

Date: 23/07/2025

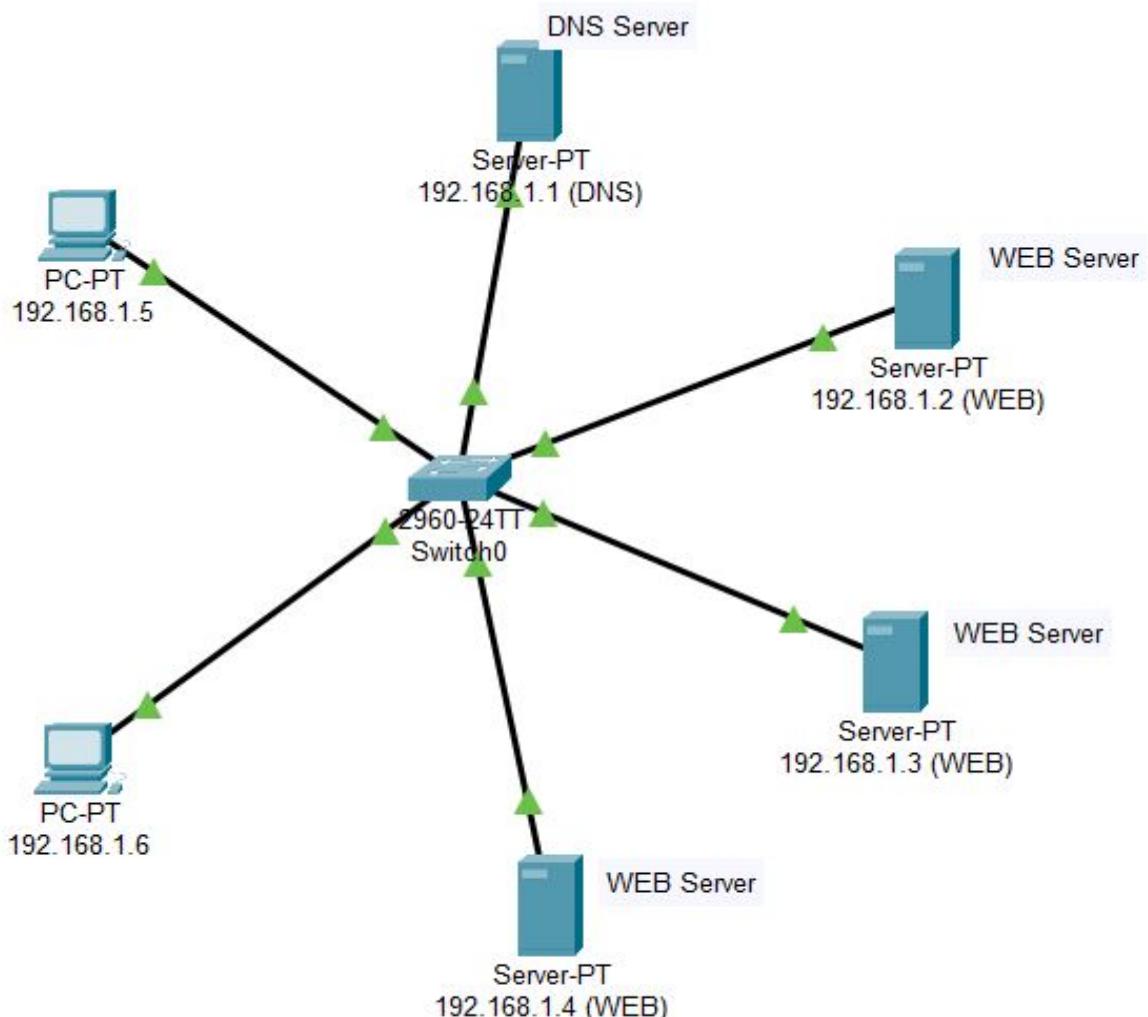
### Lab Practical #07:

Study the application layer protocol DNS, DHCP, FTP.

