FTP Configuration Experiment – 6

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Abstract:

This project demonstrates the configuration and implementation of File Transfer Protocol (FTP) in a simulated network using **Cisco Packet Tracer**. The setup includes a router, a switch, two PCs, and an FTP server. The FTP server is configured with a username (ftpuser) and password (text) for authentication. A text file (cisco.txt) is created on 'PC0', uploaded to the FTP server, downloaded back to the PC, and then deleted from the server. The project highlights the steps for setting up an FTP server, configuring network devices, and performing file transfer operations in a simulated environment.

The steps to configure FTP in Cisco Packet Tracer using the following setup:

- 1 Router
- 1 Server (FTP Server)
- 2 PCs
- 1 Switch

The IP configurations are as follows:

- Switch: 192.168.1.1
- FTP Server: 10.10.10.1
- PCs: Assigned IPs in the 192.168.1.0/24 network.

Step 1: Set Up the Network Topology

1. **Open Cisco Packet Tracer.**
2. **Add the following devices to the workspace:**

- 1 Router (e.g., 1941).
- 1 Switch (e.g., 2960).
- 1 Server (FTP Server).
- 2 PCs (PC0 and PC1).

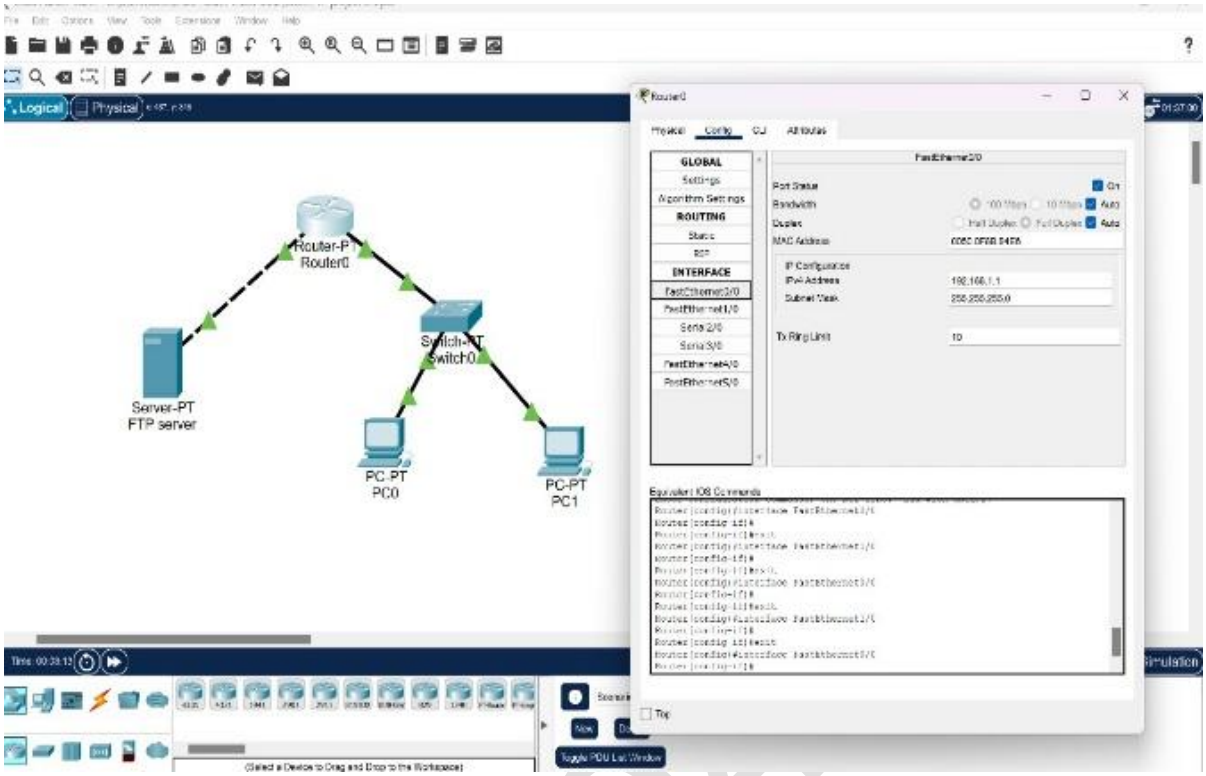
3. **Connect the devices:**
   - Connect the Router to the Switch using a Copper Straight-Through cable.
   - Connect PC0 and PC1 to the Switch using Copper Straight-Through cables.
   - Connect the FTP Server to the Router using a Copper Straight-Through cable.

