VIT-AP UNIVERSITY, ANDHRA PRADESH

CSE3003 – Computer Networks - Lab Sheet: 2

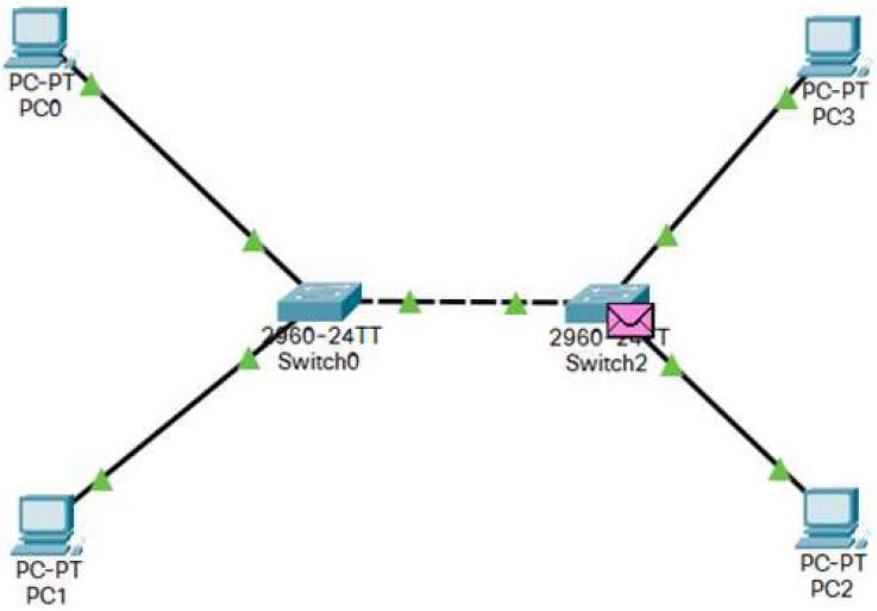
Academic year: 2023-2024 **Branch/ Class:** B.Tech
Semester: Fall **Date:** 19.01.24
Faculty Name: Prof. S.Gopikrishnan **School:** SCOPE
Student name: Aman Sahu **Reg. no.:** 22BCE7224

LAB 2

1. Design a LAN network using a Single Switch.

Objectives:

1. Design a LAN using two switches with four PCs.
2. Verify the connectivity.



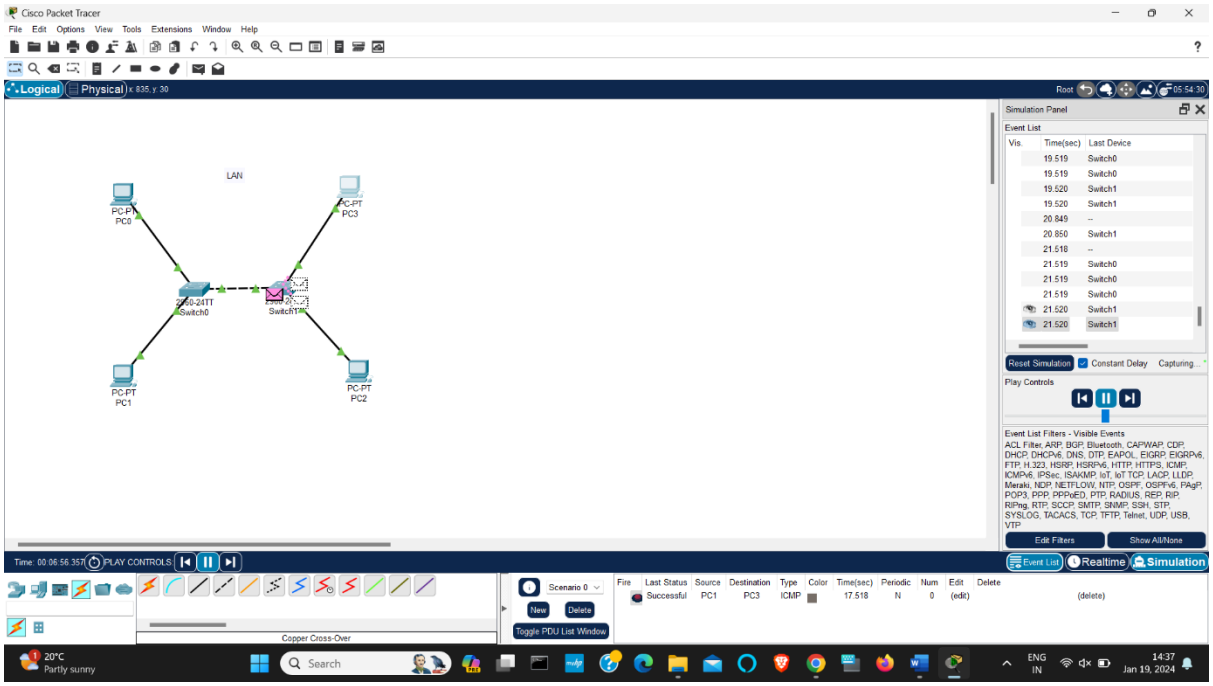
Addressing Table:

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

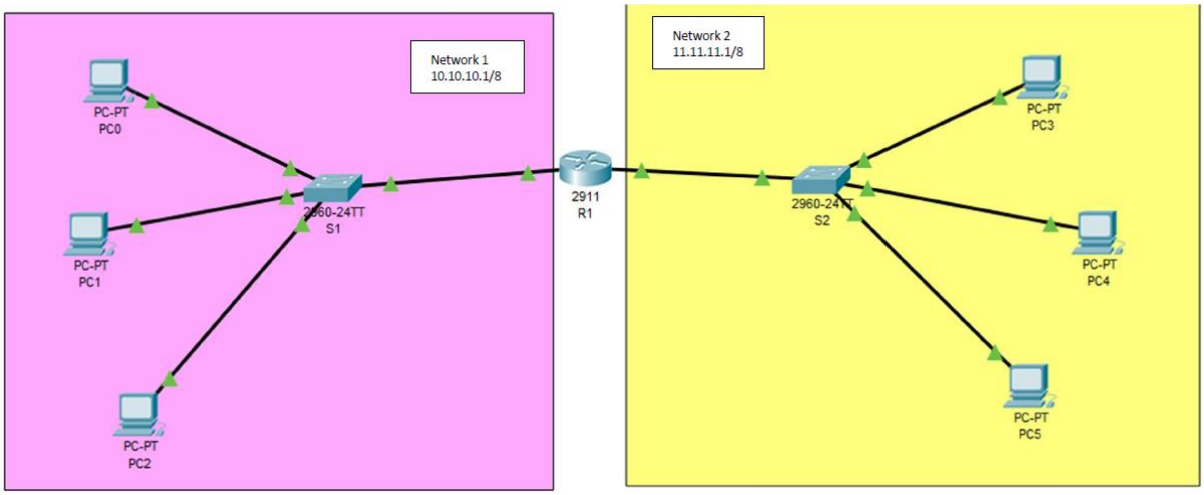
Procedure:

- Take 4 Pc's and two switches and connect them with a copper straight-Through and then connect the both Switches with Copper Cross-Over.
- Now configure each pc with their IP address
- Now send a packet from onside of the switch to the other side of the switch.
- Now run the simulation.

Solution:



2. Design a MAN network using a Single Router and Configure Router with CLI Mode.



Objectives:

1. Design two LAN using two switches with three PCs each.
2. Add one Router to connect two LAN networks
3. Verify the connectivity.

