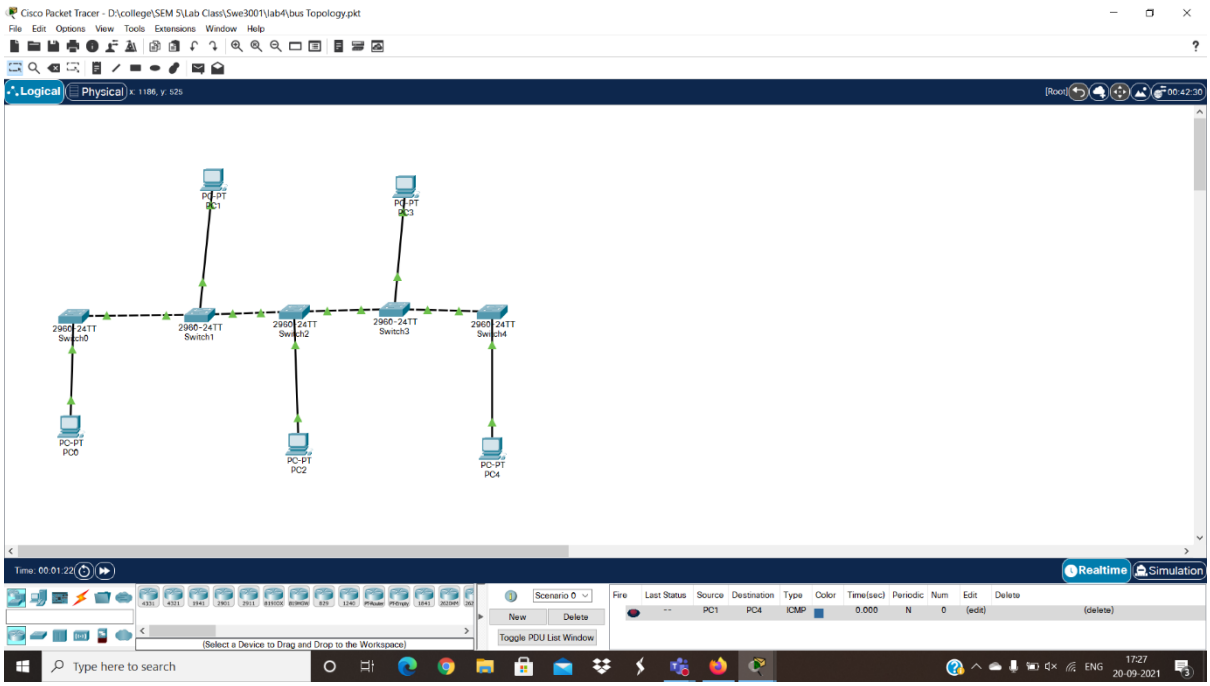
VIT-AP UNIVERSITY, ANDHRA PRADESH

CSE3003 – Computer Networks - Lab Sheet: 1

Academic year: 2023-2024 **Branch/ Class:** B.Tech
Semester: Fall **Date:**
Faculty Name: Prof. S. Gopikrishnan **School:** SCOPE
Student name: Aman Sahu **Reg. no.: 22BCE7224**

LAB 1

1. Design a Bus Topology network using Switches.



Objectives:

1. Design a BUS Topology using switches with PCs.
2. Verify the connectivity.

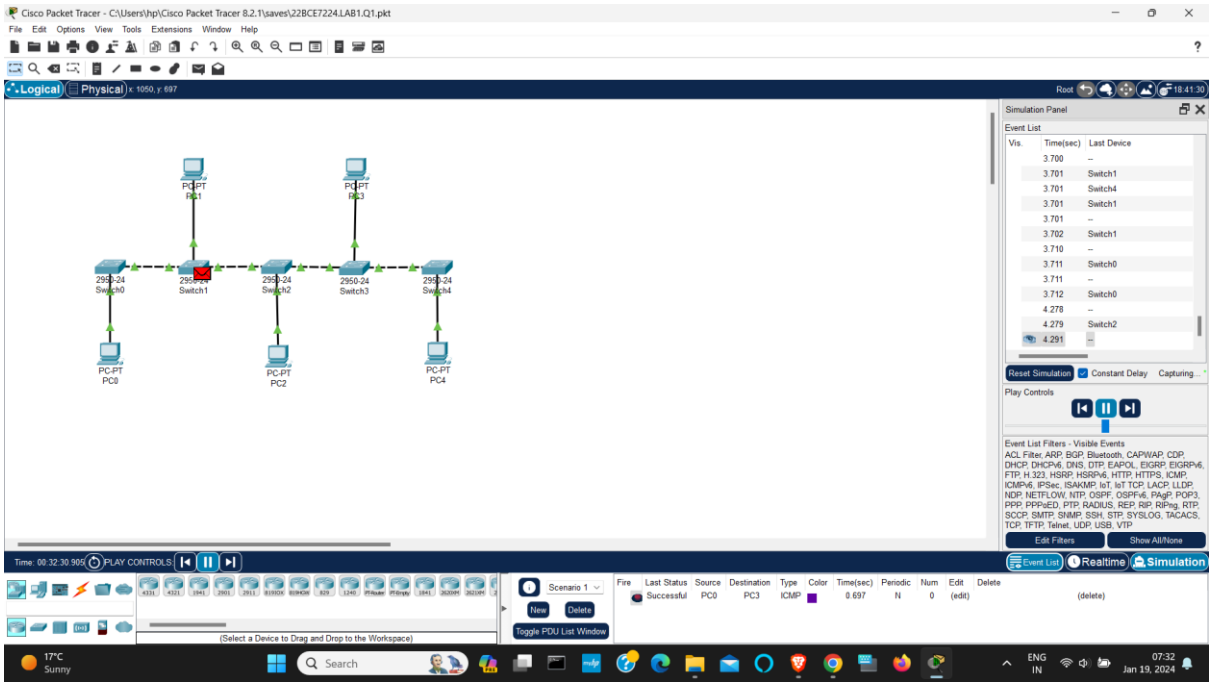
Addressing Table:

Device	Interface	IP Address	Subnet Mask
PC0	NIC	192.172.16.1	255.255.255.0
PC1	NIC	192.172.16.2	255.255.255.0
PC2	NIC	192.172.16.3	255.255.255.0
PC3	NIC	192.172.16.4	255.255.255.0
PC4	NIC	192.172.16.5	255.255.255.0

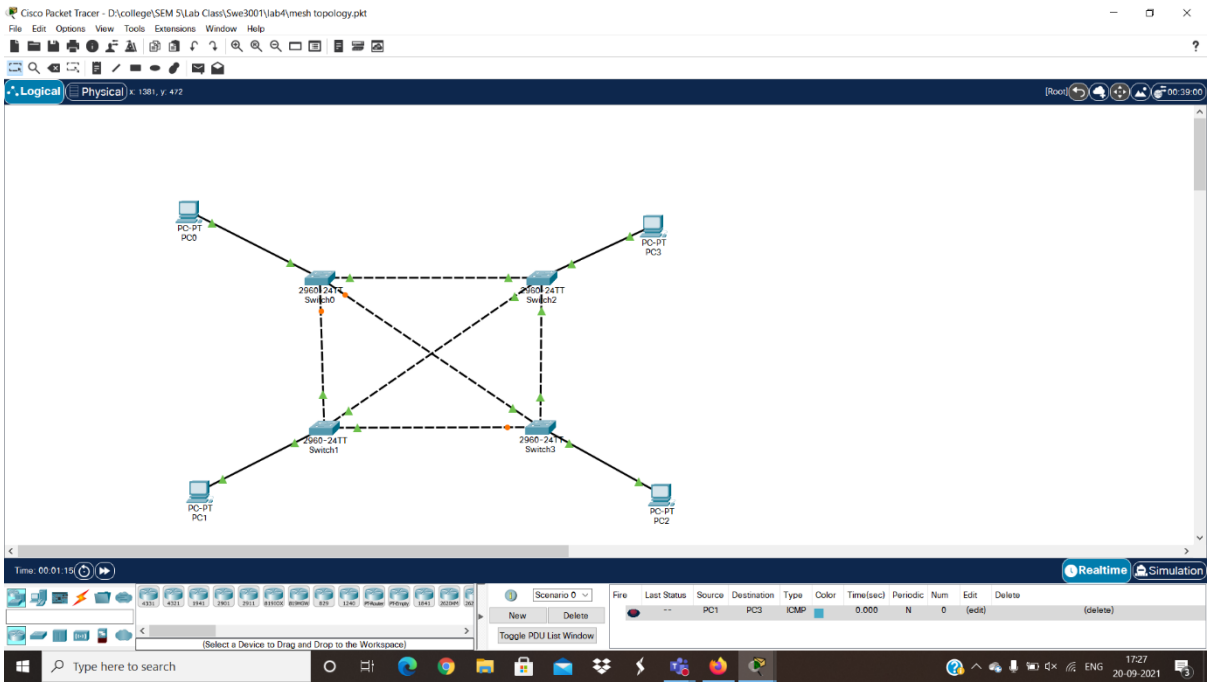
Procedure:

- Consider 5 PC's and 5 Switches
- Connect them as shown in figure.
- Now configure each PC as shown in table.
- Now send the packet from one end to the other node of the terminal.

OUTPUT-



2. Design a Mesh Topology network using Switches.



Objectives:

2. Design a Mesh Topology using switches with PCs.
3. Verify the connectivity.

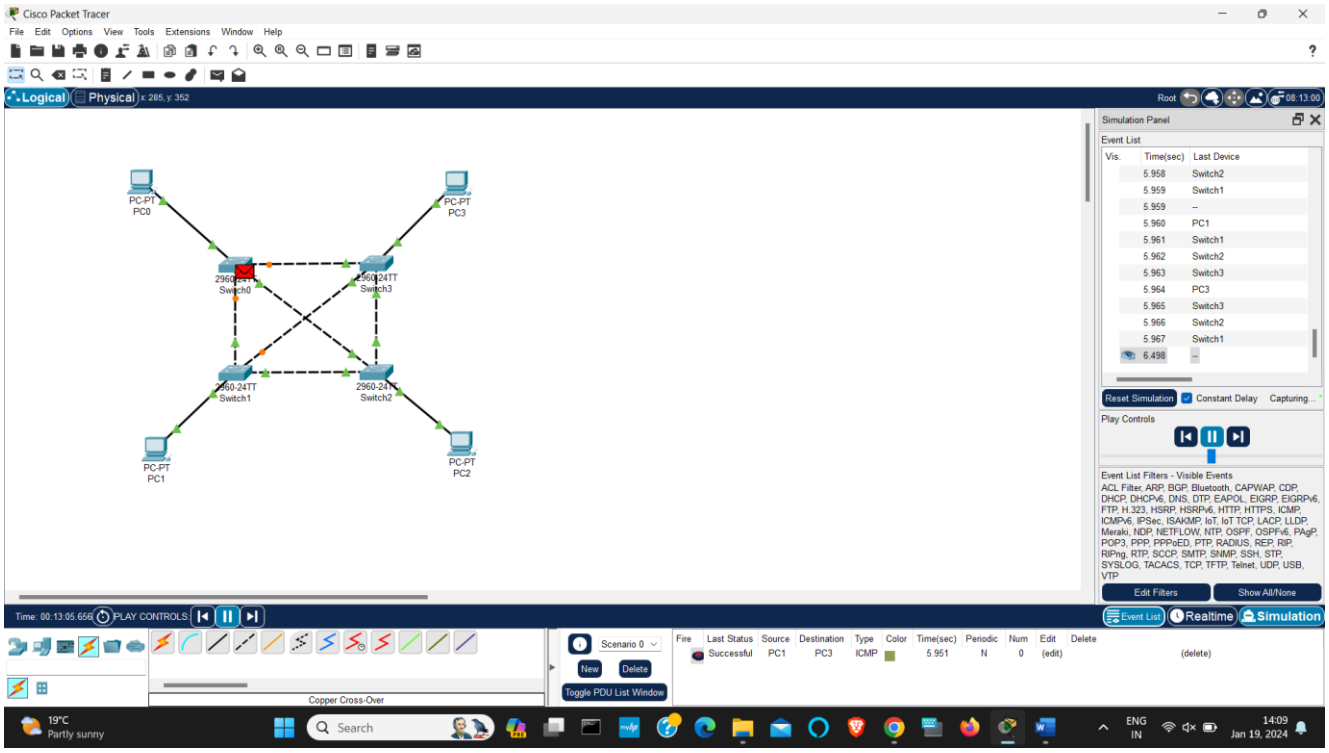
Addressing Table:

Device	Interface	IP Address	Subnet Mask
PC0	NIC	10.10.10.1	255.0.0.0
PC1	NIC	10.10.10.2	255.0.0.0
PC2	NIC	10.10.10.3	255.0.0.0
PC3	NIC	10.10.10.4	255.0.0.0
PC4	NIC	10.10.10.5	255.0.0.0

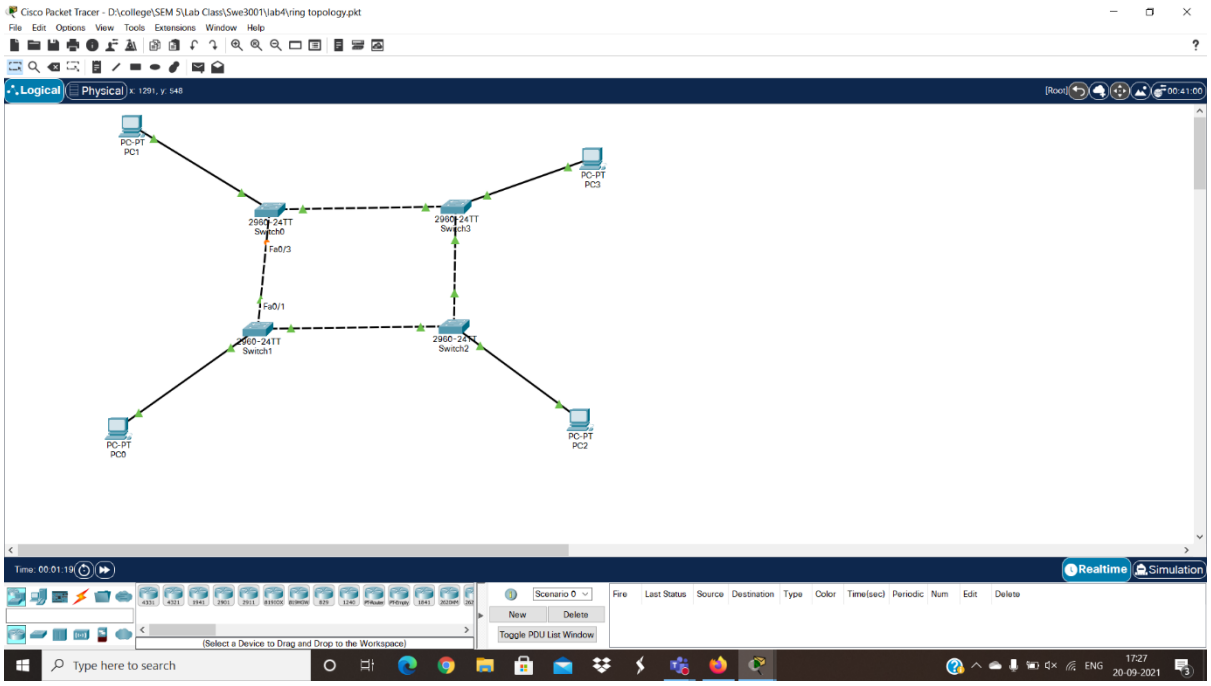
Procedure:

- Consider 5 PC's and 5 Switches
- Connect them as shown in figure.
- No configure each PC as shown in addressing table.
- Now send the packet from one end to the other node of the terminal.

