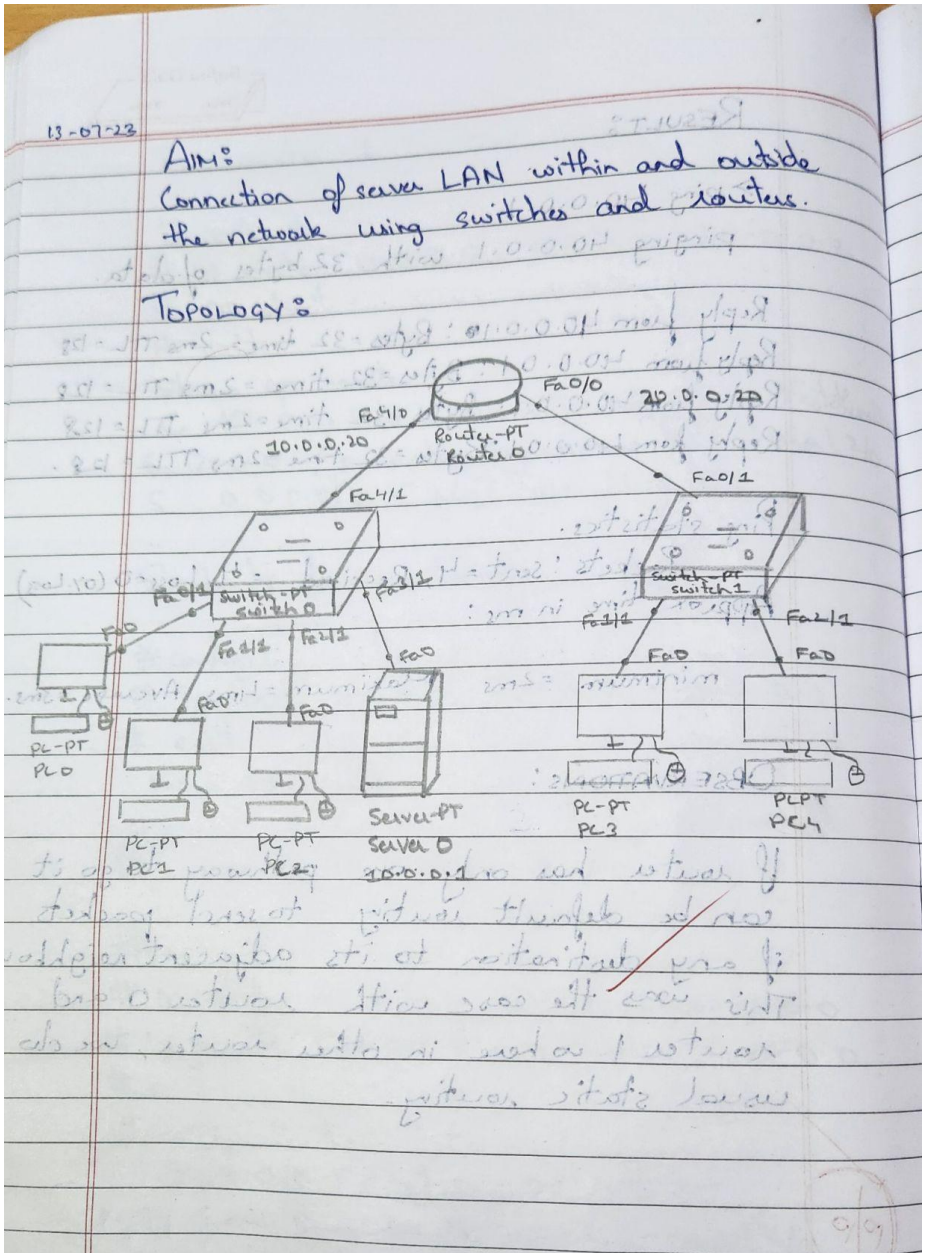
EXPERIMENT 4

AIM:

Configure DHCP within a LAN and outside LAN.

