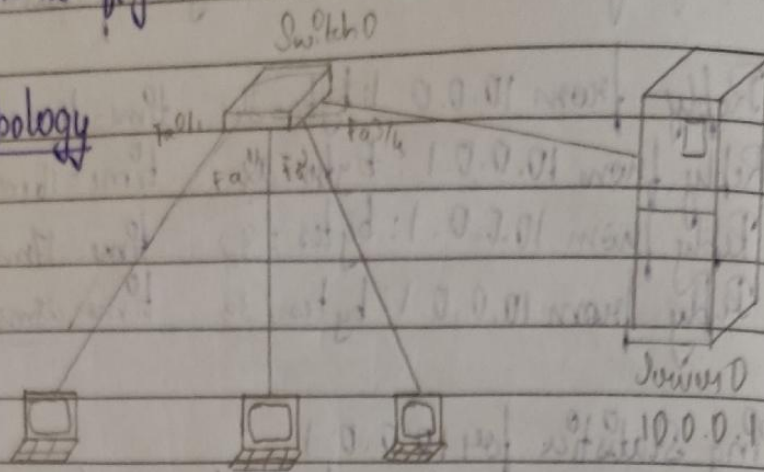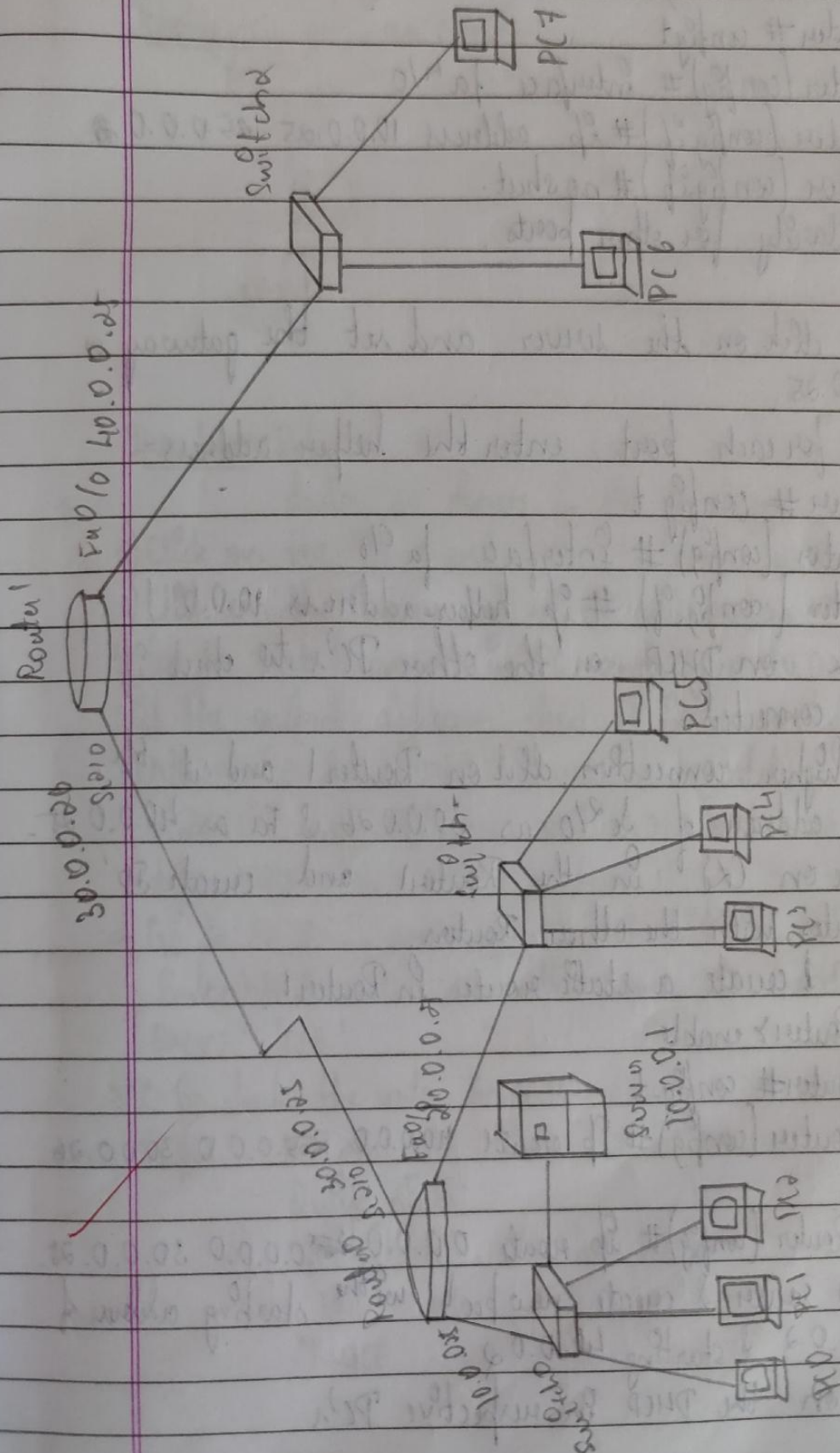# Lab 5

