DATE:18-05-2020

BUDGE BUDGE INSTITUTE OF TECHNOLOGY

Name: Sudip Basu

Department : Computer Science and Technology

Year :2nd

Roll: 16

Semester: 4th

COMPUTER NETWORK ASSIGNMENT

File Transfer Protocol (FTP) Configuration in Cisco Packet Tracer

The **File Transfer Protocol (FTP)** is a standard network protocol used for the transfer of computer fles between a client and server on a computer network.

FTP employs a **client-server** architecture whereby the client machine has an **FTP client** installed and establishes a connection to an **FTP server** running on a remote machine. After the connection has been established and the user is successfully authenticated, the data transfer phase can begin.

Worth noting**:** Although FTP does support **user authentication**, all data is sent in clear text, including usernames and passwords. For **secure** transmission that protects the username and password, and encrypts the content, FTP is often secured with SSL/TLS (FTPS) or replaced with SSH File Transfer Protocol (SFTP).

Let's now do FTP confguration in Packet Tracer:

1. Build the network topology.

2. Confgure static IP addresses on the Laptop and the server.

Laptop: **IP address:** 192.168.1.1 **Subnet Mask:** 255.255.255.0

Server: **IP address:** 192.168.1.2 **Subnet Mask:** 255.255.255.0

3. Now try using an **FTP client** built in the Laptop to send fles to an **FTP server** confgured in the Server.

From the Laptop's command prompt, FTP the server using the server IP address by typing:

```
ftp  192.168.1.2
```

Provide the **username**(cisco) and **password**(cisco) [which are the defaults] for ftp login.

```
C:\>
C:\>ftp 192.168.1.2
Trying to connect...192.168.1.2
Connected to 192.168.1.2
220- Welcome to PT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>
```

You are now in the FTP prompt .

PC0 has an **FTP client** which can be used to read, write, delete and rename fles present in the FTP server.

The **FTP server** can be used to read and write confguration fles as well as IOS images. Additionally, the FTP server also supports fle operations such rename, delete and listing directory.

With that in mind, we can do something extra. So let's do this:

4. **Create** a file in the Laptop then **upload** it to the server using **FTP**.

To do this, open the **Text Editor** in the Laptop, create a file and give it your name of choice.

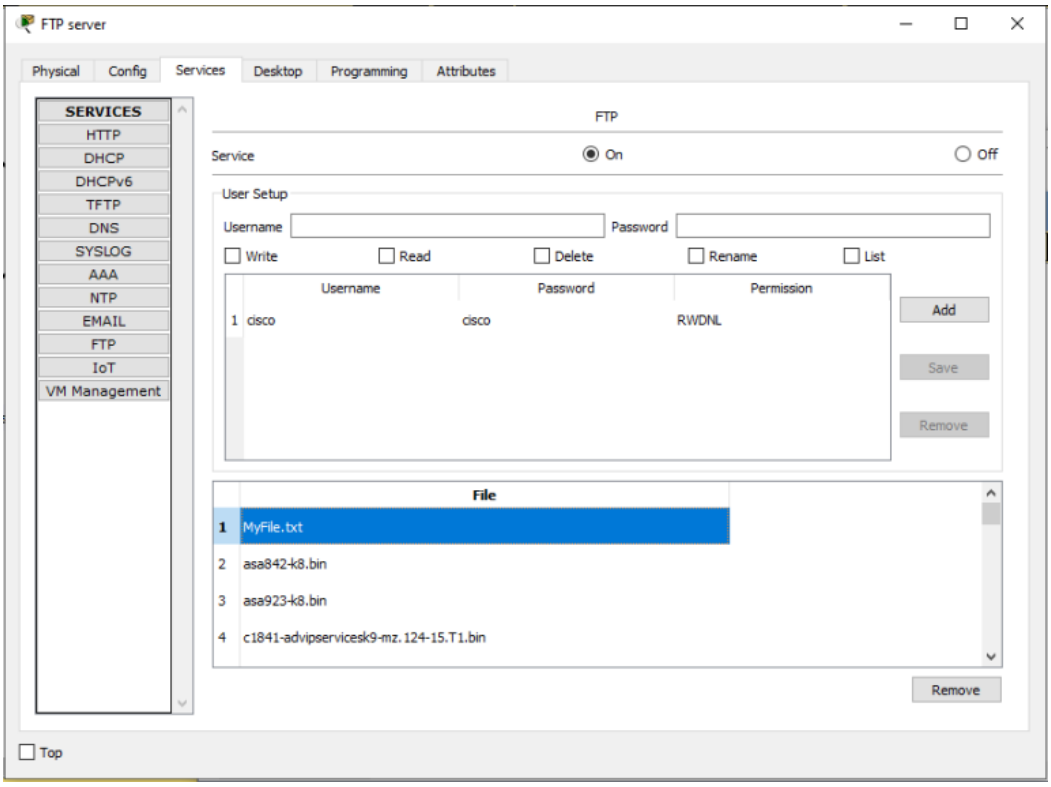
Type any text in the editor then **save** your file. e.g. myFile.txt.

