Ex.No: 02	Study of Network Devices
Date : 08-01-2025	
Registration Number:	99220040025
Name:	B.Harika
Section & Slot:	S23 & Slot-01

Objective(s):

To understand working principle of network devices Hub, Switch, Routers and configure the following using Cisco Packet Tracer

a) Building a Peer-to-Peer Network.

Design a Peer-to-peer network with minimum of 3 PC's and verify the connectivity from both the ends using Packet Tracer.

b). Design a Simple LAN Network

Create a Simple LAN deign with 1 switch, 4 PC's, 2 laptops and verify the connections from all the ends using Packet Tracer.

Introduction:

Study of following Network Devices in Detail

- Repeater
- Hub
- Switch ● Bridge
- Router
- Gate Way

Theoretical Background:

To know more about the above network devices, Refer textbook for detailed explanation.

a) Building a Peer-to-Peer Network with at least three hosts

Objective(s):

Design a Peer-to-peer network with minimum of 3 PC's and verify the connectivity from both the ends using Packet Tracer.

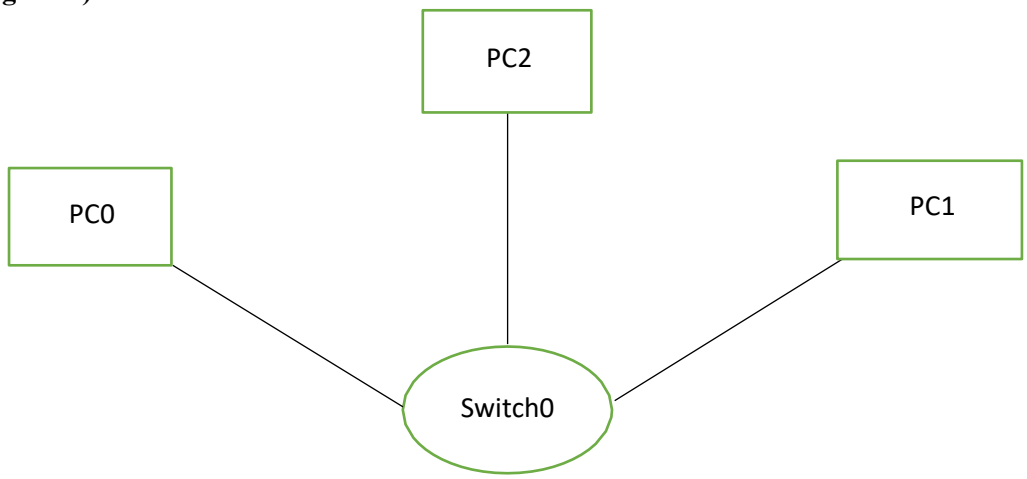
Theoretical Background:

In Peer-to-Peer architecture every node is connected to other node directly for exchanging information instead of connected to central server Every computer node is referred as peer and they do the job of client as well as server both. Every peer provides services to other peers as well as uses services provided by other peers.

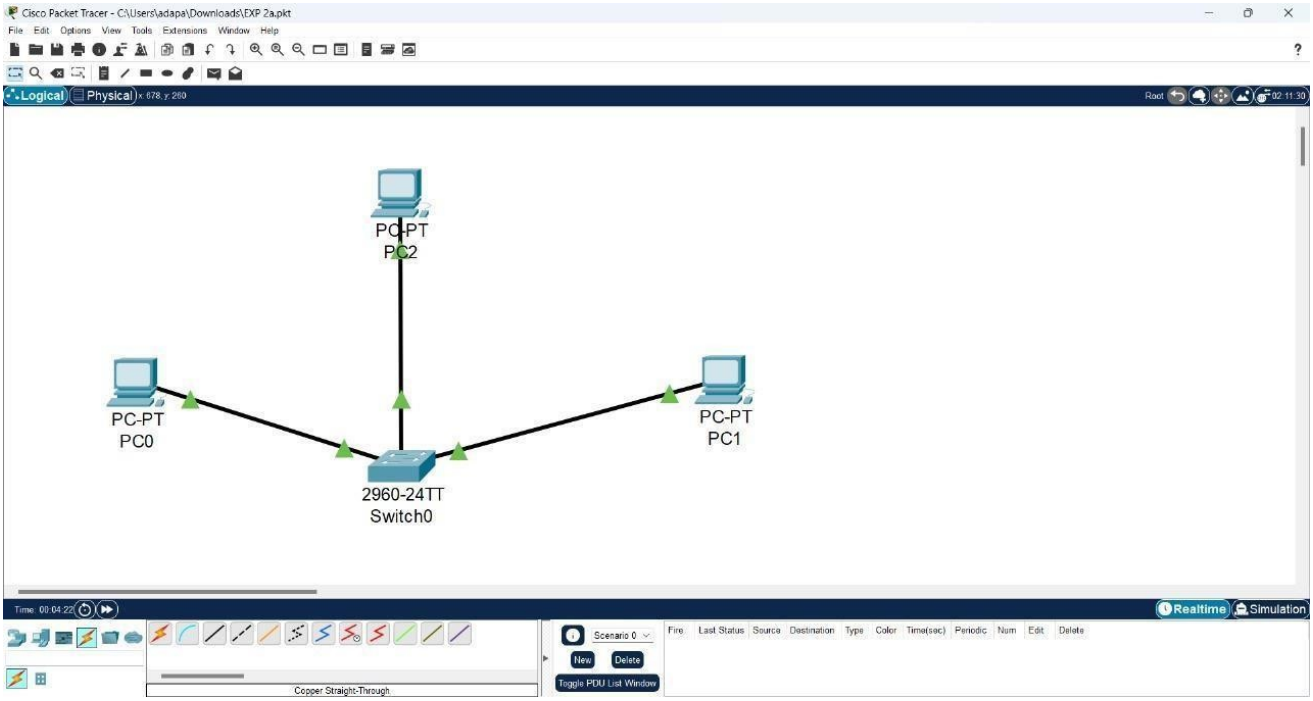
1. Device Requirements:

1. PC0
2. PC1
3. PC2
4. Switch0
5. Copper Straight-Through

2. Network Diagram for your experiment (draw the diagram either hand drawing/ms paint or any other drawing tools)



3. Network Diagram (packet tracer diagram before configuration):



4. Configuration details:

Device Name	Interface Name	IP Address	Subnet mask
PC0	Fa0	172.16.0.1	255.255.0.0
PC1	Fa0	172.16.0.2	255.255.0.0
PC2	Fa0	172.16.0.3	255.255.0.0
Switch0	Fa0		

5. Commands used in each of the diagram (if any):

1. ipconfig
2. ping <Ip_address>

6. Output Diagram (Minimum 3 screenshot):

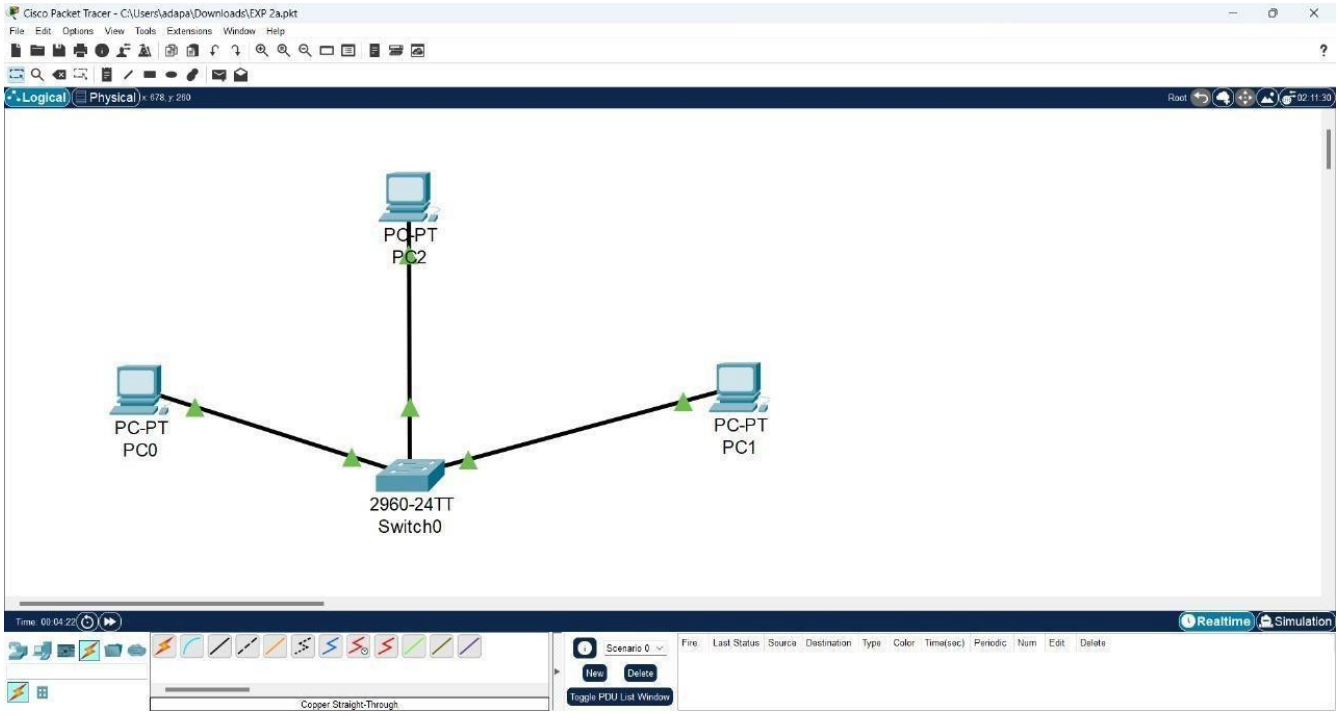
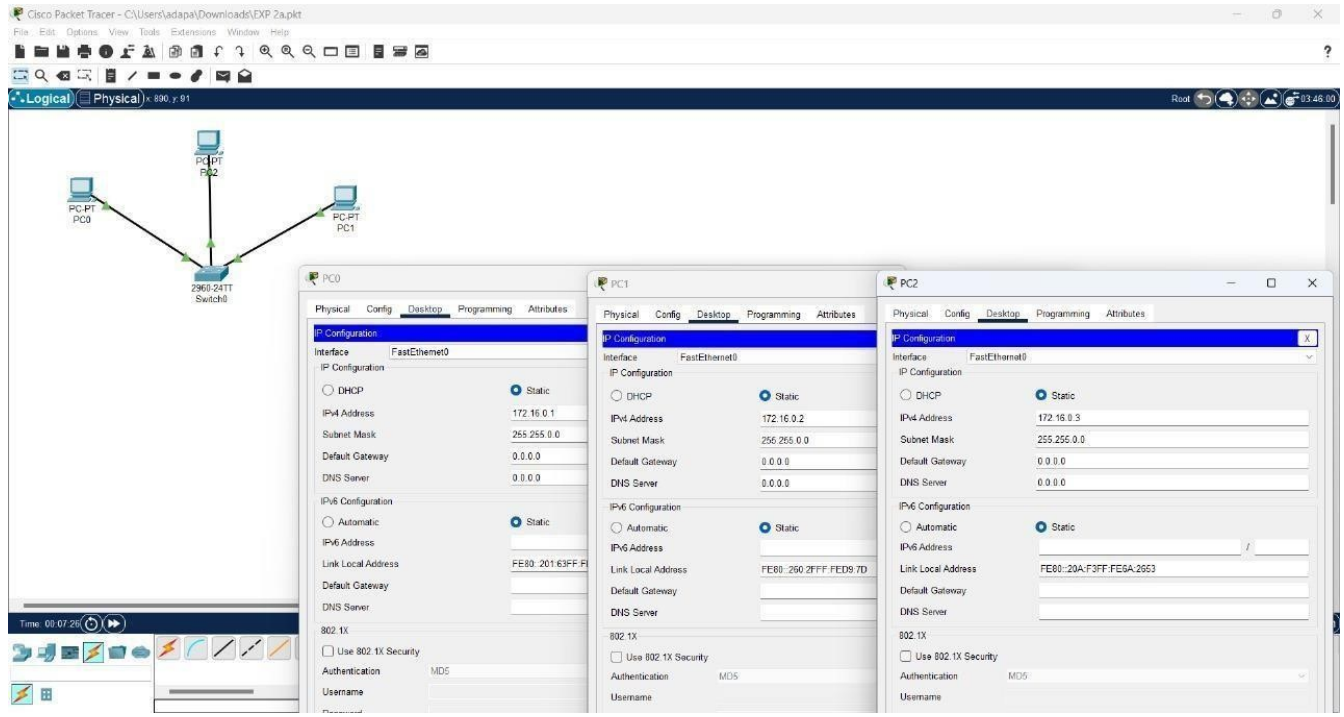


FIG: Network Diagram



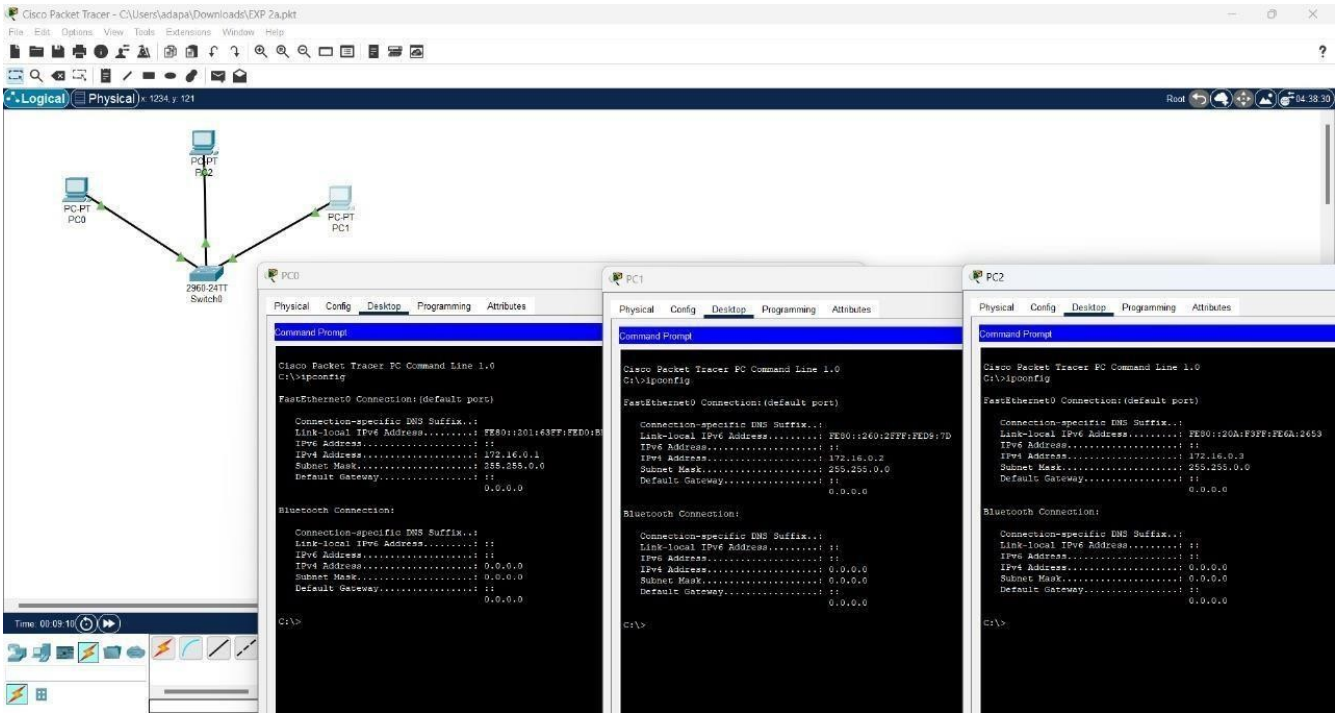


FIG: ASSIGNING IP ADDRESS

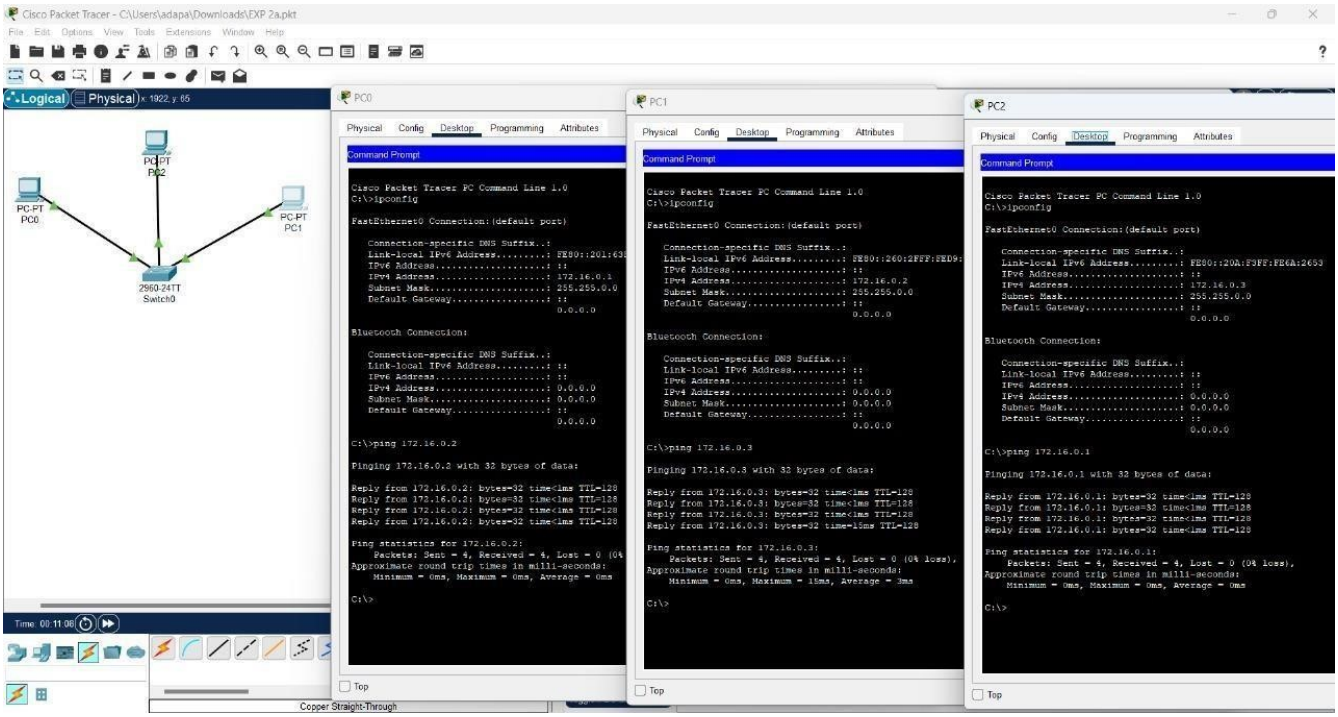
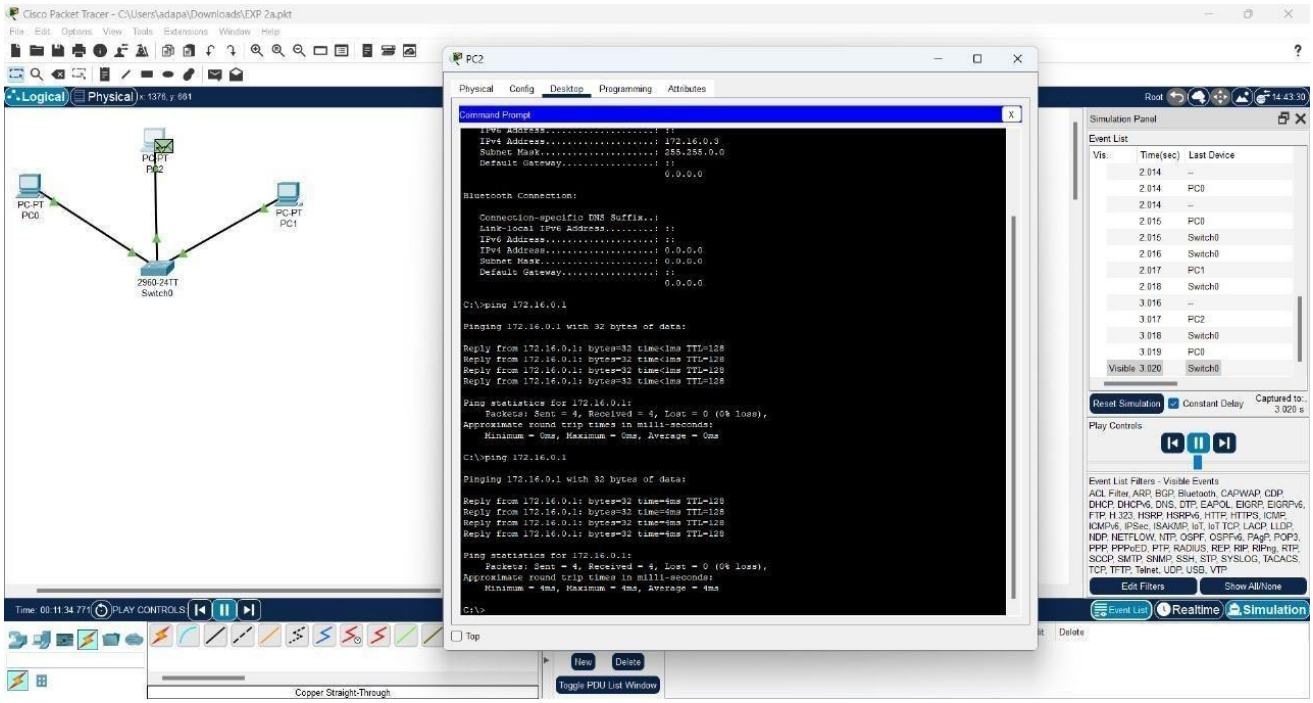


FIG: PING



CONCLUSION (provide conclusion about this experiment):

Successfully designed a Peer-to-peer network with 3 PC's and verified the connectivity from both the ends using Packet Tracer.