### Practical Assignment #07:

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

#### 1. DNS





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Semester 5<sup>th</sup> | Practical Assignment | Computer Networks (2301CS501)

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The screenshot shows a web-based interface for managing files on a DNS service. The top navigation bar includes tabs for Physical, Config, Services, Desktop, Programming, and Attributes. The Services tab is selected, showing a sidebar with options like HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP, IoT, VM Management, and Radius EAP. The main content area is titled 'HTTP' and contains two sections: 'HTTP' and 'HTTPS'. Both sections have radio buttons for 'On' and 'Off', with 'On' selected for both. Below these is a 'File Manager' section with a table listing five files:

File Name	Edit	Delete
1 copyrights.html	(edit)	(delete)
2 cscoptlogo177x111.jpg		(delete)
3 helloworld.html	(edit)	(delete)
4 image.html	(edit)	(delete)
5 index.html	(edit)	(delete)

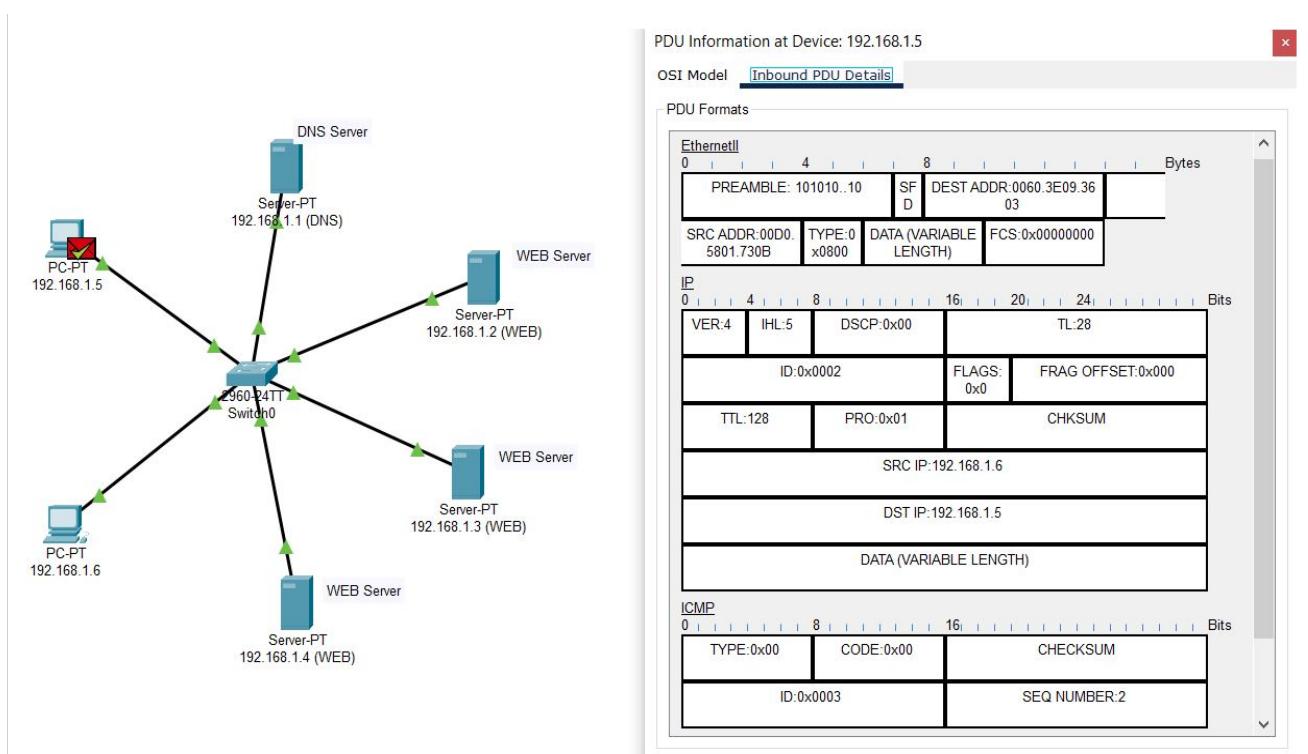
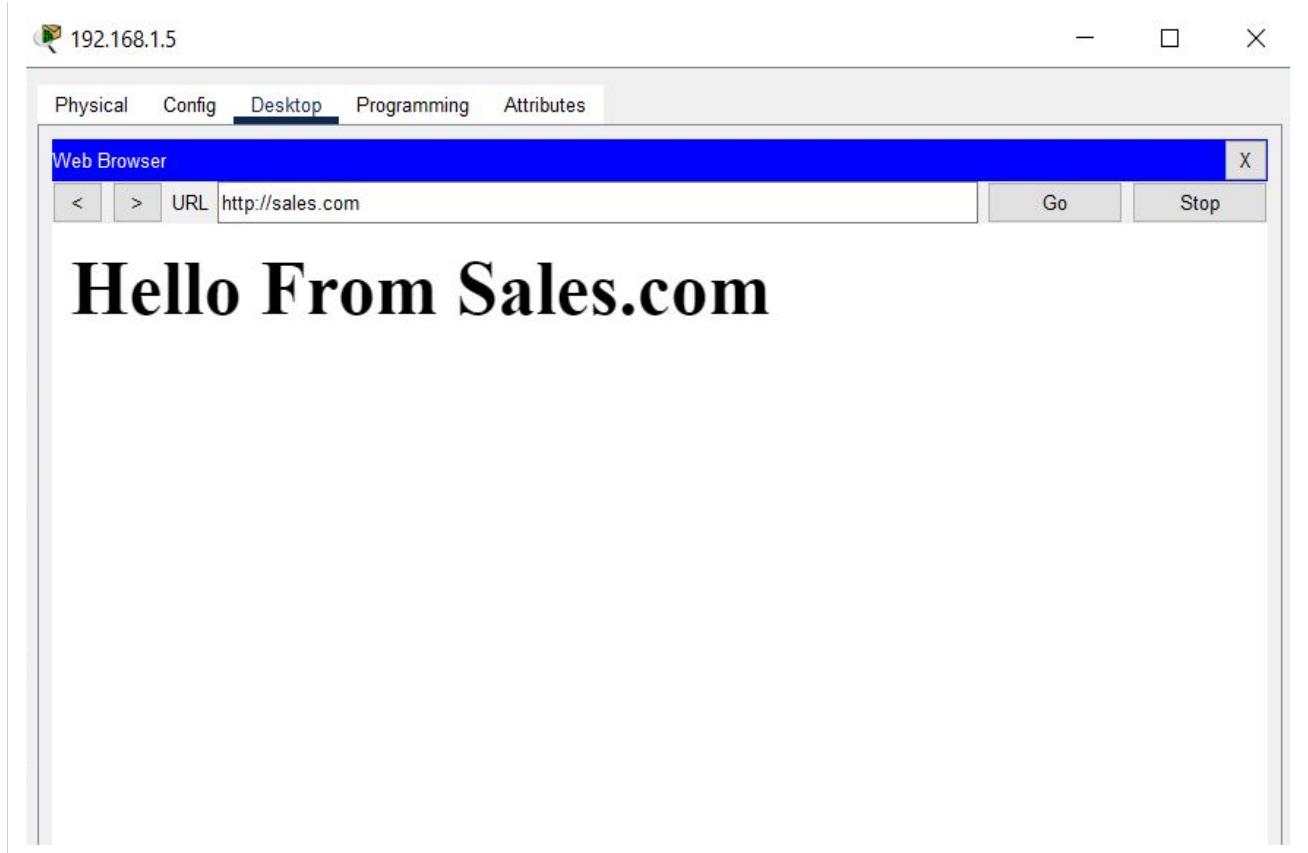
At the bottom right of the file manager are 'New File' and 'Import' buttons.



