

## ASSIGNMENT 3

### 1)Configure DHCP server on generic server.

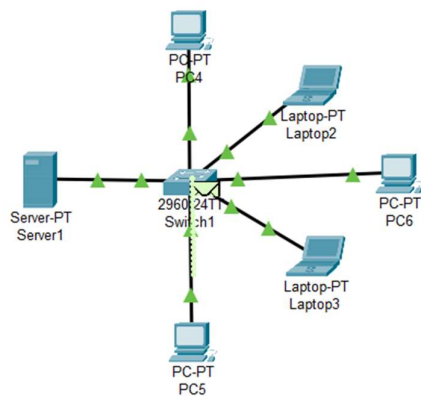
**DHCP server:** DHCP is a network management protocol used in networks to dynamically assign IP addresses and other network configuration information like default gateway, mask, DNS server address etc, It is an application layer protocol.

#### Process:

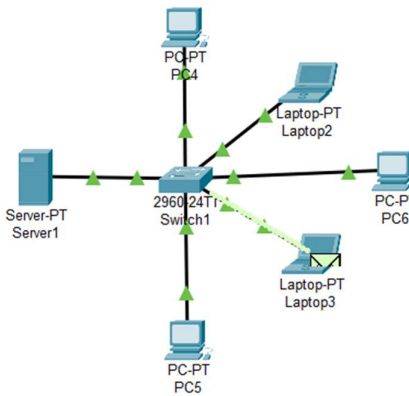
- 1)Take one server-PT,one 2960 switch and 5 PCs (End Devices) and connect them using copper straight through cable.
- 2)Open IP configuration of server and assign IP address of server as 192.168.1.1 ,and go to services and click on DHCP and click ON of server. Keep the pool name as Sumanvitha(any name of our wish),set the default gateway with IP address same as that of IP address of server.Set DNS server as 0.0.0.0 and maximum number of devices as 25. Set start IP address as 192.168.1.10 then click on save.(Values our wish according to IP address of server)
- 3)Then for each PC, open IP configuration and click on DHCP server option, the IP addresses will be automatically assigned due to DHCP server.
- 4)Then ping all other devices from each device and check whether they are communicable or not by sending messages.