Rubrics for Experiment Assessment:

Rubrics	Good	Normal	Poor	Marks
Creation of Topology (4)	Created the topology, Identify the proper devices and making the connections **(4)**	Created the topology, Identify the proper devices, making the connections But missing some features **(3)**	Created wrong topology, Failed to Identify the proper devices and making connections **(1)**	
Verify the connectivity (4)	Verified the connectivity in all the levels **(4)**	Verified the connectivity at some levels (only some nodes) **(2)**	Verified the connectivity is not done. **(1)**	
Timely Completion (2)	Completed the lab before the allotted time **(2)**	Completed the lab after the deadline **(1)**	Did not submitted before grading **(0)**	
			Total	

b). Design a Simple LAN Network.

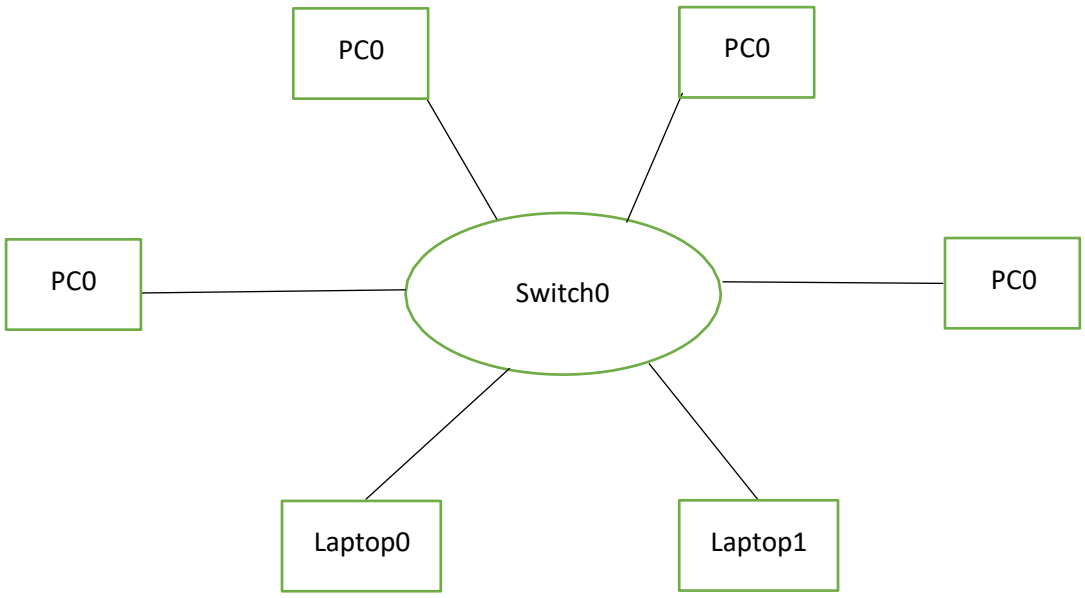
Objective(s):

Create a Simple LAN design with minimum of 1 switch, 4 PC's, 2 laptops and verify the connections from all the ends using Packet Tracer.

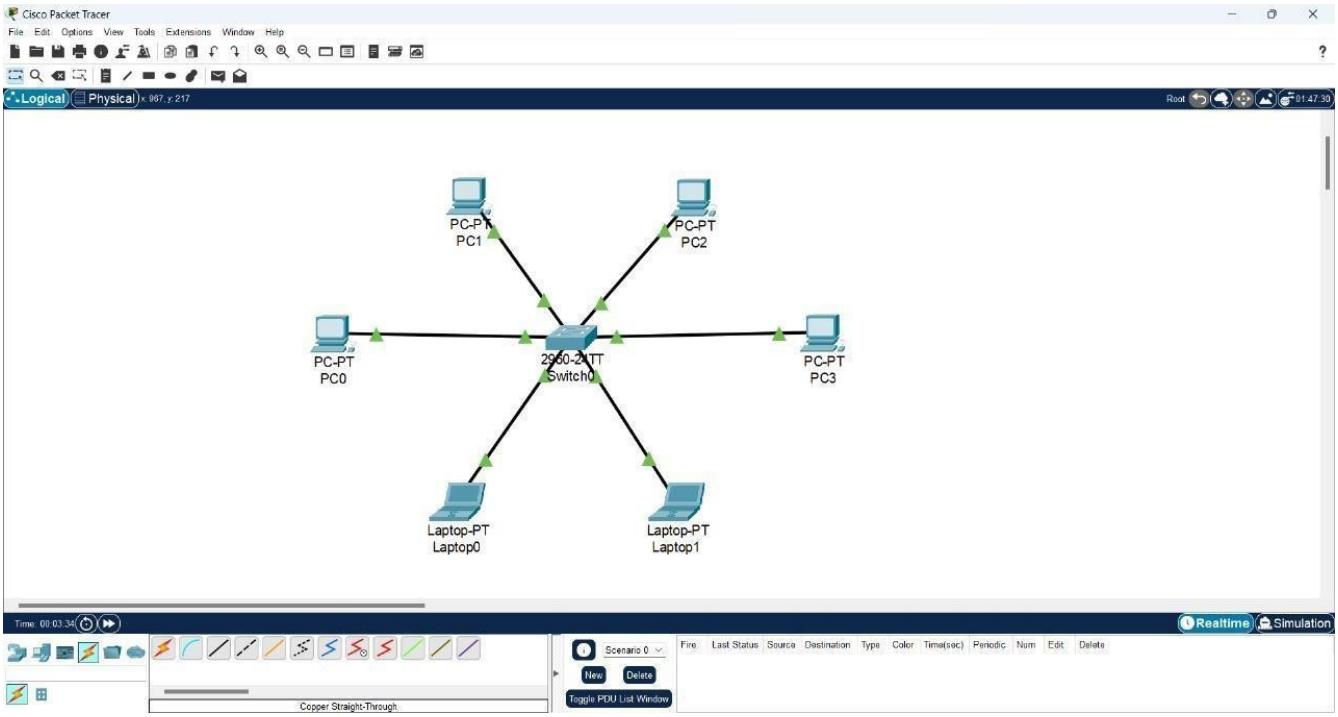
1. Device Requirements:

1. PC-0
2. PC-1
3. PC-2
4. PC-3
5. Laptop0
6. Laptop1
7. Switch0
8. Copper Straight-Through

2. Network Diagram for your experiment (draw the diagram either hand drawing/mspaint or any other drawing tools)



3. Network Diagram (packet tracer diagram before configuration):



4. Configuration details:

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PC1	Fa0	172.16.0.2	255.255.0.0
PC2	Fa0	172.16.0.3	255.255.0.0
PC3	Fa0	172.16.0.4	255.255.0.0
Laptop0	Fa0	172.16.0.5	255.255.0.0
Laptop1	Fa0	172.16.0.6	255.255.0.0
Switch0	Fa0		

5. Commands used in each of the diagram (if any):

1. ipconfig
2. ping <ip_address>

6. Output Diagram (Minimum 3 screenshot):

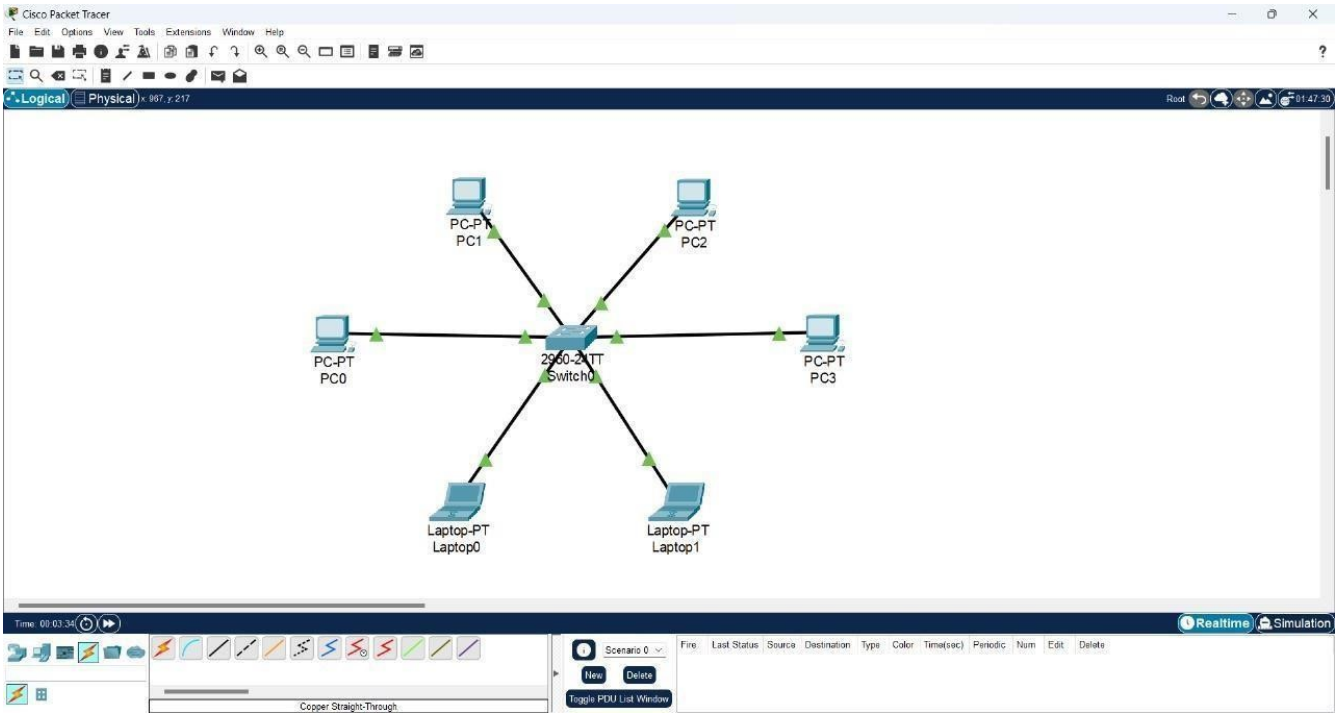
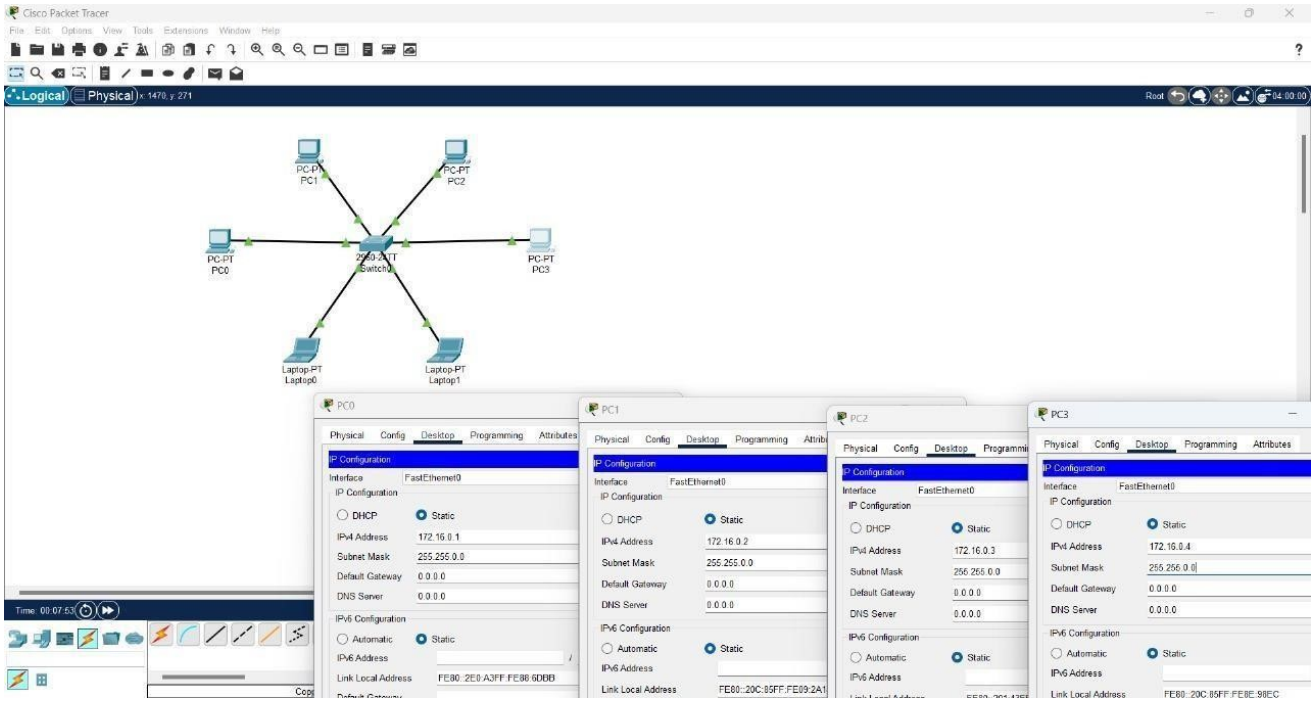