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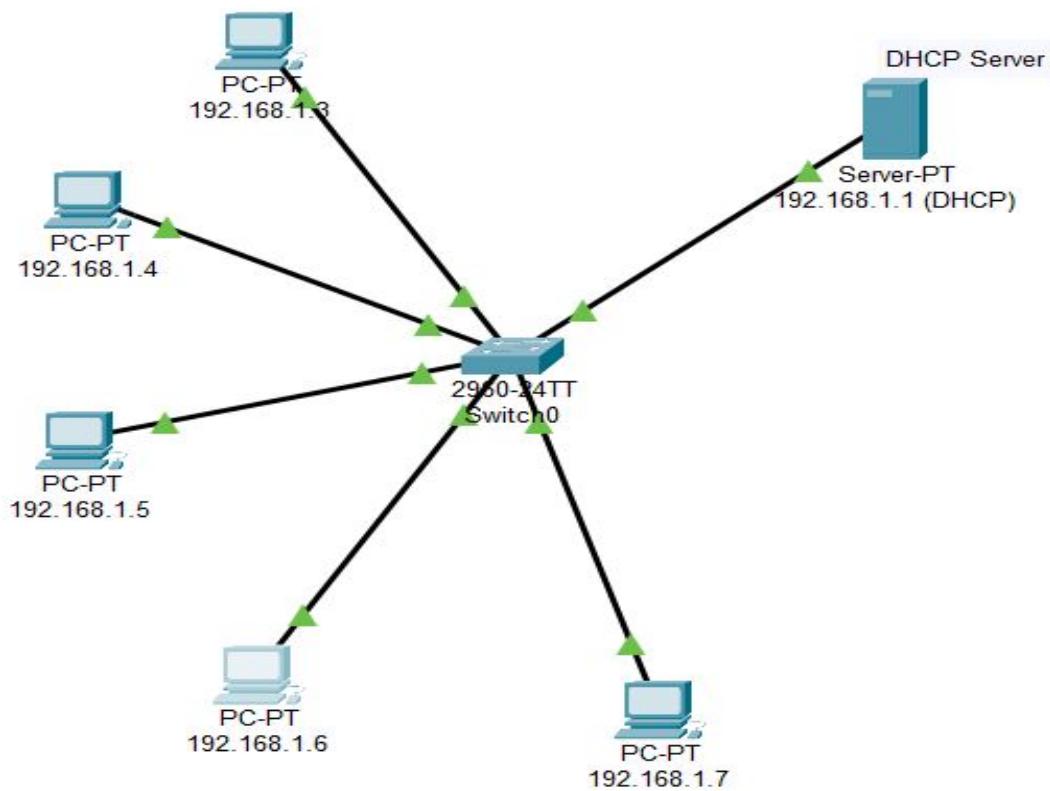
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## 2. DHCP





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192.168.1.1 (DHCP)

Physical Config Services Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

**DHCP**

Interface	FastEthernet0	Service	On	Off
Pool Name	serverPool			
Default Gateway	0.0.0.0			
DNS Server	0.0.0.0			
Start IP Address :	192	168	1	2
Subnet Mask:	255	255	255	0
Maximum Number of Users :	254			
TFTP Server:	0.0.0.0			
WLC Address:	0.0.0.0			