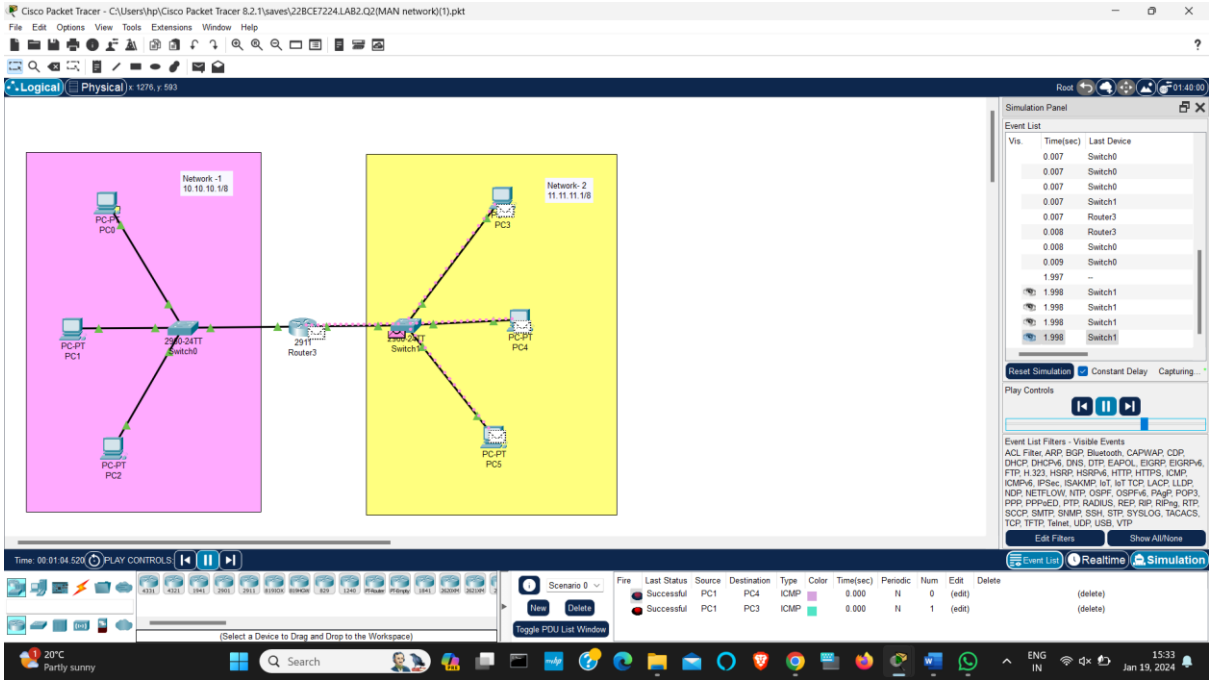
Addressing Table:

Device	Interface	IP Address	Subnet Mask
PC0	NIC	10.10.10.2	255.0.0.0
PC1	NIC	10.10.10.3	255.0.0.0
PC2	NIC	10.10.10.4	255.0.0.0
PC3	NIC	11.11.11.2	255.0.0.0
PC4	NIC	11.11.11.3	255.0.0.0
PC5	NIC	11.11.11.4	255.0.0.0
Router 1 (LAN 1)	NIC	10.10.10.1	255.0.0.0
Router 1 (LAN 2)	NIC	11.11.11.1	255.0.0.0
LAN1	NIC	10.10.10.0	255.0.0.0
LAN2	NIC	11.11.11.0	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.

Solution;



3. Design a LAN network using DNS & Web Server.

Objectives:

1. Design a LAN using switches with PCs (Wired and Wireless).
2. Connect LAN with routers
3. Host a web server and DNS Server
4. Create a website for vit.ac.in in PC4 and access it from PC2

Addressing Table:

Device	Interface	IP Address	Subnet Mask
PC0	NIC	192.168.10.1	255.255.255.0
PC1	NIC	192.168.10.2	255.255.255.0
PC2	NIC	192.168.10.3	255.255.255.0
PC3	NIC	192.168.20.1	255.255.255.0
PC4	NIC	192.168.20.2	255.255.255.0
PC5	NIC	192.168.20.3	255.255.255.0
WebServer	NIC	192.168.30.1	255.255.255.0
DNS	NIC	192.168.40.1	255.255.255.0

Solution: