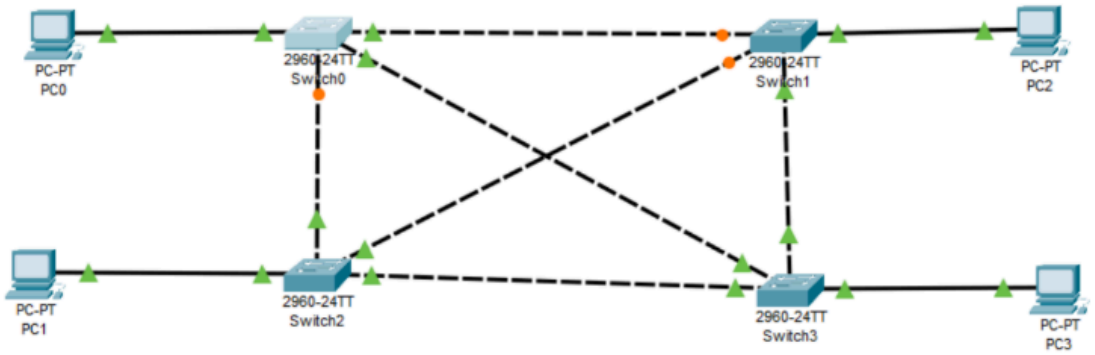
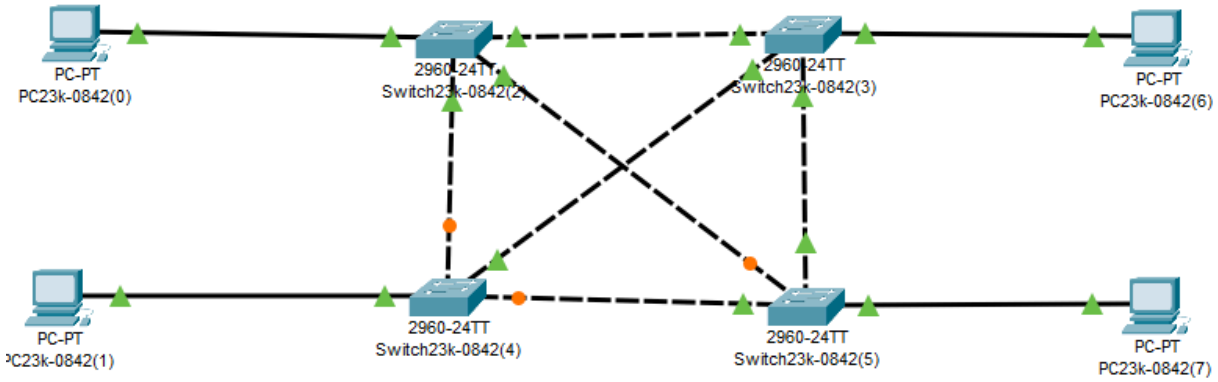
CN LAB#02 23K-0842

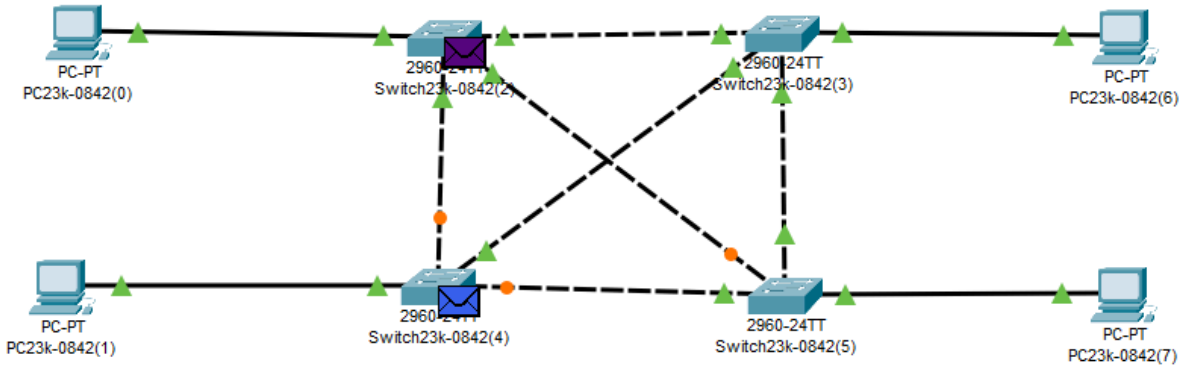
1) Design and configure the network in the figure below.
Check the connectivity using the SIMPLE PDU. (Do it for two different PC's)
Both for real-time and Simulation mode.
Show the ARP packet header format in Cisco Packet Tracer. (Two PC's)
Note: Show each step in the form of screenshots.



