

Packet Tracer – Exploring File and Data Encryption

Addressing Table

Device	Private IP Address	Public IP Address	Subnet Mask	Site
FTP/Web Server	10.44.1.254	209.165.201.3	255.255.255.0	Metropolis Bank HQ
Mary	10.44.3.101	N/A	255.255.255.0	Healthcare at Home
Bob	10.44.1.3	N/A	255.255.255.0	Metropolis Bank HQ

Objectives

Part 1: Locate the FTP Account Credentials for Mary’s Laptop

Part 2: Upload Confidential Data using FTP

Part 3: Locate the FTP Account Credentials for Bob’s PC

Part 4: Download Confidential Data using FTP

Part 5: Decrypt the Contents of the clientinfo.txt File

Background

In this activity, you will access the encrypted contents of multiple files and transfer a file across the Internet to a centralized FTP server. Another user will then download the file from the FTP server and decrypt the files’ contents. The IP addressing, network configuration, and service configurations are already complete. You will use the client devices in the differing geographic regions to transfer a file with encrypted data to another device.

Part 1: Locate the FTP Account Credentials for Mary’s Laptop

Step 1: Access the text document on Mary’s laptop.

- Click the **Healthcare at Home** site and then click the laptop **Mary**.
- Click the **Desktop** tab and then click **Text Editor**.
- In the Text Editor window, click **File > Open**.
- Click the document **ftlogin.txt** and click **OK**.

Step 2: Decrypt Mary’s FTP account information.

- Highlight all the text from the **ftlogin.txt** file and copy it.
- Open a web browser on your personal computer and browse to the website <https://encipher.it>
- Click the **whitespace on the right of the website and paste in the encrypted text**.

Click the **Decipher It** button and use the decryption password **maryftp123** to decrypt the encrypted text. Click **Decrypt**.

What is the username and password for Mary’s FTP account?

Part 2: Upload Confidential Data using FTP

Step 1: View the confidential document on Mary's Laptop.

- a. Click the **Healthcare at Home** site and then click the Laptop **Mary**.
- b. Click the **Desktop** tab and then click **Text Editor**.
- c. In the Text Editor window, click **File > Open**.
- d. Click on the document **clientinfo.txt** and click **OK**.

What form is the data in?

Step 2: Remotely connect to the FTP server.

- a. Within the **Healthcare at Home** site, click the Laptop **Mary**.
- b. Click the **Desktop** tab and then click **Command Prompt**.
- c. Connect to the **FTP/Web** server at **Metropolis Bank HQ** by entering **ftp 209.165.201.3** in the command prompt.
- d. Enter the username/password credentials located in Part 1 Step 2

Step 3: Upload a file to the FTP server.

- a. At the **ftp>** prompt, enter the command **dir** to view the current files stored on the remote FTP server.
- b. Mary has a file containing encrypted healthcare client information. Upload the **clientinfo.txt** file to the FTP server by entering the command **put clientinfo.txt**.
- c. At the **ftp>** prompt, enter the command **dir** and verify the **clientinfo.txt** file is now on the FTP server.
If cyber criminals were to capture the file transfer crossing the Internet, what would be in clear text?

Part 3: Locate the FTP Account Credentials for Bob's PC

Step 1: Access the text document on Bob's PC.

- a. Click the **Metropolis Bank HQ** site and then click the PC **Bob**.
- b. Click the **Desktop** tab and then click **Text Editor**.
- c. In the Text Editor window, click **File > Open**.
- d. Click the document **ftplogin.txt** and click **OK**.

Step 2: Decrypt Bob's FTP account information.

- a. Highlight all the text from **ftplogin.txt** file and copy it.
- b. Open a web browser on your personal computer and browse to the website <https://encipher.it>
- c. Click the **whitespace on the right of the website and paste in the encrypted text**.
- d. Click **Decipher It** button and use the decryption password **bobftp123** to decrypt the encrypted text. Click **Decrypt**.

What is the username and password for Bob's FTP account?

Part 4: Download Confidential Data using FTP

Step 1: Remotely connect to the FTP server.

- Within the **Metropolis Bank HQ** site, click the PC **Bob**.
- Click the **Desktop** tab and then click **Command Prompt**.
- Connect to the **FTP/Web** server within the **Metropolis Bank HQ** by entering **ftp 10.44.1.254** in the command prompt.
- Enter the username/password credentials located in Part 3 Step 2

Step 2: Download the file to Bob's PC.

- At the **ftp>** prompt, enter the command **dir** to view the current files stored on the remote FTP server.
- Mary had uploaded the **clientinfo.txt** file containing encrypted healthcare client information. Download the **clientinfo.txt** file to Bob's PC by entering the command **get clientinfo.txt**.
- At the **ftp>** prompt, enter the command **quit**.
- At the **PC>** prompt, enter the command **dir** and verify the **clientinfo.txt** file is now Bob's PC. If cyber criminals were to capture the file transfer crossing the Internet, what would be in clear text?

Part 5: Decrypt the Contents of the clientinfo.txt File

Step 1: Receive the decryption key from Mary.

- Within the **Metropolis Bank HQ** site, click the PC **Bob**.
- Click the **Desktop** tab and then click **Email**.
- In the Email window, click **Receive**.
- Click on the Email with the subject "Decryption Key" and record the decryption key below. What is the decryption key to access the confidential information in the **clientinfo.txt** file?

Step 2: Decrypt the contents of the clientinfo.txt file.

- Within the **Metropolis Bank HQ** site, click the PC **Bob**.
- Click the **Desktop** tab and then click **Text Editor**.
- In the Text Editor window, click **File > Open**.
- Click the document **clientinfo.txt** and click **OK**.
- Highlight all the text from the **clientinfo.txt** file and copy it.
- Open a web browser on your personal computer and browse to the website <https://encipher.it>
- Click the **whitespace on the right of the website and paste in the encrypted text**.

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Click **Decipher It** button and use the decryption password from Mary's email to decrypt the encrypted text. Click **Decrypt**.

What is the first account name in the clientinfo.txt file?

Suggested Scoring Rubric

Activity Section	Question Location	Possible Points	Earned Points
Part 1: Locate the FTP account credentials for Mary's laptop	Step 2	2	
Part 2: Upload confidential data using FTP	Step 1	2	
	Step 3	2	
Part 3: Locate the FTP account credentials for Bob's PC	Step 2	2	
Part 4: Download confidential data using FTP	Step 2	2	
Part 5: Decrypt the contents of the clientinfo.txt file	Step 1	2	
	Step 2	2	
Questions		14	
Packet Tracer Score		86	
Total Score		100	