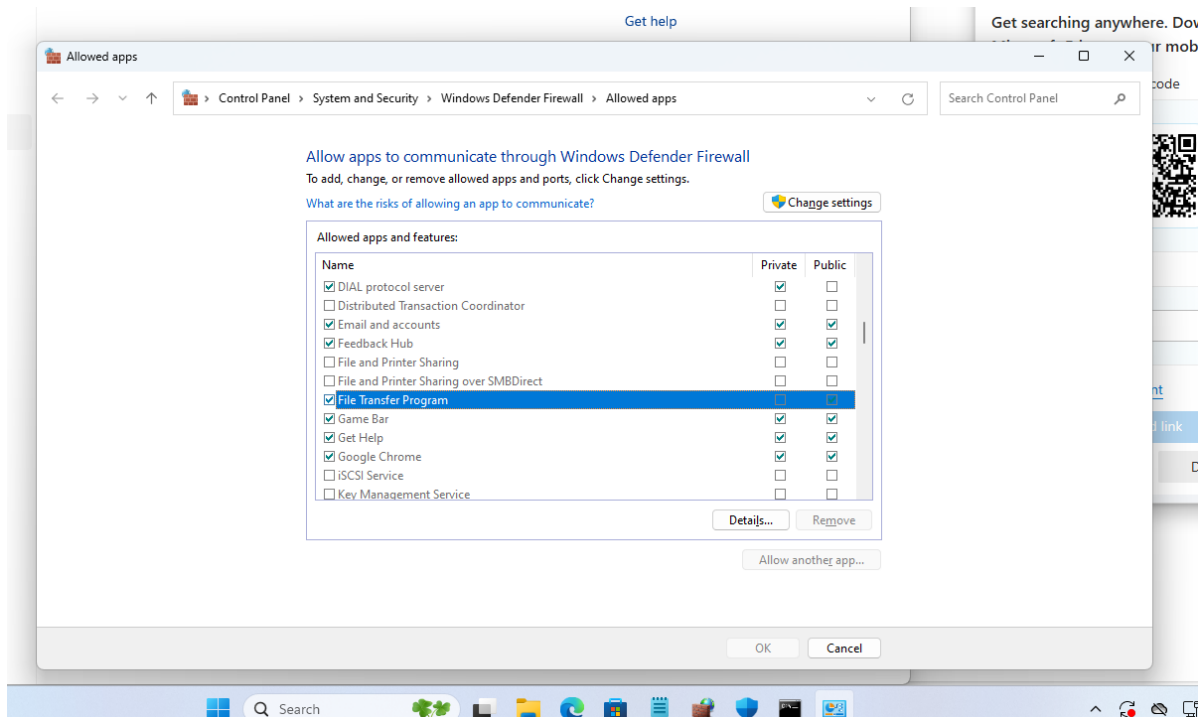
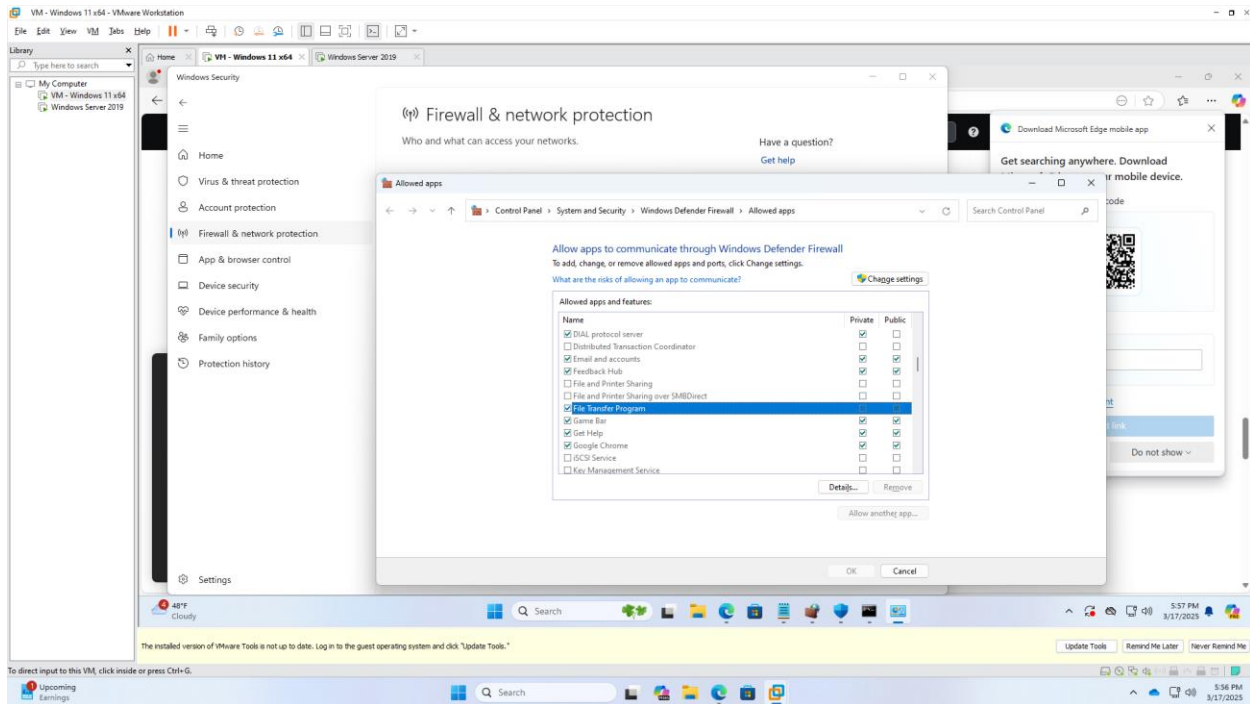
Capturing FTP traffic by using the ftp and port number keywords in the packet tracer's filter bar. The traffic shown below was captured when the Jhonatan_Parada user connected and logged into the Windows FTP server. The results show the 'Pa\$\$word' password displayed in clear text form for the user Jhonatan_Parada.



