Implementing FTP

Introduction

FTP (File Transfer Protocol) is used for file sharing across devices.

Objectives

In this project/lab the student will:

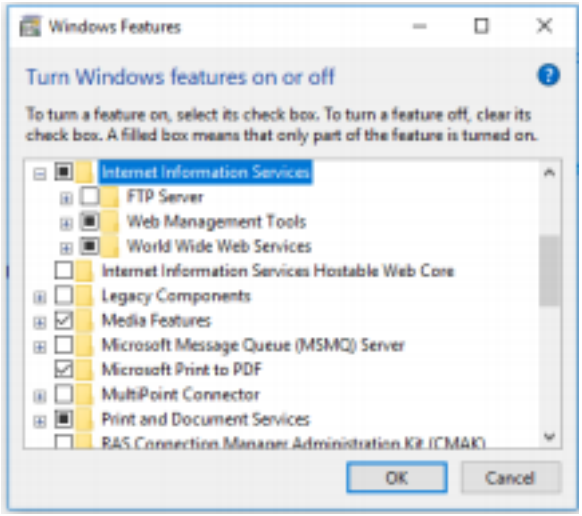
- Create an FTP site using Microsoft Internet Information Services (IIS)
- View the FTP Server files on a client
- Perform packet analysis

Resources

- VMware Workstation Pro
- Windows 10 ISO

Procedure

Create an FTP Site



1. Open Win10Client1 VM and sign in.

2. Open Control Panel, click Programs, then click Turn Windows Features on or off.

3. In the Windows Features dialog box, expand Internet Information Services and click FTP Server. Click OK. Click Close when the feature installation is complete.

4. Open Internet Information Services (IIS) Manager. Expand the left pane and right click Sites, then select Add FTP Site.

5. In the Add FTP site dialog box, type NerdifyentFiles as the FTP Site Name. Click the three dots to the right of the Physical Path box and navigate to C:\inetpub\ftproot. Click Next.

6. In the Binding and SSL settings dialog box, enter the following:

a. IP Address: 192.168.143.100
b. Port: 21
c. Enable Start FTP site automatically
d. Choose No SSL, then click Next.

7. In the Authentication and Authorization Information dialog box, choose Anonymous in the Authentication section. This ensures you do not need a username or password to access files on the FTP site.

8. In the Authorization section, allow access to all users. Check the box next to read permissions. This ensures users can't make changes to the site. Click Finish.

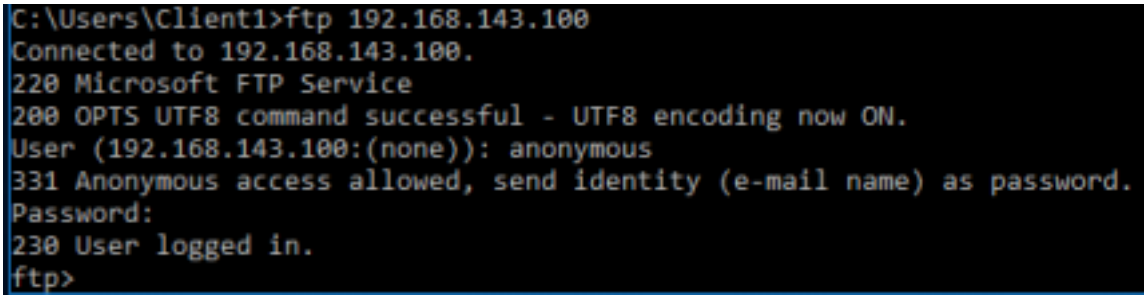
9. Open Windows Firewall with Advanced Security. In the left pane, click Inbound Rules. 10. Locate the three FTP Server rules. Right click each one and click Enable. Each rule should now have a checkmark to the left of it.

Test the FTP Site

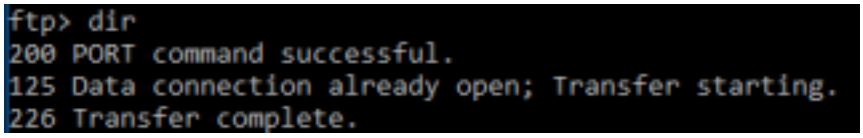
1. Open Win10Client2 VM and sign in.

2. Open command prompt and access your FTP site by typing in ftp 192.168.143.100. You may need to press Enter twice.

3. When prompted, enter anonymous for the username and any email address for the password.



4. At the ftp> prompt, type dir and press Enter. If prompted with a Windows Security Alert, click Allow Access. Right now our FTP folder is empty, so you won't see a list of items appear.



5. Create a test document and place it in the ftproot directory on WindowsClientVM1. Now return to Windows10ClientVM2 and run the dir command again. Notice the output of the dir command has changed.

```
200 PORT command successful.
125 Data connection already open; Transfer starting.
11-26-19  02:23PM                    0 test.txt
226 Transfer complete.
ftp: 52 bytes received in 0.00Seconds 52000.00Kbytes/sec.
```

6. To disconnect from the FTP server and return to a normal command prompt, type bye and press enter.

Capture HTTP Packets

1. Open Wireshark on Windows10ClientVM2 and begin a capture.

2. Repeat the process again to access your FTP site again via command prompt, then stop your Wireshark capture. Save the Capture as MyFTP_Cap.pkt.

3. Use the green filter bar at the top of the window to show only FTP protocol packets by typing "ftp" and pressing Enter. Use this series of packets to answer the reflection questions.

Reflection

1. Was TCP or UDP used for the connection?

2. Locate and record the source and destination IP addresses.

3. To view the full conversation between the client and the server, right click the first FTP packet and select Follow then TCP Stream. Observe the conversation you had with the FTP server. Take a screenshot of this, noting that the password you typed in appears in plain text.

4. What user accessed the FTP server?

5. What password did this user input?

6. Note the three digit status codes associated with your interaction with the FTP server. What is indicated by each of them?
   a. 220 - _____
   b. 200 - _____
   c. 331 - _____
   d. 230 - _____
   e. 332 - _____
   f. 125 - _____
   g. 226 - _____

h. 221 - _____

7. Select the FTP-DATA packet. In the middle pane, scroll down until you see “Line-based text data (1 lines)” and expand it. At what date and time did you use the dir command on the FTP server?

Rubric

Standards for This Competency	**Point Value**
Submitted Wireshark Packet Capture MyFTP_Cap.pkt	16 points
Correct answer to Question 1	10 points
Correct answer to Question 2	10 points
Correct answer to Question 3	10 points
Correct answer to Question 4	10 points
Correct answer to Question 5	10 points
Correct answer to Question 6	24 points (8 points each)
Correct answer to Question 7	10 points