Step 2: Configure IP Addresses

1. Configure the Router:

- Click on the Router, go to the CLI tab, and configure the interfaces:

```
plaintext
enable
configure terminal
interface GigabitEthernet0/0
ip address 192.168.1.1 255.255.255.0
no shutdown
exit
interface GigabitEthernet0/1
ip address 10.10.10.1 255.255.255.0
no shutdown
exit
```



2. Configure the Switch:

- The switch does not need an IP address for this setup. It will operate at Layer 2.

3. Configure the FTP Server:

- Click on the Server, go to the Desktop tab, and open IP Configuration.
- Set the IP address to 10.10.10.1 and the subnet mask to 255.255.255.0.
- Set the default gateway to 10.10.10.1.

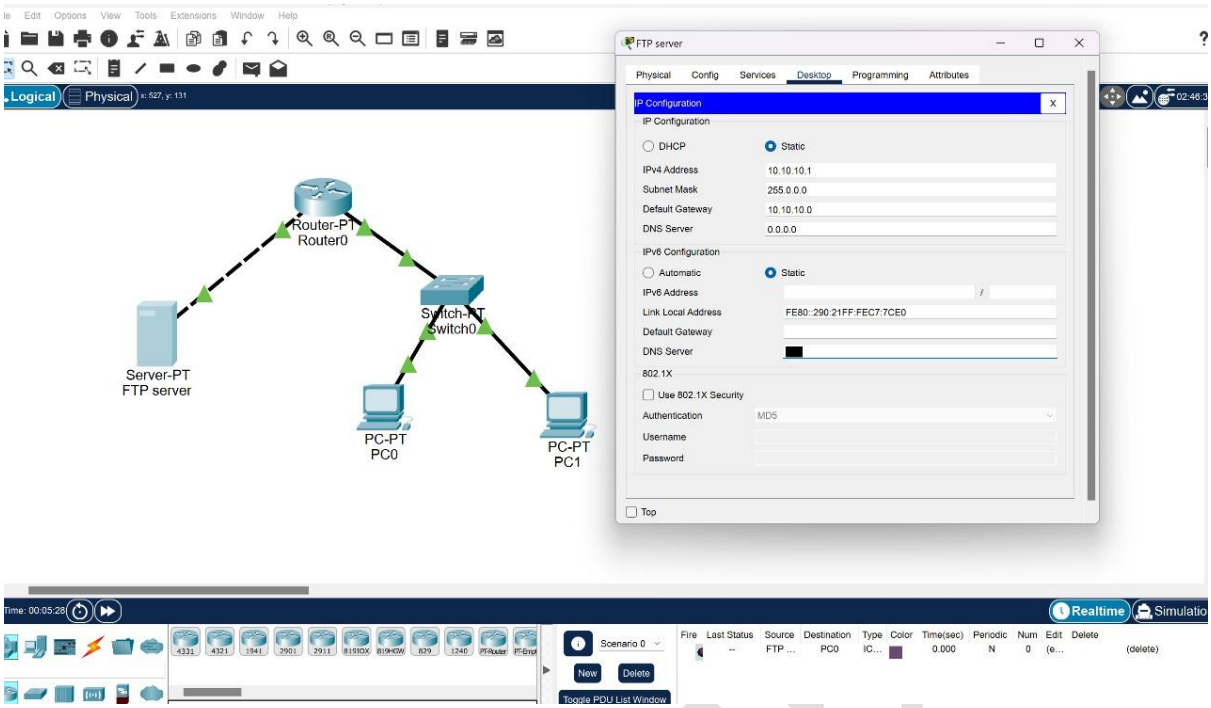
4. Configure the PCs:

- **PC0:**
  - IP Address: 192.168.1.2
  - Subnet Mask: 255.255.255.0
  - Default Gateway: 192.168.1.1
- **PC1:**
  - IP Address: 192.168.1.3
  - Subnet Mask: 255.255.255.0
  - Default Gateway: 192.168.1.1