5. Now upload the file from the Laptop to the server using FTP. (An FTP connection has to be started first. But this is what we've done in step 3)

So to do an FTP upload, we'll type:

```
put MyFile.txt
```

6. Once file upload is successful, go to the Server **FTP directory** to verify if the file sent has been received . To do this, go to **Server-> Services->FTP**. Here look for MyFile.txt sent from the laptop.



Addendum: To check **other FTP commands** supported by the FTP client running on the Laptop(or PC), you can use a question mark (**?**) on the Laptop's command prompt as shown below:

You can see the put command that we used to upload our fle to the FTP server. Other commands listed include:

get-used to get(download) a fle from the server.

For example: get MyFile.txt

delete– to delete a fle in the FTP directory with the server

For example: delete MyFile.txt

Rename– used to Rename a fle

cd – used to change directory.

For example, we can open an **HTTP directory** in the server by typing: cd /http. This will change the current directory from FTP directory to HTTP directory

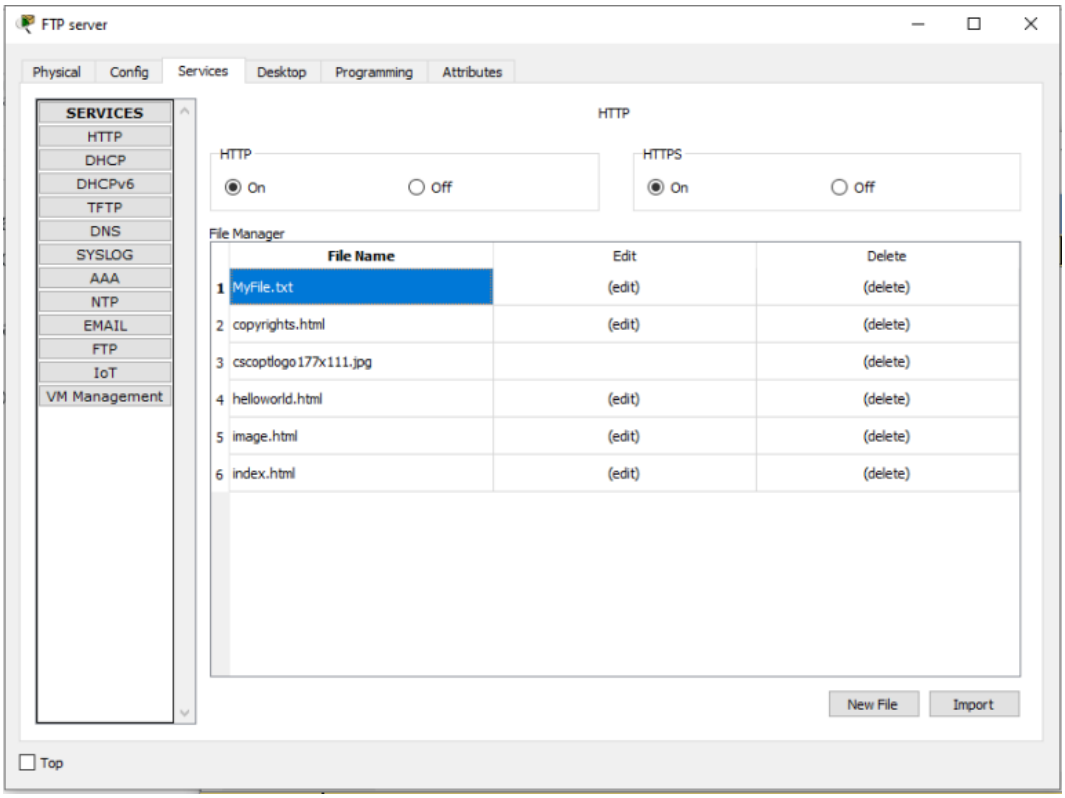
Once the http directory is open, you can upload a fle to the HTTP server. You're now uploading a fle to an HTTP folder(directory) using FTP.

