Program 5

Aim: Configure DHCP within a LAN and outside LAN.

Topology , Procedure and Observation:

13.11.24

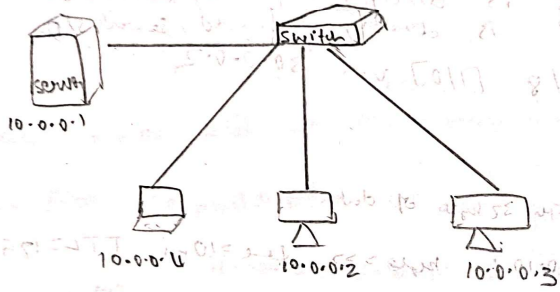
Lab 5

DHCP

Aim: Configure DHCP within a LAN & outside LAN.

⇒ within LAN

Topology:



Procedure:

1. Choose a generic server, a switch, 2 pc and a laptop, connect them to switch using auto cable.

2. Click on server → Desktop → IP config → static, Set IP address as 10.0.0.1 & def gateway as 10.0.0.0

3. Again configure the server PT by config → services → DHCP, service → ON, pool name: switchnet, def gateway 10.0.0.0, max no. of users = 100, Start IP → 10.0.0.3, click Add.

4. For each PC → go to config → ip config → ~~DHCP~~, change static to DHCP.

Observation:

1. IP address was allocated dynamically.
2. Data was sent successfully among PC's when pinged.

Output

PC> ping 10.0.0.4.

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4 : bytes = 32 time = 0ms TTL = 128

" — "

" — "

" — "

Ping statistics for 10.0.0.4:

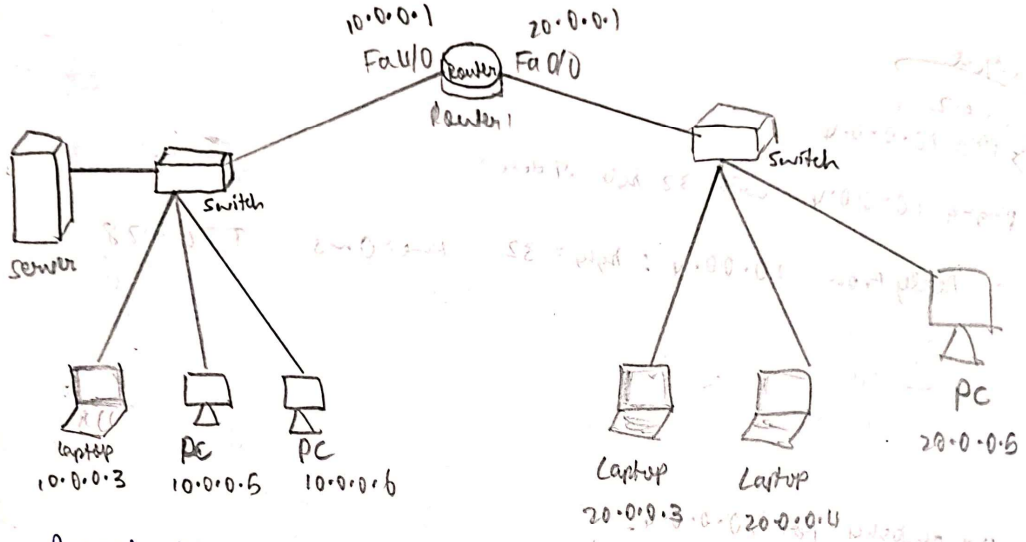
Packets : Sent = 4, Received = 4, Lost = 0 (0% loss).

Approximate round trip times in milli seconds:

Minimum = 0ms, Maximum = 0ms, Avg = 0ms.

II) Outside LAN

Topology:



Procedure:

1) for the existing system with switch, server, a laptop & 2 PC, add a router & add second network switch. & connect 2 laptops & PC to 2nd switch, as shown.

2) In server. IP config → static → ipaddress → 10.0.0.2
def gtw → 10.0.0.1

3) In server, config → Services → DHCP → modify the existing switch one → defgtw → 10.0.0.1
ip will same 10.0.0.3

4) in server → DHCP → for switch 2,
Pool name: Switch1ev0
def gtw → 20.0.0.1
Start ip → 20.0.0.3
add.