Step 3: Configure the FTP Server

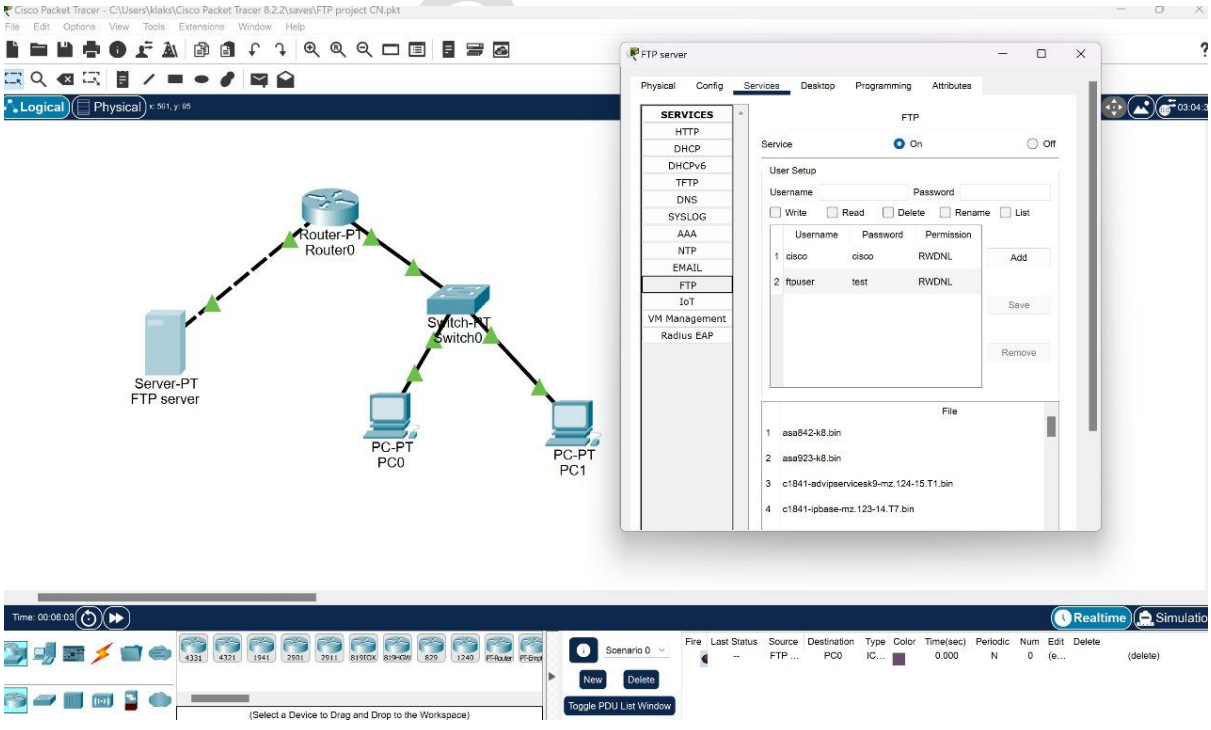
1. Enable FTP on the Server:

- Click on the Server, go to the Services tab.
- Select FTP from the list of services.
- Turn on the FTP service by clicking the On button.



2. Add a User to the FTP Server

- Under the Users section, add a new user:
  - Username: ftpuser
  - Password: text
- Assign Read/Write permissions to the user.



Step 4: Create a File on PC0

Create a Text File:

- Click on PC0, go to the Desktop tab, and open Text Editor.
- Type some text (e.g., "This is a test file for FTP").
- Save the file as cisco.txt.

Step 5: Use FTP to Transfer Files

1. Access the FTP Client on PC0:

- Click on PC0, go to the Desktop tab, and open Command Prompt.