For example: put MyFile.txt

To see this working, let's **open** an **HTTP directory** and upload(**put**) a fle to it using FTP:

```
ftp>cd /http
ftp>
Working directory changed to /http successfully
ftp>put MyFile.txt

Writing file MyFile.txt to 192.168.1.2:
File transfer in progress...

[Transfer complete - 47 bytes]

47 bytes copied in 0.01 secs (4700 bytes/sec)
```

You can now check up in the **HTTP directory** in the server and verify that the fle uploaded from the Laptop(MyFile.txt) is well received:



Notice that we are uploading fles to an HTTP Server directory using File Transfer Protocol.(FTP). This is what actually happens when you use an **FTP client** such as FileZilla client to upload fles to a website. In our case here, we are using an FTP client **built-in** the Laptop.

***This may interest you**: The frst FTP client applications were command-line programs developed before operating systems had graphical user interfaces, and are still shipped with most Windows and Linux operating systems. (Actually this is what we have been using this far). Many FTP clients(e.g. FileZilla) and automation utilities have since been developed for desktops, servers, mobile devices, and hardware. FTP has also been incorporated into productivity applications, such as HTML editors.*

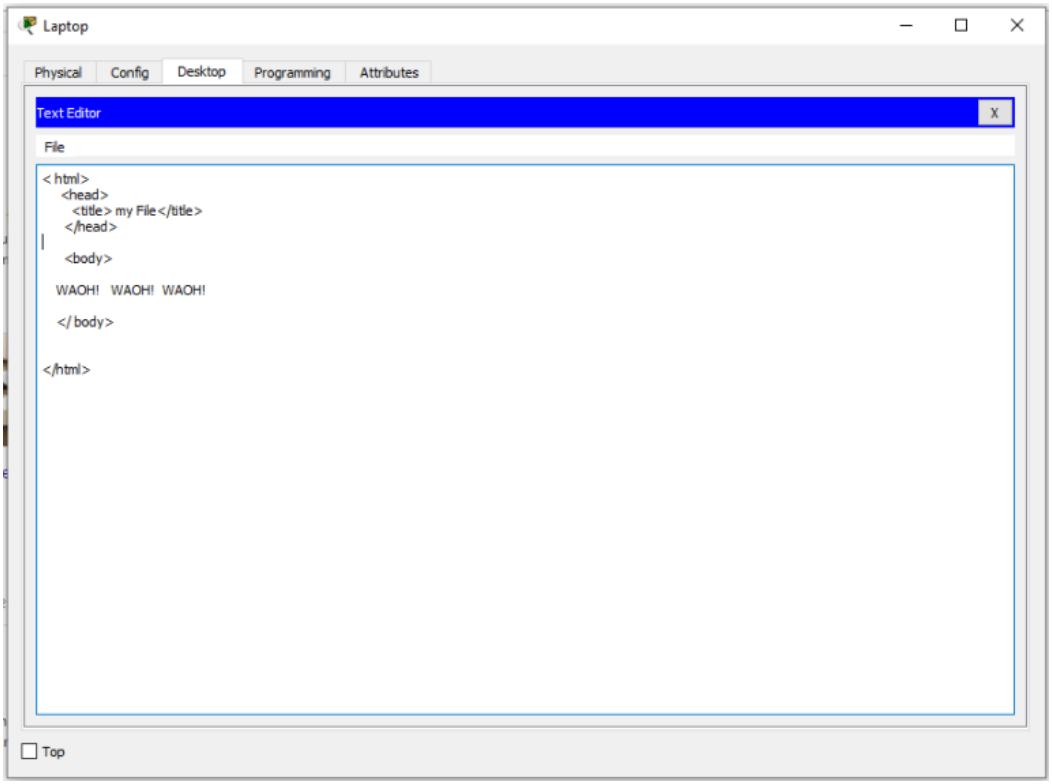
Well done for reading this topic up to this point! You now have more than a foundation regarding working with FTP to upload, download, delete, rename…fles.