Real time:



Simulation:



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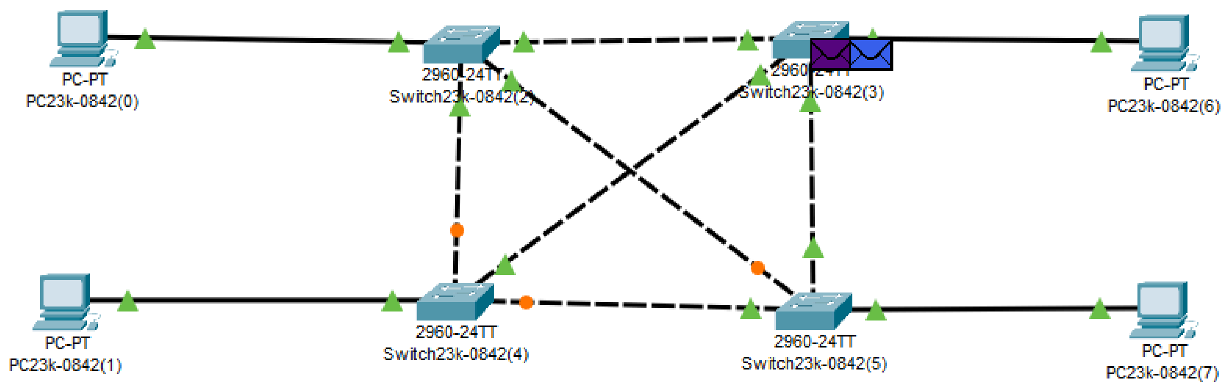

