

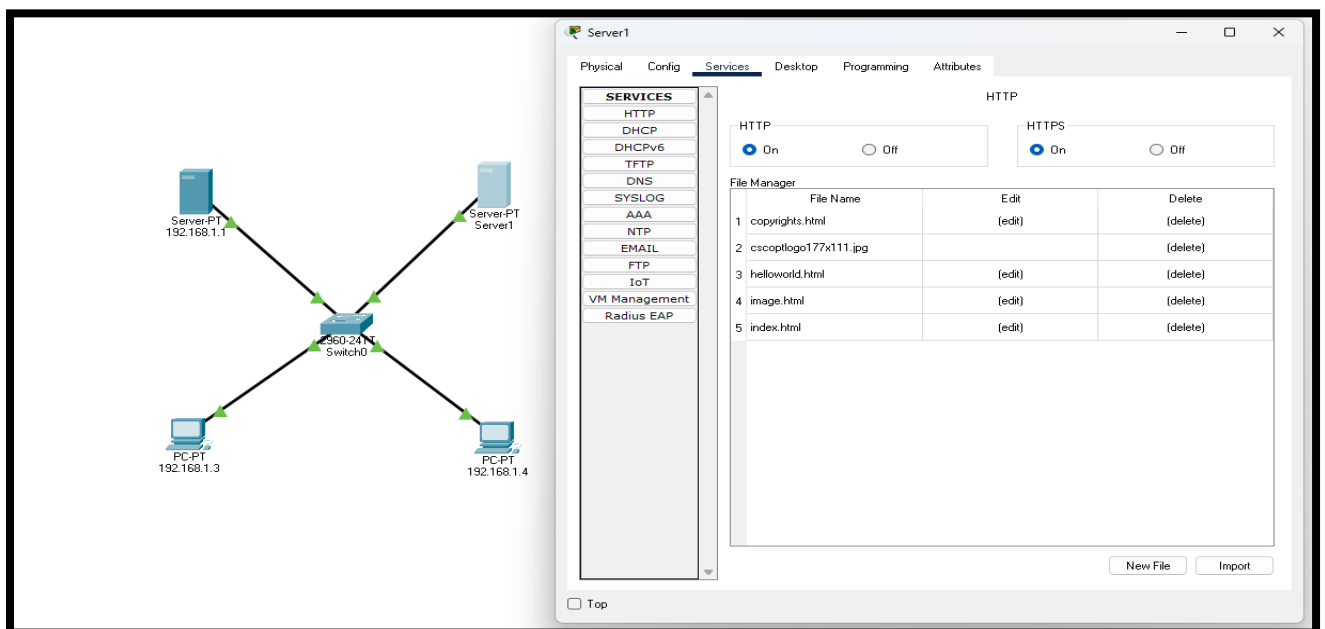
Date: 8/29/2025

Practical Assignment #07:

Study the application layer protocol DNS, DHCP, FTP.