Add Save Remove

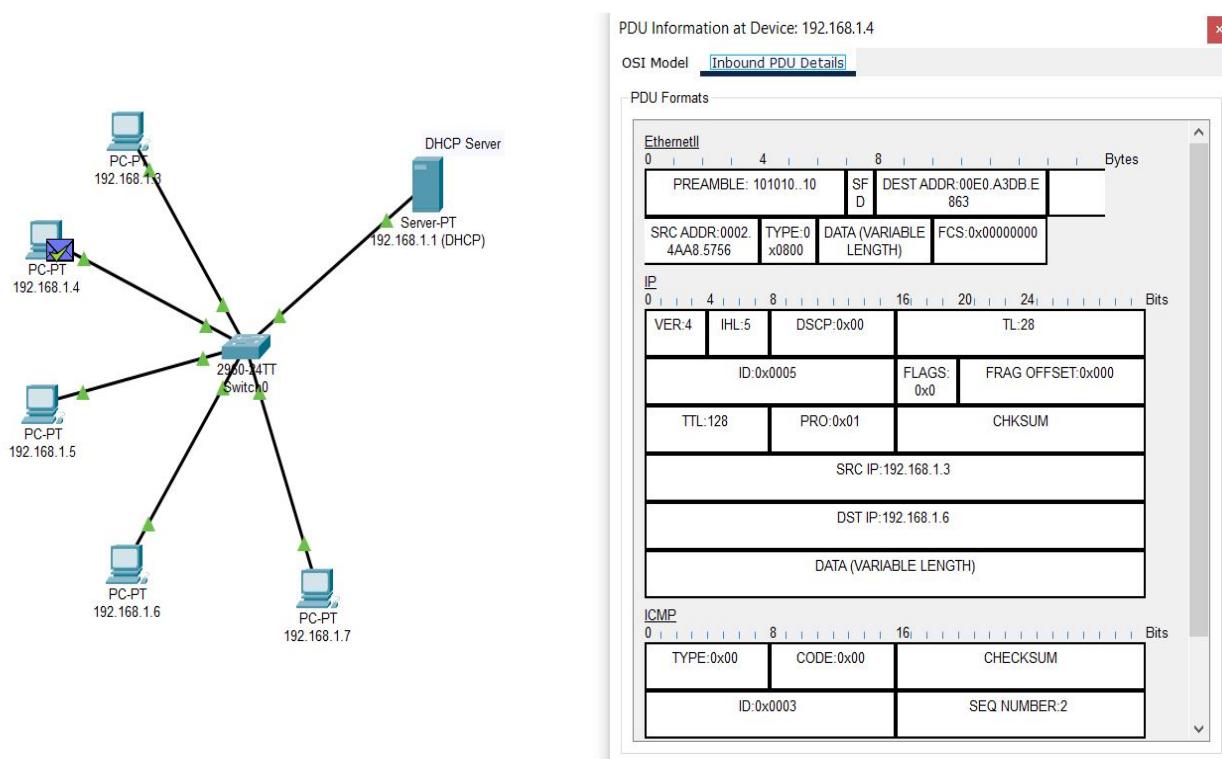
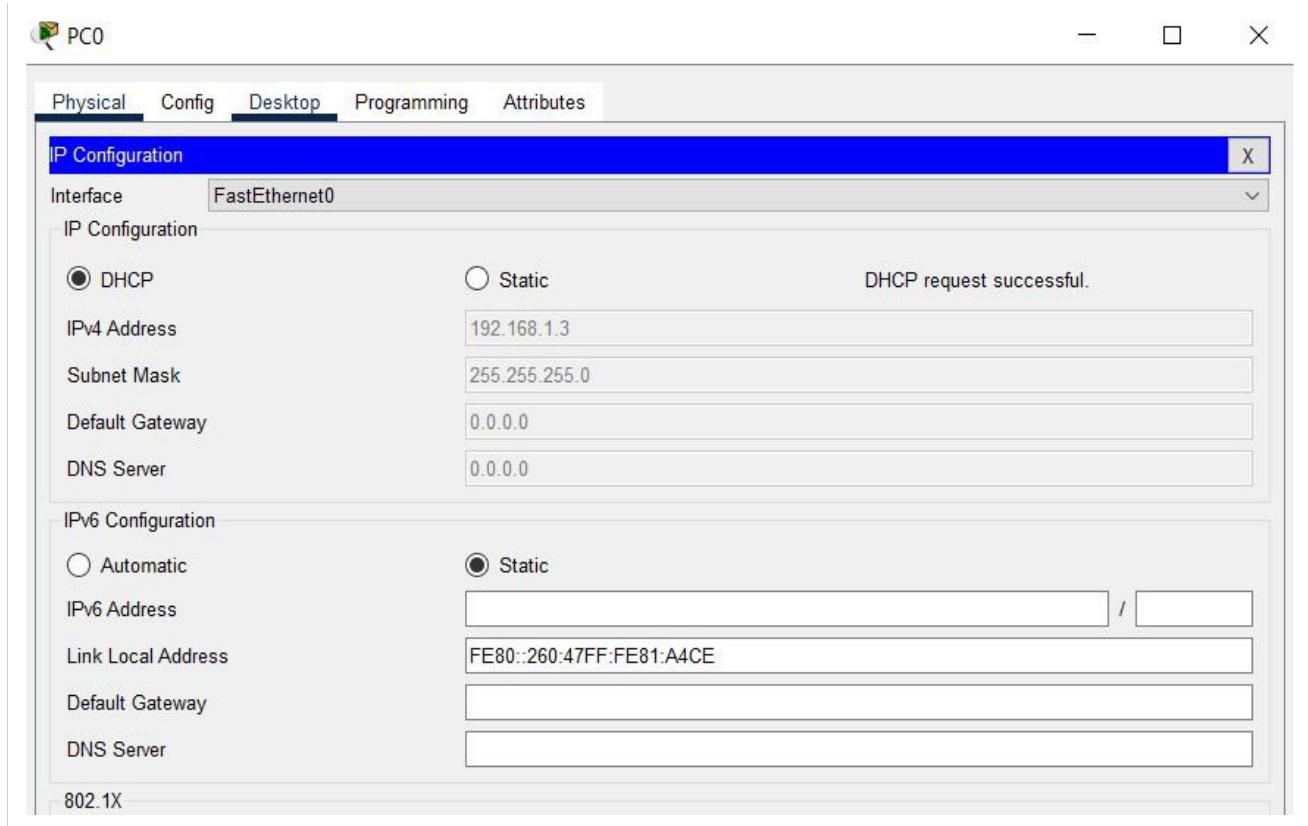
Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	0.0.0.0	0.0.0.0	192.168.1.2	255.255.2...	254	0.0.0.0	0.0.0.0



