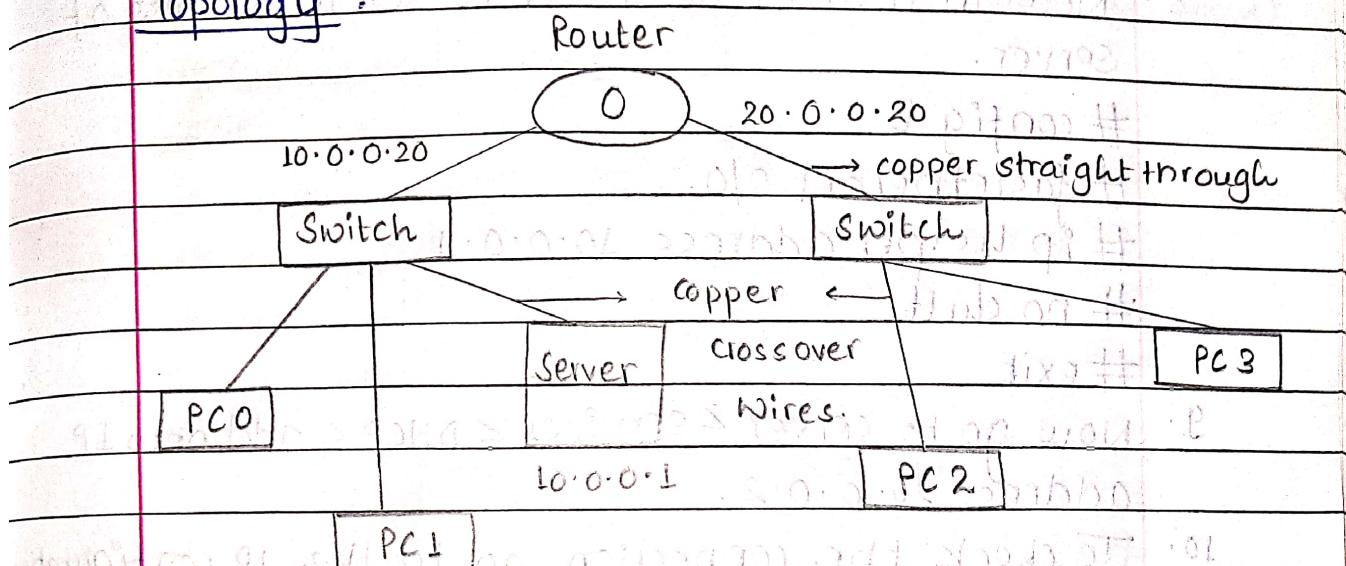


Configure DHCP within a LAN and outside the LAN.

Aim: Connection of server LAN within and outside the network using switches and routers.

Topology



Procedure

1. Select two or more PC and a server connecting to switch, and another network with only end devices and switch.
2. Connect both switches to router.
3. Set IP address of server as 10.0.0.1.
4. Now go to services < select a DHCP < save the current IP address 20.0.0.2.
5. Now check the IP addresses of other devices in the network in the IP configuration in desktop.
6. Now in the CLI of router enable follow steps:

```
#enable
#config
#interface fastethernet 4/0.1
#ip address 10.0.0.10 255.0.0.0
#no shut
#exit
#interface fastethernet 0/0.
```

ip address 20.0.0.20 255.0.0.0

no shut

exit

7. Go to server < config < gateway 10.0.0.20
8. 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

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

10. 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 : bytes = 32 time = 6ms TTL = 125

Reply from 10.0.0.2 : bytes = 32 time = 2ms TTL = 125

Reply from 10.0.0.2 : bytes = 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.