OUTPUT-



3. Design a Ring Topology network using Switches.



Objectives:

3. Design a Ring Topology using switches with PCs.
4. Verify the connectivity.

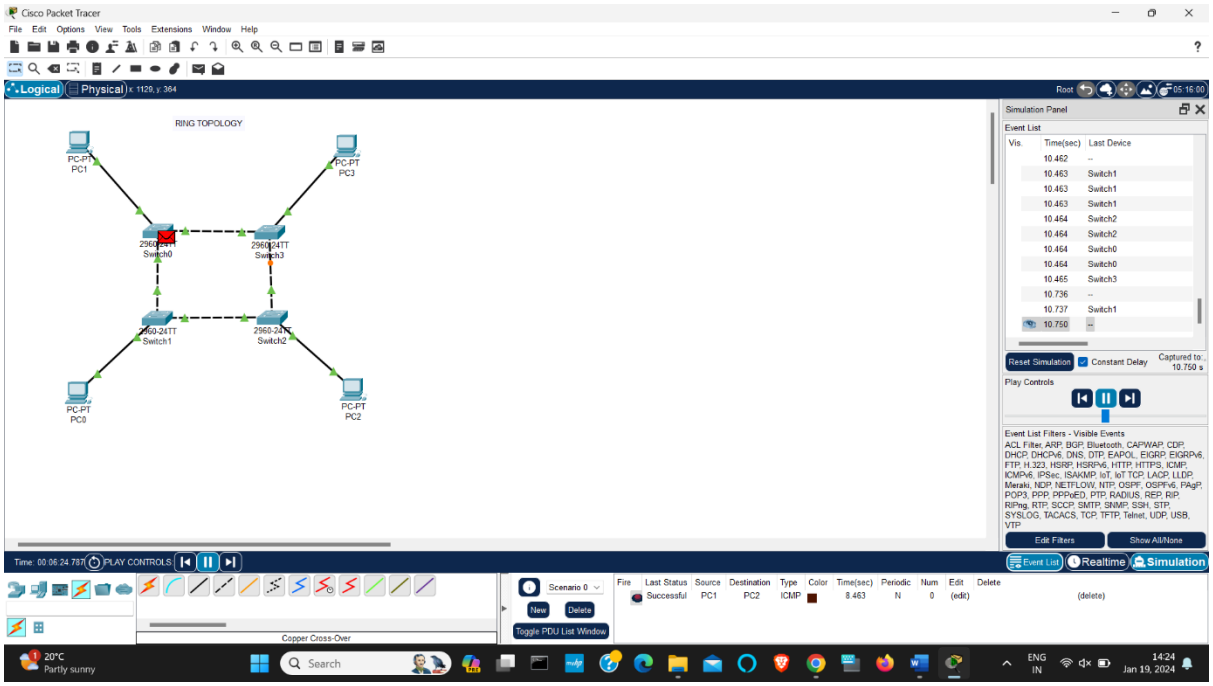
Addressing Table:

Device	Interface	IP Address	Subnet Mask
PC0	NIC	10.10.10.1	255.0.0.0
PC1	NIC	10.10.10.2	255.0.0.0
PC2	NIC	10.10.10.3	255.0.0.0
PC3	NIC	10.10.10.4	255.0.0.0

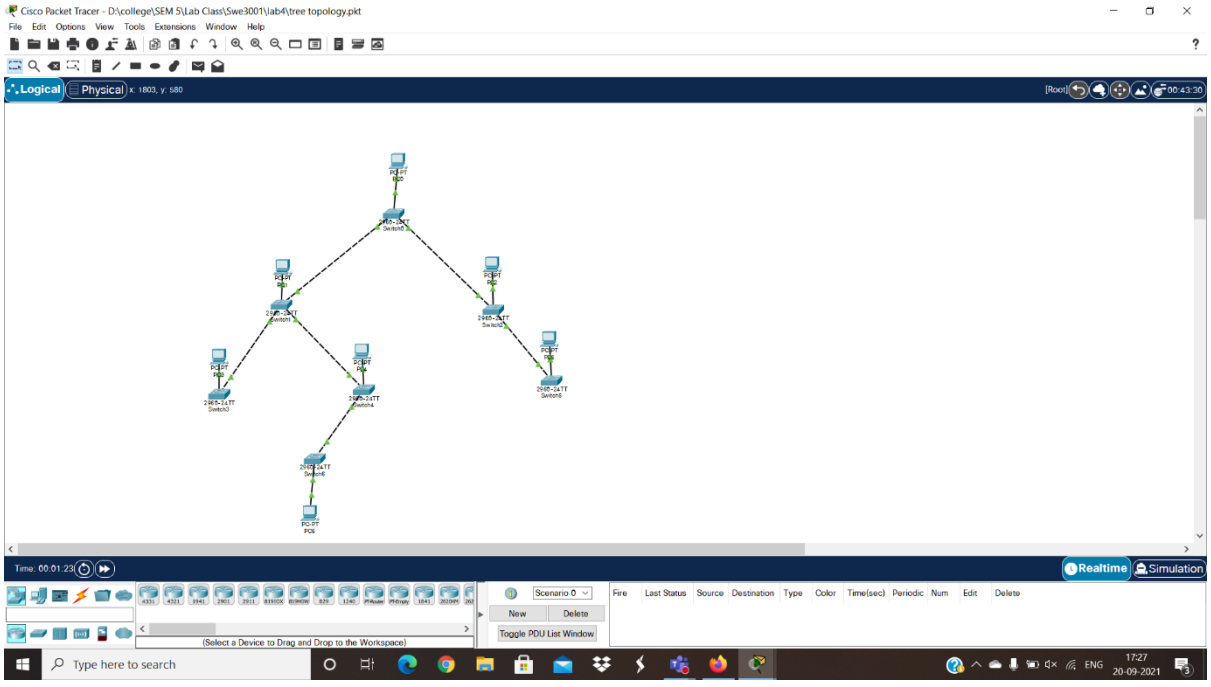
Procedure:

- Consider 5 PC's and 5 Switches
- Connect them as shown in figure.
- No configure each PC as shown in addressing table.
- Now send the packet from one end to the other node of the terminal.

OUTPUT-



4. Design a Tree Topology network using Switches.



Objectives:

4. Design a Tree Topology using switches with PCs.
5. Verify the connectivity.

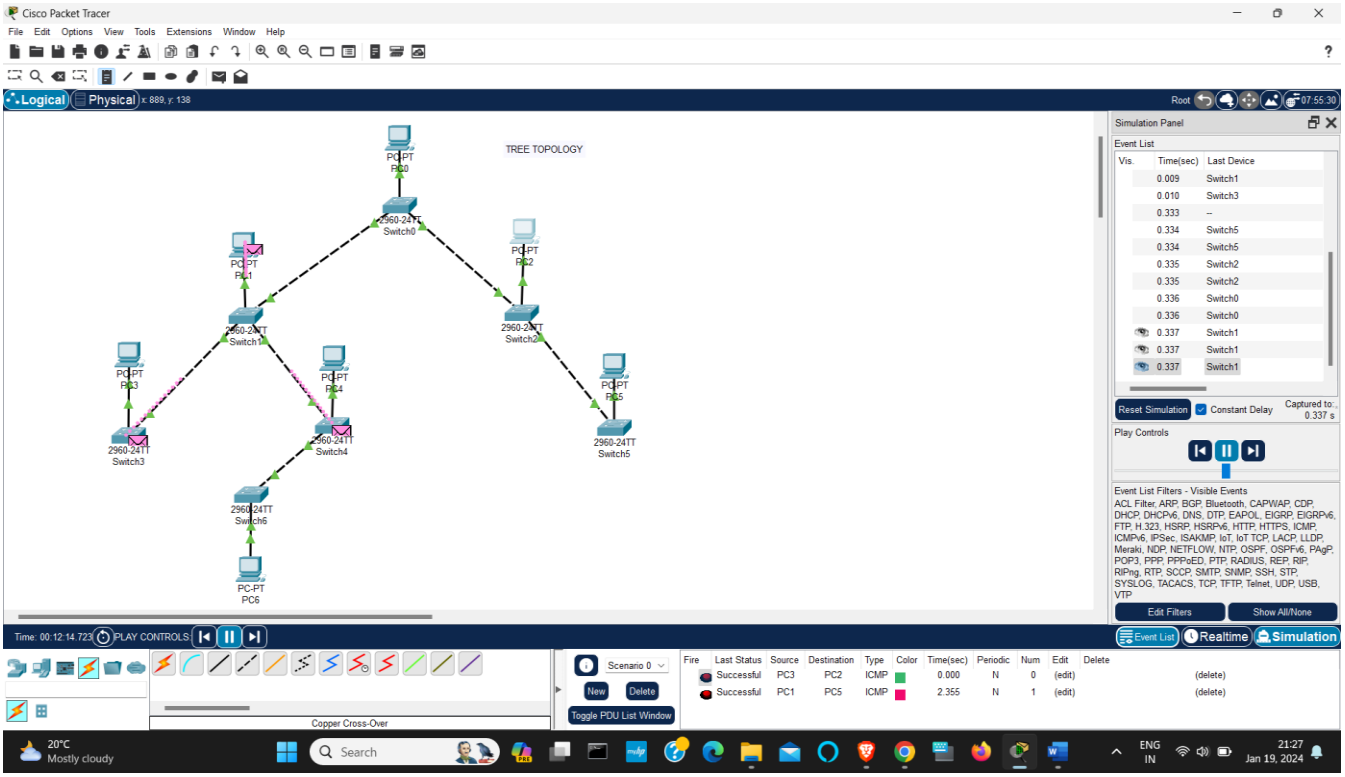
Addressing Table:

Device	Interface	IP Address	Subnet Mask
PC0	NIC	10.10.10.1	255.0.0.0
PC1	NIC	10.10.10.2	255.0.0.0
PC2	NIC	10.10.10.3	255.0.0.0
PC3	NIC	10.10.10.4	255.0.0.0
PC4	NIC	10.10.10.5	255.0.0.0
PC5	NIC	10.10.10.6	255.0.0.0
PC6	NIC	10.10.10.7	255.0.0.0
PC7	NIC	10.10.10.8	255.0.0.0

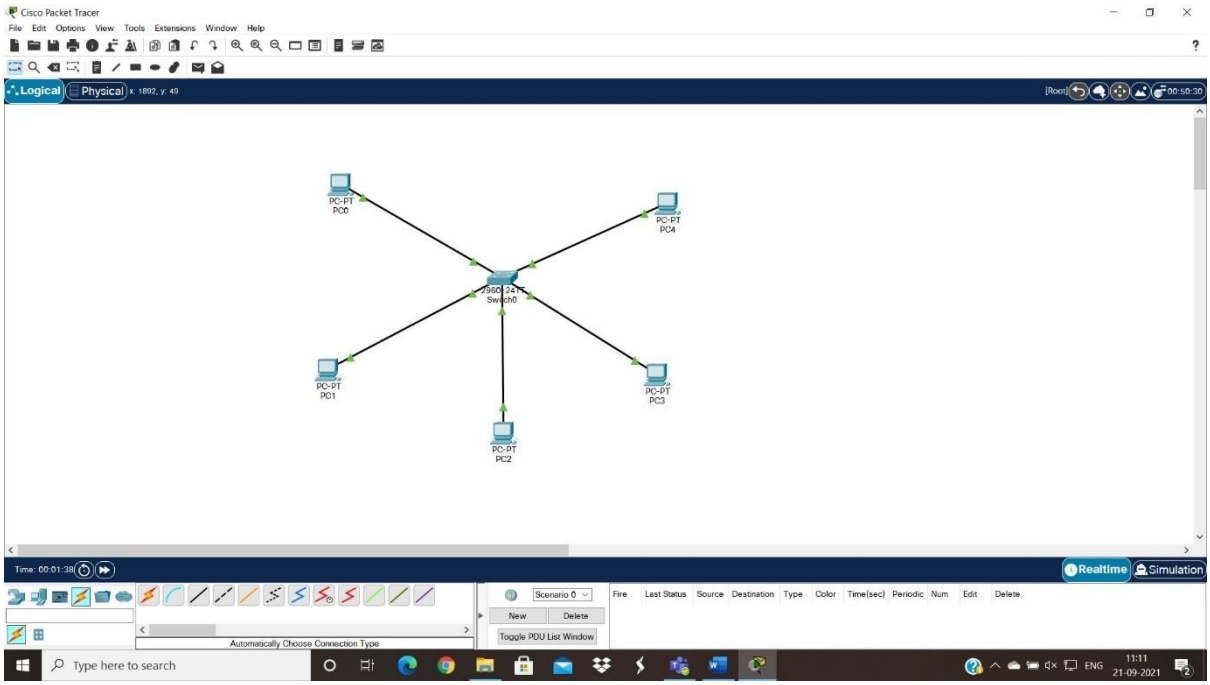
Procedure:

- Consider 7 PC's and 7 Switches
- Connect them as shown in figure.
- No configure each PC as shown in addressing table.
- Now send the packet from one end to the other node of the terminal.