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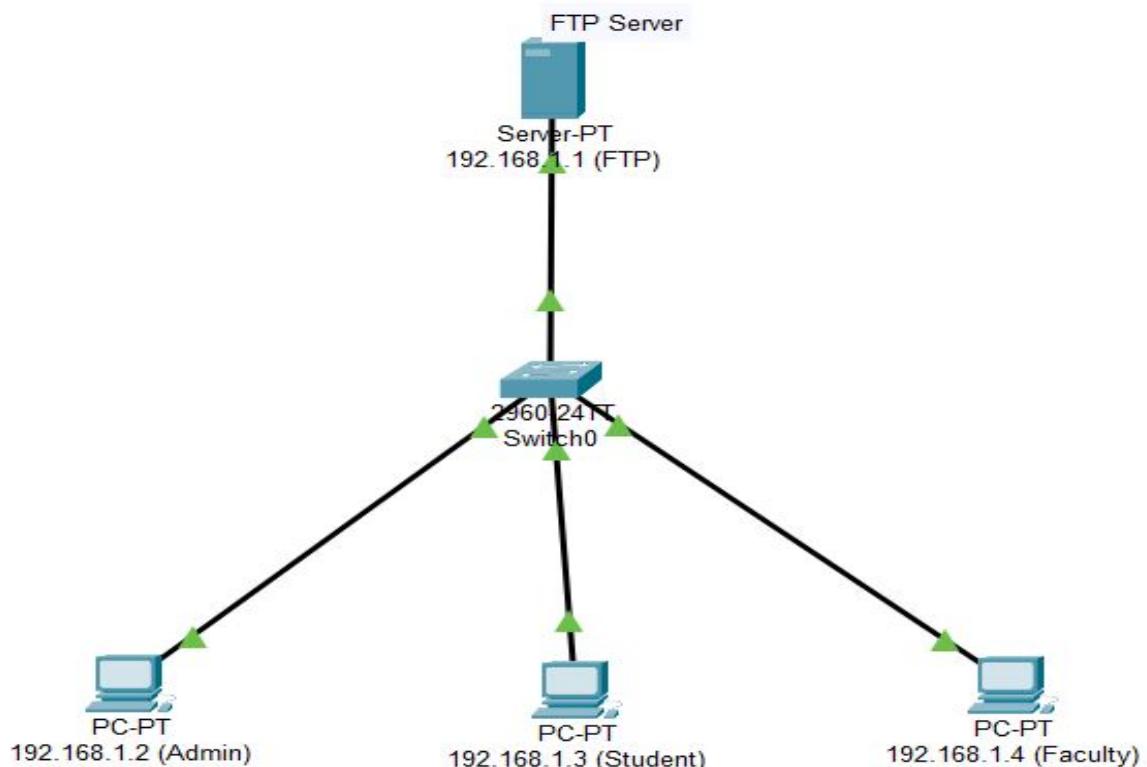
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### 3. FTP