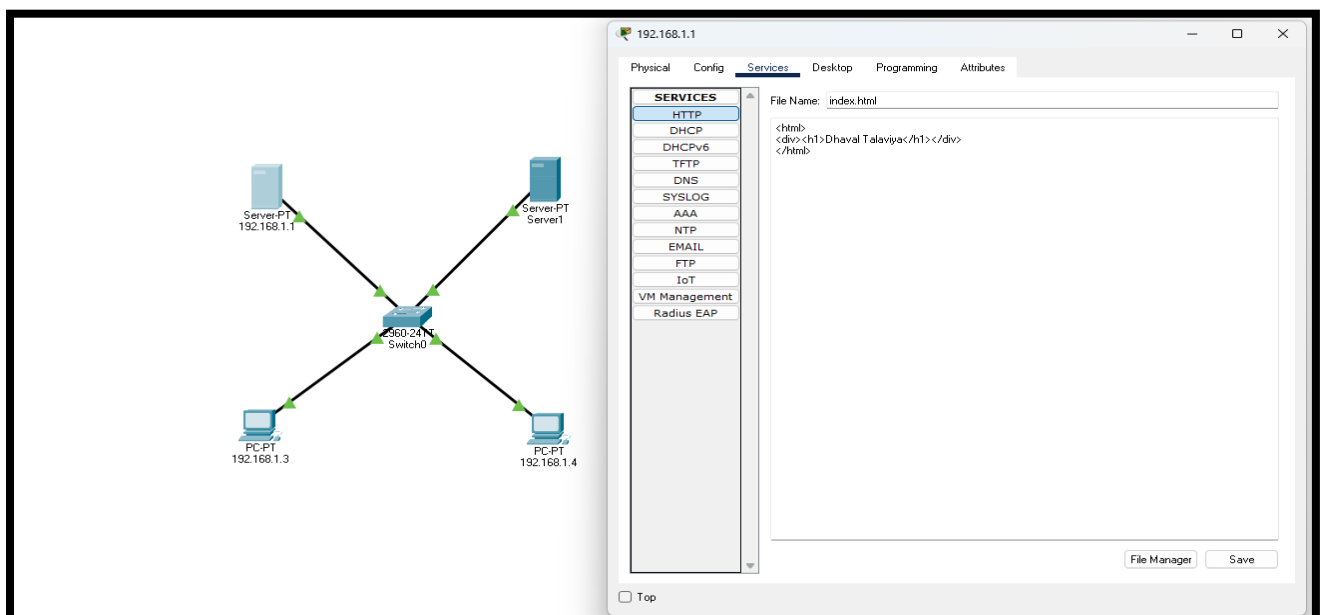
1. Implement the application layer protocol DNS, DHCP, and FTP. Also check connectivity between them using ping command or PDU utility.

a. DNS :



The network diagram shows a central 2500-24-T Switch0 connected to four devices: Server-PT 192.168.1.1, Server-PT Server1, PC-PT 192.168.1.3, and PC-PT 192.168.1.4. The Server1 configuration window is shown with the 'Services' tab selected. The 'SERVICES' list on the left includes HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP, IoT, VM Management, and Radius EAP. The 'HTTP' service is configured with 'On' selected for both 'HTTP' and 'HTTPS'. The 'File Manager' table lists the following files:

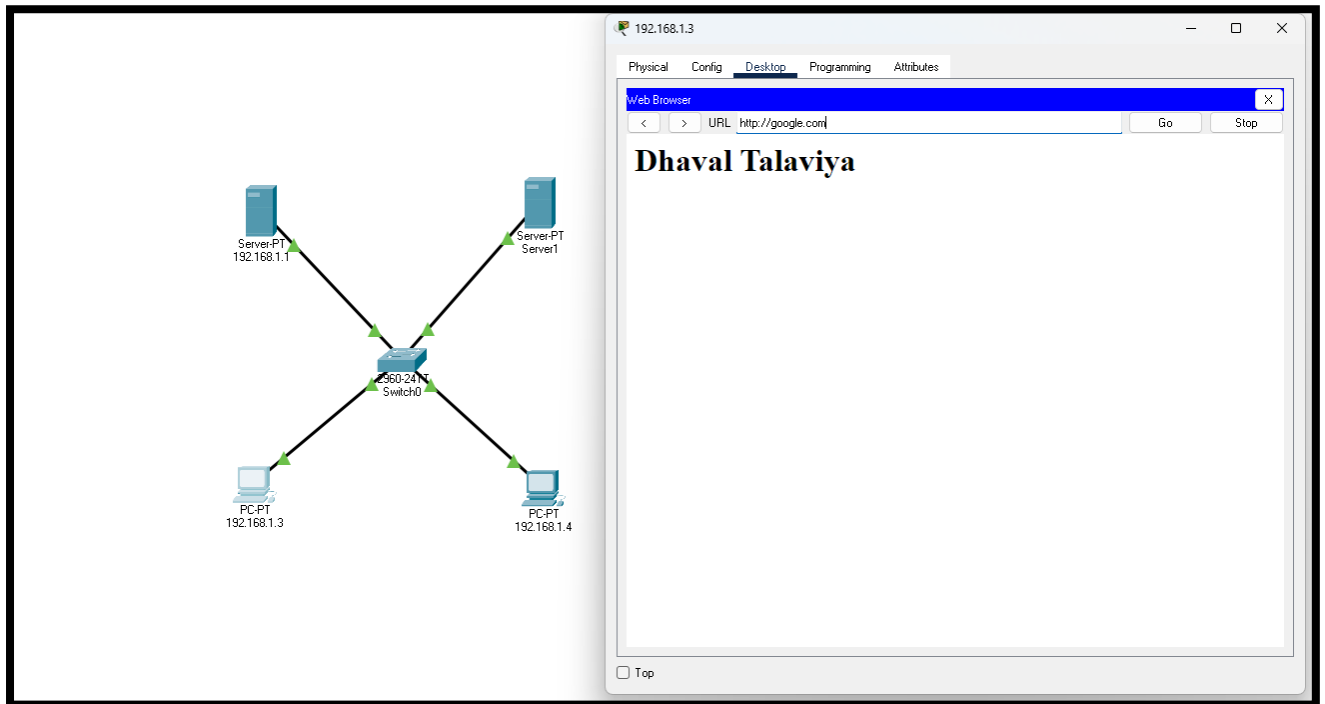
| File Name | Edit | Delete |
|------------------------|--------|----------|
| 1 copyrights.html | (edit) | (delete) |
| 2 cscoplogo177x111.jpg | | (delete) |
| 3 helloworld.html | (edit) | (delete) |
| 4 image.html | (edit) | (delete) |
| 5 index.html | (edit) | (delete) |



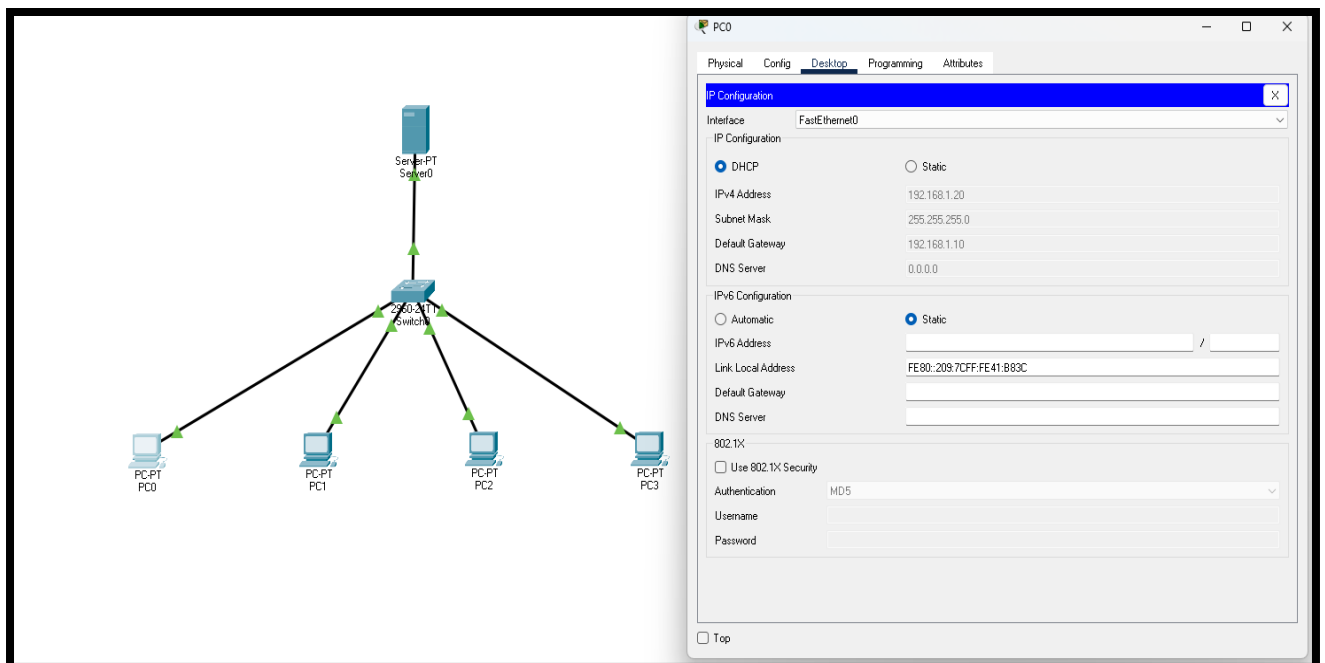
The network diagram is identical to the one above. The PC-PT configuration window (IP: 192.168.1.1) is shown with the 'Services' tab selected. The 'SERVICES' list on the left is the same. The 'File Name' field is set to 'index.html'. The content area shows the following HTML code:

```
<html>
<div><h1>Dhaval Talaviya</h1></div>
</html>
```

