

Date: 18/08/24

Lab Practical #06:

Study the application layer protocol DNS, DHCP, FTP.

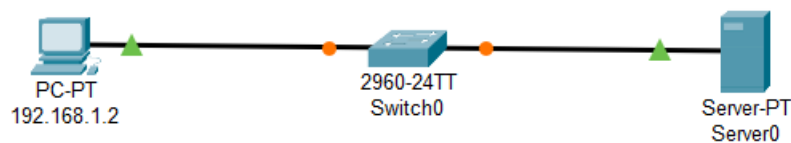
Practical Assignment #06:

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

Instructions:

1. Protocol-wise configuration setup screenshot.
2. Mention IP address of each pc as label.
3. Ping command or PDU screenshot between two pcs.

1->> DNS:



Date: 18/08/24

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 192.168.1.1

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::20B:BEFF:FE32:CAAB

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

Server0

Physical Config **Services** Desktop Programming Attributes

SERVICES

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

HTTP

HTTP: ☒ On ☐ Off

HTTPS: ☒ On ☐ Off

File Manager

	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)

☐ Top

New File Import



Date: 18/08/24

Server0

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
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- DHCPv6
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- EMAIL
- FTP
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DNS

DNS Service ☒ On ☐ Off

Resource Records

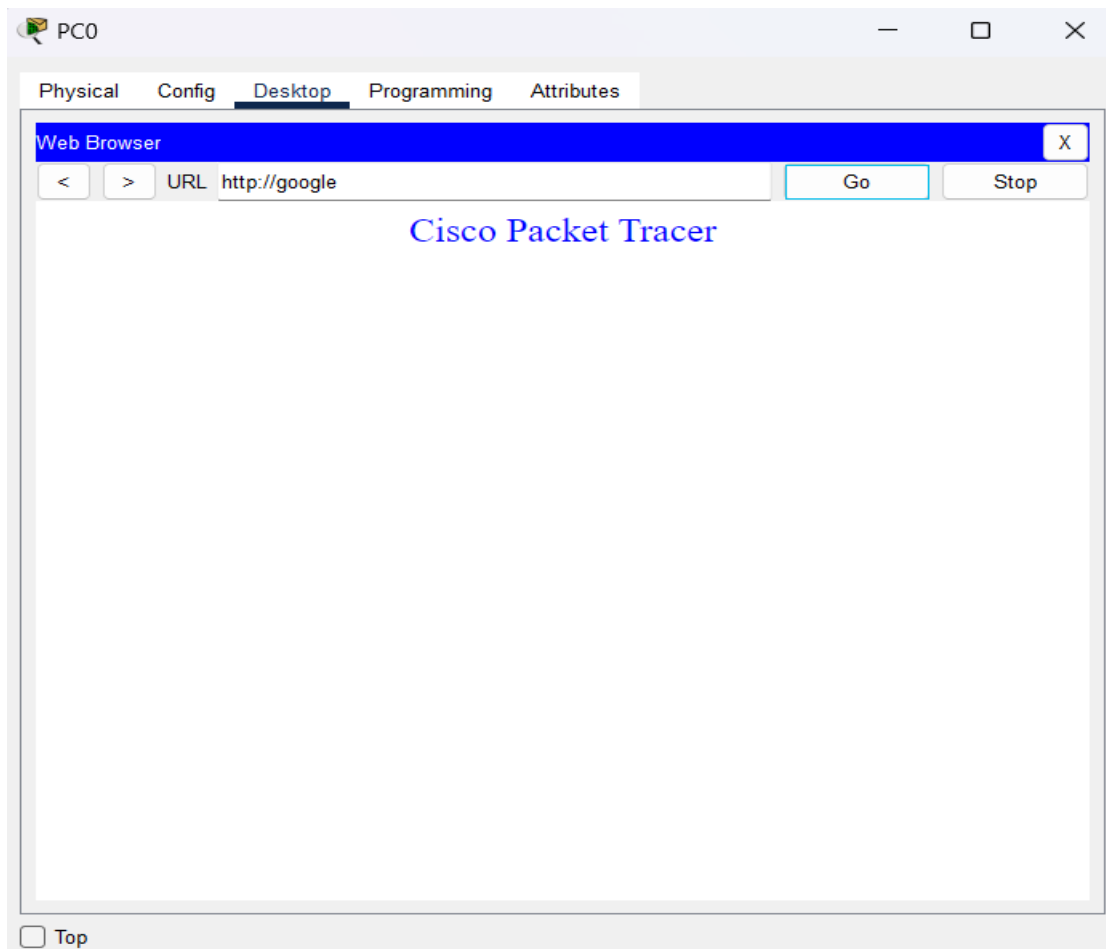
Name Type **A Record** ▾

Address

No.	Name	Type	Detail
0	google	A Record	192.168.1.1

☐ Top

Date: 18/08/24



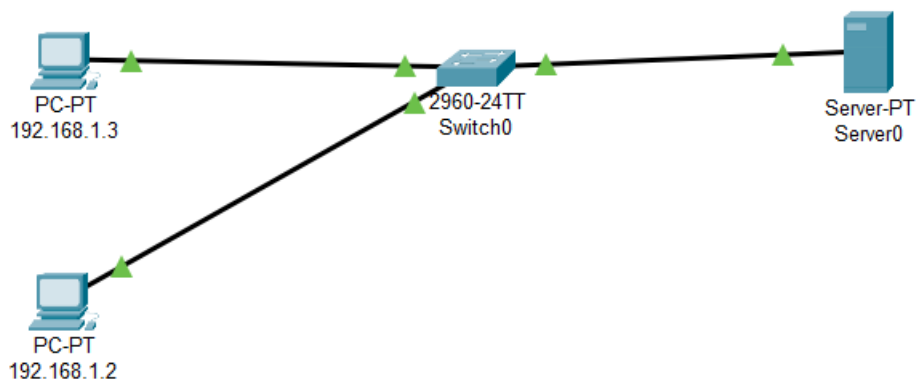
Steps :-

- Add One PC , One Switch, One Server .
- Connect the devices.
- Assign an IP address(192.168.1.1) in server.
- On Http and Https on button in Http in services.