No.	Time	Source	Destination	Protocol	Length	Info
1462	2.386663	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	181	Response: 220-Microsoft FTP Service
1463	2.386741	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	154	Response: 220 Access to your Jhonatan_Parada's FTP Server requires a valid user account.
1752	2.893461	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	88	Request: OPTS UTF8 ON
1793	2.943928	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	132	Response: 200 OPTS UTF8 command successful - UTF8 encoding now ON.
5760	9.104684	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	96	Request: USER Jhonatan_Parada
5761	9.104988	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	97	Response: 331 Password required
8217	13.113436	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	89	Request: PASS Pa\$\$word
8218	13.114073	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	129	Response: 230-Hello! Welcome to Jhonatan_Parada's FTP Server.
8219	13.114132	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	139	Response: Directory has 11,741,081,600 bytes of disk space available.
8221	13.114208	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	95	Response: 230 User logged in.

At this point, I was only able to log into the FTP server, but I was not able to read or retrieve any files from it. Every time I attempted to use the 'get' or 'dir' command, the terminal waited without any response. Initial credentials were captured, but there was a problem with file transferring. So, after doing some research on the internet, I learned that one cause the file transfer was not being successful was due to a configuration in the host firewall, more specifically, applications that were allowed to pass through it. So, I checked the File Transfer Program and enabled it in 'Allowed Applications.' After doing that, I was

finally able to complete the file transfer and capture it successful



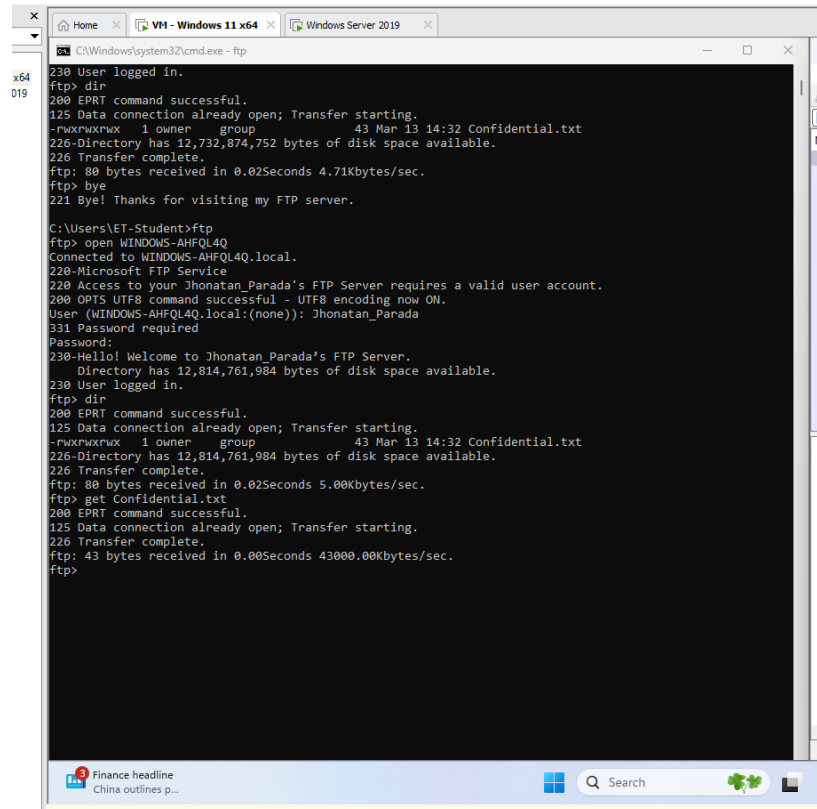
Here I am capturing my local traffic with Wireshark while logging into the FTP server and downloading the Confidential.txt file.

The screenshot displays a VMware Workstation interface with a Windows 11 x64 virtual machine running. The command prompt shows the user logging into an FTP server, navigating to the root directory, and downloading a file named 'Confidential.txt'. The file size is 43 bytes, and the download is completed in 0.00 seconds at a rate of 43000.00 bytes/sec.

Wireshark is running on the host, capturing traffic on the 'eth0' interface. The packet list shows several FTP-related packets, including the initial connection, login requests, and the file transfer. The packet details pane shows the structure of the File Transfer Protocol (FTP) packets, including the 'P' (PORT) command and the 'T' (TYPE) command.

The bottom status bar of the VMware Workstation indicates that the installed version of VMware Tools is not up to date, suggesting a need for an update.

Here is a closer view of the terminal and the commands. First, I log in with the Jhonatan_Parada user, then I display the contents of the current directory with the 'dir' command. Finally, I download the confidential.txt file by using the get command, everything while running the Wireshark protocol analyzer.



```
C:\Windows\system32\cmd.exe - ftp
230 User logged in.
ftp> dir
200 EPRT command successful.
125 Data connection already open; Transfer starting.
-rwxrwxrwx 1 owner group 43 Mar 13 14:32 Confidential.txt
226 Directory has 12,732,874,752 bytes of disk space available.
226 Transfer complete.
ftp: 80 bytes received in 0.02Seconds 4.71Kbytes/sec.
ftp> bye
221 Bye! Thanks for visiting my FTP server.

C:\Users\ET-Student>ftp
ftp> open WINDOWS-AHFQL40
Connected to WINDOWS-AHFQL40.local.
220-Microsoft FTP Service
220 Access to your Jhonatan_Parada's FTP Server requires a valid user account.
200 OPTS UTF8 command successful - UTF8 encoding now ON.
User (WINDOWS-AHFQL40.local:(none)): Jhonatan_Parada
331 Password required
Password:
230-Hello! Welcome to Jhonatan_Parada's FTP Server.
Directory has 12,814,761,984 bytes of disk space available.
230 User logged in.
ftp> dir
200 EPRT command successful.
125 Data connection already open; Transfer starting.
-rwxrwxrwx 1 owner group 43 Mar 13 14:32 Confidential.txt
226 Directory has 12,814,761,984 bytes of disk space available.
226 Transfer complete.
ftp: 80 bytes received in 0.02Seconds 5.00Kbytes/sec.
ftp> get Confidential.txt
200 EPRT command successful.
125 Data connection already open; Transfer starting.
226 Transfer complete.
ftp: 43 bytes received in 0.00Seconds 43000.00Kbytes/sec.
ftp>
```

Here I stopped the traffic capturing, the FTP filter is applied, but it will only display credential information, because the transfer of the Confidential.txt file was done using the TCP protocol. Nonetheless, this picture shows valuable information such as my username and password denoted by the 'PASS' keyword.

The image shows a Wireshark packet capture window titled '*Ethernet0'. The packet list pane displays a series of FTP-related packets. The packet details pane for packet 1657 shows the raw data of the FTP response, which includes the username 'Jhonatan_Parada' and the password 'Pa\$\$word'.

No.	Time	Source	Destination	Protocol	Length	Info
1657	2.623818	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	101	Response: 220-Microsoft FTP Servi...
1658	2.623878	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	154	Response: 220 Access to your Jhon...
1692	2.661944	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	88	Request: OPTS UTF8 ON
1693	2.662228	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	132	Response: 200 OPTS UTF8 command s...
3254	5.158266	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	96	Request: USER Jhonatan_Parada
3255	5.158616	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	97	Response: 331 Password required
5198	8.287470	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	89	Request: PASS Pa\$\$word
5199	8.288307	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	129	Response: 230-Hello! Welcome to J...
5200	8.288307	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	139	Response: Directory has 12,81...
5201	8.288307	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	95	Response: 230 User logged in.
6628	10.542453	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	116	Request: EPRT 2 fe80::956f:77df:...
6631	10.543023	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	104	Response: 200 EPRT command succes...
6639	10.552672	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	80	Request: LIST
6640	10.553086	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	128	Response: 125 Data connection alr...
6645	10.553517	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	163	Response: 226-Directory has 12,81...
14526	23.094433	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	116	Request: EPRT 2 fe80::956f:77df:...
14530	23.095046	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	104	Response: 200 EPRT command succes...
14538	23.105737	fe80::956f:77df:59f...	fe80::1e49:5055:afc...	FTP	97	Request: RETR Confidential.txt
14544	23.113780	fe80::1e49:5055:afc...	fe80::956f:77df:59f...	FTP	128	Response: 125 Data connection alr...

Packet 1657 details:

```

> Frame 1657: 101 bytes on wire (808 bits), 101 bytes captured on interface *Ethernet0
> Ethernet II, Src: VMware_08:00:27:00:00:00, Dst: 08:00:27:00:00:00
> Internet Protocol Version 6, Src: fe80::1e49:5055:afc5:c8, Dst: fe80::956f:77df:59ff:7f
> Transmission Control Protocol, Src Port: 21, Dst Port: 5000
> File Transfer Protocol (FTP)
  [Current working directory: ]
  
```

[illegible]

No.	Time	Source	Destination	Protocol	Length	Info
12540	19.964244	172.128.2.13	172.128.100.41	TCP	60	7725 → 49903 [ACK] Seq=109 Ack=41 Win=8190 Len=0
13257	21.978764	172.128.100.41	146.111.196.30	TCP	60	51328 → 80 [SN] Seq=Win=6248 Len=0 MSS=1460 WS=256 SACK_PERM
13258	21.979100	172.128.100.41	146.111.196.30	TCP	60	80 → 51328 [SN, ACK] Seq=100 Ack=1 Win=8012 Len=0 MSS=1300 WS=256 SACK_PERM
13260	21.979180	172.128.100.41	146.111.196.30	TCP	60	51328 → 80 [ACK] Seq=1 Ack=1 Win=262144 Len=0
13261	21.979286	172.128.100.41	146.111.196.30	HTTP	307	GET /alertsmsg/getActiveMessageForAlertDevice.jsp?id=16775561&dt=DesktopAlert&la=1&bd=4.0.5.1&di=1&ec=81p;172.128.100.41%32;192.168.17.1%32;192.168.17.1&la=1
13264	21.083254	146.111.196.30	172.128.100.41	HTTP	1400	HTTP/1.1 200 200 (text/html)
13265	21.083318	146.111.196.30	172.128.100.41	TCP	60	80 → 51328 [FIN, ACK] Seq=1347 Ack=254 Win=2097408 Len=0
13266	21.083318	172.128.100.41	146.111.196.30	TCP	60	51328 → 80 [ACK] Seq=254 Ack=1348 Win=260608 Len=0
13267	21.083387	172.128.100.41	146.111.196.30	TCP	60	51328 → 80 [FIN, ACK] Seq=254 Ack=1348 Win=260608 Len=0
13268	21.083503	146.111.196.30	172.128.100.41	TCP	60	80 → 51328 [ACK] Seq=1348 Ack=255 Win=2097408 Len=0
14526	23.994433	fe08::956f:77df::59f	fe08::1e49:5055::afc	TCP	116	Request: EPRT [2] fe08::956f:77df::59f; 77df::59f; 77df::59f
14528	23.994424	fe08::1e49:5055::afc	fe08::956f:77df::59f	TCP	80	20 → 50314 [SN, ECT, URG] Seq=Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
14529	23.994995	fe08::956f:77df::59f	fe08::1e49:5055::afc	TCP	86	50314 → 20 [SN, ACK] Seq=80 Ack=1 Win=65535 Len=0 MSS=1440 WS=256 SACK_PERM
14530	23.995046	fe08::1e49:5055::afc	fe08::956f:77df::59f	FTP	104	Response: 200 EPRT command successful.
14531	23.095218	fe08::1e49:5055::afc	fe08::956f:77df::59f	FTP	74	20 → 50314 [ACK] Seq=1 Ack=1 Win=2108160 Len=0
14538	23.105737	fe08::956f:77df::59f	fe08::1e49:5055::afc	TCP	97	Request: RETR Confidential.txt
14544	23.113789	fe08::1e49:5055::afc	fe08::956f:77df::59f	TCP	128	Response: 125 Data connection already open; Transfer starting.
14545	23.113993	fe08::1e49:5055::afc	fe08::956f:77df::59f	FTP-DL	117	FTP Data: 43 bytes
14546	23.114005	fe08::1e49:5055::afc	fe08::956f:77df::59f	TCP	128	FIN, ACK Seq=1348 Ack=1 Win=65535 Len=0 MSS=1440 WS=256 SACK_PERM

Here is a closer look at the raw data of the packet and the ASCII translation. It clearly displays 'The password for all Cisco routers is Ci\$(o.'

```

open; Transfer starting.
[K] Seq=533 Ack=165 Win=2107904 Len=54
2-1 0000 00 0c 29 f7 b4 28 00 0c 29 08 99 72 86 dd 60 04 ..)(..r...
0010 10 87 00 3f 06 80 fe 80 00 00 00 00 00 00 1e 49 ...?.....I
0020 50 55 af c5 c8 de fe 80 00 00 00 00 00 00 95 6f PU.....o
0030 77 df 59 ff 7f 27 00 14 c4 8a e9 c1 70 ef 5b d6 w-Y...'..p-[
0040 99 88 50 18 20 2b 3e 34 00 00 54 68 65 20 70 61 ..P. +>4 ..The pa
0050 73 73 77 6f 72 64 20 66 6f 72 20 61 6c 6c 20 43 ssword f or all C
0060 69 73 63 6f 20 72 6f 75 74 65 72 73 20 69 73 20 isco rou ters is
0070 43 69 24 28 6f Ci$(o

```

Packets: 23208 · Displayed: 152 (0.7%) · Dropped: 0 (0.0%) Profile: Default

Review Questions

1. You have been asked to install an FTP server on the company's internal network to be used only by an employee committee that will be working on an advertising campaign to encourage employees to donate to a charity. Which of the following would be the most secure configuration of the FTP server?

- Require users to authenticate using their domain account.
- Require users to authenticate using a local account.
- Require users to use anonymous authentication.
- Allow users to share a single username and password.

Answer: a.) Require users to authenticate using their domain account.

2. In this lab, what is listed in the Info column of the frame in which the content of the file Confidential.txt is visible?

- FTP Data

- b. Response
- c. Request
- d. get-request

Answer: a.) FTP Data

3. Which of the following statements is the most accurate description of the communication between Client and the FTP server in this lab?

- a. Client initiated the connection by sending to the FTP server a packet with TCP flags SYN and ACK set.
- b. Client initiated the connection by sending to the FTP server a packet with TCP flag ACK set.
- c. Client initiated the connection by sending to the FTP server a packet with TCP flag SYN set.
- d. The FTP server initiated the connection by sending a packet to Client with TCP flag SYN set.

Answer: c.) Client initiated the connection by sending to the FTP server a packet with TCP flag SYN set

4. Which of the following statements is the most accurate description of the communication between the Client system and the FTP server in this lab?

- a. Once the FTP server was contacted by Client, it sent a packet with the TCP flags SYN and ACK set.
- b. Once the FTP server was contacted by Client, it sent a packet with the TCP flag ACK set.
- c. Once the FTP server was contacted by Client, it sent a packet with the TCP flag SYN set.
- d. The FTP server was not first contacted by Client; it advertised its FTP service, and Seven responded

Answer: a.) Once the FTP server was contacted by Client, it sent a packet with the TCP flags SYN and ACK set.

5. Which of the following statements is the most accurate description of the communication between the Client system and the FTP server in this lab?

- a. The teardown of the TCP session began when the FTP server sent a packet to Client with the TCP flag FIN set.
- b. The teardown of the TCP session began when Client sent a FIN packet to the FTP server.
- c. The teardown of the TCP session began when the FTP server sent a packet to Client with the TCP flags FIN and ACK set.
- d. The teardown of the TCP session began when Client sent a packet to the FTP server with the TCP flags FIN and ACK set

Answer: b.) The teardown of the TCP session began when Client sent a FIN packet to the FTP server.