### OUTPUT SS:

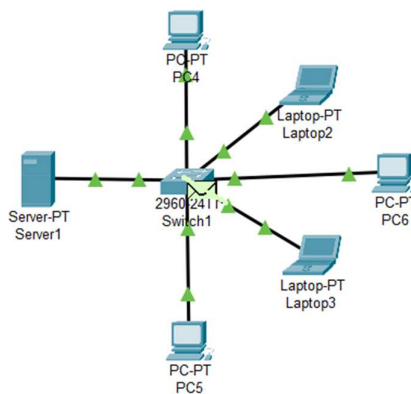
CONFIGURING DHCP ON SERVER



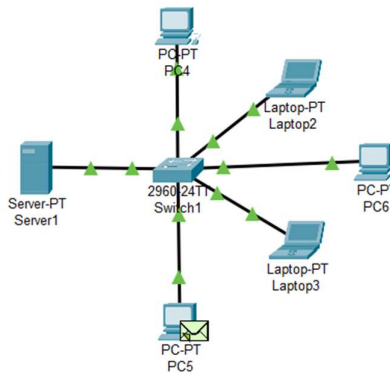
CONFIGURING DHCP ON SERVER



CONFIGURING DHCP ON SERVER



CONFIGURING DHCP ON SERVER



## 2)Configure DHCP server on router.

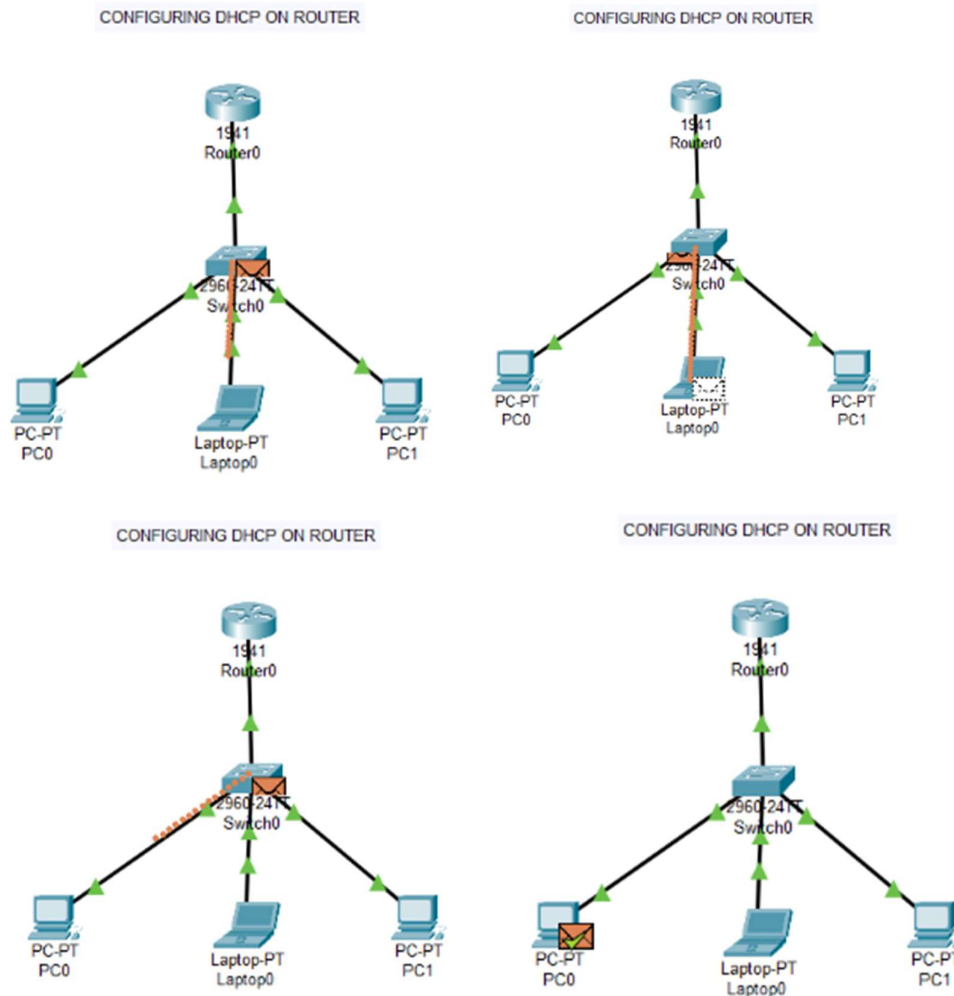
**DHCP server:** DHCP is a network management protocol used in networks to dynamically assign IP addresses and other network configuration information like default gateway, mask, DNS server address etc, It is an application layer protocol.

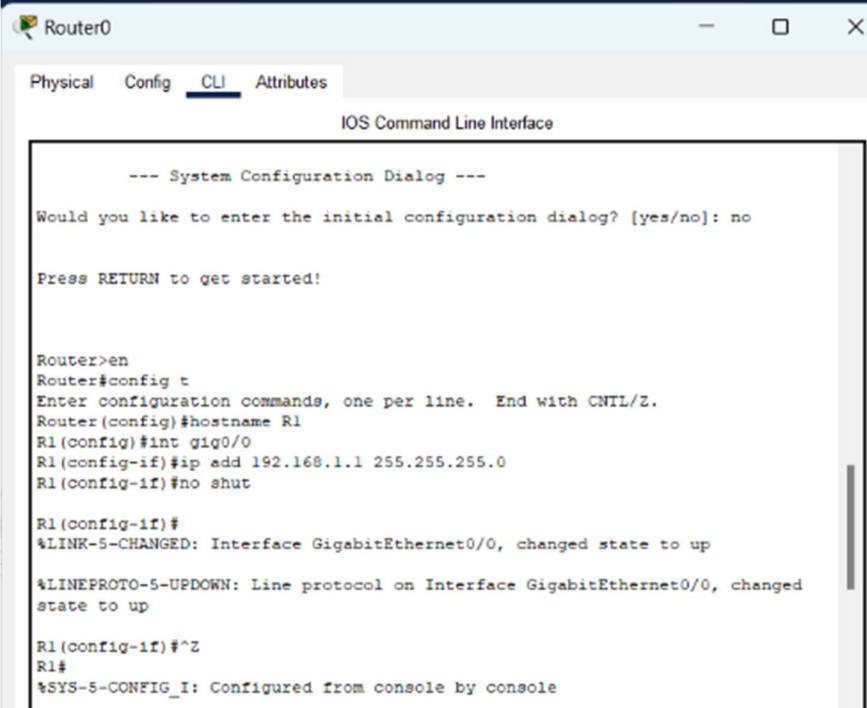
### Process:

1)Take one 2911 router,one 2960 switch and 4 PCs (End Devices) and connect them using copper straight through cable.

2)Then to set IP addresses for devices in network,DNS server addresss, run following commands in CLI of router in our network.

### OUTPUT SS:



**COMMAND SS:**


```

Router0
Physical Config CLI Attributes
IOS Command Line Interface

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1
R1(config)#int gig0/0
R1(config-if)#ip add 192.168.1.1 255.255.255.0
R1(config-if)#no shut

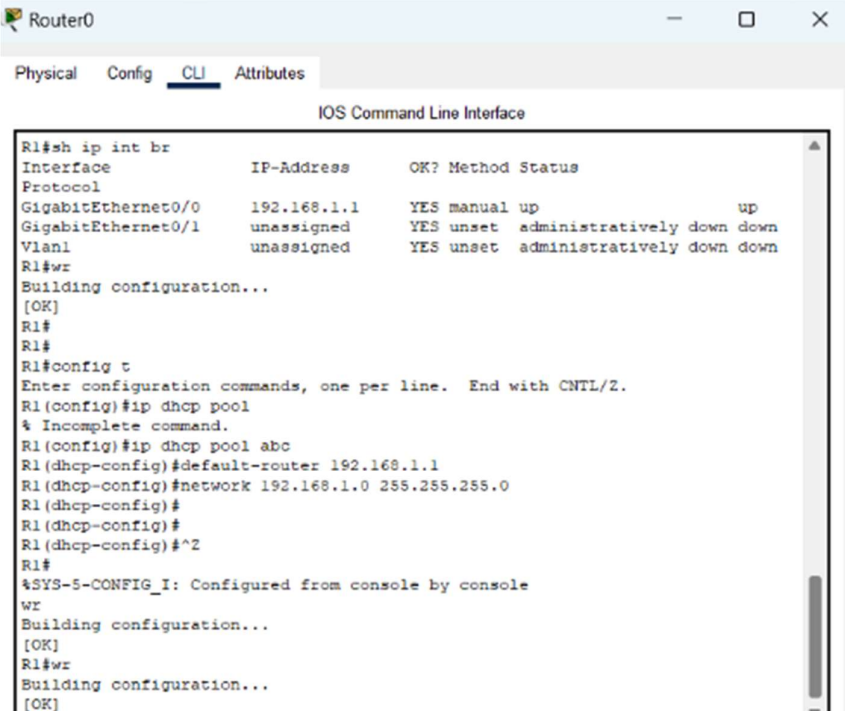
R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed
state to up

R1(config-if)#^Z
R1#
%SYS-5-CONFIG_I: Configured from console by console

```

3) Then check whether devices are able to communicate or not using ping command in command prompt of each device. We can ping all devices from switch as shown in below figure.



```

Router0
Physical Config CLI Attributes
IOS Command Line Interface

R1#sh ip int br
Interface          IP-Address      OK? Method Status
Protocol
GigabitEthernet0/0 192.168.1.1     YES manual up
GigabitEthernet0/1 unassigned      YES unset  administratively down down
Vlan1              unassigned      YES unset  administratively down down
R1#wr
Building configuration...
[OK]
R1#
R1#
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#ip dhcp pool
% Incomplete command.
R1(config)#ip dhcp pool abc
R1(dhcp-config)#default-router 192.168.1.1
R1(dhcp-config)#network 192.168.1.0 255.255.255.0
R1(dhcp-config)#
R1(dhcp-config)#^Z
R1#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
R1#wr
Building configuration...
[OK]

```

4) Then send message from one device to other.