Batch: A1 **Roll No.: 16010120015**

Experiment / assignment / tutorial No.____2___

Grade: AA / AB / BB / BC / CC / CD /DD

Experiment No.:2

TITLE: Building and configuring simple topology using Network tool - CISCO PACKET TRACER.

AIM: To build and configure simple network topology using CISCO Packet Tracer.

Packet Tracer is a network simulation program that allows students to experiment with network behaviour and ask "what if" questions. Packet Tracer provides simulation, visualization, and authoring, assessment, and collaboration capabilities and facilitates the teaching and learning of complex technology concepts.

Expected Outcome of Experiment:

CO: Explain the fundamentals of the data communication networks, reference models, topologies, physical media, devices, simulators and identify their use in day to day networks.

Books/ Journals/ Websites referred:

1. http://www.google.com
2. A. S. Tanenbaum, "Computer Networks", Pearson Education, Fourth Edition
3. B. A. Forouzan, "Data Communications and Networking", TMH, Fourth Edition
4. CISCO PACKET TRACER 6.0.1 and Higher version (free download)

Pre-Lab/ Prior Concepts: Simple Network flow

New Concepts to be learned: Purpose of this lab is to become familiar with building topologies in Packet Tracer.

Stepwise-Procedure:

Creating a simple LAN network using packet tracer:
Step 1: Select two PCs (PC0 and PC1) from the end devices and one fast ethernet switch (2950/24 ports)

Step 2: Connect PCs and switch via copper cable from the panel. Connection can be verified by appearance of all green dots on the links.

Step 3: For PCs to communicate click on PC0.

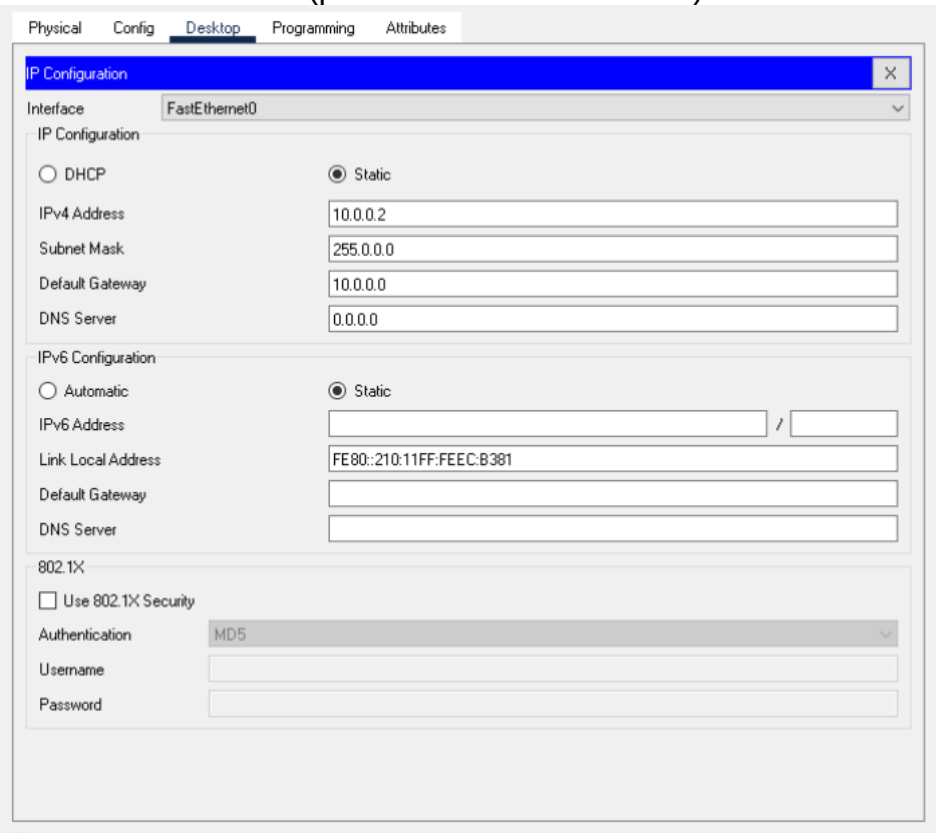
- Dialog box for PC0 appears
- Click on desktop applications by packet tracer.
- Go to IP configuration.
- Enter IP address to identify host i.e. PC0 (for example: 192.168.1.1)
- Subnet mask-by default already set one can change it as per his/her specification.

