Lab2 : FTP services using Cisco Packet Tracer

1 Background

FTP (File Transfer Protocol)

FTP is a network protocol used to transfer files from one computer to another over a TCP network. Like Telnet, it uses a client-network arhitecture, which means that a user has to have an FTP client installed to access the FTP server running on a remote machine. After establishing the FTP connection, the user can download or upload files to and from the FTP server. Consider the following example:

A user wants to transfer files from Host A to the FTP server. The user will use an FTP client program to initiate the connection. The client can now transfer files from and to the FTP server using the credentials of the FTP user.

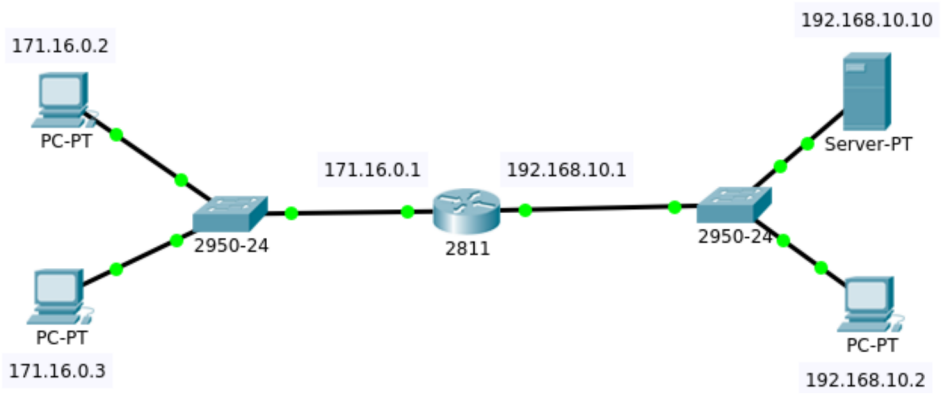
FTP uses two TCP ports: port 20 for sending data and port 21 for sending control commands. The protocol supports the use of authentication, but like Telnet, all data is sent in clear text, including usernames and passwords.

TFTP (Trivial File Protocol)

TFTP is a network protocol used to transfer files between remote machines. It is a simple version of FTP, lacking some of the more advanced features FTP offers, but requiring less resources than FTP. Because of it's simplicity TFTP can be used only to send and receive files. This protocol is not widely used today, but it still can be used to save and restore a router configuration or to backup an IOS image.

2 FTP Lab

Let's construct the following topology using Packet Tracer:



Steps:

- Add the network components then configure the interface's IP addresses as specified in the topology.

- Configure the FTP server using the following user setup:

Username: MRT Password:12345

- Give the four permissions (Write, Read, Delete, Rename, List) to this user.

- Go to PC3 and open Desktop/Text Editor then fill text “Hello Word!” then name it “test.txt”

- From that PC and using the command prompt, upload this file to the FTP server using the following commands (use ? to show the available commands):

```
c:\> dir                          ( To verify the existance of the file test.txt)
c:\> ftp 192.168.10.10
```

- Enter now the of the FTP credentials (Username: MRT, Password:12345).

```
ftp> put test.txt
ftp> dir
```

- Upload the file using:

```
ftp> put test.txt
ftp> quit
```

- Go to PC1 and log into the FTP server and download the same file using:

```
ftp> get test.txt
ftp> quit
```

- Return to the FTP server and suppress the right of “List” from the user MRT.

- Go to PC1 and list the files on the FTP server using the ***dir*** command. What is the output of the command.

- In the same manner, verify the other permissions (Write, Read, Delete, Rename) using the commands (put, get, delete, rename) respectively.

TFTP

Now,we want to upload the router IOS image using TFTP. To do so, follow these steps:

- Go to server and enable TFTP service and remove all the image files on it.

- Run the command : ***show version*** to display the router IOS image.

- Upload this image to the TFTP server using the command:

```
Router# copy flash: tftp:
```

- Source filename []? (The IOS version shown in the ***sh ver*** command),
- Address or name of remote host []? 192.168.10.10,
- Destination filename [c2800nm-advipservicesk9-mz.124-15.T1.bin]? (Just type Enter).

- Verify the content of the TFTP sever now.

<u>Homework</u>

Repeat the same Lab and use this time a DHCP server to assign all the IP addresses (except the FTP server which should remain stsatic : 192.168.10.10). The Packet Tracer version shoud be <= 7.1.