OBSERVATION:



PROCEDURE:

→ Select two or more PC and one server connecting to switch and another network with only end devices and switch.

→ Connect both switches to router.

→ Set IP address of server as 10.0.0.1

→ Now, go to services < select DHCP < save the current IP address 20.0.0.2.

→ Now, check the IP addresses of other devices in the network in the IP configuration in desktop.

→ Now in the CLI of router enable follow steps:

```
> enable
# config t
# interface fastethernet 4/0.
# IP address 10.0.0.20 255.0.0.0
# no shut
# exit
# interface fastethernet 0/0
# IP address 20.0.0.20 255.0.0.0
# no shut
# exit
```

→ Go to server < config < gateway 10.0.0.20

→ Now in router we need to set IP address of server.

```
# config t
# fastethernet 0/0
# IP helper-address 10.0.0.1
# no shut
# exit
```

→ Now go to server < services < DHCP < add new IP address 20.0.0.2.

→ To check the connection, go to the IP configuration of PC outside the network and click on DHCP and IP gateway will be visible.

RESULT:

From server - from PC2 to PC0 whose ip address is 10.0.0.2.

PC > ping 10.0.0.2

pinging 10.0.0.2 with 32 bytes of data:

Request timed out.
Reply from 10.0.0.2: byte = 32 time = 6ms TTL = 125
Reply from 10.0.0.2: byte = 32 time = 2ms TTL = 125
Reply from 10.0.0.2: byte = 32 time = 12ms TTL = 125

ping statistics for 10.0.0.2:
Packets: sent 4 Received = 3 Lost = 1
Approximate round trip time in milliseconds:
Minimum = 2ms, Maximum = 12ms, Average = 6ms.

OBSERVATION:

→ Each end device get IP address assigned from the server.

→ Message is pinged from a device in one network to another.

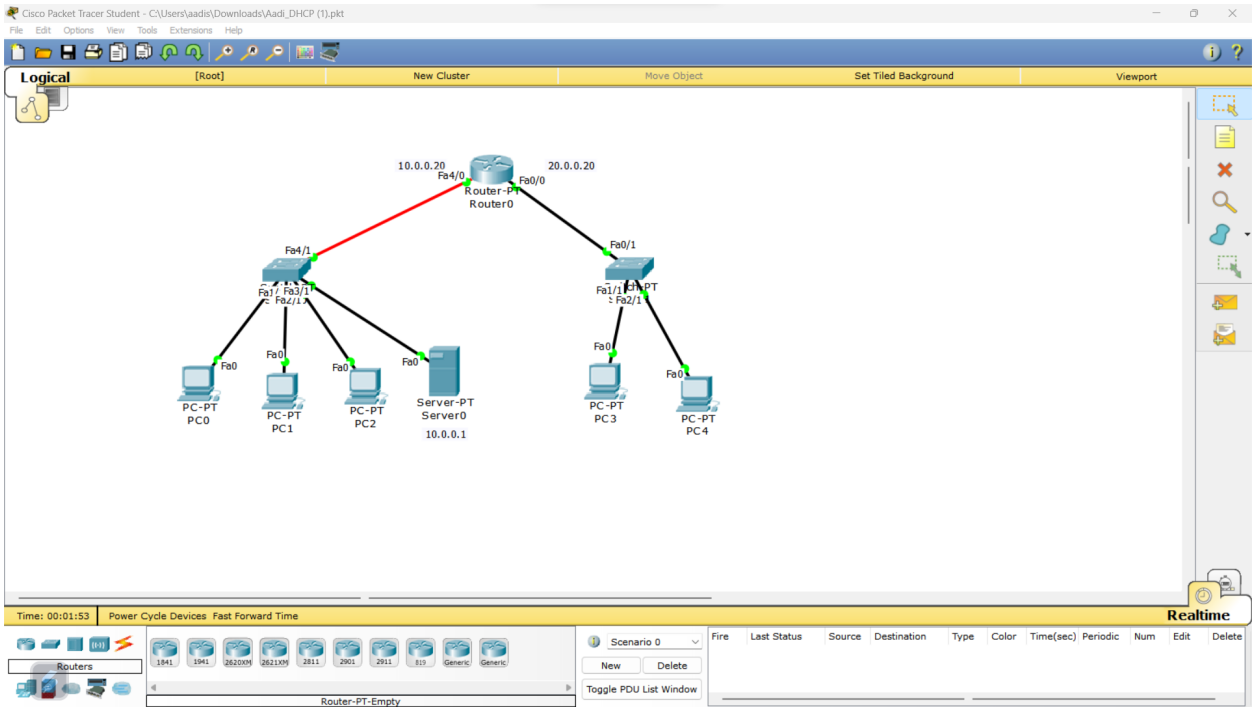
→ It can be seen that the end devices get the IP address from configured start IP address.