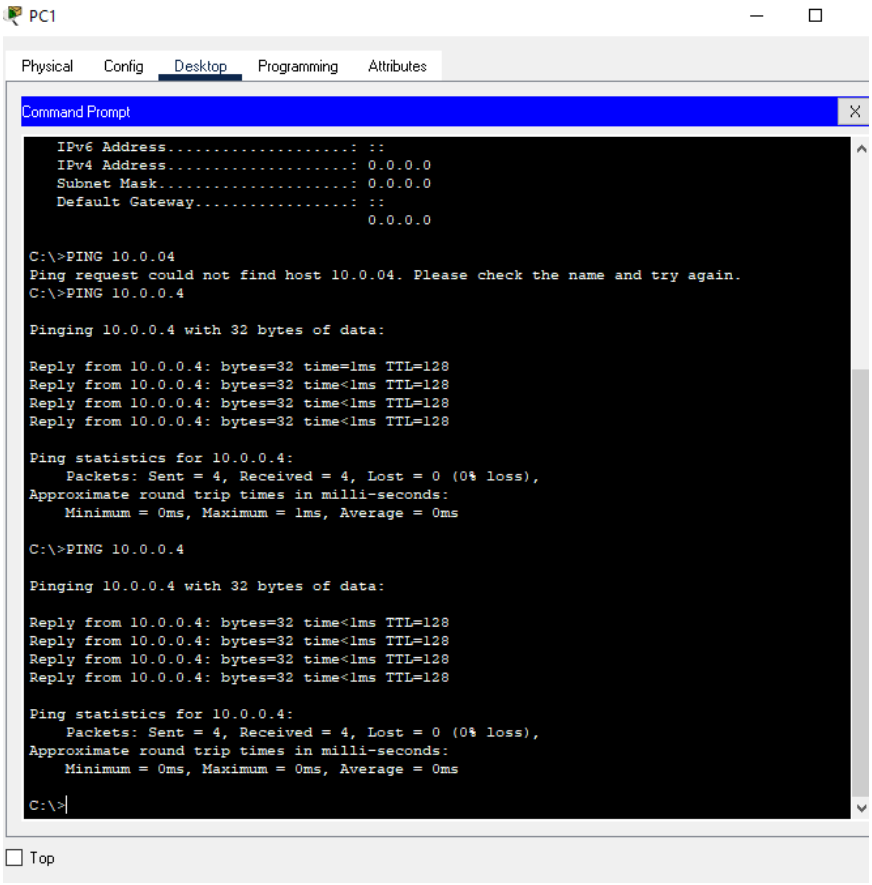
Step 4: Repeat step 3 for PC1

Step 5: Ping both the PCs and check their working status.