Aim: Configure DHCP between 2 to LAN.

Topology

Procedure = 1) Select 3 PC's and one Server. with connecting all the devices with a switch.

2) Click on the server and give IP address as 10.0.0.1

3) Click on the server and click DHCP.

4) Create a new pool name : Server pool

Start IP address : 10.0.0.2

Subnet Mask : 255.0.0.0

5) Now go to the PC's and click on IP config and select DHCP. We can clearly see that the PC's are connected to the server.

II For DHCP outside LAN:-

Procedure.

1) Now we connect two different LAN's with each other.

2) Looking at the below topology, connect 3 PC's to a switch and other 3 PC's to a router. Connect Router0 & Router1 with the switch1 & switch2.

PC1

Switch2

PC2

Router1

Fa0/0 10.0.0.1

Serial 20.0.0.98

PC3

Fa0/0 10.0.0.1

Switch1
10.0.0.1

PC4

PC5

Serial 30.0.0.98

Router2

Switch
10.0.0.1

PC6

PC7

PC8

3) Click on the Router0 and select CLI and give the following:

Router > enable
Router # config t
Router (config) # interface fa 4/0
Router (config if) # ip address 10.0.0.25 25.0.0.0
Router (config if) # no shut.
Similarly for other ports.

4) Also click on the server and set the gateway as 10.0.0.25

5) Also for each port enter the helper address :-
Router # config t
Router (config) # Interface fa 0/0
Router (config if) # ip helper-address 10.0.0.1

6) Click on DHCP on the other PC's to check if its connected

7) For higher connection, click on Router1 and set the IP address of Se 2/0 as 30.0.0.26 & Fa as 40.0.0.25.

8) Click on CLI in the Router1 and create IP routes with the other Router.