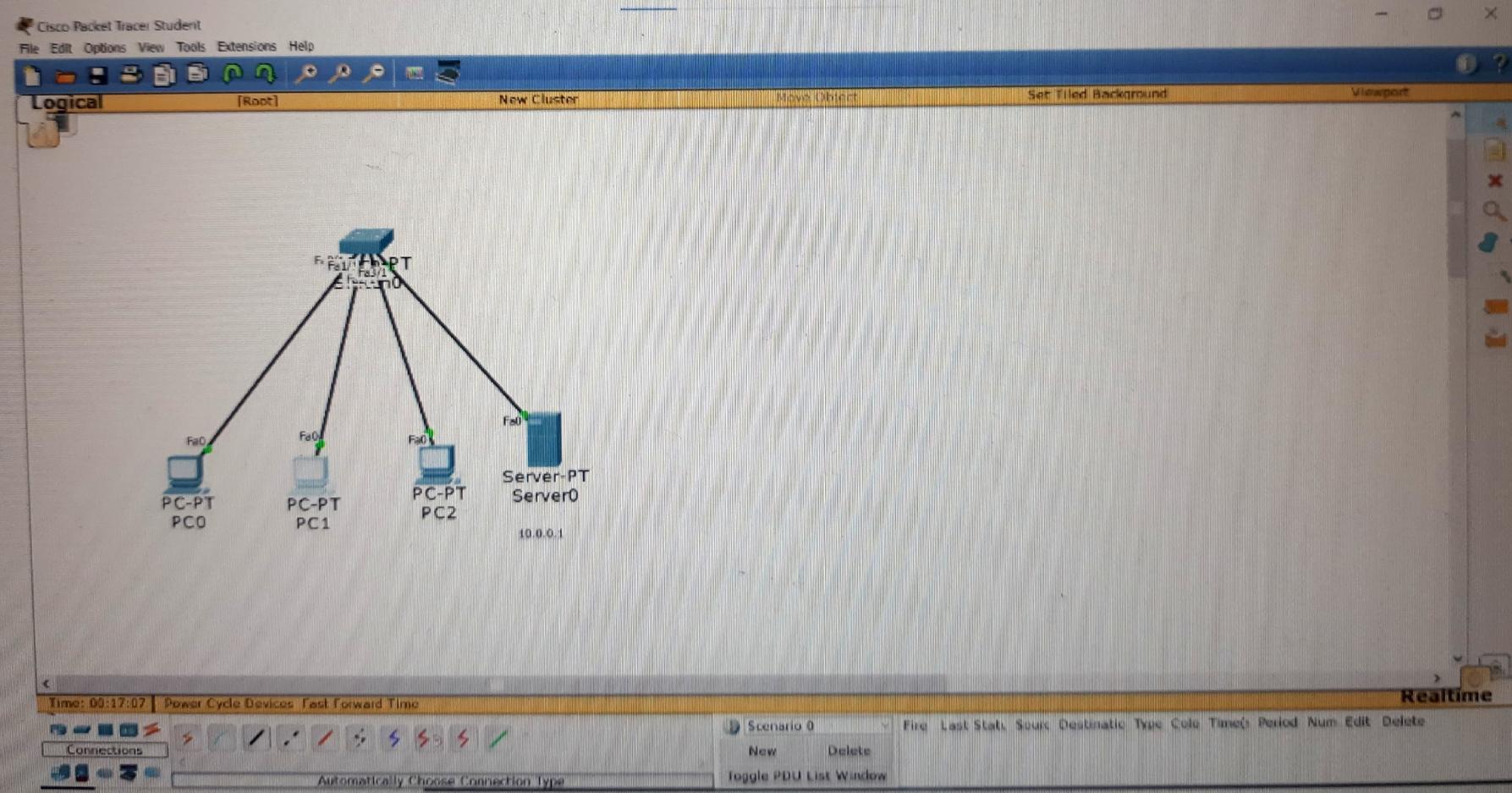
Observation

IP address of PC 2 and PC 3 are also automatically set by the server. IP address of PC 2 to 10.0.0.2 and PC 3 to 10.0.0.3. we could successfully ping PC 2 to PC 0 without loss.