FIG: NETWORK DIAGRAM



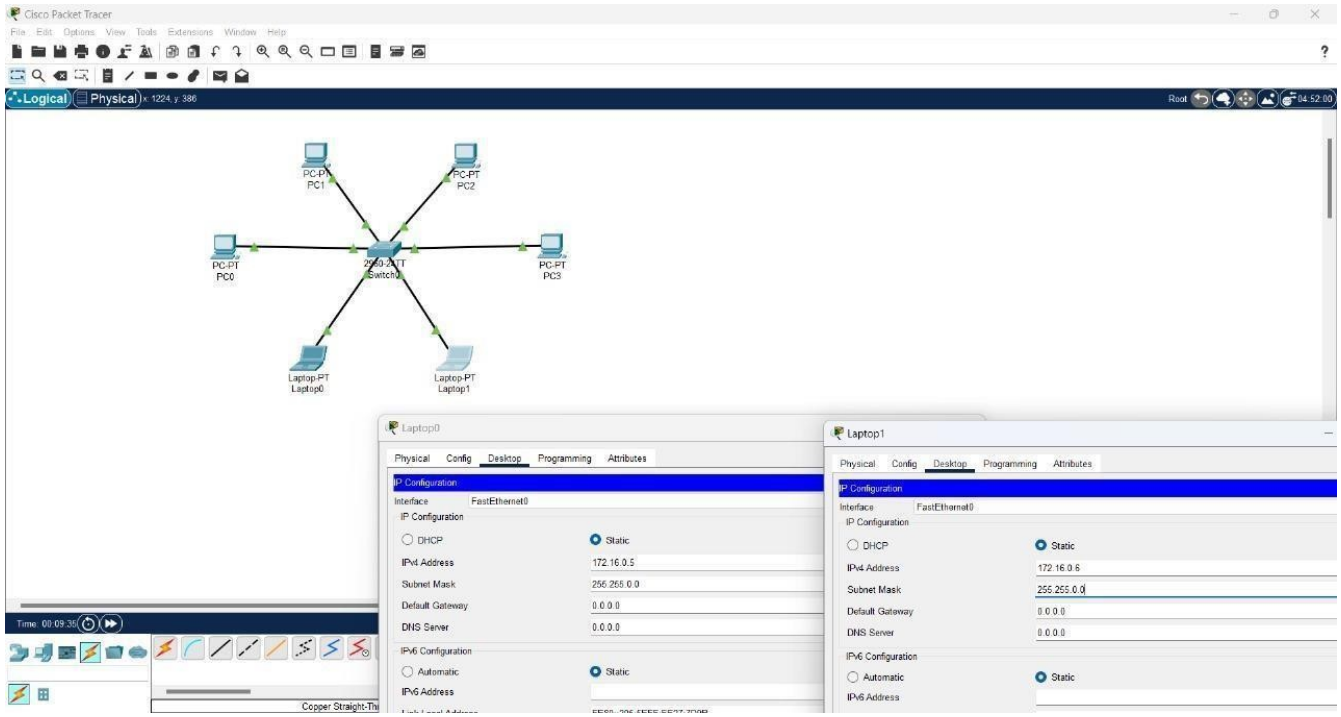


FIG: ASSIGNING IP ADDRESS

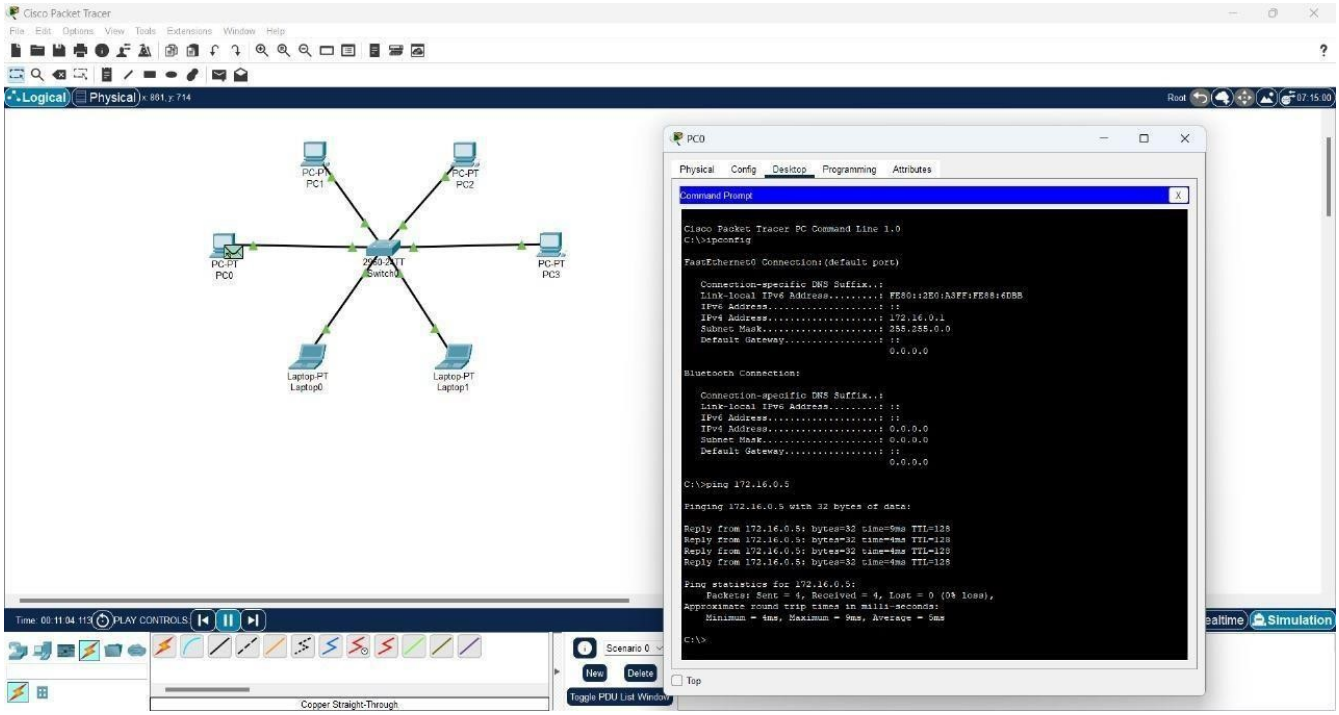
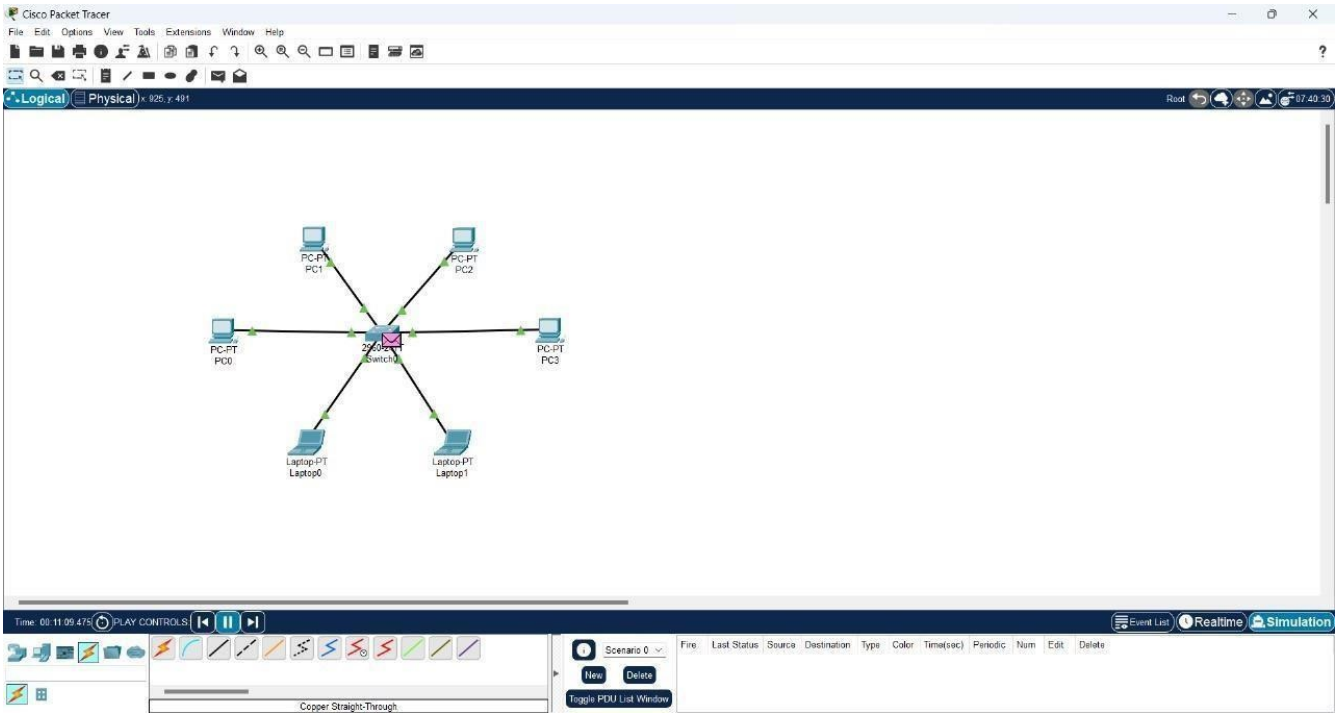


FIG: PING



CONCLUSION (provide conclusion about this experiment):

Successfully created a Simple LAN design with 1 switch, 4 PC's, 2 laptops and verified the connections from all the ends using Packet Tracer.

Rubrics for Experiment Assessment:

Rubrics	Good	Normal	Poor	Marks
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