9) Also I create a static route in Router1.
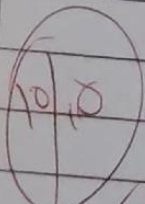Router > enable
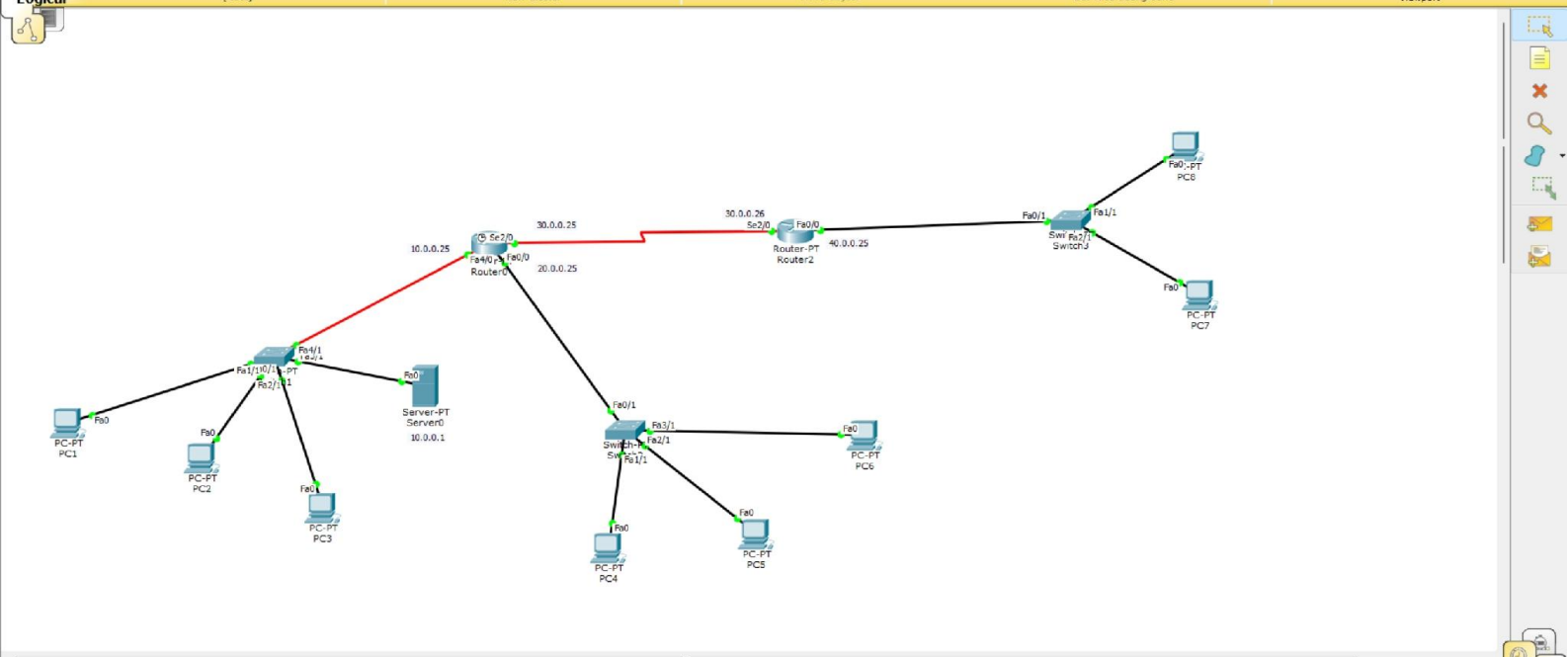Router # config t
Router (config) # ip route 40.0.0.0 255.0.0.0 30.0.0.26

11ly

Router (config) # ip route 0.0.0.0 0.0.0.0 30.0.0.25.

10) Go to server & create new pool with the starting address of 20.0.0.2 & starting 40.0.0.2
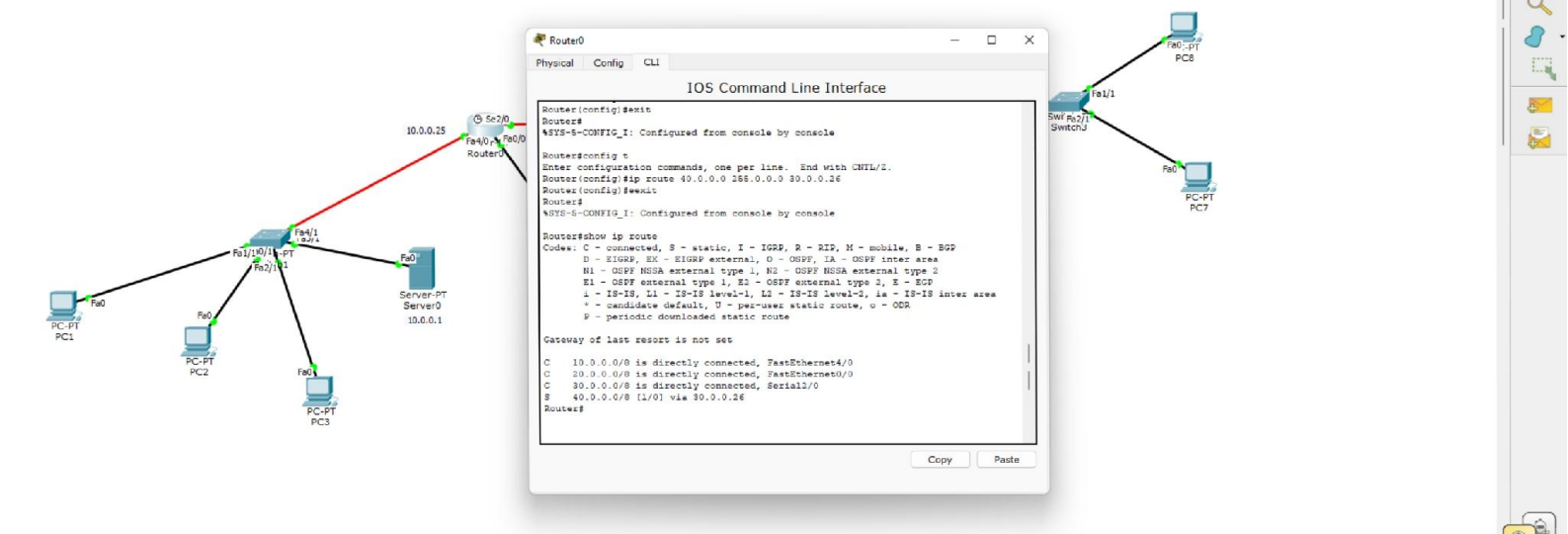
11) Click on the DHCP in respective PC's
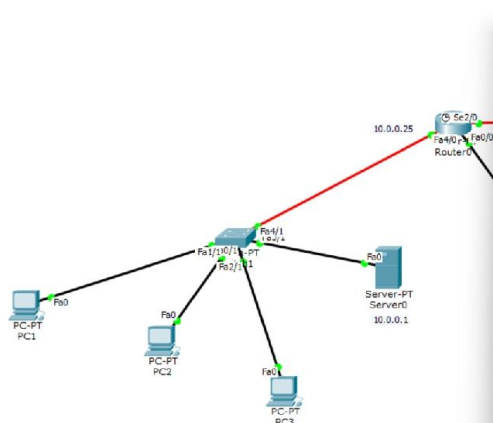
Logical	[Root]	New Cluster	Move Object	Set Tiled Background	Viewport

Router0

Physical   Config   CLI

IOS Command Line Interface

```
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 40.0.0.0 255.0.0.0 30.0.0.26
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    10.0.0.0/8 is directly connected, FastEthernet4/0
C    20.0.0.0/8 is directly connected, FastEthernet0/0
C    30.0.0.0/8 is directly connected, Serial2/0
S    40.0.0.0/8 [1/0] via 30.0.0.26
Router#
```

Copy   Paste

PC8
PC7
PC1
PC2
PC3
Server0
10.0.0.1
Router0
10.0.0.25

Time: 01:26:07   Power Cycle Devices Fast Forward Time   **Realtime**

Connections

Automatically Choose Connection Type

Scenario 0

New   Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	PC1	PC2	ICMP	■	0.000	N	0	(edit)	(delete)

Logical   [Root]   New Cluster   Move Object   Set Tiled Background   Viewport

Router2

Physical Config CLI

IOS Command Line Interface

```
% Invalid input detected at '^' marker.

Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is 30.0.0.25 to network 0.0.0.0

C    30.0.0.0/8 is directly connected, Serial2/0
C    40.0.0.0/8 is directly connected, FastEthernet0/0
S*   0.0.0.0/0 [1/0] via 30.0.0.25
Router#
```

Copy   Paste

PC8
PC7
PC-PT

Fa1/1
Swi Fa7/1
SwitchJ

10.0.0.25
Se2/0
Fa4/0 Fa0/0
Router0

Fa1/1 Fa0-PT
Fa2/1
PC1
Fa0
PC-PT
PC2
Fa0
PC-PT
PC3
Fa0
Server-PT
Server0
10.0.0.1

Time: 01:26:47   Power Cycle Devices Fast Forward Time   **Realtime**

Connections
Automatically Choose Connection Type

Scenario 0
New   Delete
Toggle PDU List Window

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
      Successful   PC1   PC2   ICMP   0.000   N   0   (edit)   (delete)

28°C
Mostly cloudy

15:49
ENG
IN
14-07-2023