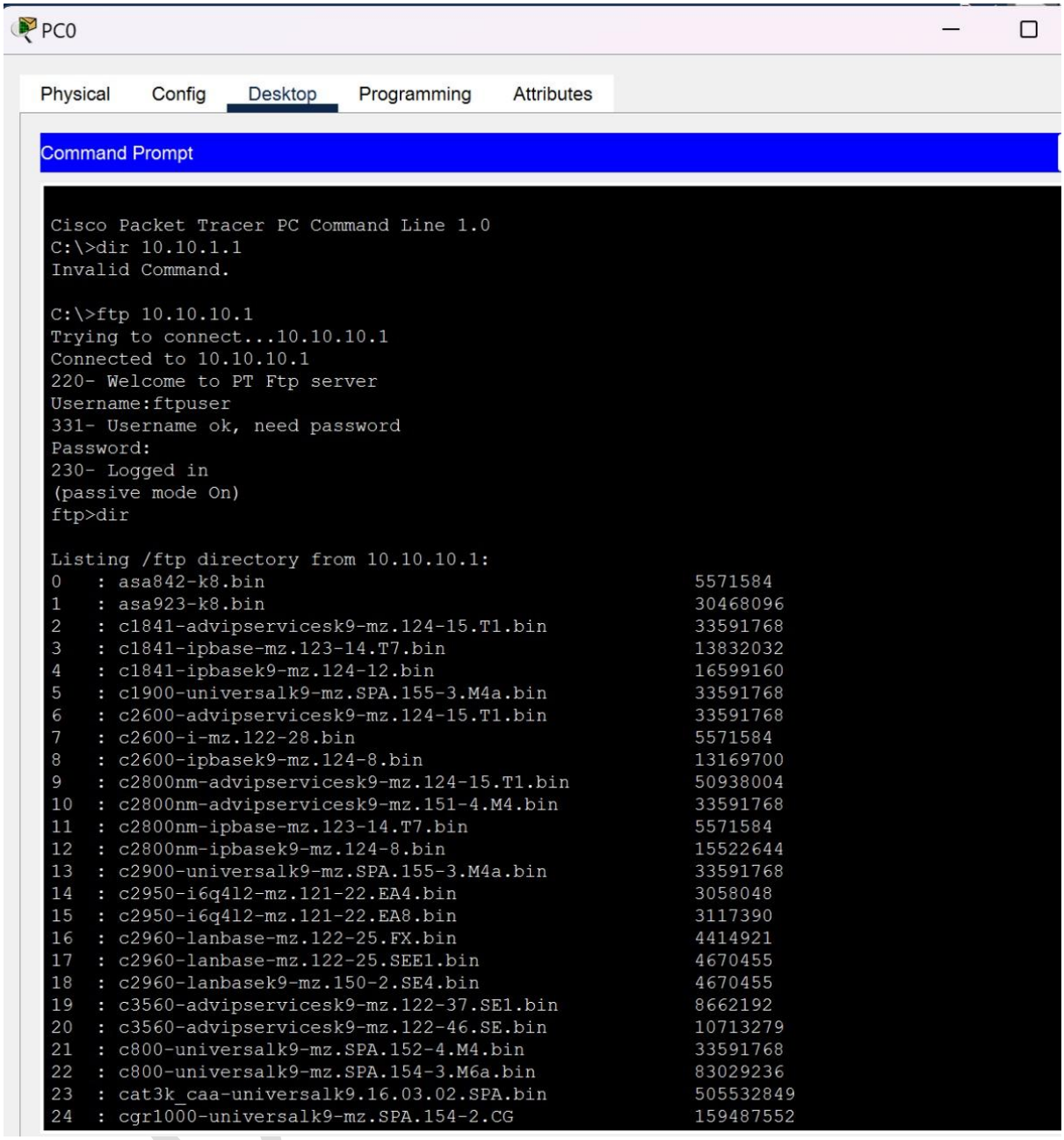
2. Connect to the FTP Server:

- Use the following command to connect to the FTP server:

  plaintext

  ftp 10.10.10.1

- When prompted, enter the username (ftpuser) and password (text).