OUTPUT-



5. Design a Star Topology network using Switches.



Objectives:

5. Design a Star Topology using switches with PCs.
6. Verify the connectivity.

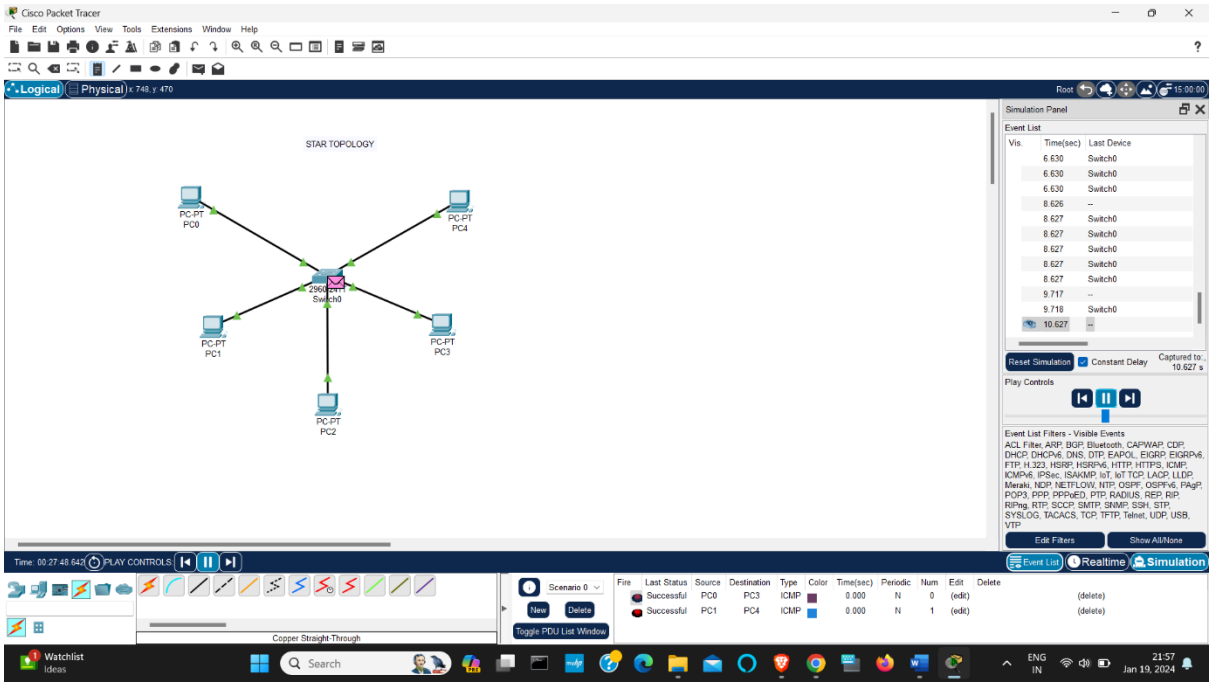
Addressing Table:

Device	Interface	IP Address	Subnet Mask
PC0	NIC	10.10.10.1	255.0.0.0
PC1	NIC	10.10.10.2	255.0.0.0
PC2	NIC	10.10.10.3	255.0.0.0
PC3	NIC	10.10.10.4	255.0.0.0
PC4	NIC	10.10.10.5	255.0.0.0

Procedure:

- Consider 5 PC's and 1 Switches
- Connect them as shown in figure.
- No configure each PC as shown in addressing table.
- Now send the packet from one end to the other node of the terminal.

OUTPUT-


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical Physical
STAR TOPOLOGY
PC-PT PC0
PC-PT PC4
2960-24TT Switch0
PC-PT PC1
PC-PT PC3
PC-PT PC2
Simulation Panel
Event List
Vis. Time(sec) Last Device
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Copper Straight-Through
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC3 ICMP
Successful PC1 PC4 ICMP
Watchlist
Ideas
Search
ENG IN
21:57
Jan 19, 2024