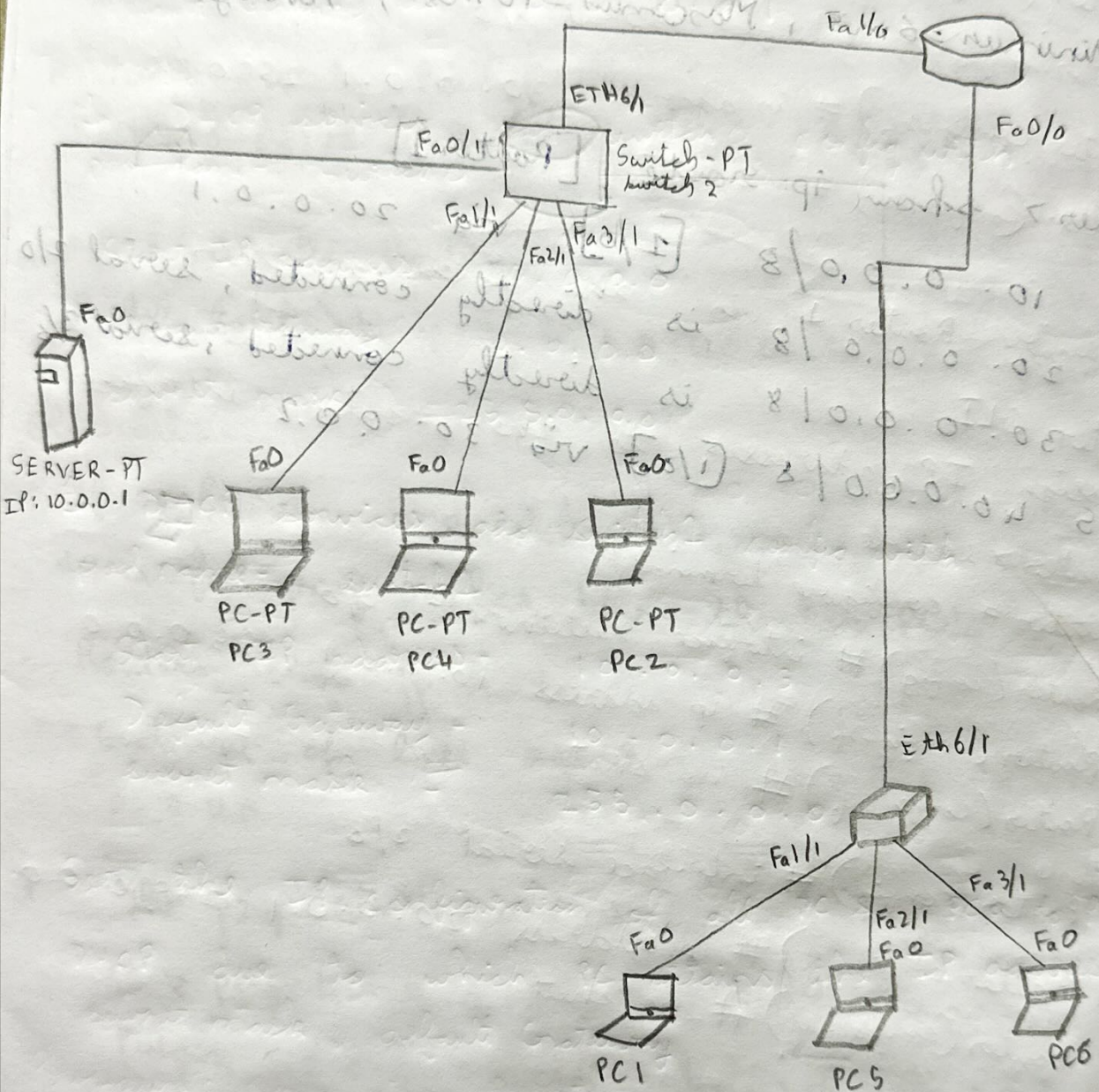


Lab 5

EXP 4: Configure DHCP within a LAN and outside LAN.

Aim: To connect PC's within a LAN and outside LAN using DHCP



Server address : go to server → config → DHCP

Pool name : switch1 subnet Mask - 255.0.0.0

Default gateway: 10.0.0.1

Pool name: switch2

subnet Mask - 255.0.0.0

Default gateway: 20.0.0.1

switch1 has PC 3, PC4, PC2, server1 connected to it via copper straight

switch2 has PC5, PC1, PC6 connected to it via copper straight

Add extra port to the switch and then connect three PCs, similarly for another ~~set of~~ switch

~~connect~~

connect the switch 1 & switch 2 to router.

Router Config:

Router > enable

Router#config Terminal

Router (config)# interface FastEthernet 1/0

ip address 10.0.0.1 255.0.0.0

exit

Router (config)# interface FastEthernet 0/0

ip address 20.0.0.1 255.0.0.0

exit

~~In DHCP services add switch 0 config with~~

Procedure:

open Cisco Packet Tracer and drag the following components

Router: Place 1 router in the middle

switch: connect the switches to Router 0

PC: Take 3 PC's and connect it to switch 0, and another 3 PC's to switch 1

Server: Place one Server and connect it to the switch 1 via cable straight through cable

Configure server 0 by clicking on the server and click IP configuration

Set IP address as 10.0.0.2
Subnet mask as 255.0.0.0
Default Gateway as 10.0.0.1

In DHCP services, add switch 0 config with pool name - switch 0

Start IP address 10.0.0.0
Default gateway 0.0.0.0
Subnet mask 255.0.0.0

In DHCP services, add switch 1 config with pool name - switch 1

Start IP address - 10.0.0.3
Default Gateway - 10.0.0.1
Subnet mask - 255.0.0.0

Set the IP configuration of all PC's PC0 to PC1 to DHCP due to which PC attains the IP address, subnet mask, default Gateway

Configure Router 0 by clicking on the router and selecting CLI

Observation:

If config and cabling are all correct you will receive successful ping replies between two PC's

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 = 1ms TTL = 120

reply from 10.0.0.3: bytes = 32 time = 0ms TTL = 120

reply from 10.0.0.3: bytes = 32 time = 0ms TTL = 120

reply from 10.0.0.3: bytes = 32 time = 2ms TTL = 120

Ping statistics for 10.0.0.3

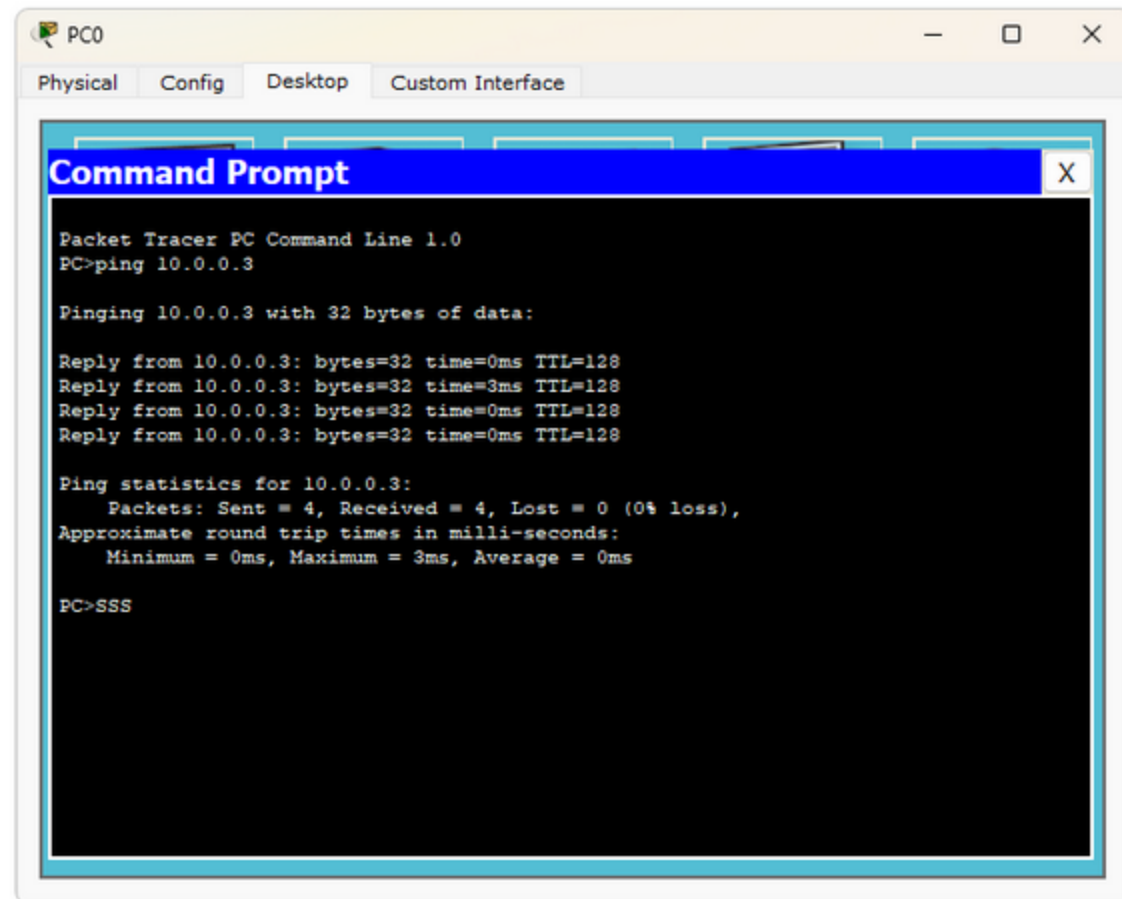
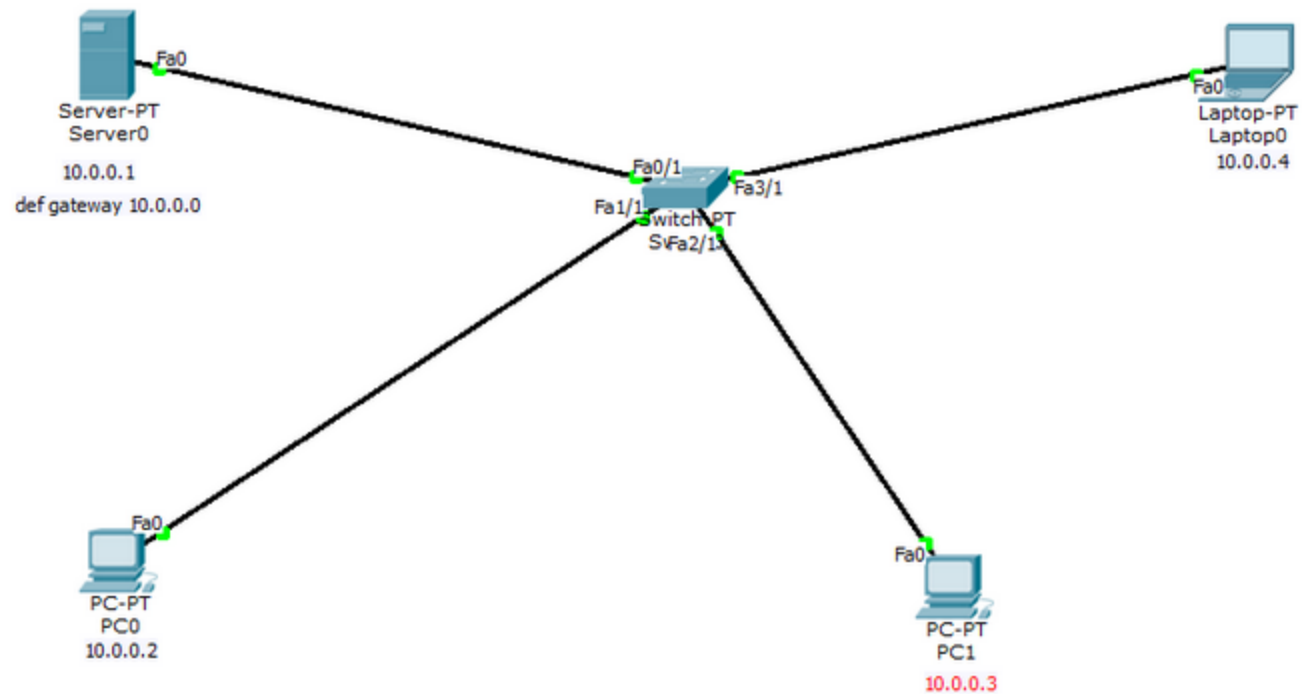
Packets: Sent = 4, received = 4, Loss = 0 (0% Loss)

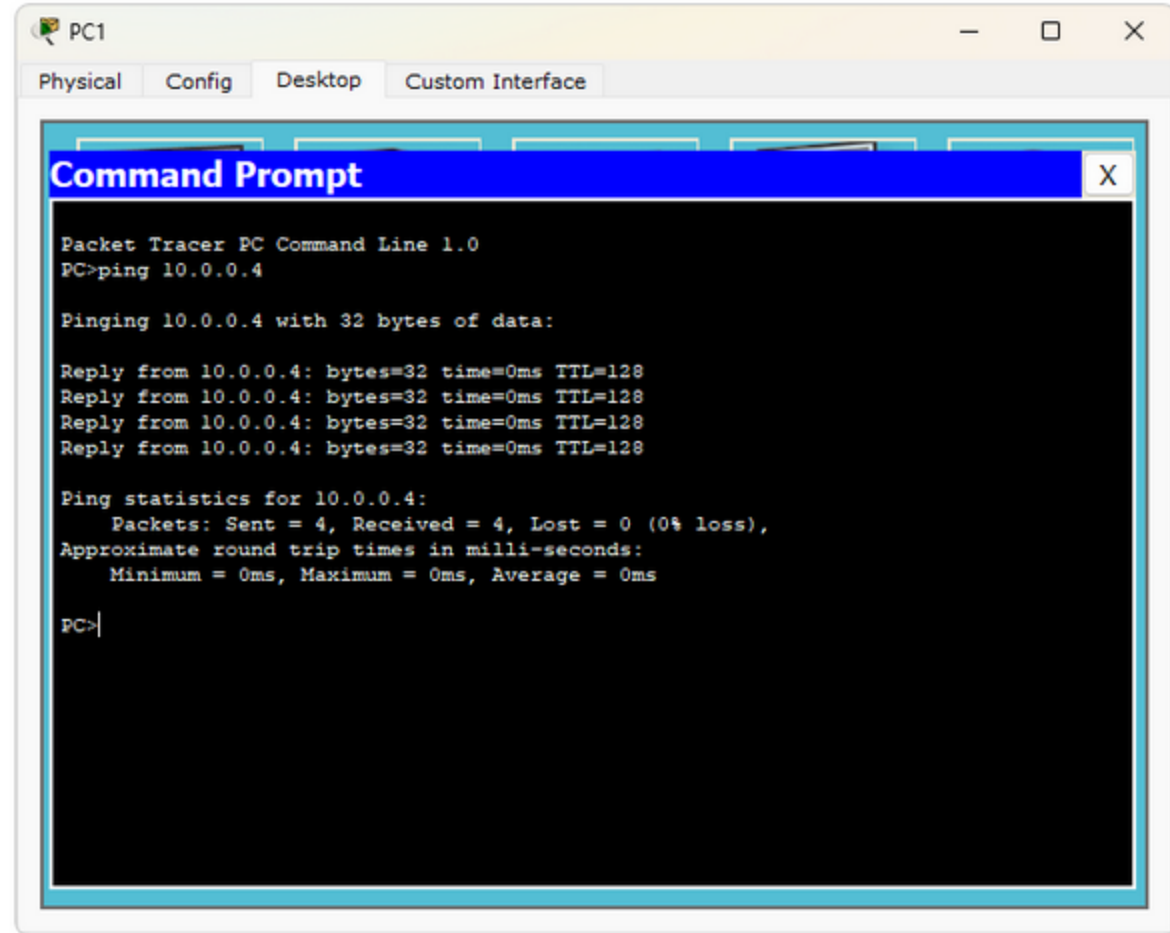
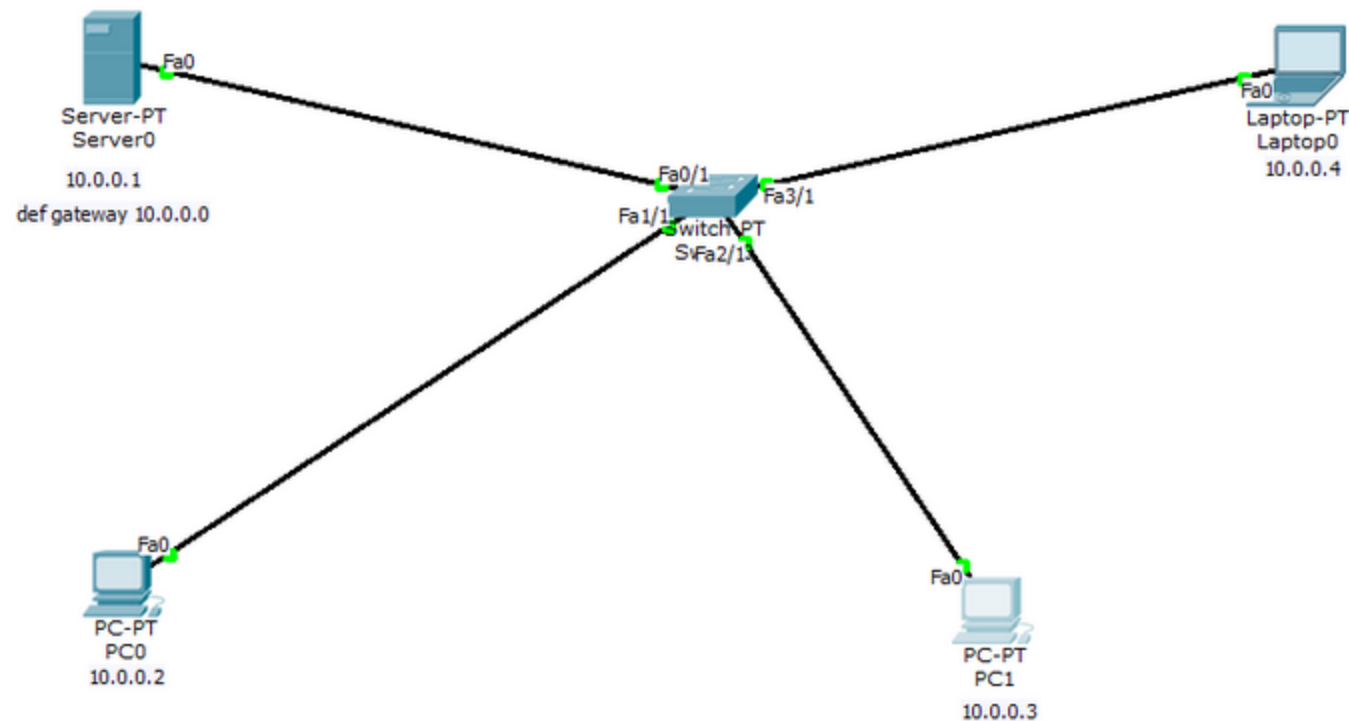
Approximate round trip times in milliseconds:

minimum = 0ms, Maximum = 2ms, Average = 0ms

within a LAN: Placing the DHCP server in the same subnet as clients to ensure broadcasts reach the server directly.
when two pool names are connected and the connected PC's are set to DHCP & IP configuration,

the PC's automatically get assigned an IP address starting from the start IP address within the LAN and outside the LAN





IP Configuration



IP Configuration

☒ DHCP☐ Static

DHCP request successful.

IP Address 10.0.0.2

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server

IPv6 Configuration

☐ DHCP☐ Auto Config☒ Static

IPv6 Address /

Link Local Address FE80::20A:41FF:FE95:A3CD

IPv6 Gateway

IPv6 DNS Server



Web Browser

Cisco IP
Communicator