If you're okay so far, then let's do something even more interesting…

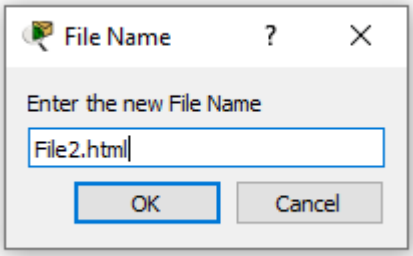
We'll **create** an html fle in our Laptop, **upload** it to HTTP server directory using FTP, then try to **access** the fle from the Laptop's browser.

So psych up and let's move on!

On the Laptop, open the **text editor**, then type some markup(html) and save the fle with the extension *.html*. See all this below:



Save your fle as an html fle like this:



Now upload the file(File2.html) to the HTTP server using FTP. This is easy. We've already done it previously!

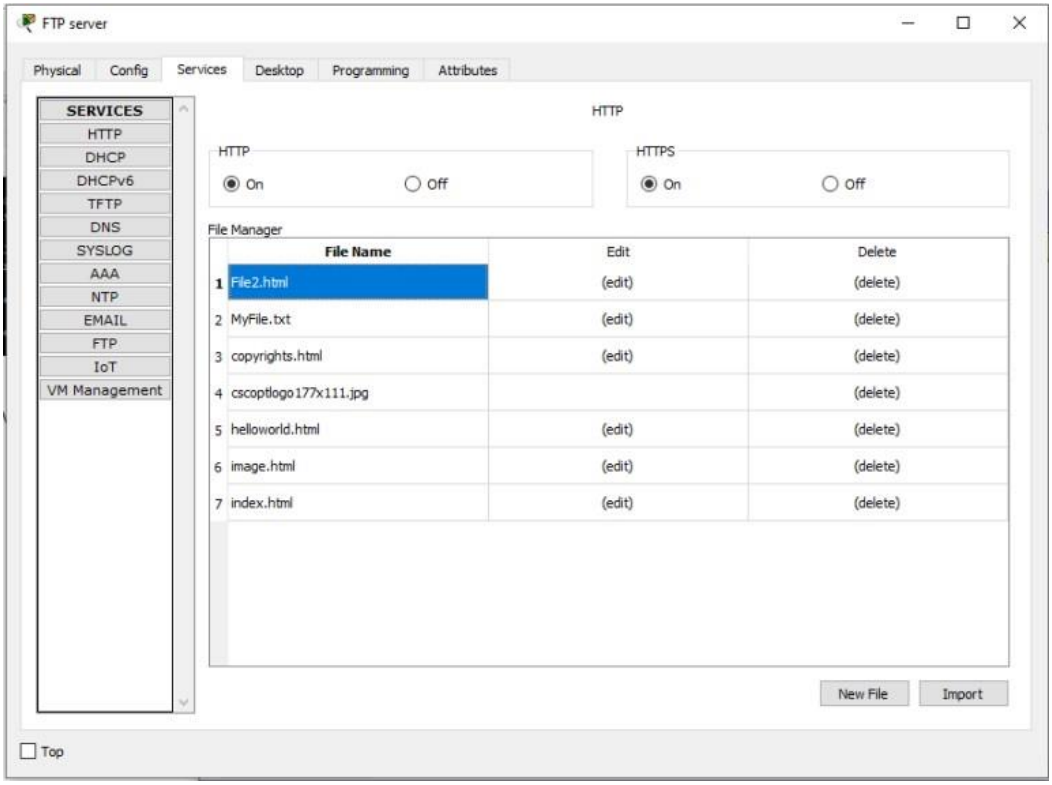
If you're already in the HTTP directory, you just need to type: put File2.html. If no, frst ftp the server(ftp 192.168.1.2), provide the login username(cisco) and password(cisco); change the current directory to HTTP(cd /http) , and fnally upload the html fle onto the HTTP directory(put File2.html)

```
C:\>ftp 192.168.1.2
Trying to connect...192.168.1.2
Connected to 192.168.1.2
220- Welcome to PT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>cd /http
ftp>
Working directory changed to /http successfully
ftp>put File2.html

Writing file File2.html to 192.168.1.2:
File transfer in progress...

[Transfer complete - 136 bytes]

136 bytes copied in 0.041 secs (3317 bytes/sec)
ftp>
```