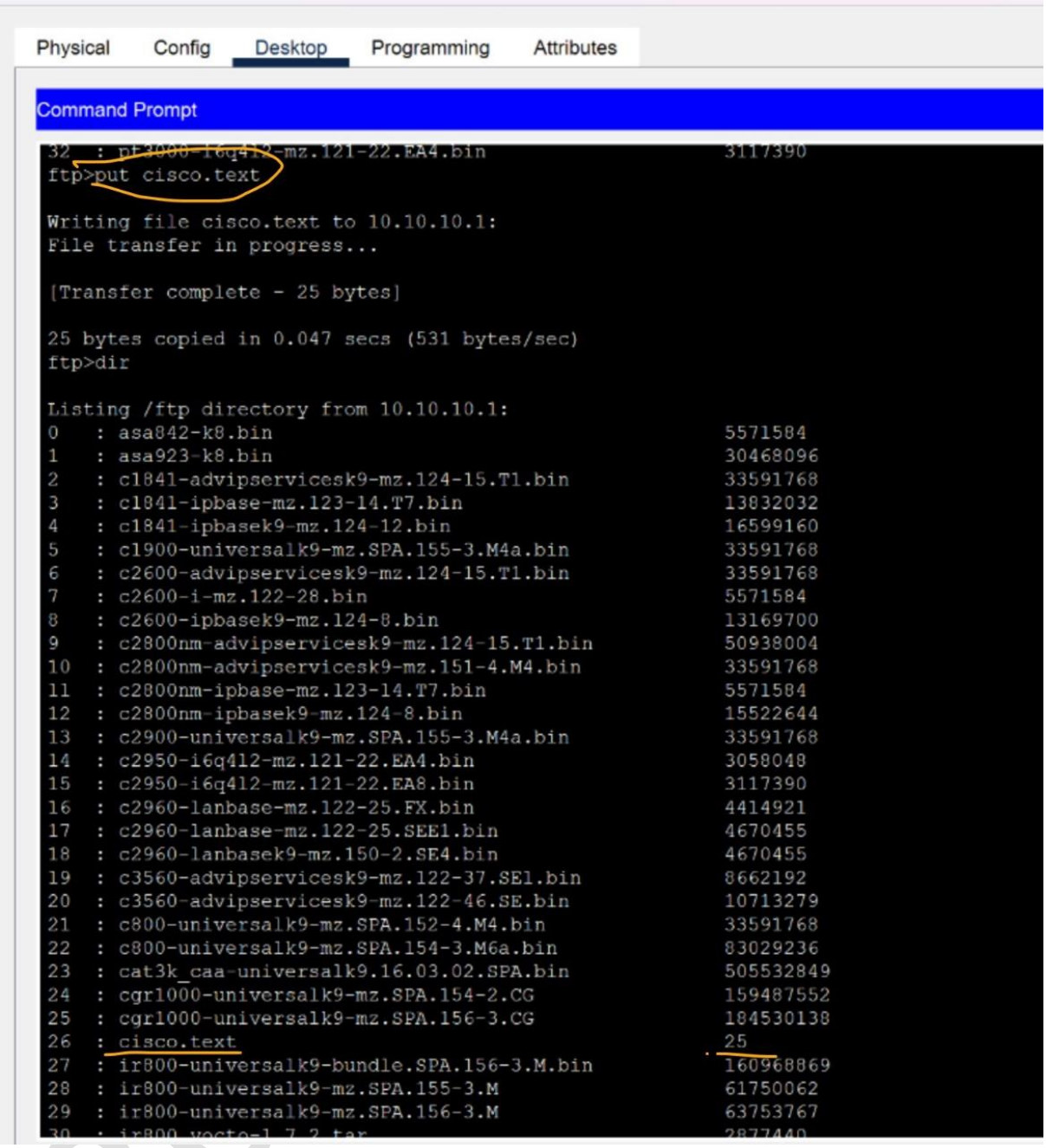


3. Upload the File to the FTP Server:

- Use the put command to upload the file:

plaintext

put cisco.txt



4. Download the File from the FTP Server:

- Use the get command to download the file:

plaintext

get cisco.txt

5. Delete the File from the FTP Server:

- Use the delete command to delete the file:

plaintext

delete cisco.txt

```
32  : pt1000-i-mz.122-28.bin
33  : pt3000-i6q4l2-mz.121-22.EA4.bin
ftp>get cisco.text

Reading file cisco.text from 10.10.10.1:
File transfer in progress...

[Transfer complete - 25 bytes]

25 bytes copied in 0.01 secs (2500 bytes/sec)
ftp>delete cisco.text

Deleting file cisco.text from 10.10.10.1: ftp>
[Deleted file cisco.text successfully ]
ftp>
```

6. Exit the FTP Session:

- Use the quit command to end the FTP session:

plaintext

quit

Step 6: Verify the File Transfer

1. **Check the FTP Server's File System:**

- Go to the Server’s Services tab and open FTP.
- Verify that the file cisco.txt was uploaded and then deleted.

2. **Check PC0's File System:**

- Go to PC0’s Desktop tab and open File Browser.
- Verify that the downloaded file cisco.txt is present.

Troubleshooting:

- Ensure all devices are properly connected and configured with the correct IP addresses.

- If you encounter issues, verify the FTP service is enabled on the server and the username/password are correct.

- This setup simulates a basic FTP file transfer scenario in Cisco Packet Tracer.