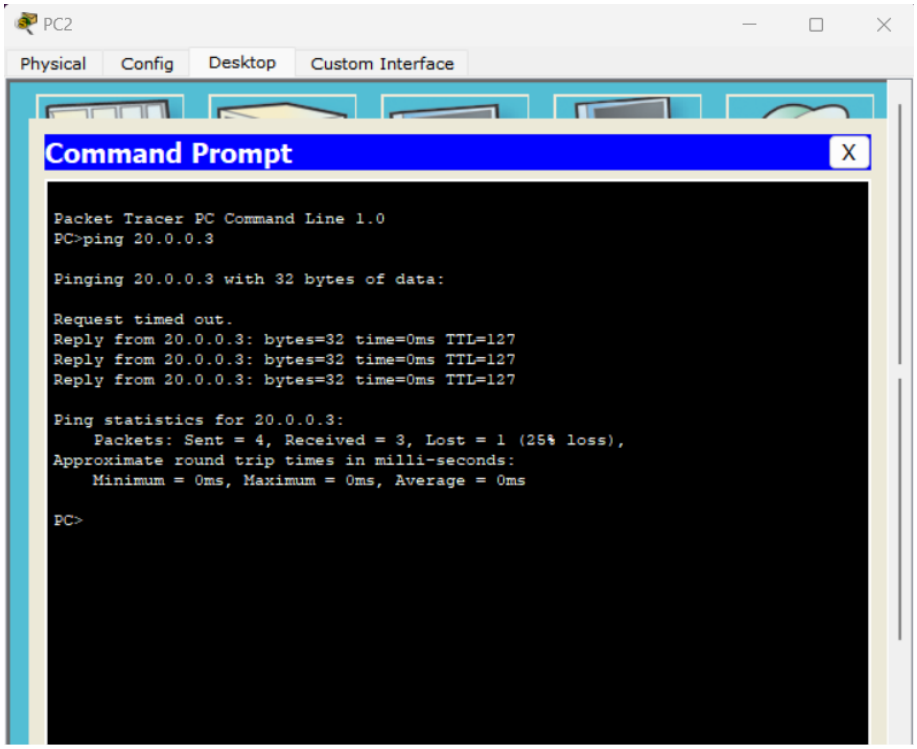
DHCP config pool:	Gateway	Start IP.
Server pool	20.0.0.10	20.0.0.1
Server pool1	10.0.0.10	10.0.0.2

10/10

20/7/23

Result:


Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
10.0.0.20
Fa4/0
Router-PT
Router0
Fa0/0
20.0.0.20
Fa4/1
Fa0/1
Fa2/1
Fa0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
Server-PT
Server0
10.0.0.1
PC-PT
PC3
PC-PT
PC4
Time: 00:01:53
Power Cycle Devices
Fast Forward Time
Realtime
Routers
Router-PT-Empty
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete


PC2
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 20.0.0.3
Pinging 20.0.0.3 with 32 bytes of data:
Request timed out.
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Ping statistics for 20.0.0.3:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>