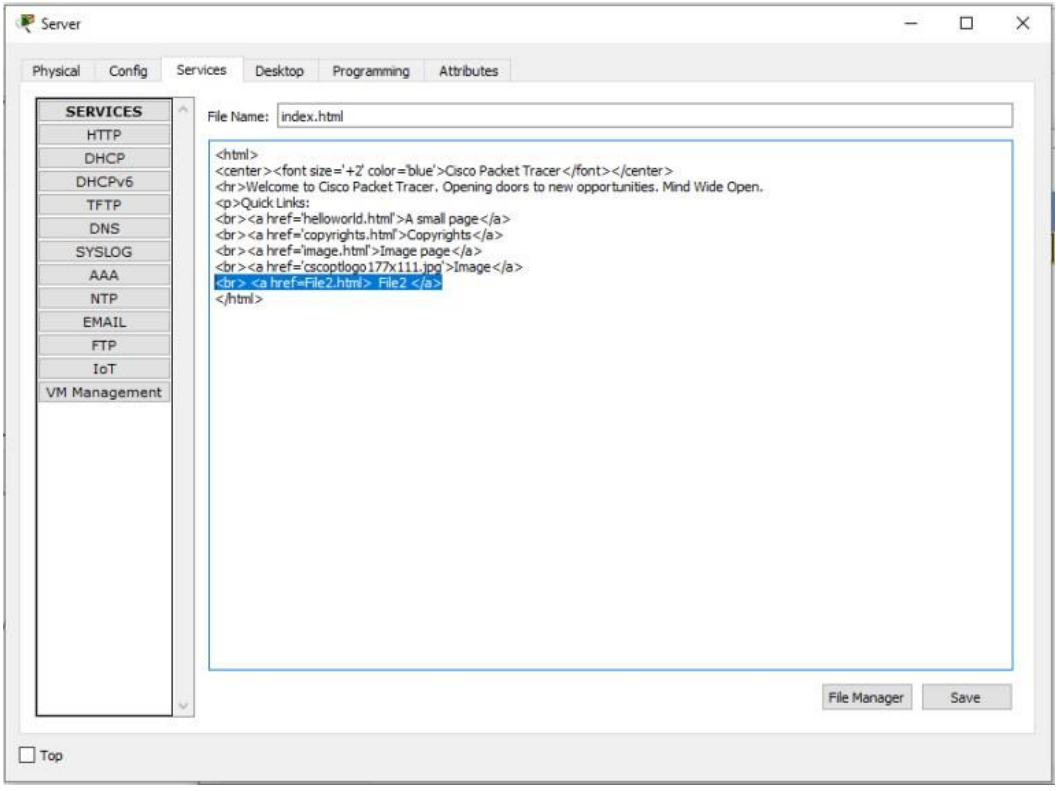
Moving on...

Check whether the html fle uploaded has been received in the HTTP directory:

Go to **Server->Services-> HTTP**. Then look up for the fle in the File Manager.

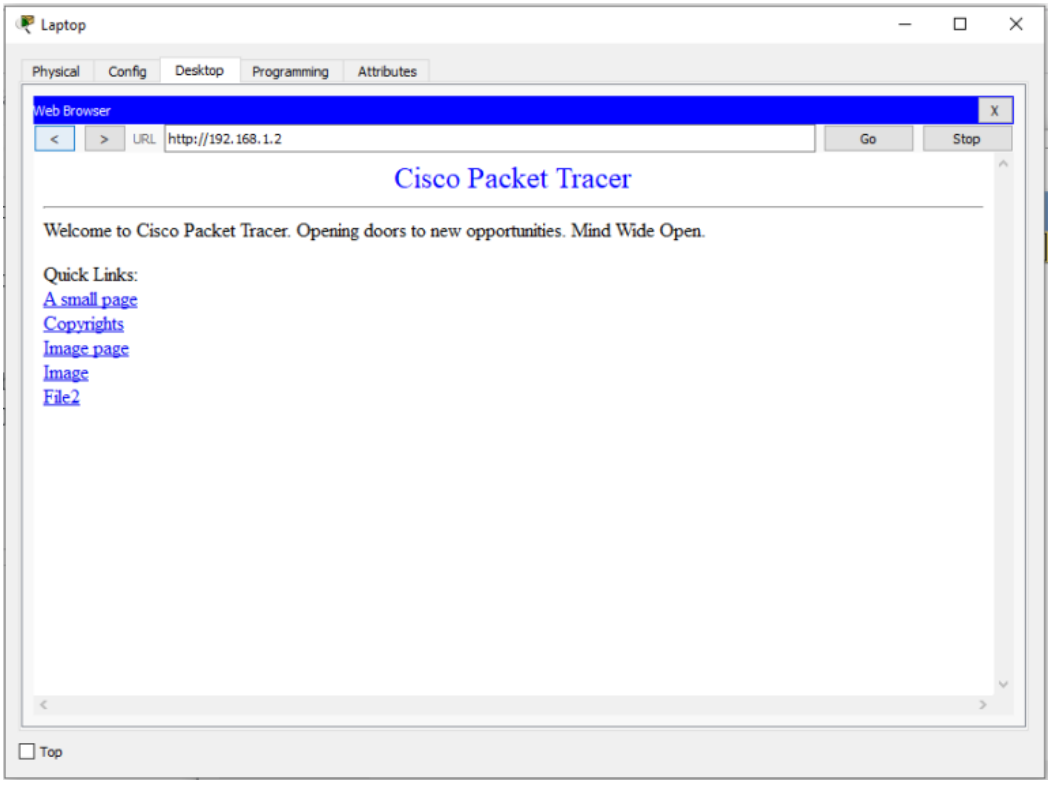


Now edit index.html fle in the **HTTP directory** so as to include a link to File2 that we've just uploaded. This will make File2 accessible from the Laptop's browser. To do this, locate index.html then click **edit**. Proceed to edit it as shown below. Then **save** and accept overwrite.



Finally, try to access the newly uploaded fle from the Laptop's browser.

So go to the Laptop's browser and access the server using the server's IP address. By doing this, the browser is making an http request to the server. The server will respond to the Laptop with the index.html fle containing a **link** to File2 which we've uploaded from the Laptop using FTP.



Click **File2** link to view the contents of the fle in the browser.