- Turn on the DNS Service by clicking the On button.
- Add a DNS record like Name: google , Address: 192.168.1.1
- Assign an IP address(192.168.1.2), subnet mask(255.255.255.0), and DNS server(192.168.1.1) address.
- In PC0, go to the Desktop tab.
- Open the Web Browser.

Date: 18/08/24

- Enter `http://google` in the URL field and click Go.
- The web browser should attempt to connect to `192.168.1.1`.

2->>DHCP:





Date: 18/08/24

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 192.168.1.3

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:2FFF:FE33:512D

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Date: 18/08/24

Server0

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::230:F2FF:FE94:8CB3

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

Server0

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: 192.168.1.0

DNS Server: 0.0.0.0

Start IP Address: 192 168 1 0

Subnet Mask: 255 255 255 0

Maximum Number of Users: 255

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	192.16...	0.0.0.0	192.16...	255.25...	255	0.0.0.0	0.0.0.0

☐ Top

Date: 18/08/24

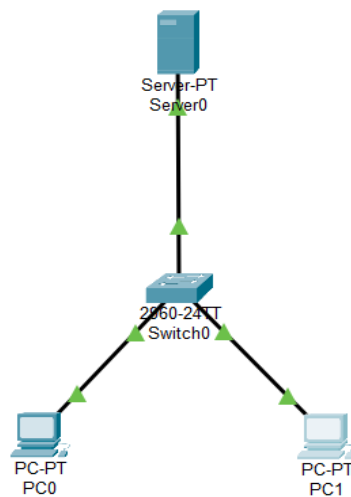
Steps :-

- Add Two PC , One Switch, One Server .
- Connect the devices.
- Turn on the DHCP Service by clicking the On button.
- Pool Name: serverPool , Default Gateway: 192.168.1.1 , DNS Server: 192.168.1.1 ,

Start IP Address: 192.168.1.2, Subnet Mask: 255.255.255.0.

- Click Add to save the DHCP pool configuration.
- Turn on the DHCP desktop and configure IP address to static.
- Configure the PCs , Set the IP configuration to DHCP.

