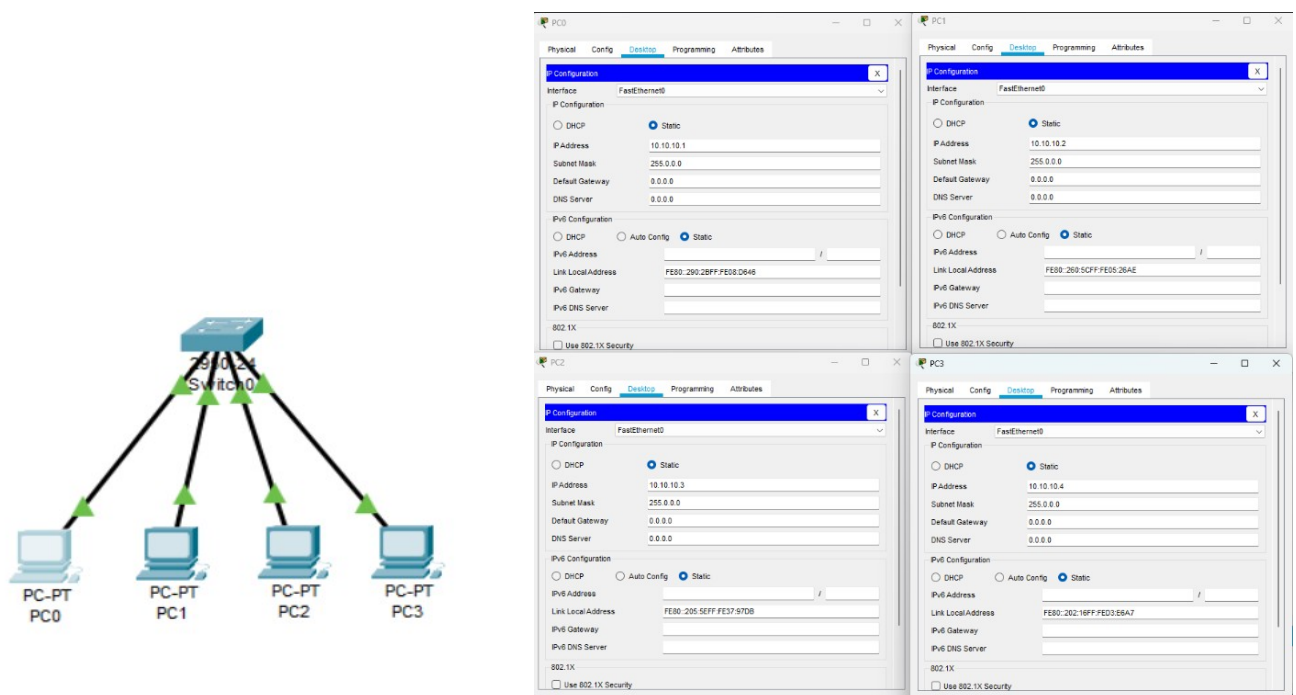# EXPERIMENT – 4

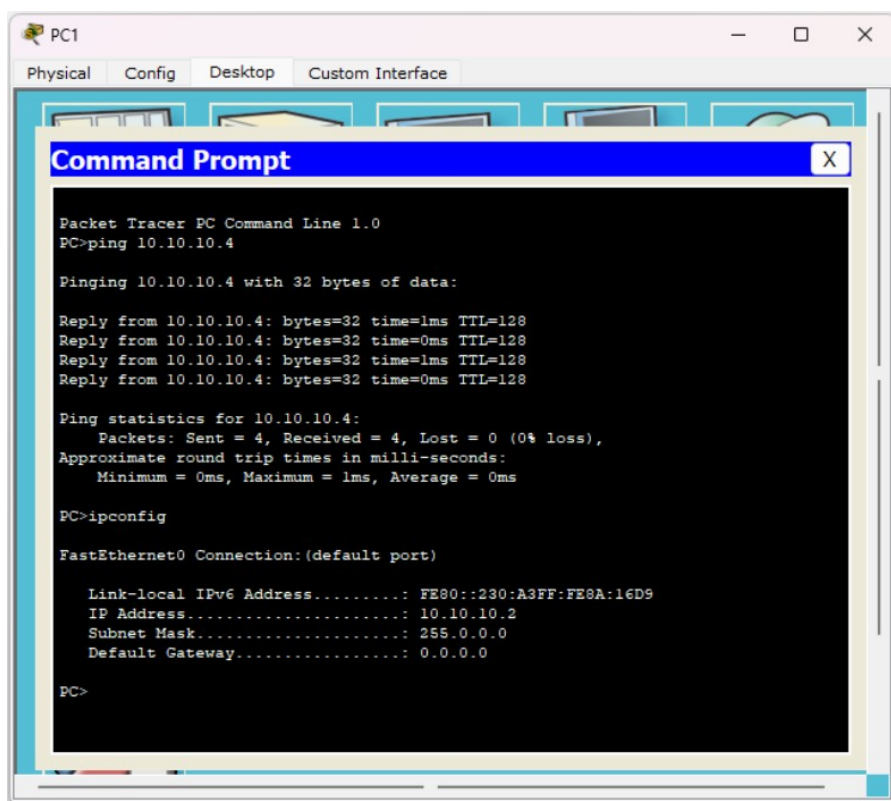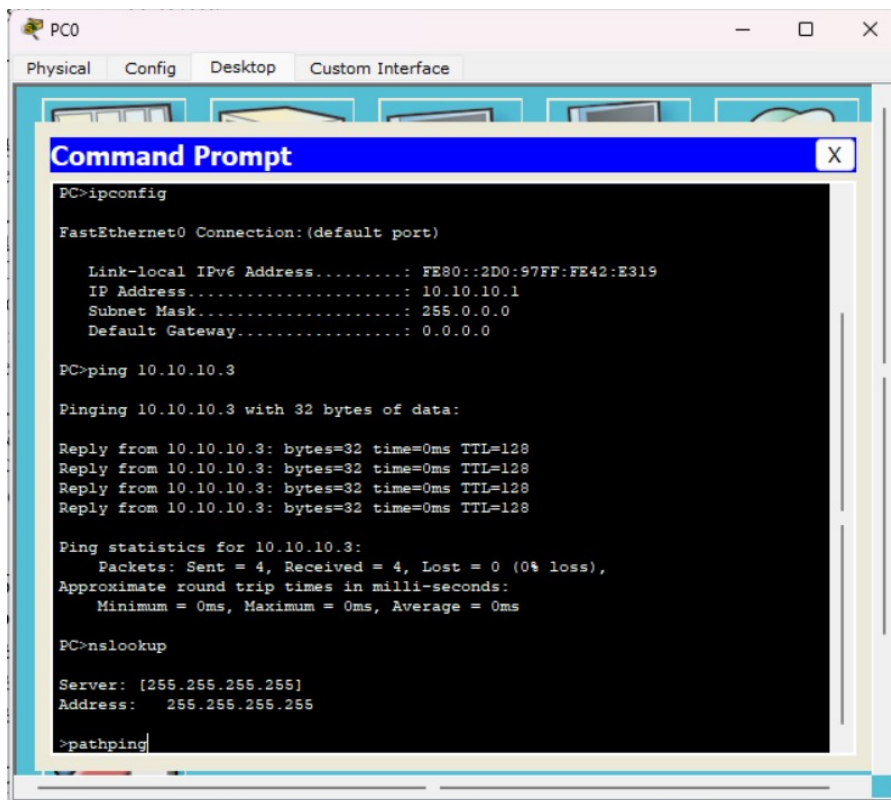**AIM: -** Setup and configure a LAN (Local area network) using a Switch and Ethernet cables in your lab.