~~loss~~

TOPOLOGY:

PROGRAM 4.1:



OUTPUT:

PROGRAM 4.1:

The screenshot shows a window titled "Command Prompt" from the "Packet Tracer PC Command Line 1.0" interface. The window contains the following text output from a ping command:

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.3

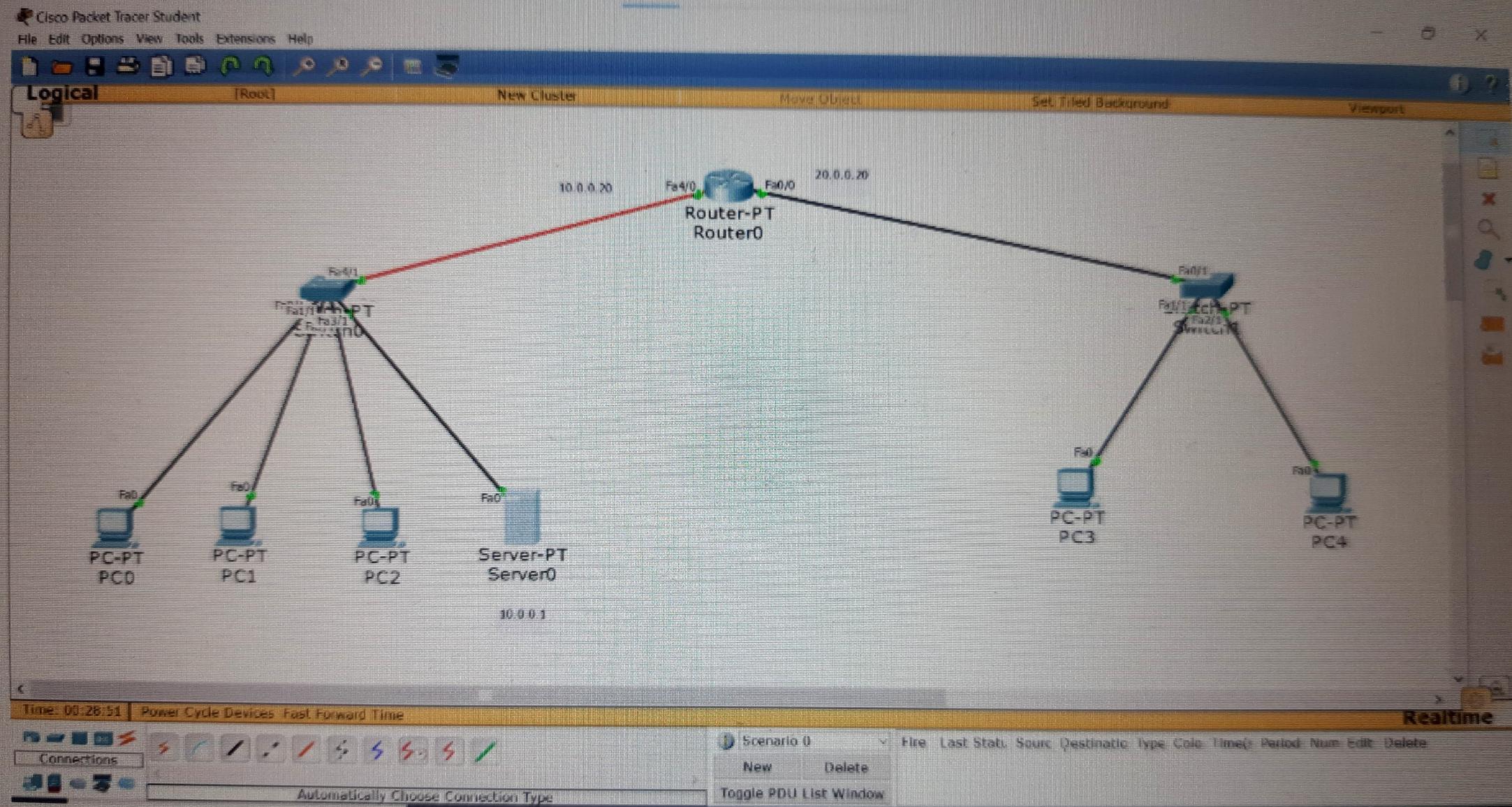
Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>
```

PROGRAM 4.2:



Command Prompt

Packet Tracer PC Command Line 1.0
PC>ping 20.0.0.2

Pinging 20.0.0.2 with 32 bytes of data:

Request timed out.

Reply from 20.0.0.2: bytes=32 time=0ms TTL=127

Reply from 20.0.0.2: bytes=32 time=0ms TTL=127

Reply from 20.0.0.2: bytes=32 time=0ms TTL=127

Ping statistics for 20.0.0.2:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

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>