3->>FTP:



Date: 18/08/24

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP
- DHCPv6
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- NTP
- EMAIL
- FTP**
- IoT
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FTP

Service ☒ On ☐ Off

User Setup

Username Password

☒ Write ☒ Read ☒ Delete ☒ Rename ☒ List

	Username	Password	Permission	
1	cisco	cisco	RWDNL	Add
2	user	123	RWDNL	Save
				Remove

File

1	asa923-k8.bin
2	c1841-advipservicesk9-mz.124-15.T1.bin
3	c1841-ipbase-mz.123-14.T7.bin
4	c1841-ipbasek9-mz.124-12.bin
5	c1900-universalk9-mz.SPA.155-3.M4a.bin
6	c2600-advipservicesk9-mz.124-15.T1.bin
7	c2600-i-mz.122-28.bin

Remove

```
C:\>ftp 10.10.10.0
Trying to connect...10.10.10.0
Connected to 10.10.10.0
220- Welcome to PT Ftp server
Username:user
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>
```



Date: 18/08/24

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 10.10.10.2

Subnet Mask 255.0.0.0

Default Gateway 10.10.10.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::250:FFF:FE49:A867

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

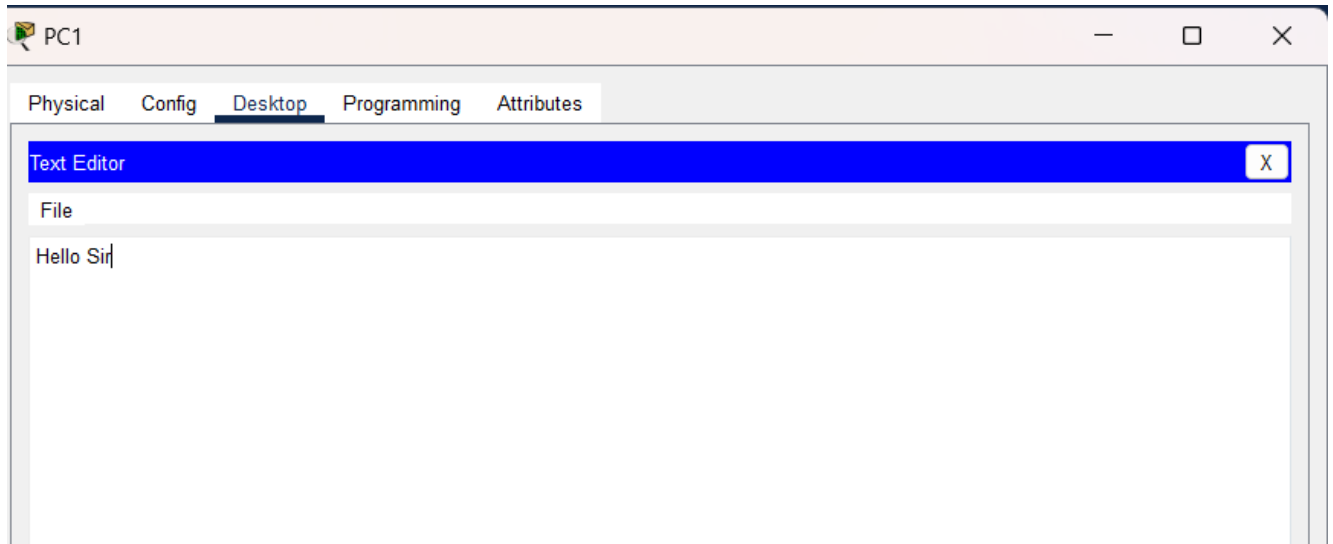
```
ftp>put ducn.html

Writing file ducn.html to 10.10.10.0:
File transfer in progress...

[Transfer complete - 20 bytes]

20 bytes copied in 0.043 secs (465 bytes/sec)
ftp>
```

Date: 18/08/24



Steps :-

- Add Two PC ,One Switch, One Router,One Server .
- Connect the devices.
- Assign IPaddress (10.10.10.0) in sever.
- Turn on the FTP Service by clicking the On button.
- Configure username(cisco 1) and password (text) and allow permission and click add button.
- Now one text file(hello.txt) created in text editor in desktop .
- Now open command prompt in desktop in server.
- Write ftp IPaddress (10.10.10.0) after enter username and password .
- After login write dir to check filename.
- Assign ipaddress(10.10.10.20) , subnetmask(255.255.255.0), default gateway(10.10.10.0) in client.
- Now open command prompt in desktop in client.
- Write ftp IPaddress after enter username and password .
- Now write get textfilename.