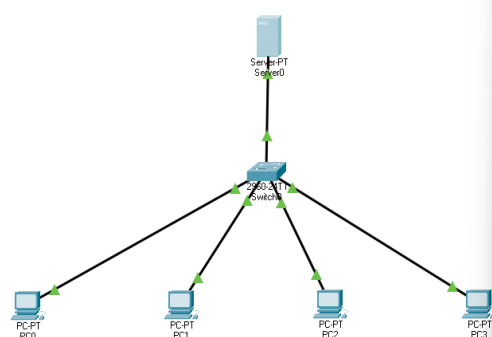
Date: 8/29/2025

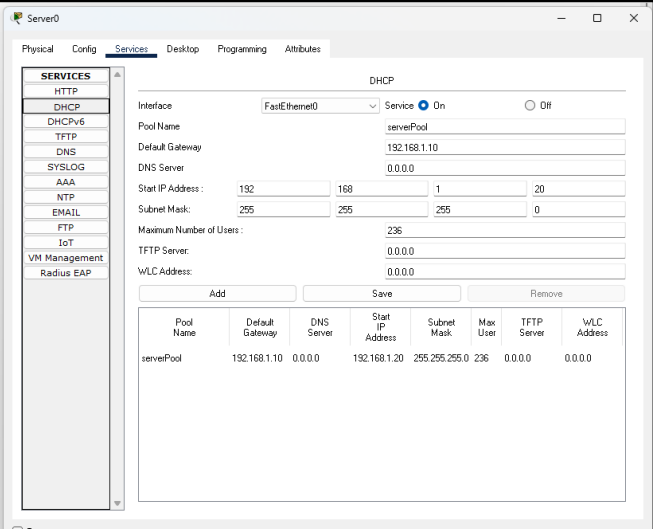


b. DHCP :



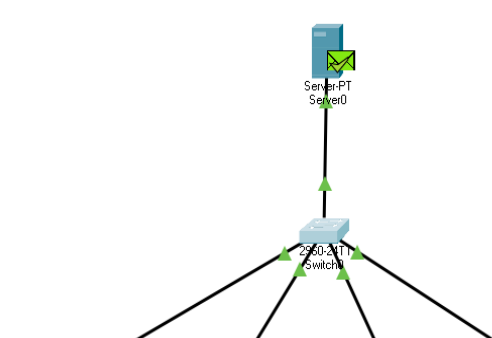
Date: 8/29/2025

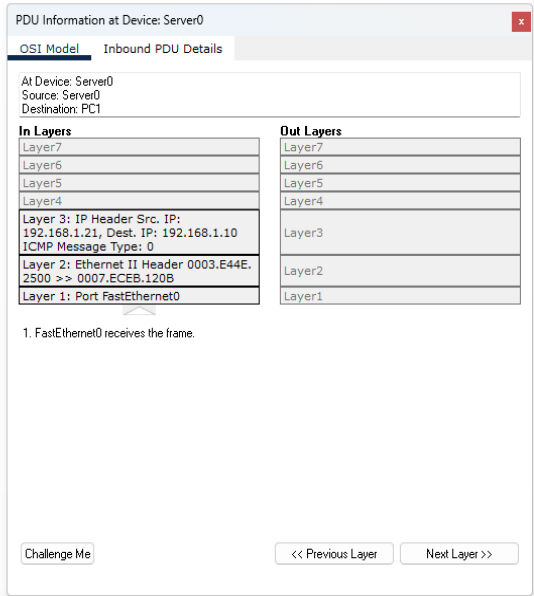




Server0 DHCP Configuration:

| Interface | Service | Pool Name | Default Gateway | DNS Server | Start IP Address | Subnet Mask | Maximum Number of Users | TFTP Server | WLC Address |
|---------------|---------|------------|-----------------|------------|------------------|---------------|-------------------------|-------------|-------------|
| FastEthernet0 | On | serverPool | 192.168.1.10 | 0.0.0.0 | 192.168.1.10 | 255.255.255.0 | 236 | 0.0.0.0 | 0.0.0.0 |





PDU Information at Device: Server0

At Device: Server0
Source: Server0
Destination: PC1

In Layers:

- Layer 7
- Layer 6
- Layer 5
- Layer 4
- Layer 3: IP Header Src. IP: 192.168.1.21, Dest. IP: 192.168.1.10
ICMP Message Type: 0
- Layer 2: Ethernet II Header 0003.E44E: 2500 -> 0007.ECEB.120B
- Layer 1: Port FastEthernet0

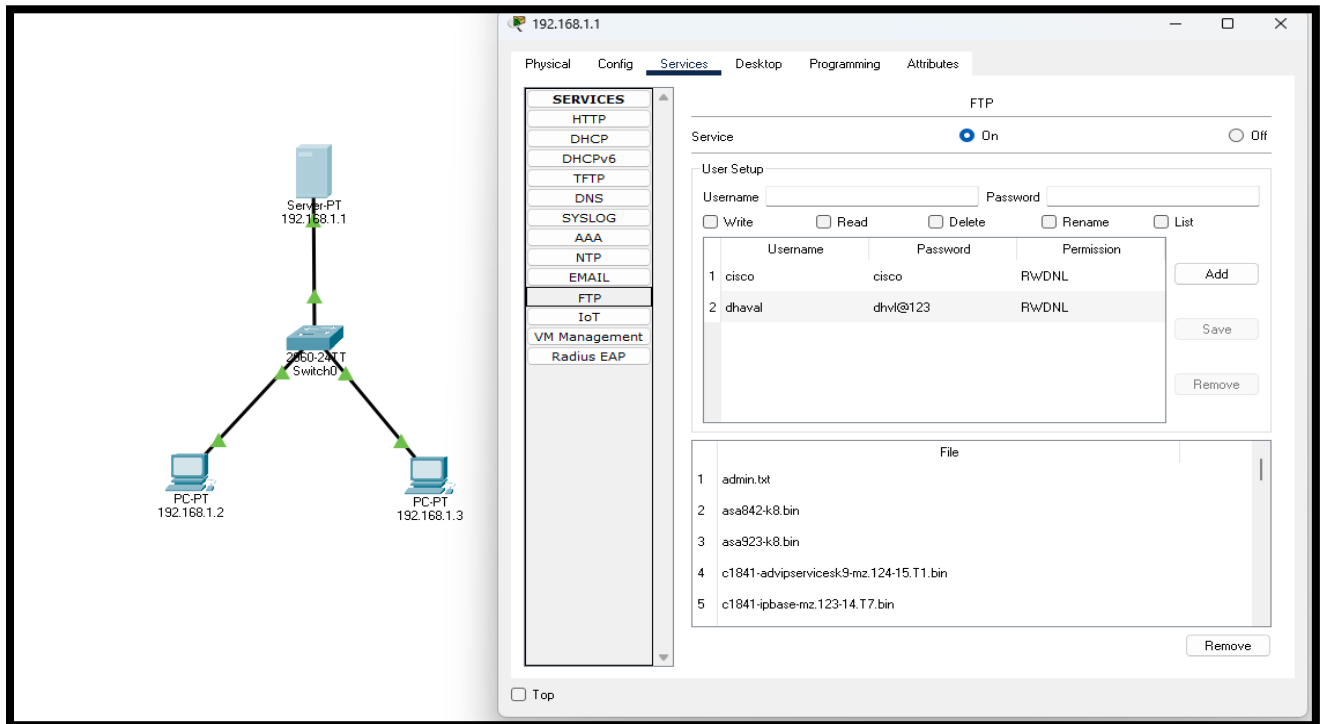
Out Layers:

- Layer 7
- Layer 6
- Layer 5
- Layer 4
- Layer 3
- Layer 2
- Layer 1

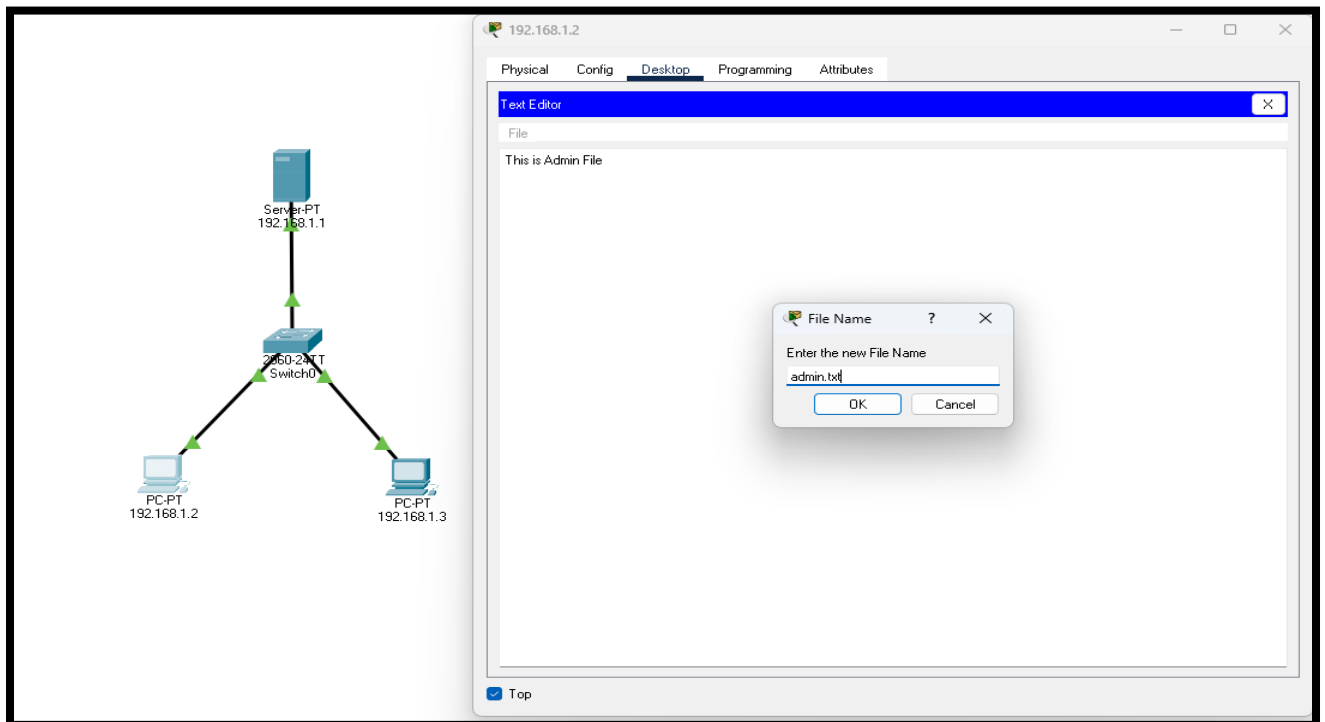
1. FastEthernet0 receives the frame.

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c. FTP :

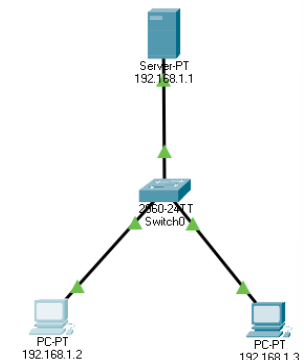


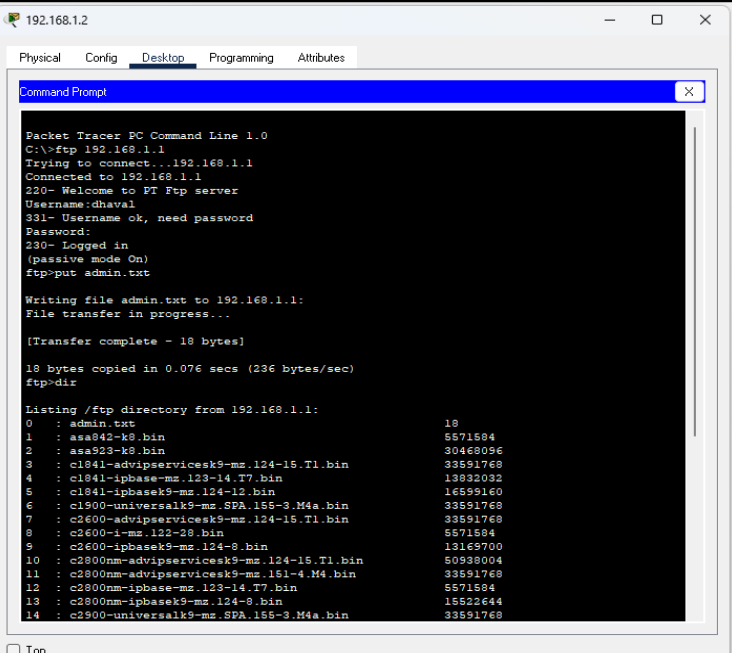
The screenshot shows a network topology on the left with a Server-PT (192.168.1.1) connected to a 2950-24TT Switch0, which is then connected to two PC-PTs (192.168.1.2 and 192.168.1.3). On the right, the configuration window for the 192.168.1.1 router is open, specifically the 'Services' tab. The 'FTP' service is enabled. The 'User Setup' section shows two users: 'cisco' with password 'cisco' and 'dhaval' with password 'dhvi@123', both with 'RWDNL' permissions. The 'File' section lists several files, including 'admin.txt'.



The screenshot shows the same network topology as the previous one. On the right, the configuration window for the 192.168.1.2 PC-PT is open, specifically the 'Desktop' tab. A 'Text Editor' window is open, showing the text 'This is Admin File'. A 'File Name' dialog box is also open, prompting the user to enter a new file name, with 'admin.txt' entered in the field.

Date: 8/29/2025





```

Packet Tracer PC Command Line 1.0
C:\>ftp 192.168.1.1
Trying to connect...192.168.1.1
Connected to 192.168.1.1
220- Welcome to PT Ftp server
Username:dhaval
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>put admin.txt

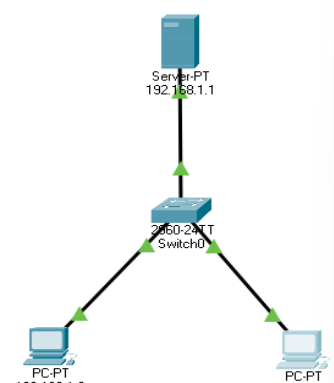
Writing file admin.txt to 192.168.1.1:
File transfer in progress...

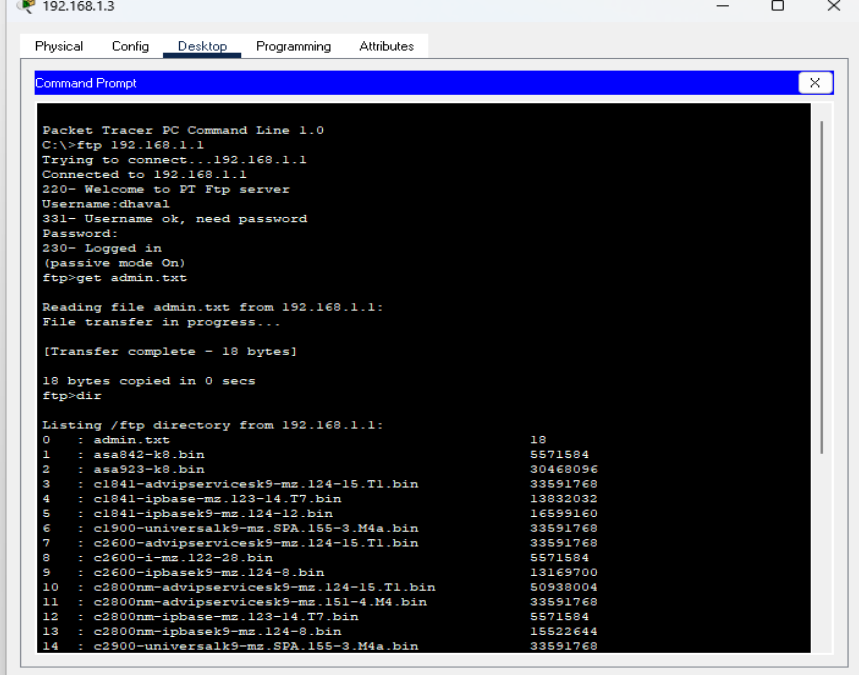
[Transfer complete - 18 bytes]

18 bytes copied in 0.076 secs (236 bytes/sec)
ftp>dir

Listing /ftp directory from 192.168.1.1:
 0 : admin.txt                               18
 1 : asa842-k8.bin                           5571584
 2 : asa923-k8.bin                           30468096
 3 : c1841-advipservicesk9-ms.124-15.Tl.bin  33591768
 4 : c1841-ipbase-ms.123-14.T7.bin           13832032
 5 : c1841-ipbasek9-ms.124-12.bin            16599160
 6 : c1900-universalk9-ms.SPA.155-3.M4a.bin  33591768
 7 : c2600-advipservicesk9-ms.124-15.Tl.bin  33591768
 8 : c2600-i-mz.122-28.bin                   5571584
 9 : c2600-ipbasek9-ms.124-8.bin             13169700
10 : c2800nm-advipservicesk9-ms.124-15.Tl.bin 50938004
11 : c2800nm-advipservicesk9-ms.151-4.M4a.bin 33591768
12 : c2800nm-ipbase-ms.123-14.T7.bin         16522644
13 : c2800nm-ipbasek9-ms.124-8.bin           15522644
14 : c2900-universalk9-ms.SPA.165-3.M4a.bin  33591768

```





```

Packet Tracer PC Command Line 1.0
C:\>ftp 192.168.1.1
Trying to connect...192.168.1.1
Connected to 192.168.1.1
220- Welcome to PT Ftp server
Username:dhaval
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>get admin.txt

Reading file admin.txt from 192.168.1.1:
File transfer in progress...

[Transfer complete - 18 bytes]

18 bytes copied in 0 secs
ftp>dir

Listing /ftp directory from 192.168.1.1:
 0 : admin.txt                               18
 1 : asa842-k8.bin                           5571584
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12 : c2800nm-ipbase-ms.123-14.T7.bin         16522644
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```