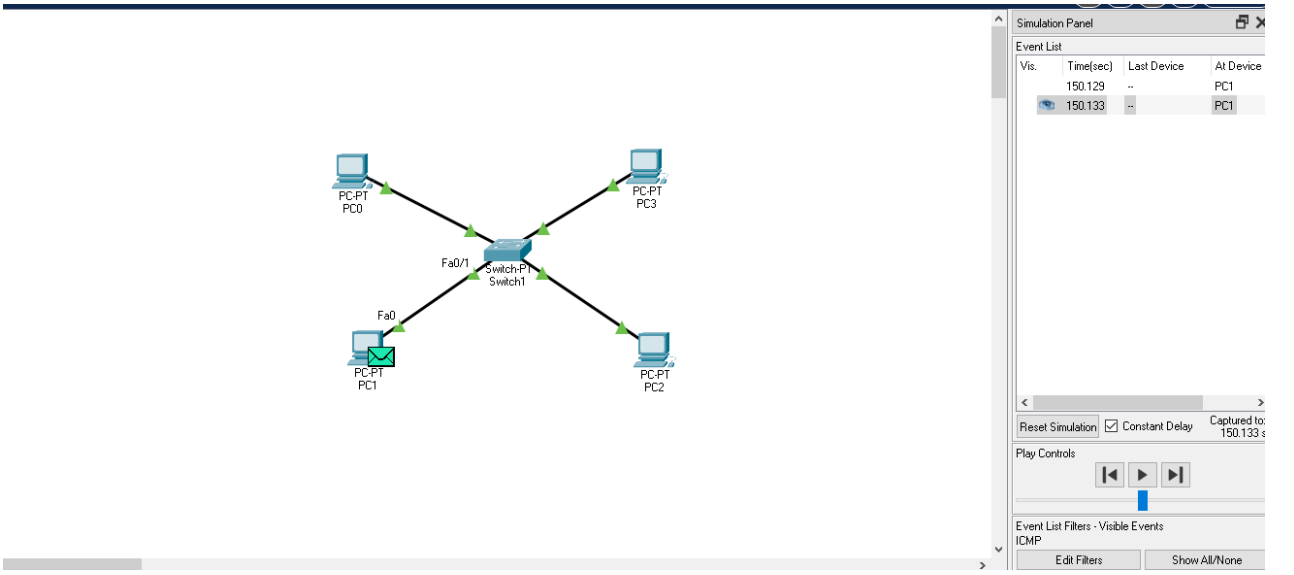
Step 6: Simple PDU (Protocol Data Unit) to simulate network traffic by sending ICMP PDU to assess the network traffic. View simulation in simulation mode

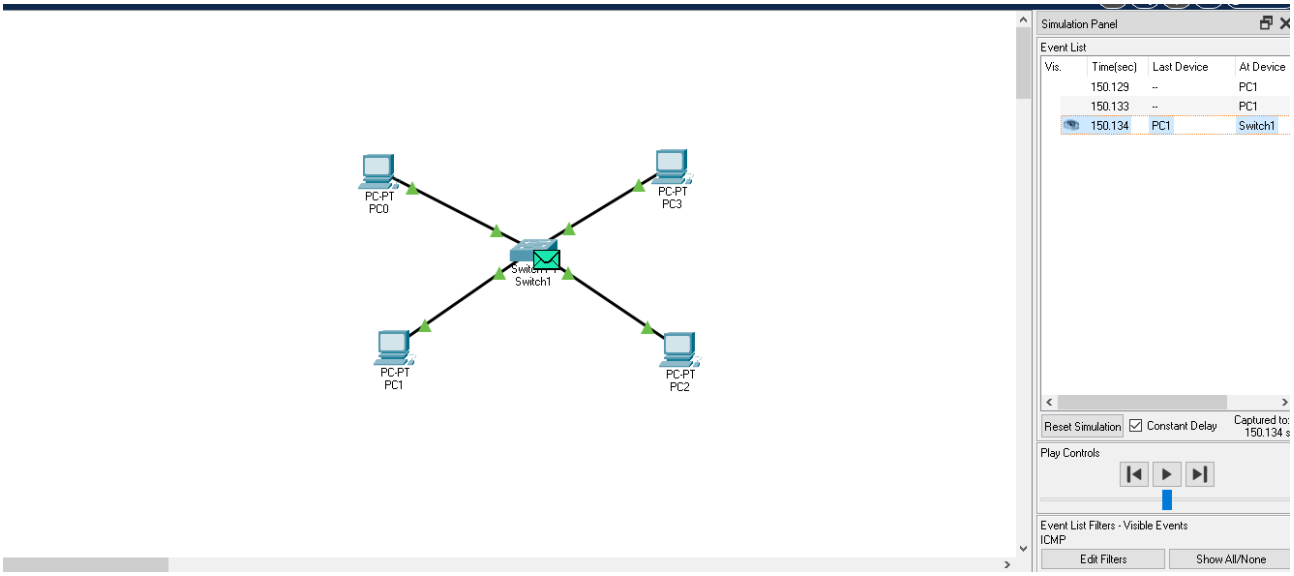
IMPLEMENTATION: (printout of simulation code)

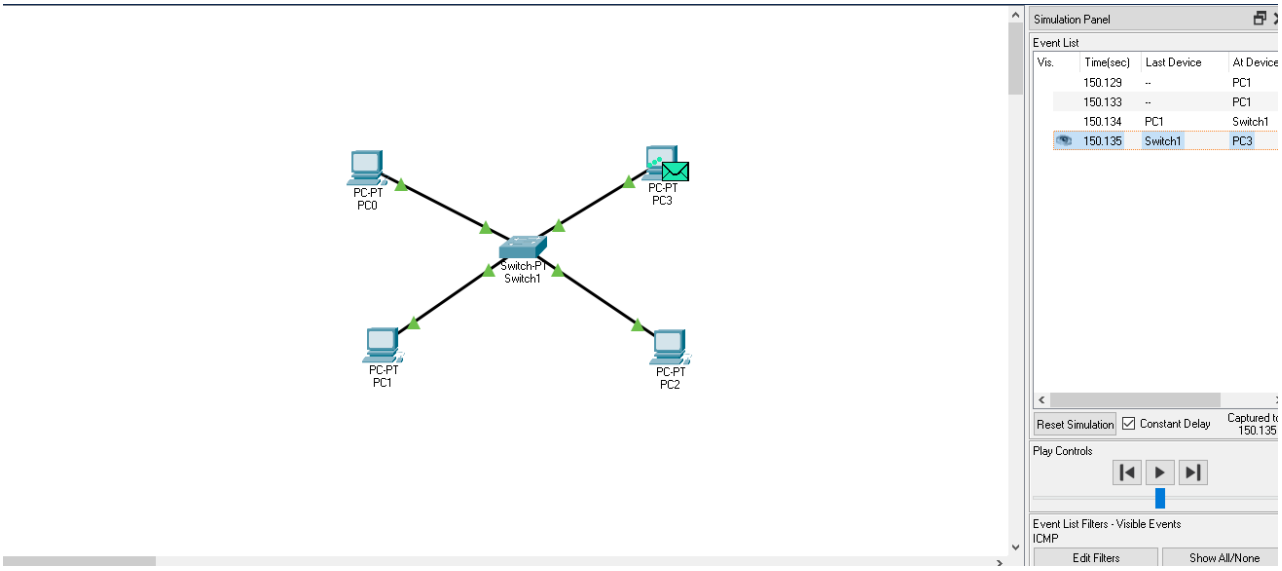


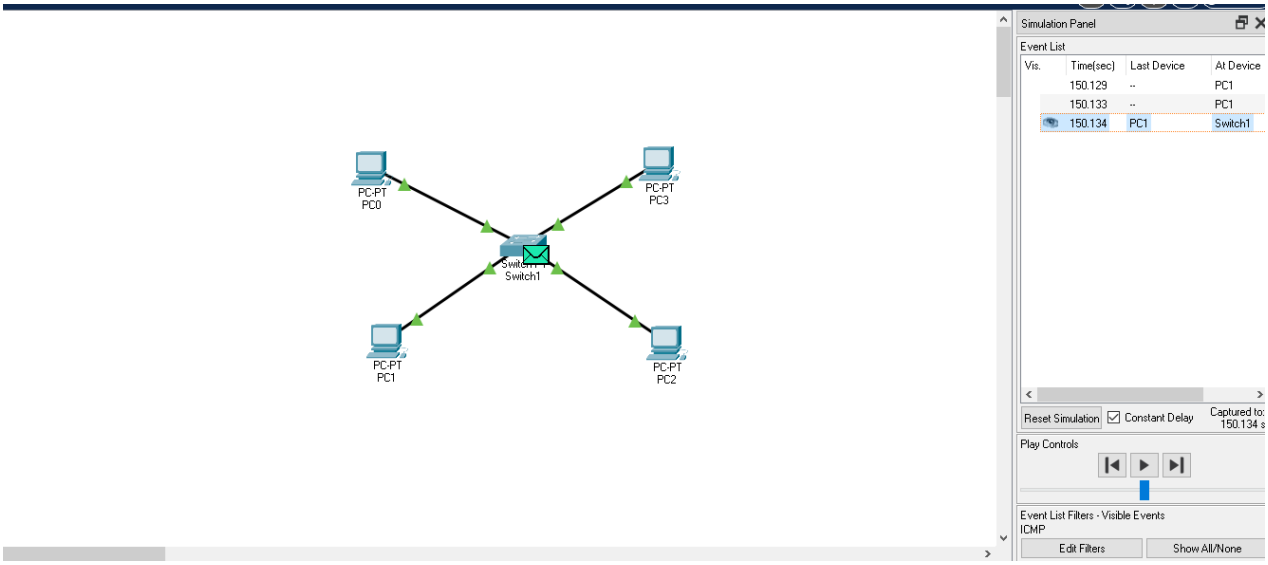


