

Experiment – 4

Aim: Simulate simple networks
using Cisco Packet tracer.

- **Aim:** Simulate simple networks using Cisco Packet tracer.

- **Objectives:**

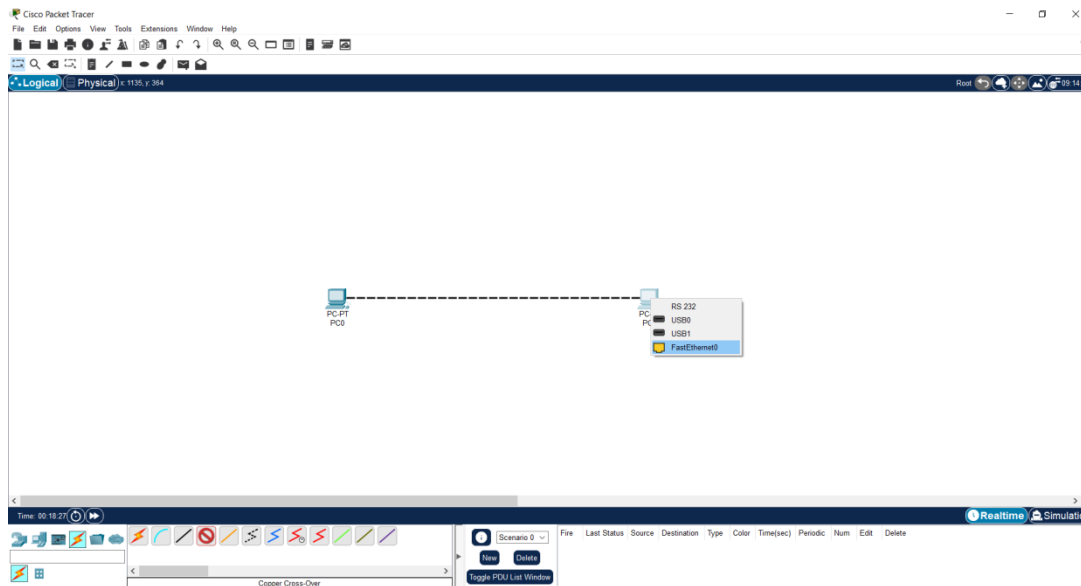
To learn how to:

- Establish a peer-to-peer network
- Create a LAN using the hub.
- Create a LAN using the switch.
- Connect the repeater in LAN
- **Software required:** Cisco Packet Tracer

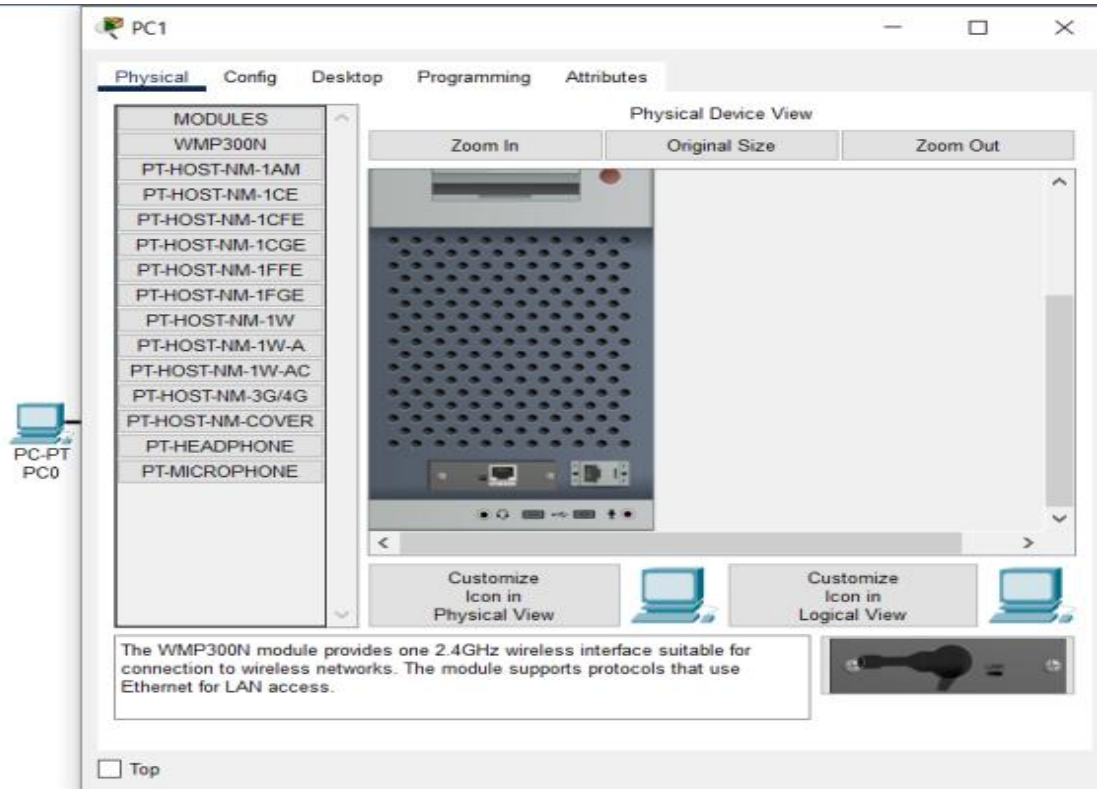
Procedure:

Establish a peer-to-peer network

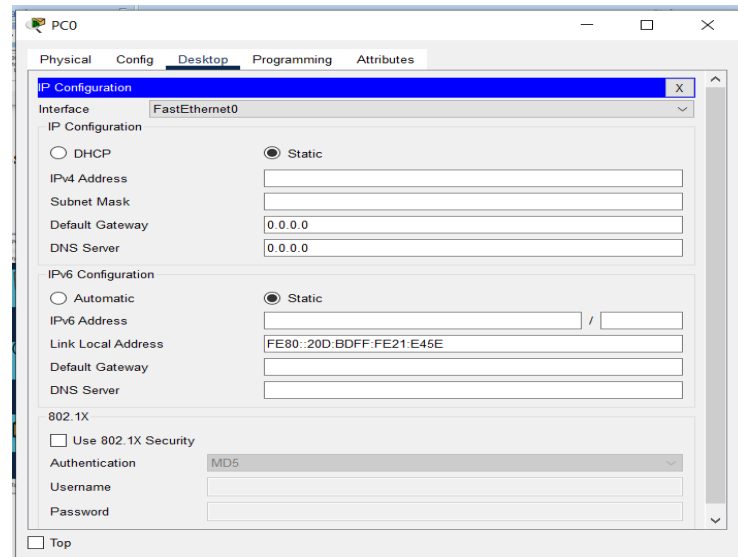
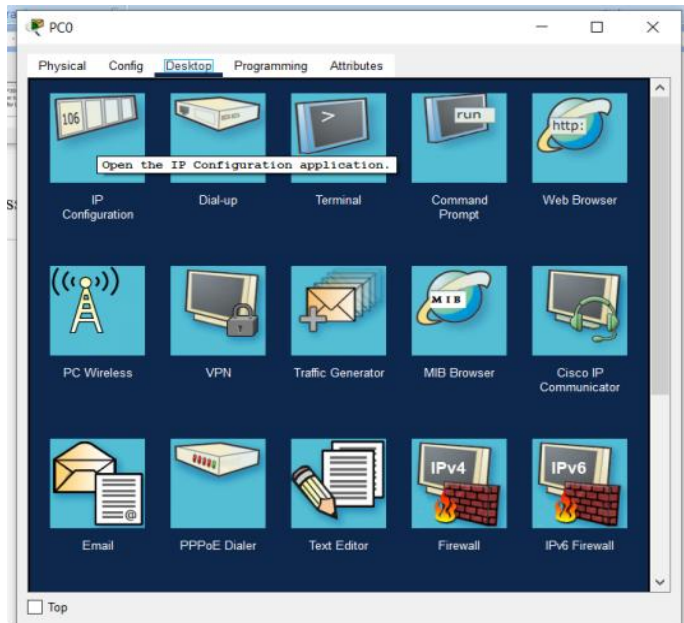
1. Connect two PC using Copper Crossover connection and Fastethernet Port.



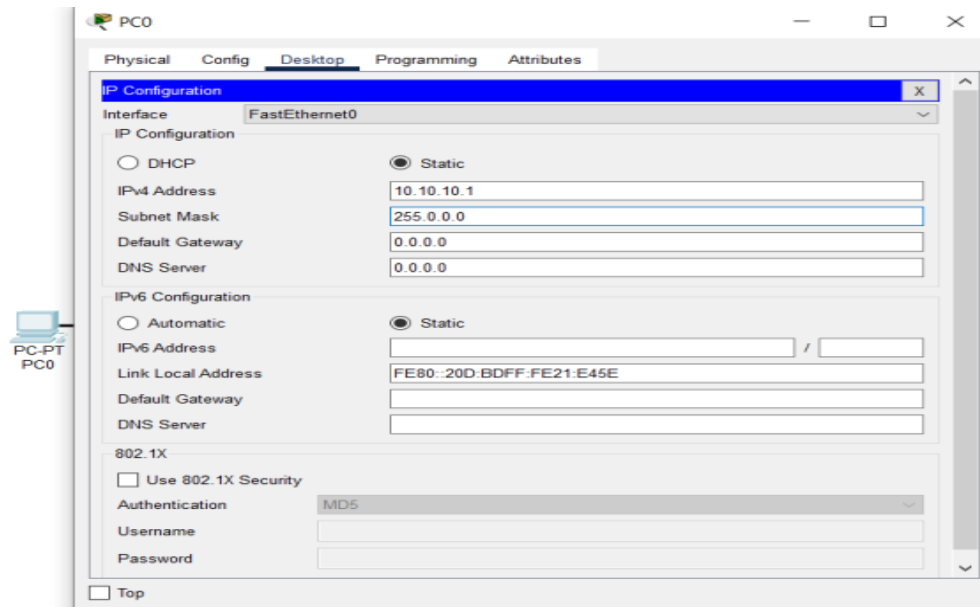
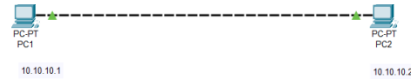
2. Click on any PC and Physical to check Physical device view.



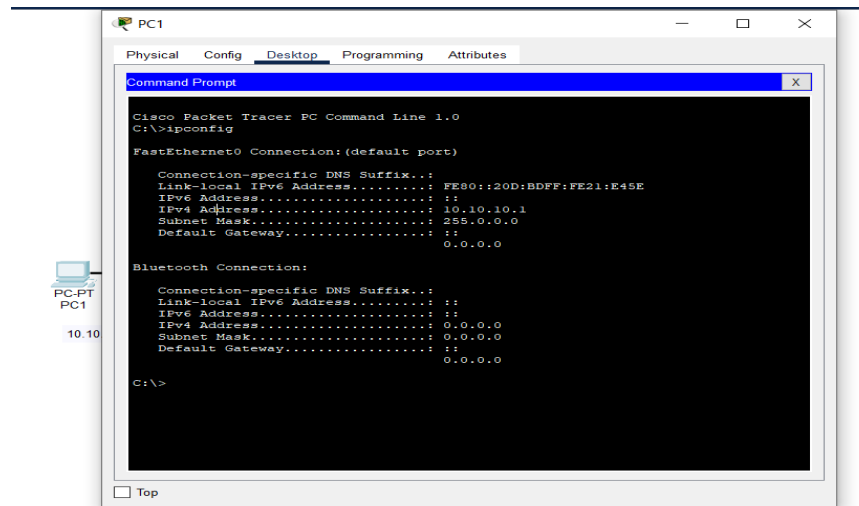
3. Assign IP address to the PC: Click on PC, DESKTOP, IP Configuration



4. Assign IP address to both the PC

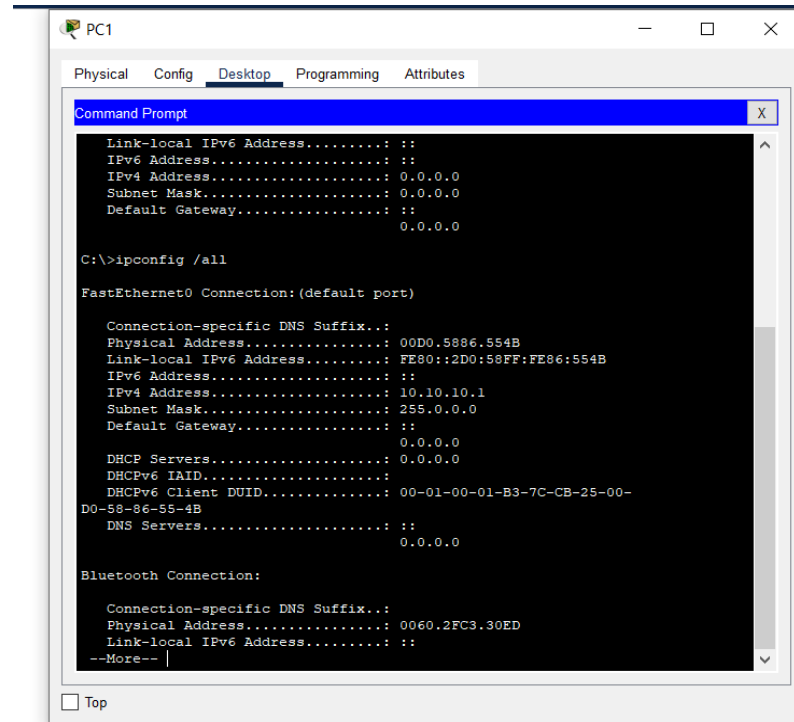


4. View the IP Configuration details in command prompt: Click on PC, DESKTOP, Command Prompt. The Command to know the IP Configuration is **ipconfig**



5. View the Physical address

- The Command to know the IP Configuration is **ipconfig /all**



The screenshot shows a window titled 'PC1' with tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the output of the 'ipconfig /all' command, which displays network configuration details for both 'FastEthernet0' and 'Bluetooth' connections. The output includes physical addresses, link-local IPv6 addresses, IPv4 addresses, subnet masks, and default gateways. The 'FastEthernet0' connection is the default port, showing a physical address of 00D0.5806.554B and an IPv4 address of 10.10.10.1. The 'Bluetooth' connection shows a physical address of 0060.2FC3.30ED. The command prompt also shows a '--More--' prompt at the bottom.

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
Link-local IPv6 Address..... ::
IPv6 Address..... ::
IPv4 Address..... 0.0.0.0
Subnet Mask..... 0.0.0.0
Default Gateway..... ::
0.0.0.0

C:\>ipconfig /all

FastEthernet0 Connection: (default port)

Connection-specific DNS Suffix...:
Physical Address.....: 00D0.5806.554B
Link-local IPv6 Address.....: FE80::2D0:58FF:FE86:554B
IPv6 Address.....: ::
IPv4 Address.....: 10.10.10.1
Subnet Mask.....: 255.0.0.0
Default Gateway.....: ::
0.0.0.0
DHCP Servers.....: 0.0.0.0
DHCPv6 IAID.....: 0.0.0.0
DHCPv6 Client DUID.....: 00-01-00-01-B3-7C-CB-25-00-
D0-58-86-55-4B
DNS Servers.....: ::
0.0.0.0

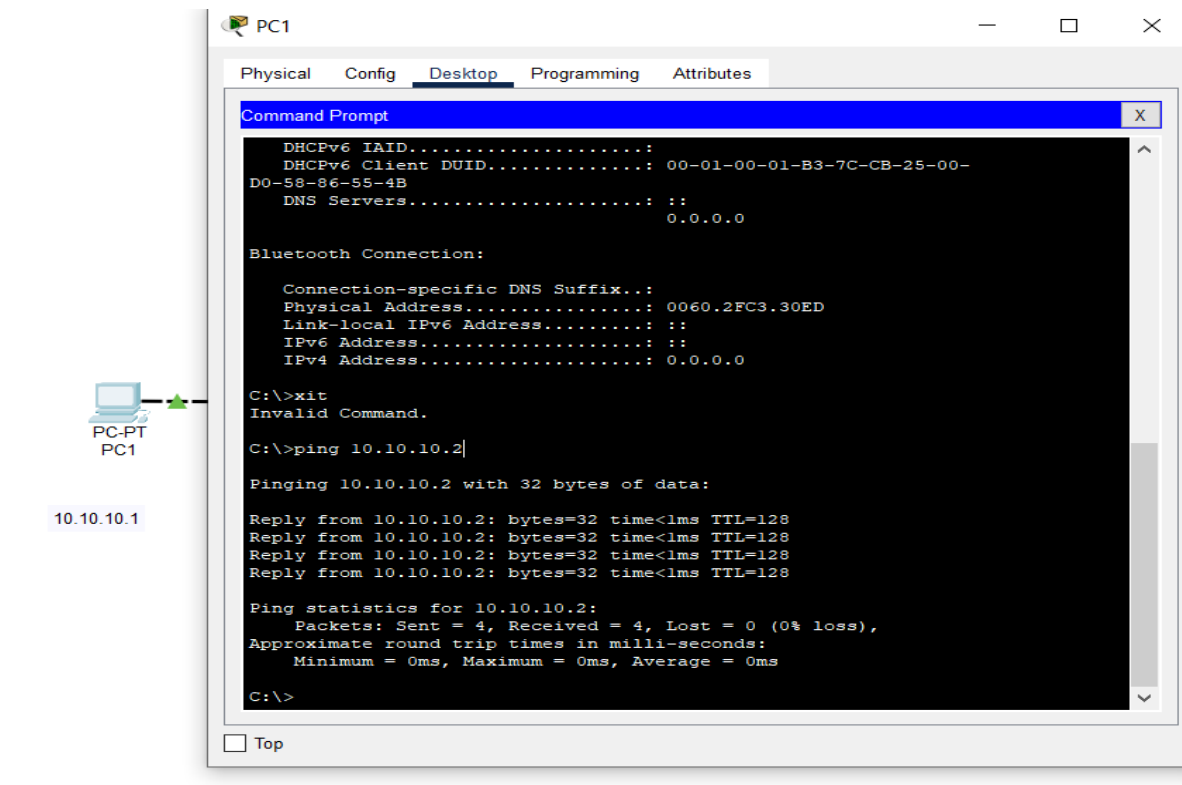
Bluetooth Connection:

Connection-specific DNS Suffix...:
Physical Address.....: 0060.2FC3.30ED
Link-local IPv6 Address.....: ::
--More--
```

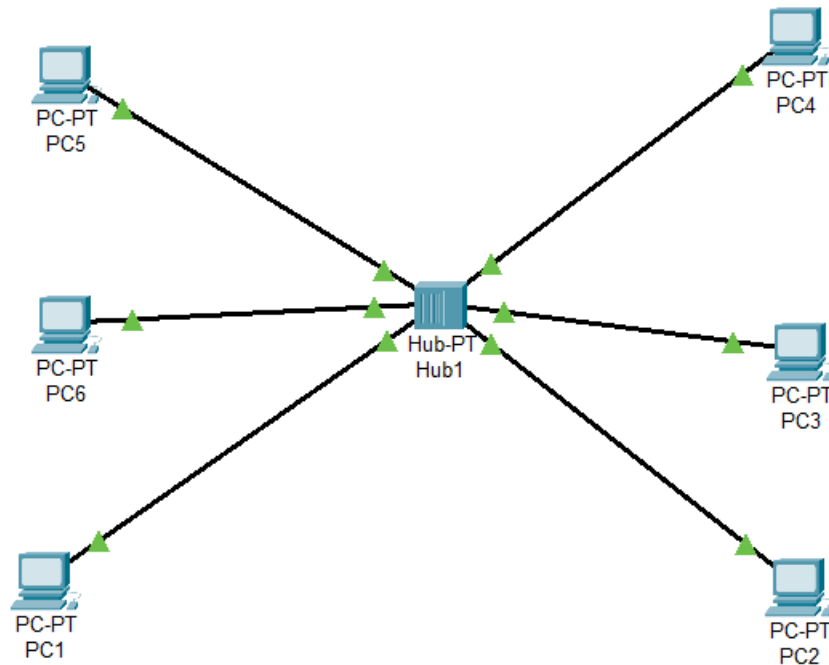

6. Check the connectivity of two computers: The Command to check the connectivity of two computers is **ping**

- Click on PC1, DESKTOP, Command Prompt, type **ping 10.10.10.2** to check the connectivity of PC1 with PC2
- Click on PC2, DESKTOP, Command Prompt, type **ping 10.10.10.1** to check the connectivity of PC2 with PC1

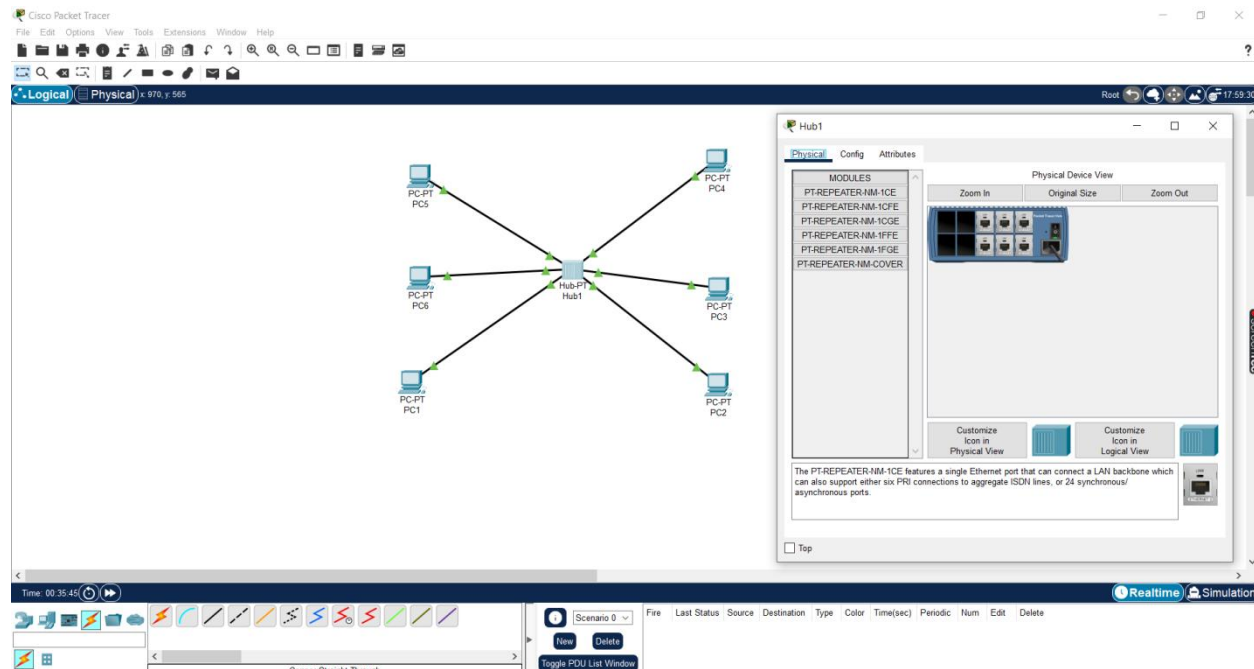
- PC1 and PC2 are connected if Packets sent=4, Received=4, Lost=0



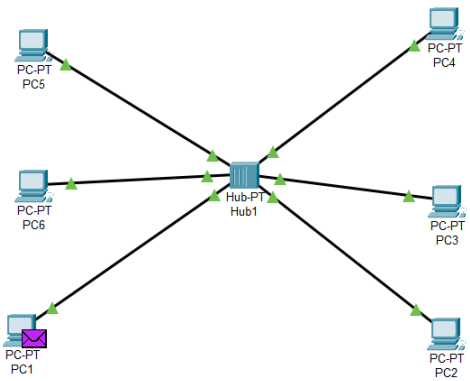
Create a LAN using the hub.



1. Select the HUB in CPT, Turn on the HUB, Connect six PCs to 6 ports of the HUB using straight through cable



2. Assign IP addresses to all computers.
3. Check the connectivity of computers using ping command.
4. Check the connectivity of computers in simulation mode: Click on Simulation mode, Send a packet from one PC to another PC.



Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	0.000	--

Reset Simulation

☒ Constant Delay

Captured to: 0.000 s

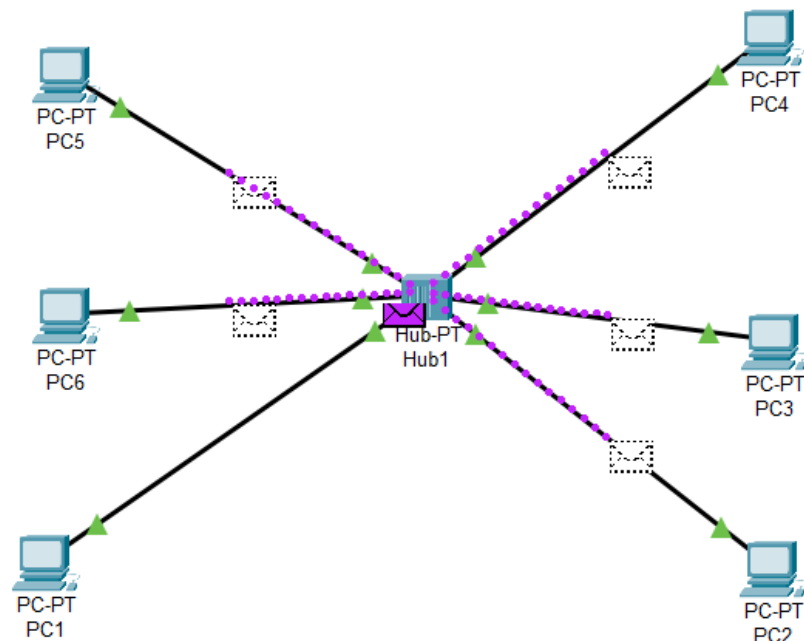
Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PaGP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters

Show All/None



Simulation Panel
×

Event List

Vis.	Time(sec)	Last Device
	0.000	--
	0.001	PC1
👁	0.002	Hub1
👁	0.002	Hub1
👁	0.002	Hub1
👁	0.002	Hub1
👁	0.002	Hub1

Reset Simulation
☒ Constant Delay
Capturing...

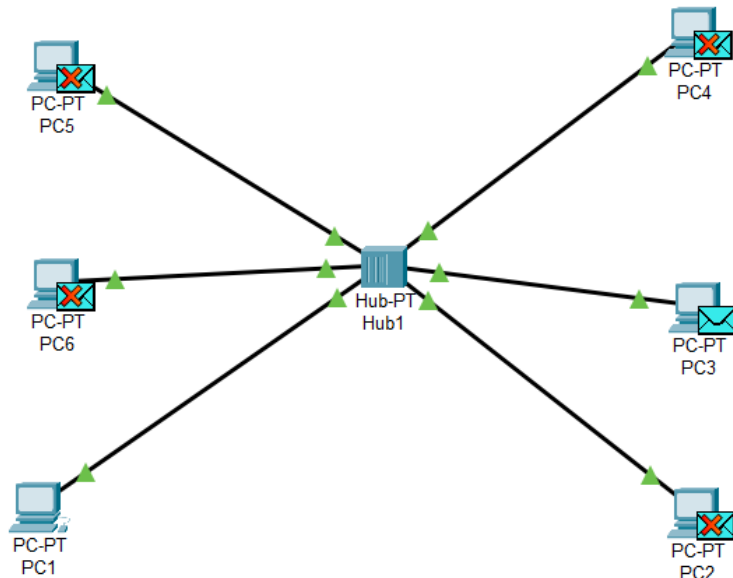
Play Controls

⏮️ ⏸️ ⏭️

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H. 323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPvng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters
Show All/None



Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	205.446	--
	205.447	PC1
	205.448	Hub1
	205.448	Hub1
	205.448	Hub1
	205.448	Hub1
	205.448	Hub1

Reset Simulation

☒ Constant Delay

Captured to: 205.448 s

Play Controls



Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters

Show All/None



Scenario 0

New

Delete

Fire



Last Status

In Progress

Source

PC1

Destination

PC3

Type

ICMP

Color



Time(sec)

205.446

Periodic

N

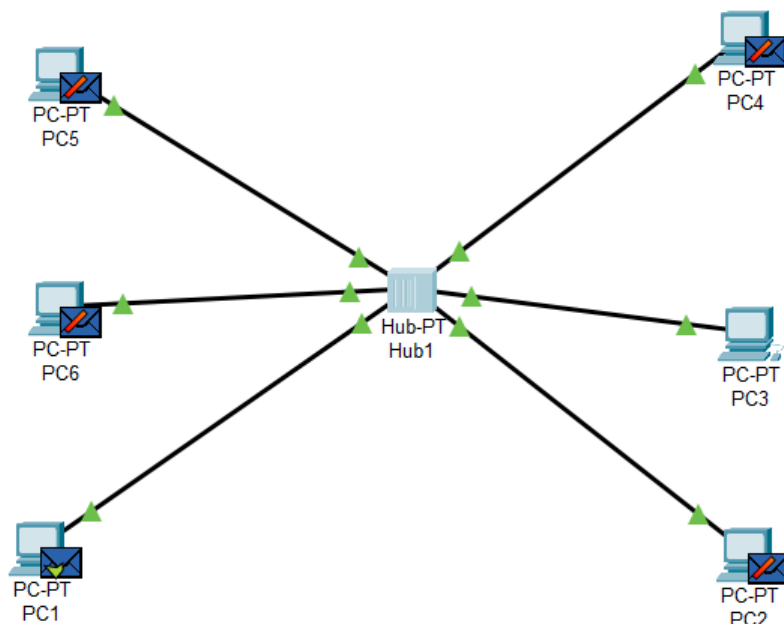
Num

0

Edit

(edit)

D



Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	0.000	--
	0.001	PC1
	0.002	Hub1
	0.002	Hub1
	0.002	Hub1
	0.002	Hub1
	0.002	Hub1
	0.003	PC3
	0.004	Hub1
	0.004	Hub1
	0.004	Hub1
	0.004	Hub1
	0.004	Hub1

Reset Simulation

☒ Constant Delay

Captured to: 1565.200 s

Play Controls



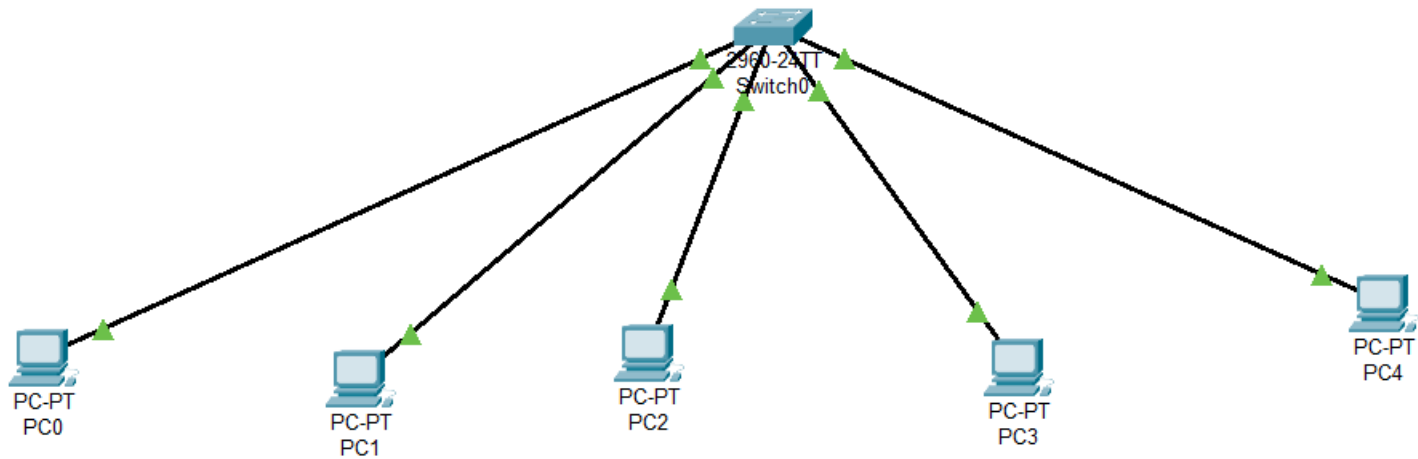
Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H. 323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

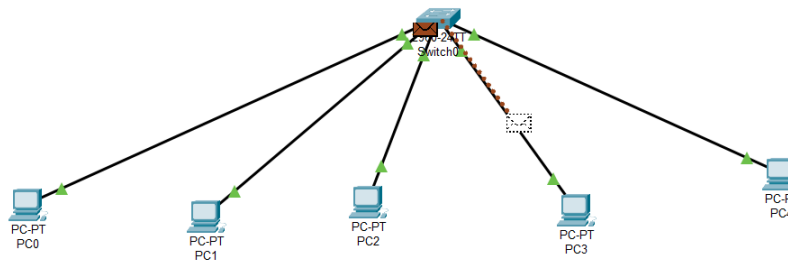
Edit Filters

Show All/None

Create a LAN using the switch.



1. Click on the switch and bring the switch to the workspace, Turn on the switch, Connect five PCs to 5 ports of the switch using straight through cable or using automatically choosing connection type cable. (24 FastEthernet ports and 2 GigabitEthernet ports available in Cisco 2960 switch)