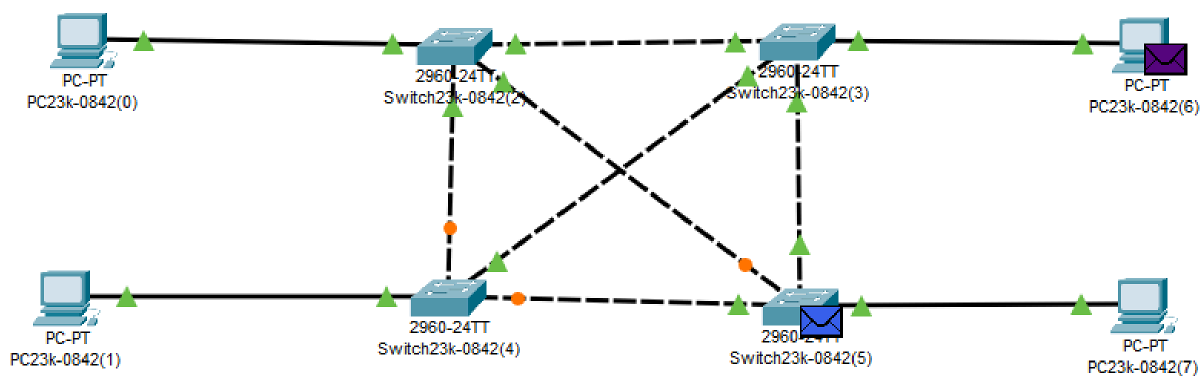

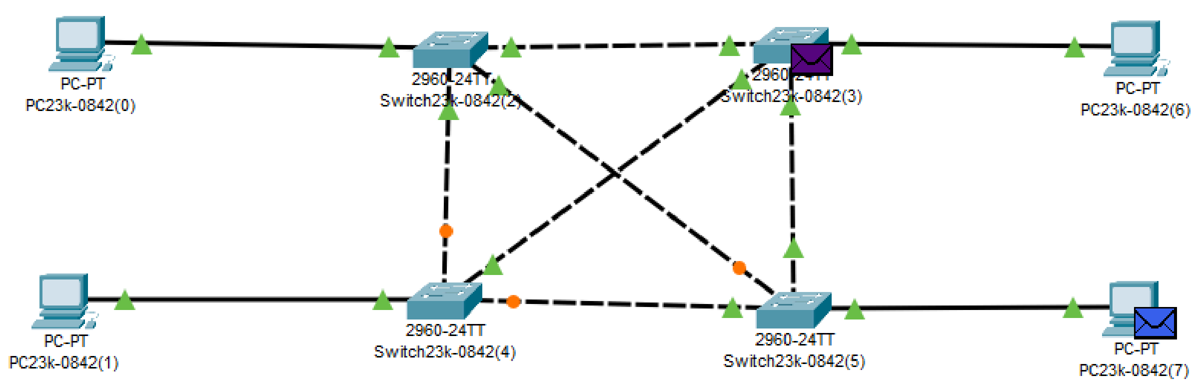

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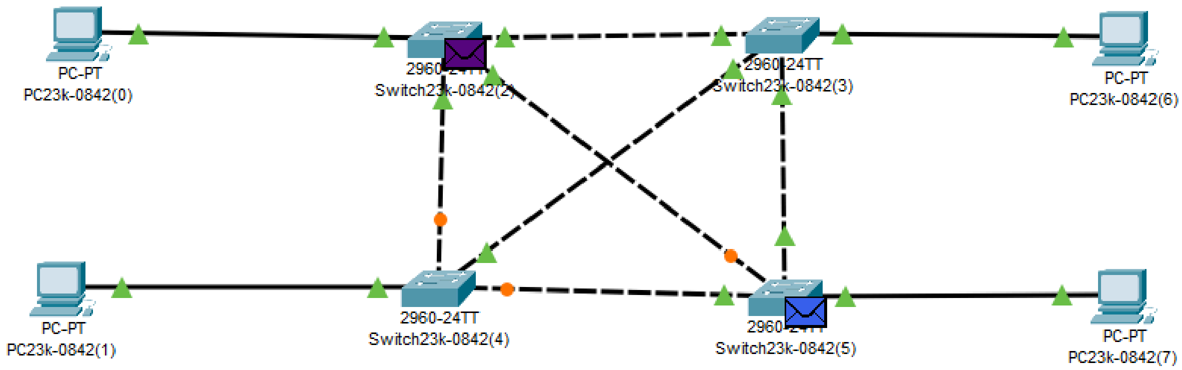

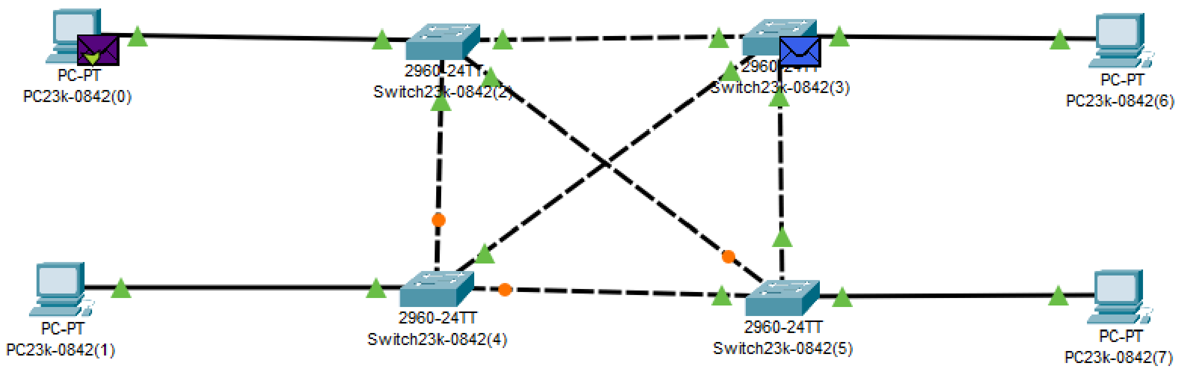

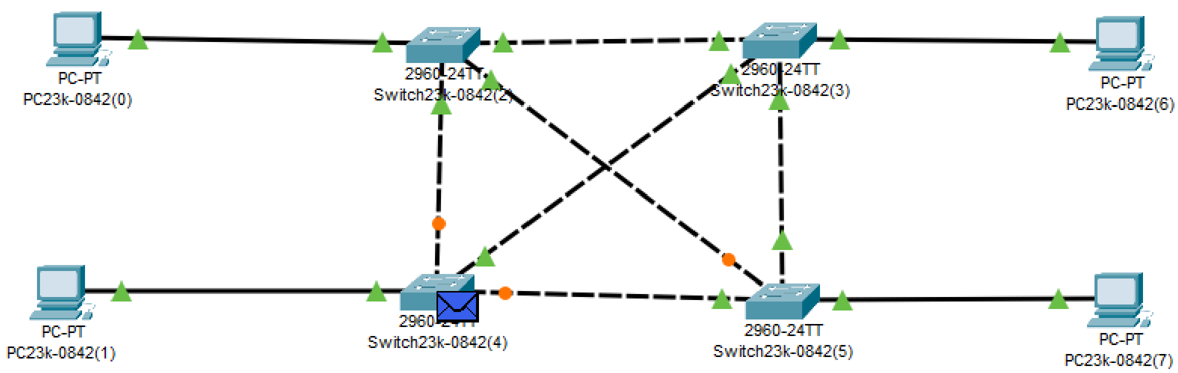

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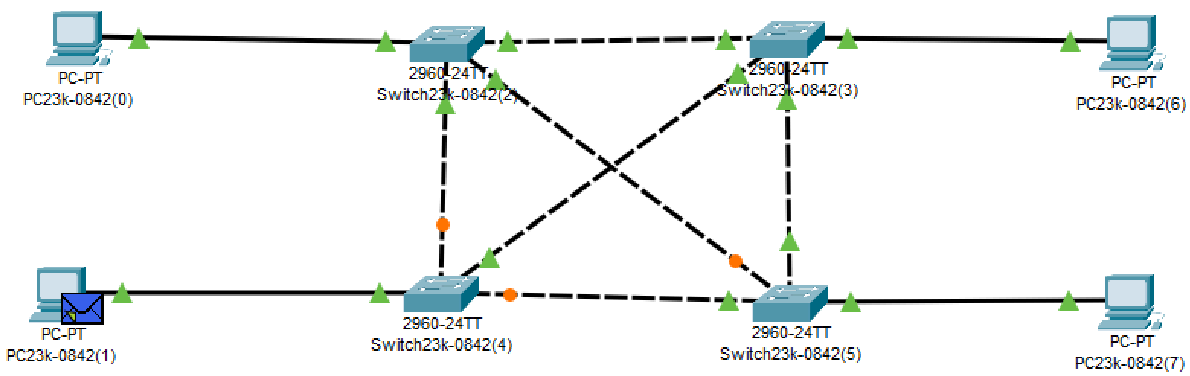

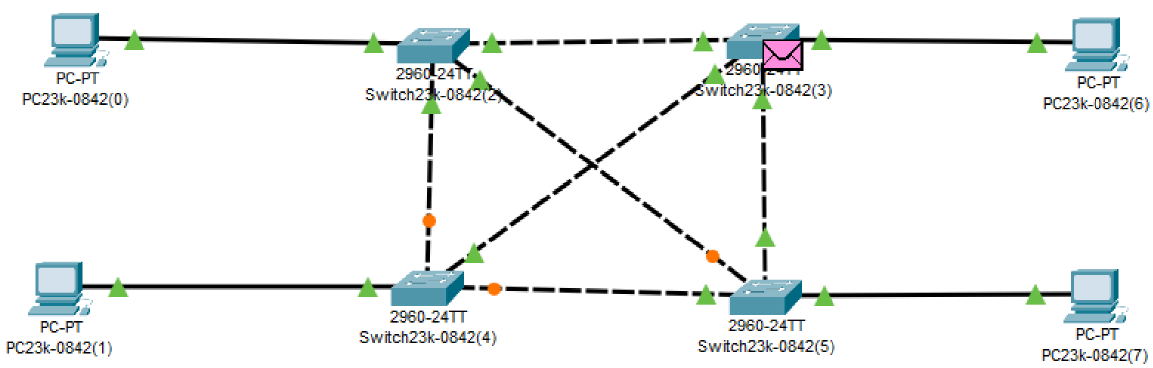

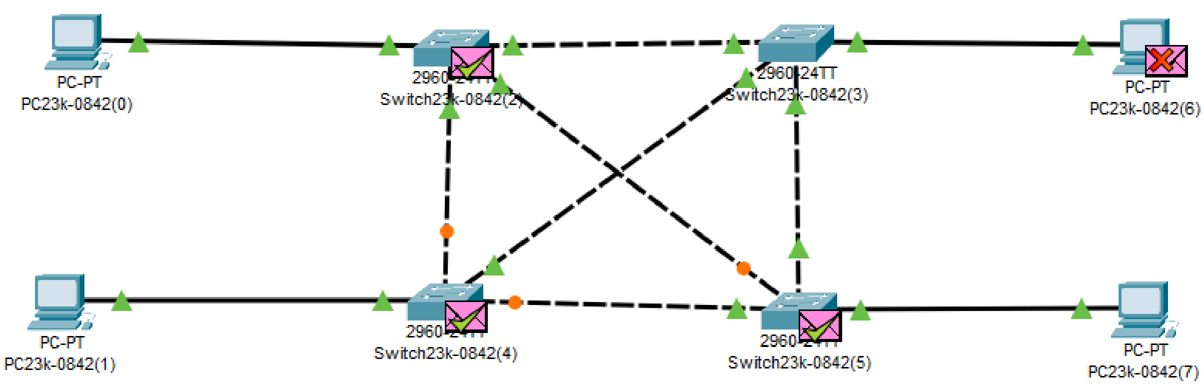

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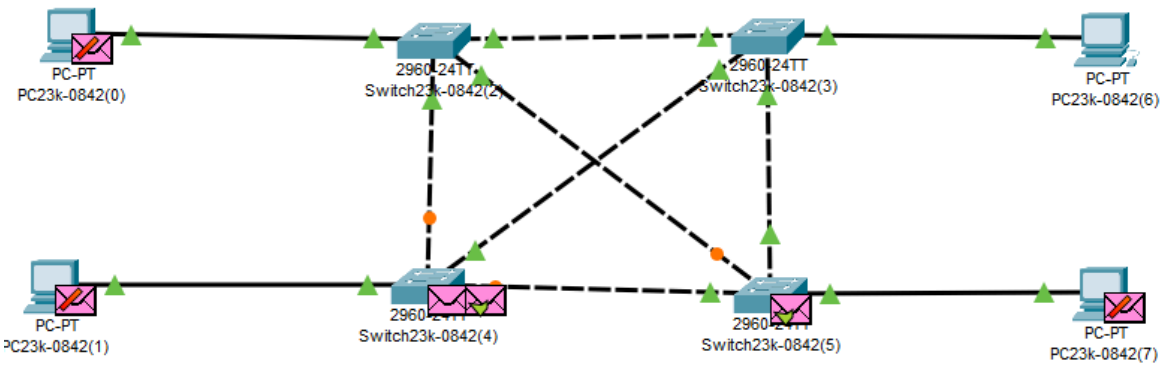

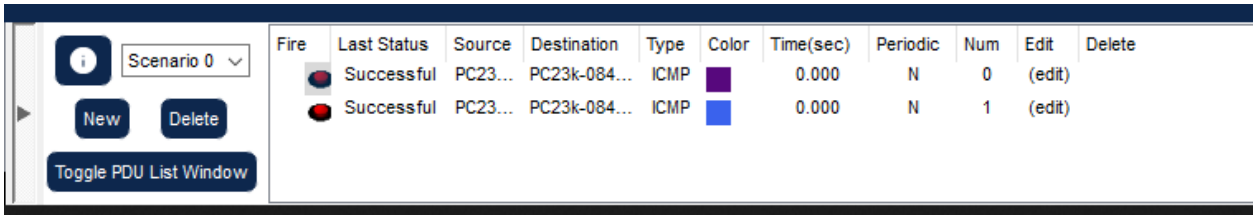

ARP TABLES:

ARP Table for PC23k-0842(0)

IP Address	Hardware Address	Interface
192.168.1.3	0050.0FDD.30DA	FastEthernet0

ARP Table for PC23k-0842(1)

IP Address	Hardware Address	Interface
192.168.1.4	0009.7C1C.35DE	FastEthernet0

ARP Table for PC23k-0842(6)

IP Address	Hardware Address	Interface
192.168.1.1	00E0.F7A3.B32B	FastEthernet0

ARP Table for PC23k-0842(7)

IP Address	Hardware Address	Interface
192.168.1.2	0002.4A02.CC6A	FastEthernet0

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2) Which device creates a single collision domain?

The device that creates a single collision domain is a hub.

Explanation:

A hub is a simple networking device that broadcasts incoming data to all ports, so all connected devices share the same collision domain.In contrast, devices like switches and bridges create multiple collision domains by isolating traffic between ports.

3) Which device is more efficient at managing network traffic?

The device that is more efficient at managing network traffic is a switch.

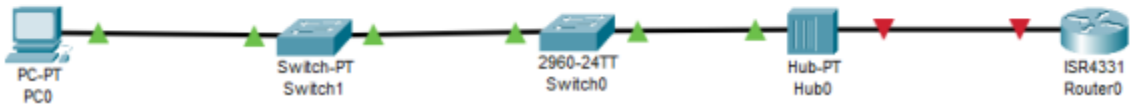
Explanation:

A switch intelligently forwards data only to the specific device or port it is intended for, reducing unnecessary traffic. Unlike a hub, which broadcasts data to all ports, a switch minimizes collisions and improves overall network performance.

4) Which mode allows pause and step through network events?

Simulation Mode

5) Consider the following figure. The PC is connected to the switch console port. All the other connections are made through Ethernet links. Which types of UTP cables can be used with segments 1, 2, 3, and 4?



Segment 1: Straight wire

Segment 2: Crossover wire

Segment 3: Crossover wire

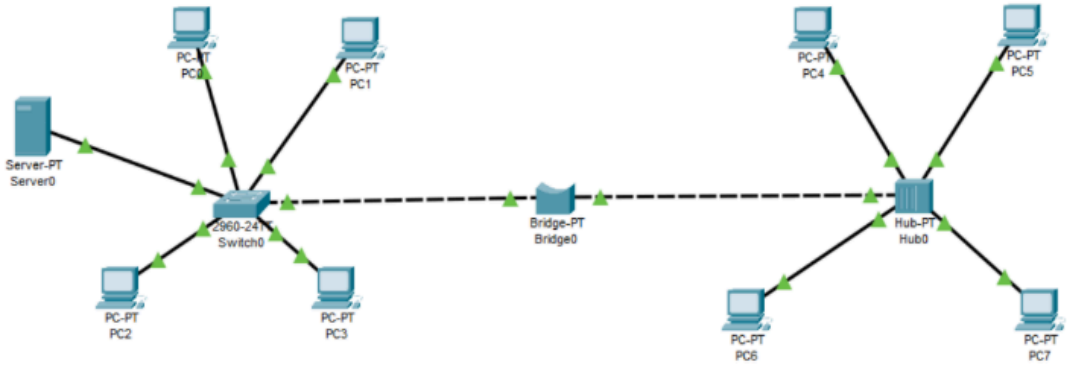
Segment 4: Straight wire

6) Create a network using Packet Tracer having eight PC's with 4 of them in one broadcast domain and the remaining 4 in another multicast-cast domain achieve this by using HUB, SWITCH, and BRIDGE. Assign IP addresses using the **DHCP** protocol in one domain and static IP in another.

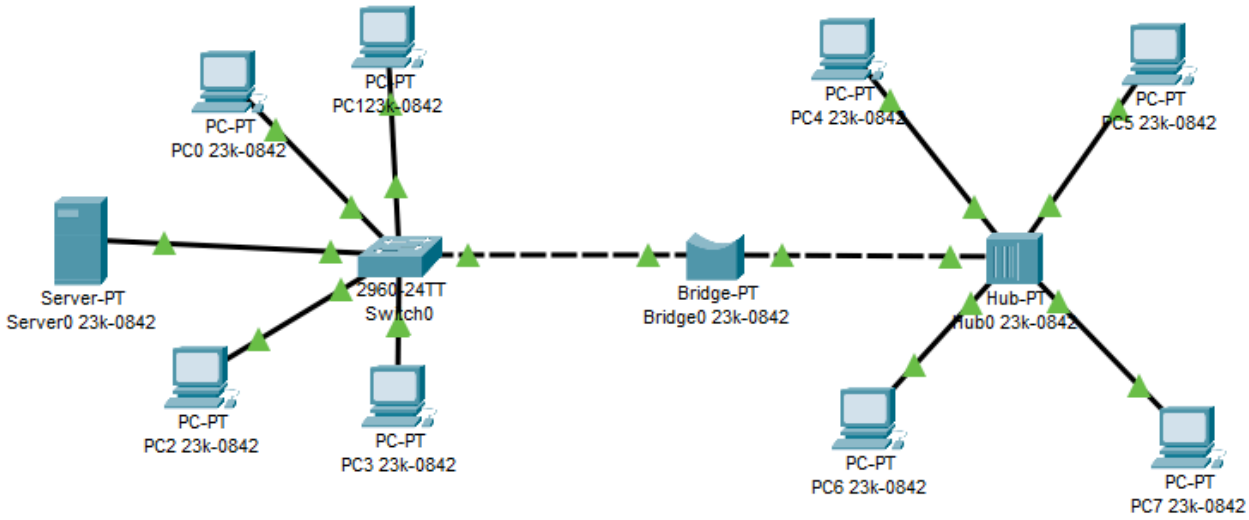
Check the connectivity using the SIMPLE PDU.

Show steps in the form of screenshots.

[HINT: HUB has a single Broadcast and collision domain; broadcast domain means all devices connected will receive data of every transaction and SWITCH has a Unicast, multicast, and broadcast domain. USE 1 HUB, 1 SWITCH, and 1 Bridge having eight PCs in a Network].



REAL - TIME:



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC4 23k-0842	PC7 23k-0842	ICMP		0.000	N	0	(edit)	
	Successful	PC0 23k-0842	PC2 23k-0842	ICMP		0.000	N	1	(edit)	
	Successful	PC4 23k-0842	PC6 23k-0842	ICMP		0.000	N	2	(edit)	

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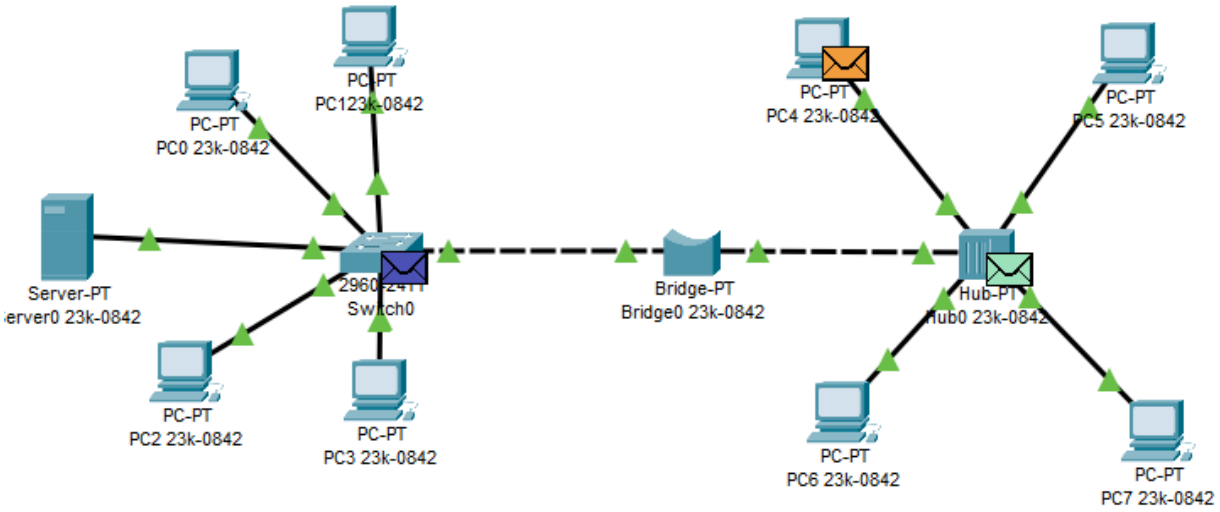
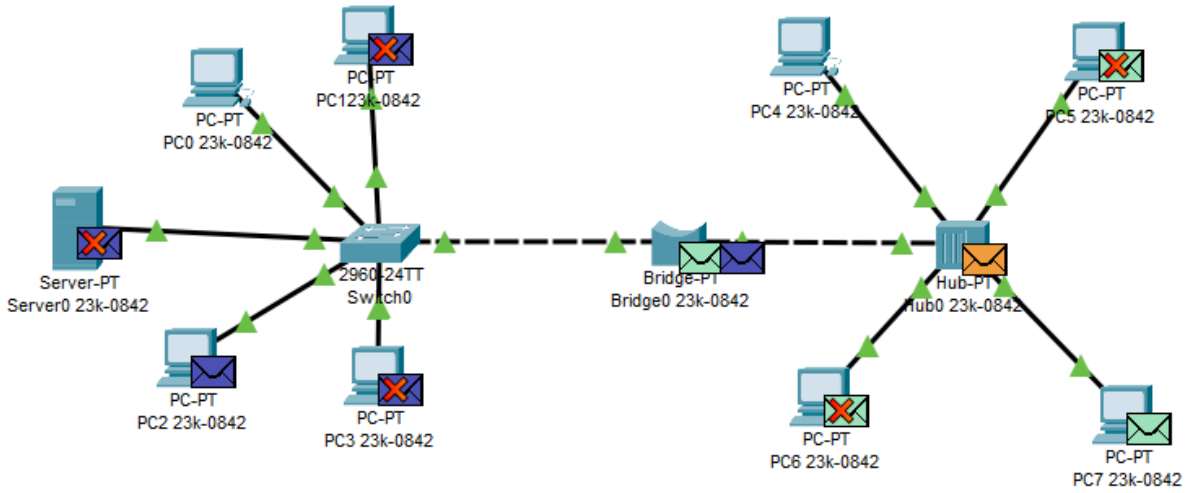
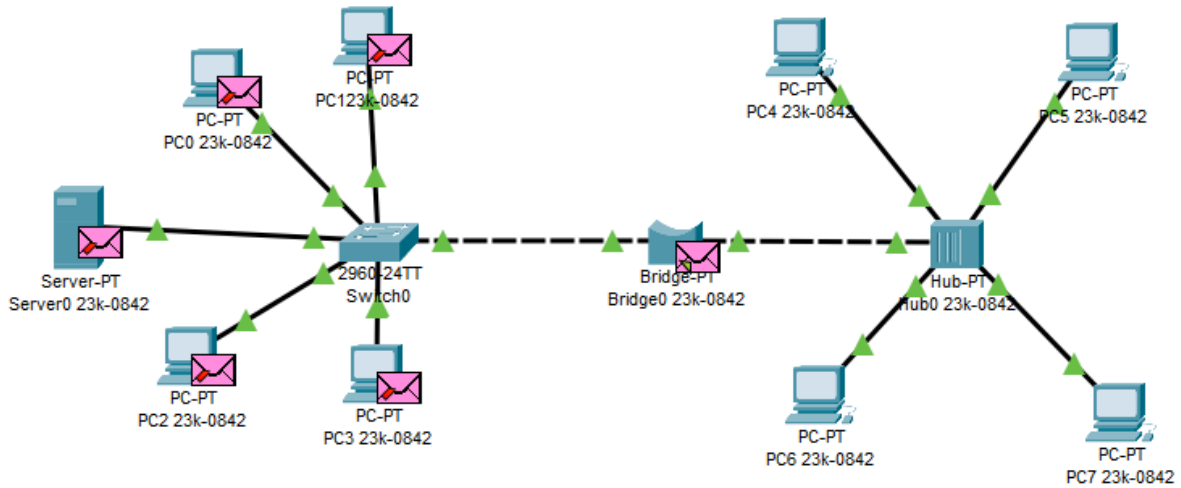
SIMULATION:







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