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Semester 5<sup>th</sup> | Practical Assignment | Computer Networks (2301CS501)

Date: 23/07/2025

The screenshot shows a network management interface for a device at 192.168.1.1 (FTP). The left sidebar lists various services: Physical, Config, Services (selected), Desktop, Programming, Attributes, HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, **FTP** (selected), IoT, VM Management, and Radius EAP. The main area is titled 'FTP' under 'Service' with 'On' selected. It includes 'User Setup' fields for 'Username' and 'Password', and checkboxes for 'Write', 'Read', 'Delete', 'Rename', and 'List'. A table lists three users: admin (adm, RWDNL), student (stu, RL), and faculty (fac, RWL). Buttons for 'Add', 'Save', and 'Remove' are present. Below this is a 'File' section listing seven files: asa842-k8.bin, asa923-k8.bin, c1841-adviservicesk9-mz.124-15.T1.bin, c1841-ipbase-mz.123-14.T7.bin, c1841-ipbasek9-mz.124-12.bin, c1900-universalk9-mz.SPA.155-3.M4a.bin, and c2600-adviservicesk9-mz.124-15.T1.bin. A 'Remove' button is located at the bottom right of this section.

Username	Password	Permission
1 admin	adm	RWDNL
2 student	stu	RL
3 faculty	fac	RWL



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192.168.1.3 (Student)

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco 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:student
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>get demo.txt

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

[Transfer complete - 20 bytes]

20 bytes copied in 0 secs
ftp>
```

192.168.1.3(admin)

Physical Config Desktop Programming Attributes

Command Prompt

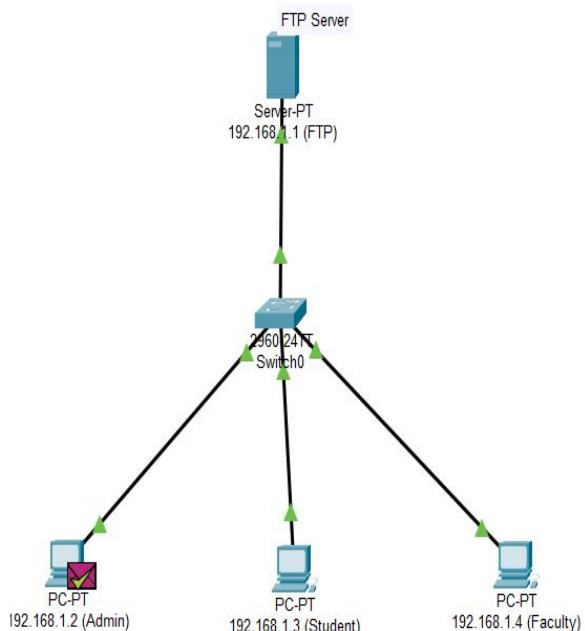
```
Cisco Packet Tracer PC Command Line 1.0
C:>ftp 192.168.1.1
Trying to connect...192.168.1.1
Connected to 192.168.1.1
220- Welcome to PT Ftp server
Username:admin
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>put demmo.txt
%Error opening c:demmo.txt (No such file or directory)
ftp>put demo.txt

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

[Transfer complete - 8 bytes]

8 bytes copied in 0.077 secs (103 bytes/sec)
ftp>
```

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PDU Information at Device: 192.168.1.2 (Admin)

OSI Model [Inbound PDU Details](#)

PDU Formats

EthernetII		Bytes
PREAMBLE: 101010..10	SF D	DEST ADDR: 0001.9706.34 DD
SRC ADDR: 0010.11E8.3DD7	TYPE: 0x0800	DATA (VARIABLE LENGTH)
FCS: 0x00000000		
IP		Bits
VER:4	IHL:5	DSCP:0x00 TL:28
ID: 0x0003	FLAGS: 0x0	FRAG OFFSET: 0x000
TTL:128	PRO: 0x01	CHKSUM
SRC IP: 192.168.1.4		
DST IP: 192.168.1.2		
DATA (VARIABLE LENGTH)		
ICMP		Bits
TYPE: 0x00	CODE: 0x00	CHECKSUM
ID: 0x0004	SEQ NUMBER: 3	