

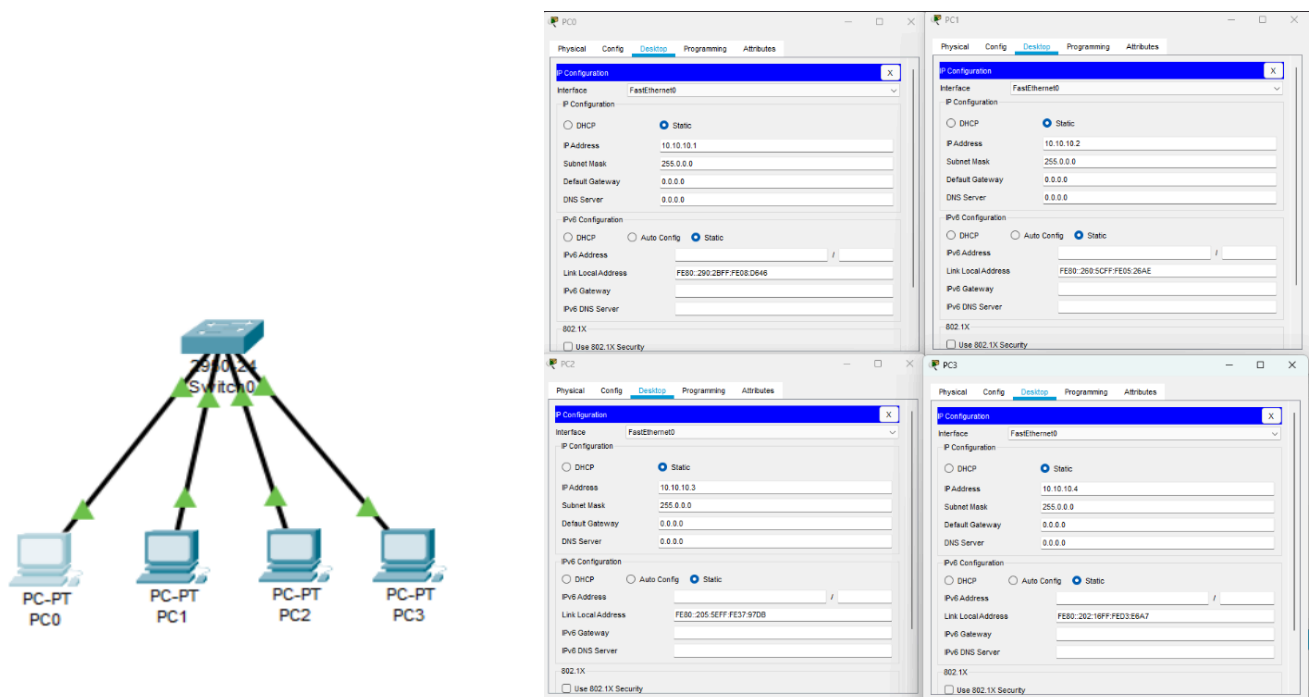
EXPERIMENT – 4

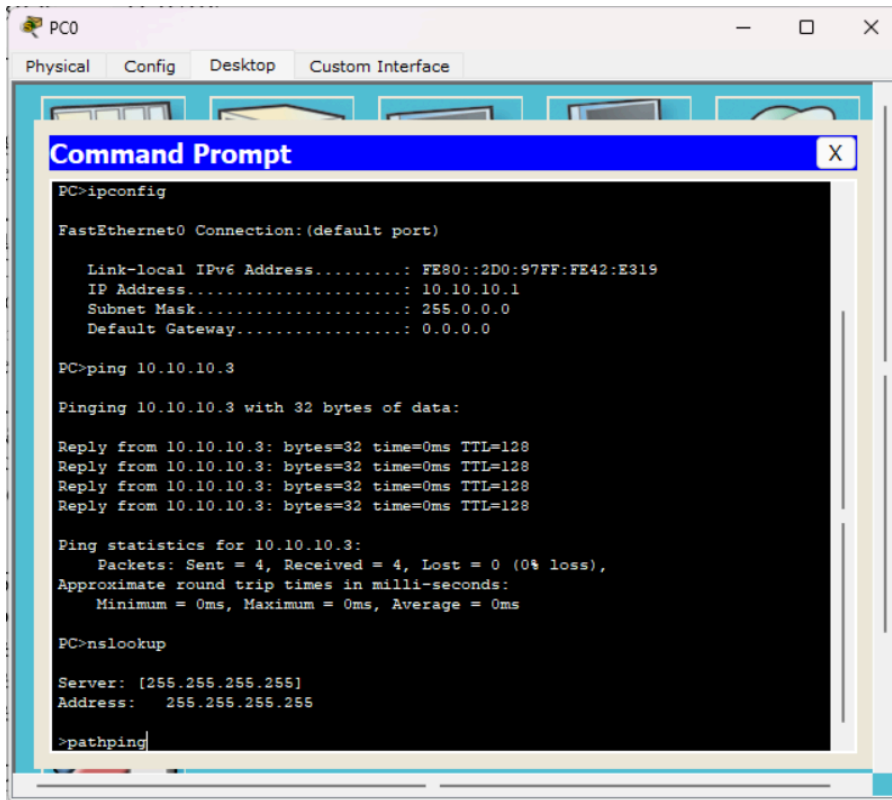
AIM: - Setup and configure a LAN (Local area network) using a Switch and Ethernet cables in your lab.