2. Assign IP addresses to all computers.
3. Check the connectivity of computers using ping command.
4. Check the connectivity of computers in simulation mode: Send a packet from one PC to another PC.



Event List

Vis.	Time(sec)	Last Device
	0.000	--
	0.001	PC0
<input checked="" type="checkbox"/>	0.002	Switch0

Reset Simulation ☒ Constant Delay Capturing...

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
<input checked="" type="checkbox"/>	In Progress	PC0	PC3	ICMP	Orange	0.000	N	0	(edit)	(delete)

Time: 00:51:02.009 PLAY CONTROLS

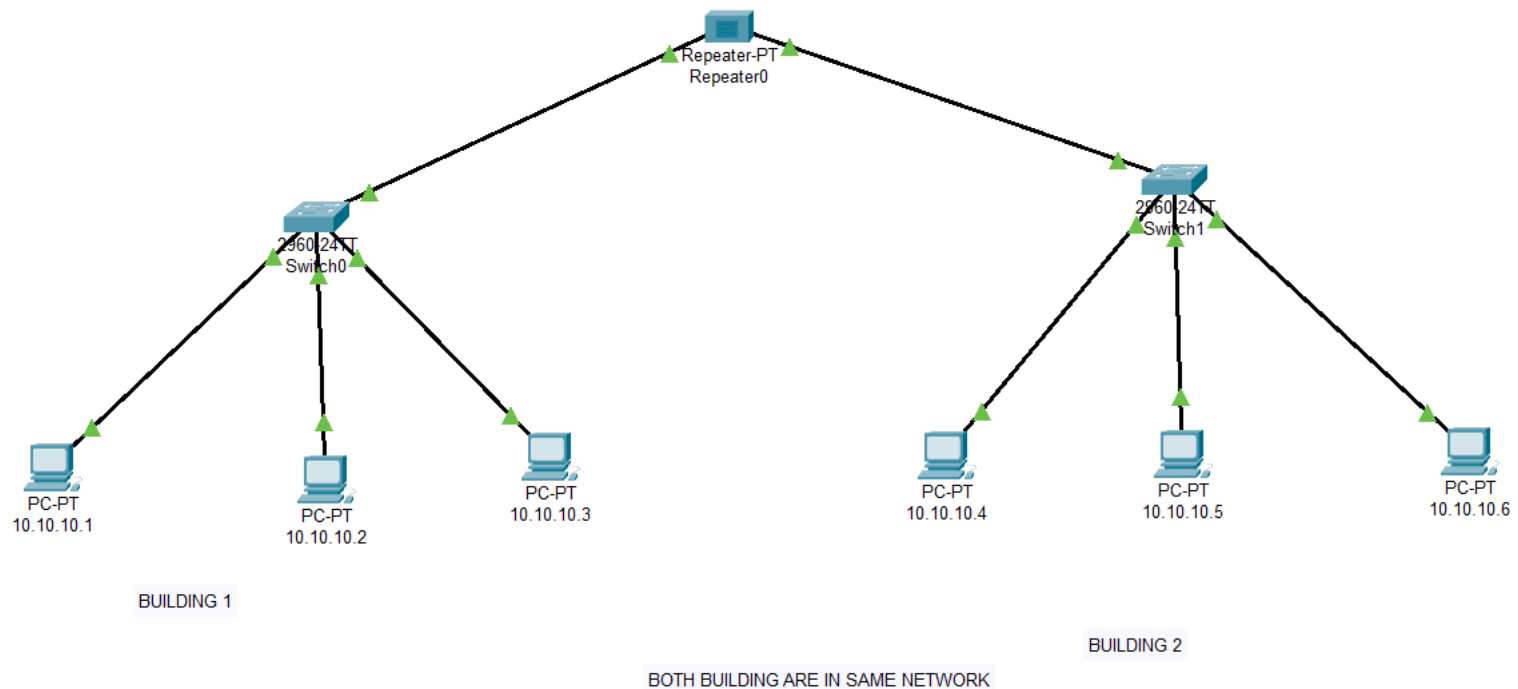
Scenario 0

New Delete

Toggle PDU List Window

Automatically Changes Connection Type

Connect the repeater in LAN



1. Connect the two switch with repeater using straight through cable.
2. Assign IP addresses to all computers.
3. Check the connectivity of computers using ping command.
4. Check the connectivity of computers in simulation mode: Send a packet from one PC to another PC.