

Date: 25 / 06 / 2025

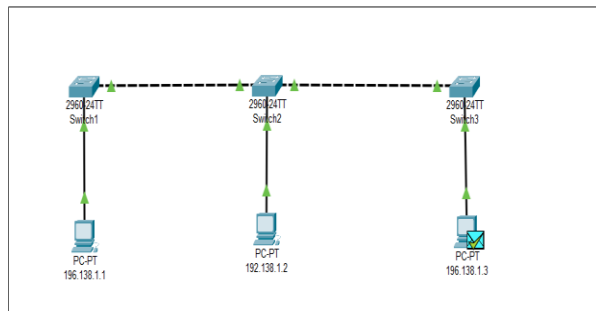
Lab Practical #04:

Installation of Network Simulator (Packet Tracer) and Implement different LAN topologies.

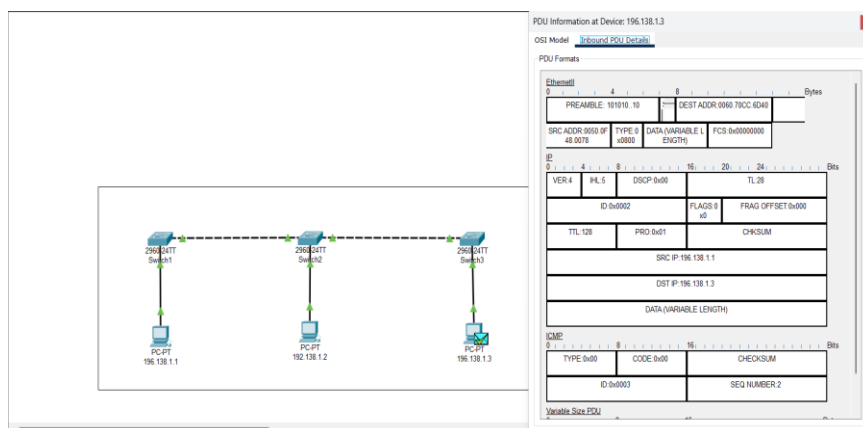
Practical Assignment #04:

1. Create a simple network with switch and two or more pc. Also check connectivity between them using ping command or PDU utility.
2. Implement different topologies in packet tracer.
 - a. Bus
 - b. Ring
 - c. Star
 - d. Mesh
 - e. Tree

1. Bus Topology Structure

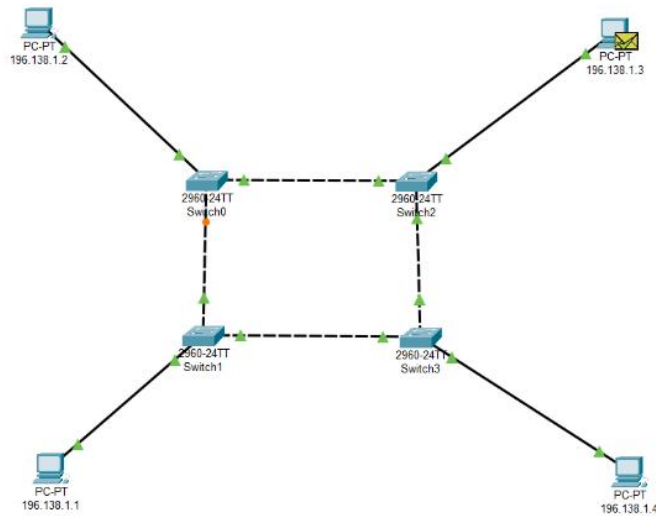


- IP Address: 196.138.1.3

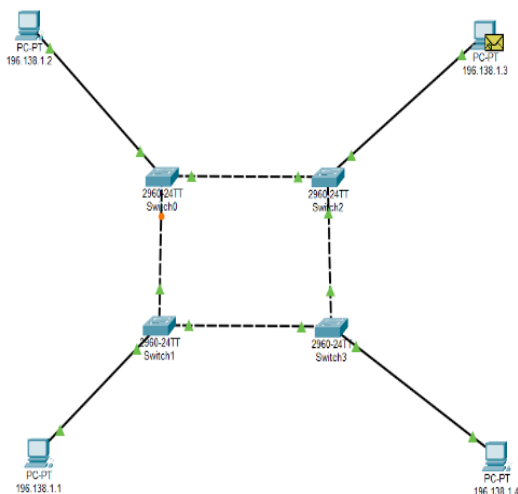


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2. Ring Topology Structure



- IP Address: 196.138.1.3



PDU Information at Device: 196.138.1.3

OSI Model: [Inbound PDU Details](#)

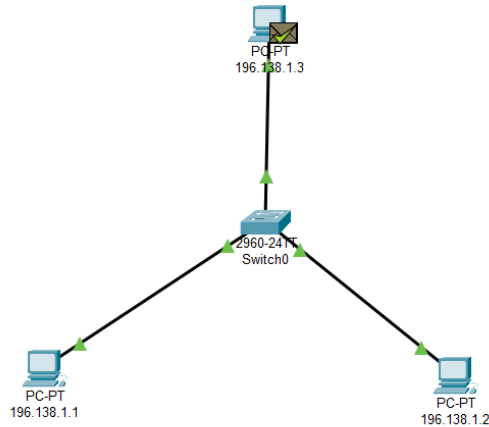
PDU Formats

Ethernet II			
Bytes			
PREAMBLE: 10101011		SF: 0	
DEST ADDR: 0002 4ACB 2		AD5	
SRC ADDR: 0001 974D 2EB2	TYPE: 0	DATA (VARIABLE LENGTH)	FCS: 0x00000000
IP			
Bits			
VER: 4	IHL: 5	DS: 0	TL: 28
ID: 0x0006		FLAGS: 0x0	FRAG OFFSET: 0x000
TTL: 128	PRO: 0x01	CHECKSUM	
SRC IP: 196.138.1.4			
DST IP: 196.138.1.3			
DATA (VARIABLE LENGTH)			
ICMP			
Bits			
TYPE: 0x00	CODE: 0x00	CHECKSUM	

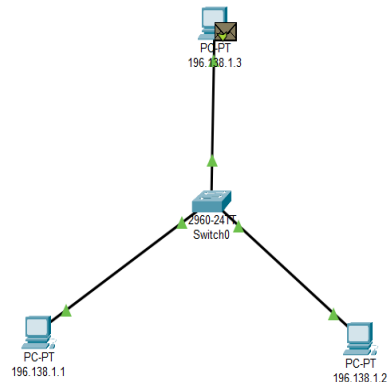
Protocol: ICMP

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3. Star Topology Structure



- IP Address: 196.138.1.3



PDU Information at Device: 196.138.1.3

OSI Model [Inbound PDU Details](#)

PDU Formats

EthernetII

0	4	8	Bytes
PREAMBLE: 101010...10		SF D	DEST ADDR: 0003.E439.1D 27
SRC ADDR: 000C. CF28.799C	TYPE: 0 x0800	DATA (VARIABLE LENGTH)	
FCS: 0x00000000			

IP

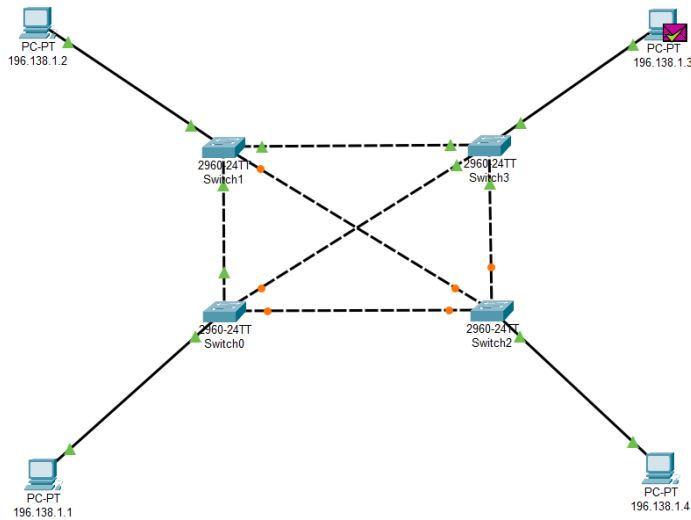
0	4	8	16	20	24	Bits
VER: 4	IHL: 5	DSCP: 0x00		TL: 28		
ID: 0x0002		FLAGS: 0x0		FRAG OFFSET: 0x000		
TTL: 128		PRO: 0x01		CHKSUM		
SRC IP: 196.138.1.2						
DST IP: 196.138.1.3						
DATA (VARIABLE LENGTH)						

ICMP

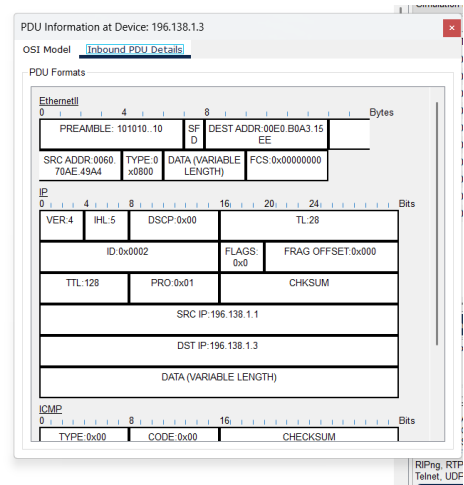
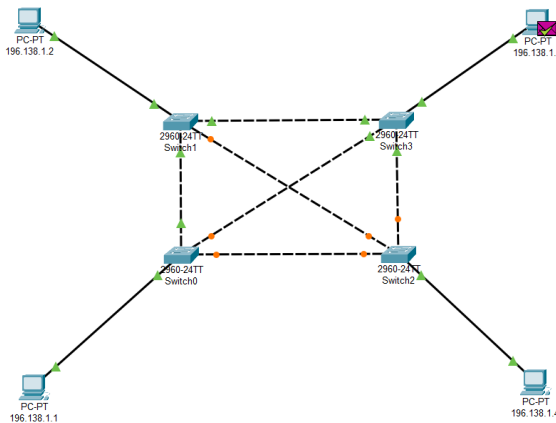
0	8	16	Bits
TYPE: 0x00		CODE: 0x00	CHECKSUM

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4. Mesh Topology Structure

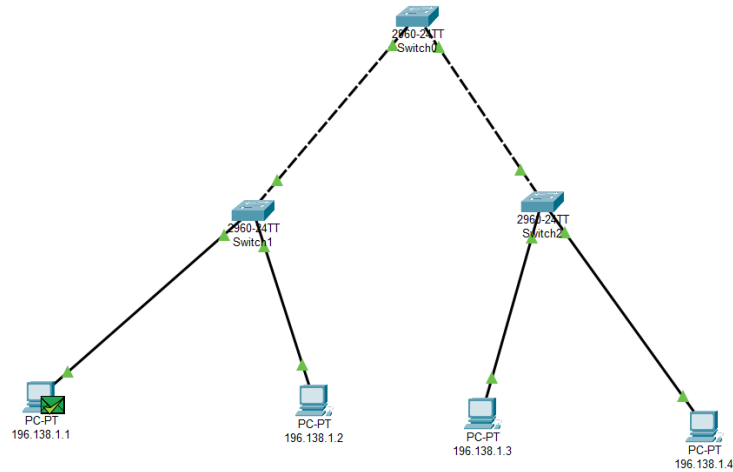


- IP Address: 196.138.1.3

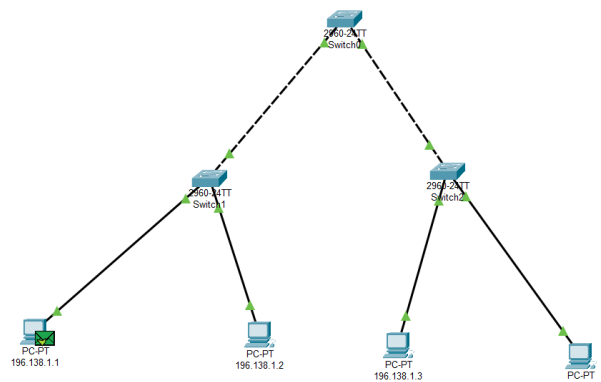


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5. Tree Topology Structure



- IP Address: 196.138.1.1



PDU Information at Device: 196.138.1.1

OSI Model [Inbound PDU Details](#)

PDU Formats

Ethernet II															
Bytes															
PREAMBLE: 101010...10										SF D					
SRC ADDR: 0040.0B72.BA6A										TYPE: 0					
DATA (VARIABLE LENGTH)										FCS: 0x00000000					
IP															
Bits															
VER: 4				IHL: 5				DSCP: 0x00				TL: 28			
ID: 0x000c								FLAGS: 0x0				FRAG OFFSET: 0x000			
TTL: 128				PRO: 0x01				CHKSUM							
SRC IP: 196.138.1.2															
DST IP: 196.138.1.1															
DATA (VARIABLE LENGTH)															
ICMP															
Bits															
TYPE: 0x00				CODE: 0x00				CHECKSUM							
ID: 0x0007				SEQ NUMBER: 12											