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: -





The screenshot shows the PC0 Command Prompt window in Packet Tracer. The window has tabs for Physical, Config, Desktop, and Custom Interface. The Command Prompt shows the following commands and output:

```
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:

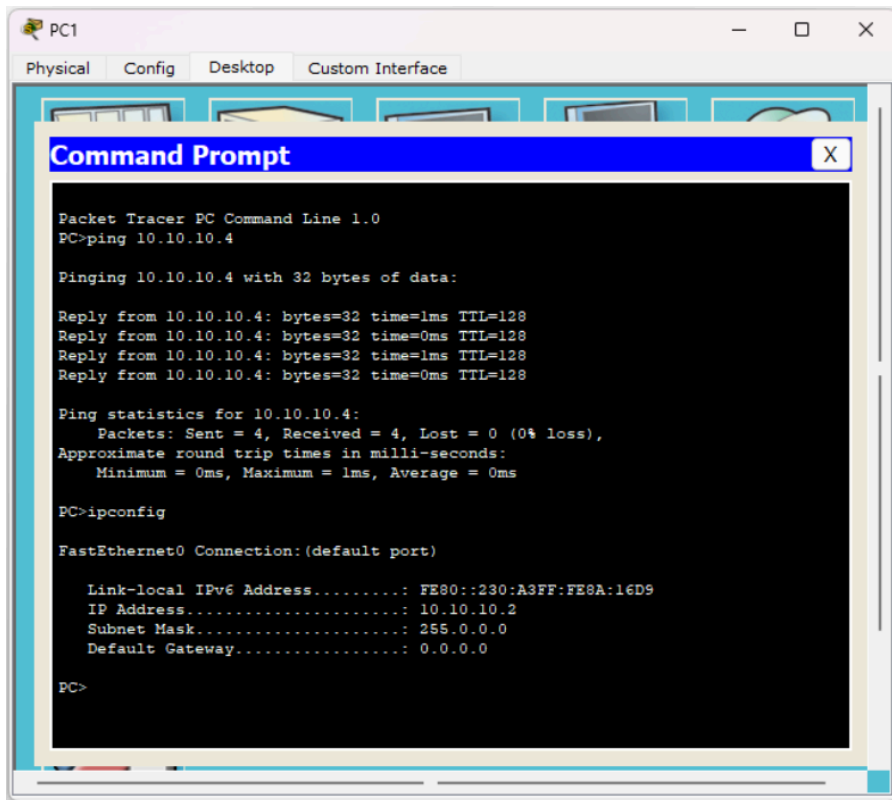
Reply from 10.10.10.3: bytes=32 time=0ms TTL=128
Reply from 10.10.10.3: bytes=32 time=0ms TTL=128
Reply from 10.10.10.3: bytes=32 time=0ms TTL=128
Reply from 10.10.10.3: bytes=32 time=0ms TTL=128

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
```



The screenshot shows the PC1 Command Prompt window in Packet Tracer. The window has tabs for Physical, Config, Desktop, and Custom Interface. The Command Prompt shows the following commands and output:

```
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:FE9A: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.