5). Do the router configuration.

enable,
config terminal
interface FastEthernet 1/0
ip address 10.0.0.1 255.0.0.0
ip helper-address 10.0.0.2
no shut
exit.

6) Now same for 2nd network as,

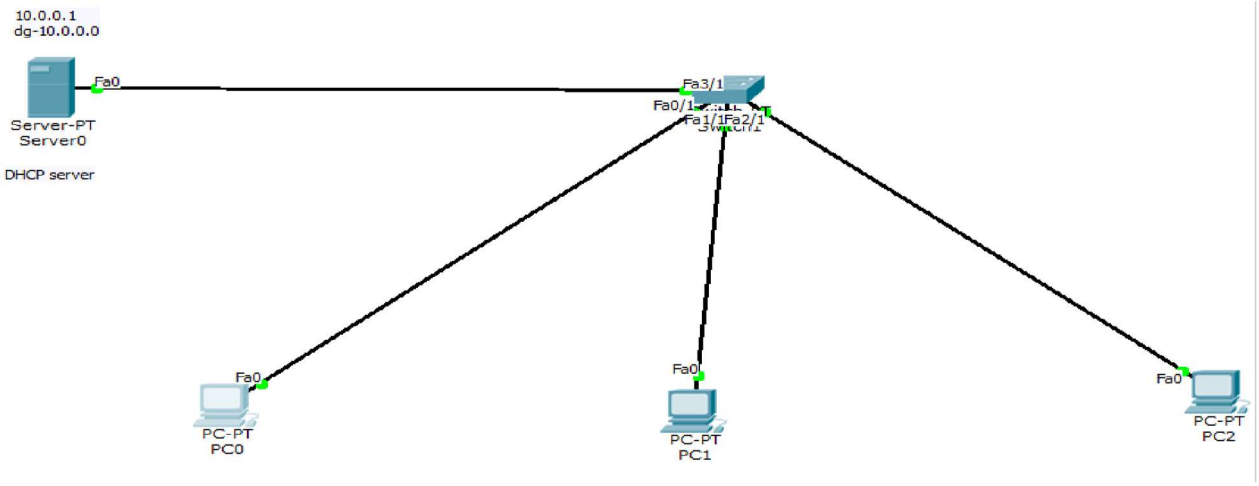
interface FastEthernet 0/0
ip addres 20.0.0.1 255.0.0.0
ip helper-address 10.0.0.2
no shut
exit.

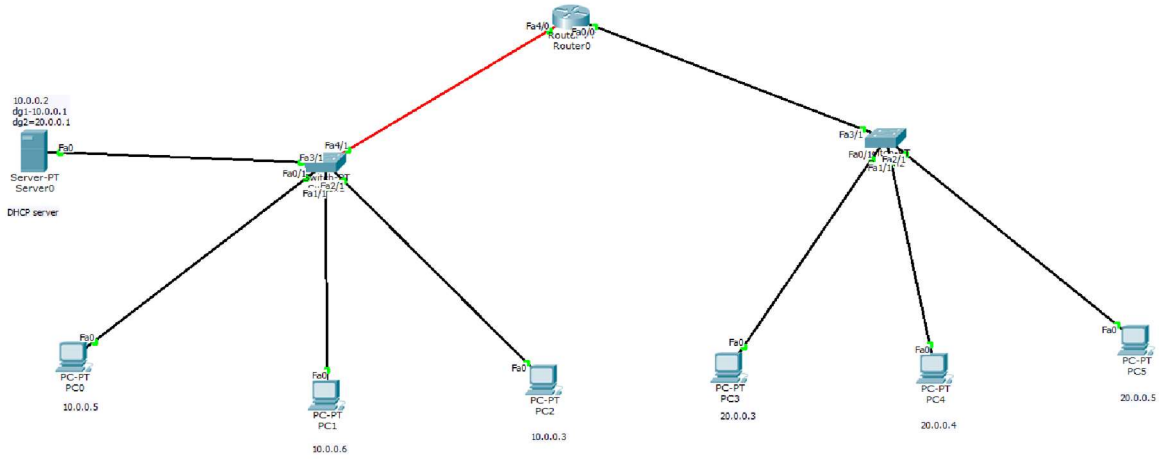
Observation:

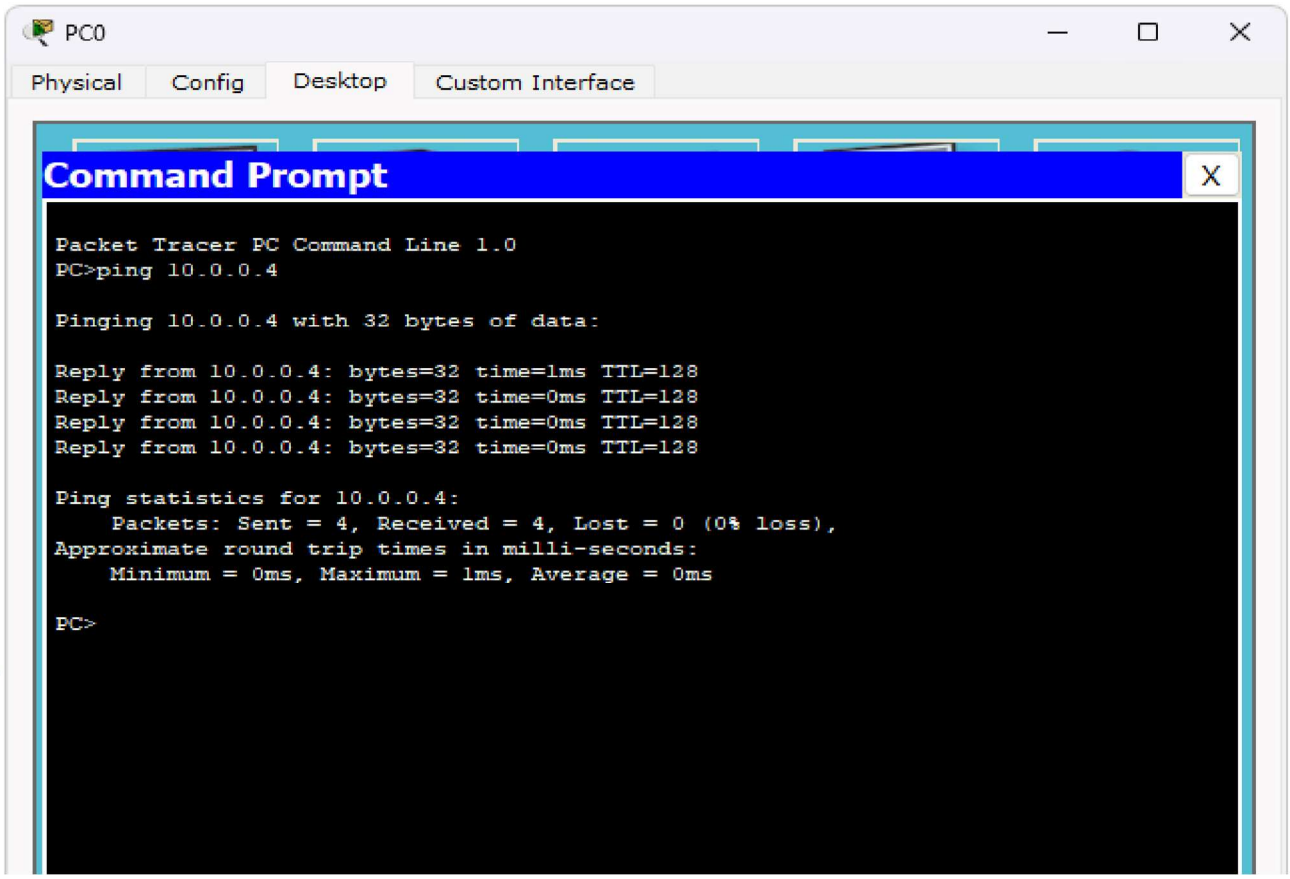
1. IP addresses are allocated dynamically.
2. Data was sent successfully among PC's when pinged

13/11

Screen Shots:






PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.4
Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time=1ms TTL=128
Reply from 10.0.0.4: bytes=32 time=0ms TTL=128
Reply from 10.0.0.4: bytes=32 time=0ms TTL=128
Reply from 10.0.0.4: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
PC>