How to set up a LAN:
- **Plan and Design Network Topology:** Decide on network layout and equipment location.
- **Gather Equipment:** Use 4 computers, an 8/16/24-port switch, and 4 Ethernet cables.
- **Connect Devices to Switch:** Plug Ethernet cables from each computer into the switch.
- **Assign IP Addresses:**
  Log in as Administrator on each PC.
  Go to **Network and Internet Connections > Local Area Connection/Ethernet**.
  Select **Properties > TCP/IPv4 > Use the following IP address**, then assign:
  - PC1: 10.1.1.1, Subnet Mask: 255.0.0.0
  - PC2: 10.1.1.2, Subnet Mask: 255.0.0.0
  - PC3: 10.1.1.3, Subnet Mask: 255.0.0.0
  - PC4: 10.1.1.4, Subnet Mask: 255.0.0.0
- **Configure the Switch:** Connect a computer to the switch and log in to its web interface. Set the switch's IP address to 10.1.1.5, Subnet Mask: 255.0.0.0.
- **Verify Connectivity:** Use the **ping** command to test connection between devices.
- **Share Folder:** Select a folder, go to **Properties > Sharing tab**, and share it with everyone on the LAN.
- **Access Shared Folder:** Try accessing the shared folder from other network computers.

OUTPUT: -

PC0

Physical Config **Desktop** Custom Interface

Command Prompt X

```
PC>ipconfig

FastEthernet0 Connection:(default port)

    Link-local IPv6 Address.........: FE80::2D0:97FF:FE42:E319
    IP Address......................: 10.10.10.1
    Subnet Mask.....................: 255.0.0.0
    Default Gateway.................: 0.0.0.0

PC>ping 10.10.10.3

Pinging 10.10.10.3 with 32 bytes of data:

Reply from 10.10.10.3: bytes=32 time=0ms TTL=128
Reply from 10.10.10.3: bytes=32 time=0ms TTL=128
Reply from 10.10.10.3: bytes=32 time=0ms TTL=128
Reply from 10.10.10.3: bytes=32 time=0ms TTL=128

Ping statistics for 10.10.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>nslookup

Server: [255.255.255.255]
Address:   255.255.255.255

>pathping
```


PC1

Physical Config **Desktop** Custom Interface

Command Prompt X

```
Packet Tracer PC Command Line 1.0
PC>ping 10.10.10.4

Pinging 10.10.10.4 with 32 bytes of data:

Reply from 10.10.10.4: bytes=32 time=1ms TTL=128
Reply from 10.10.10.4: bytes=32 time=0ms TTL=128
Reply from 10.10.10.4: bytes=32 time=1ms TTL=128
Reply from 10.10.10.4: bytes=32 time=0ms TTL=128

Ping statistics for 10.10.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>ipconfig

FastEthernet0 Connection:(default port)

    Link-local IPv6 Address.........: FE80::230:A3FF:FE8A:16D9
    IP Address......................: 10.10.10.2
    Subnet Mask.....................: 255.0.0.0
    Default Gateway.................: 0.0.0.0

PC>
```

RESULT: -
LAN Configuration using Switch has been done and studied successfully.