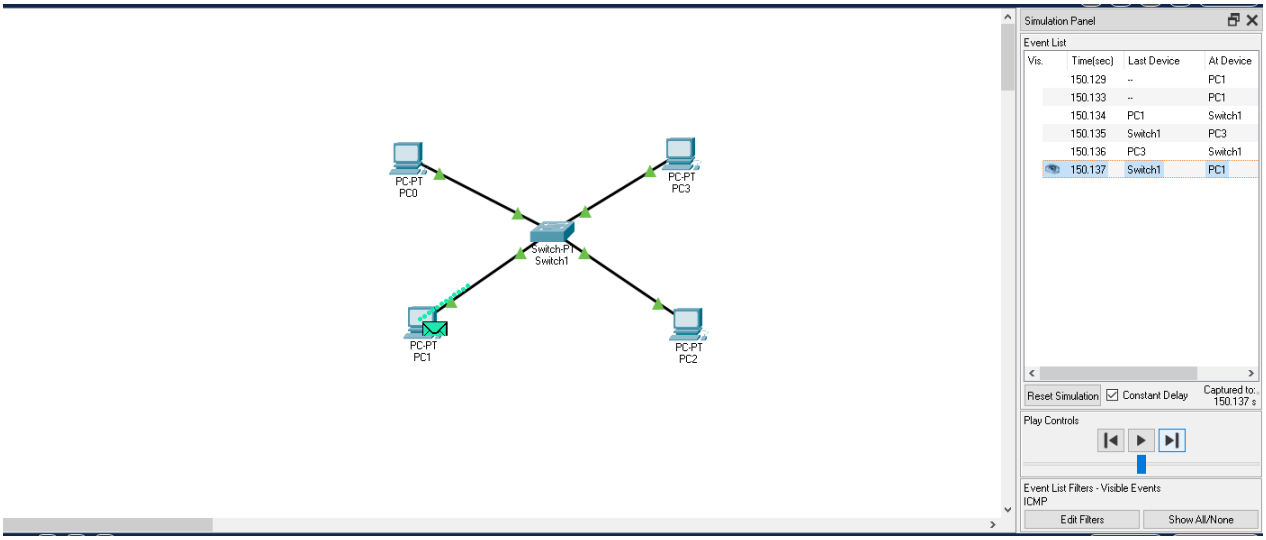
Network topology using SWITCH:

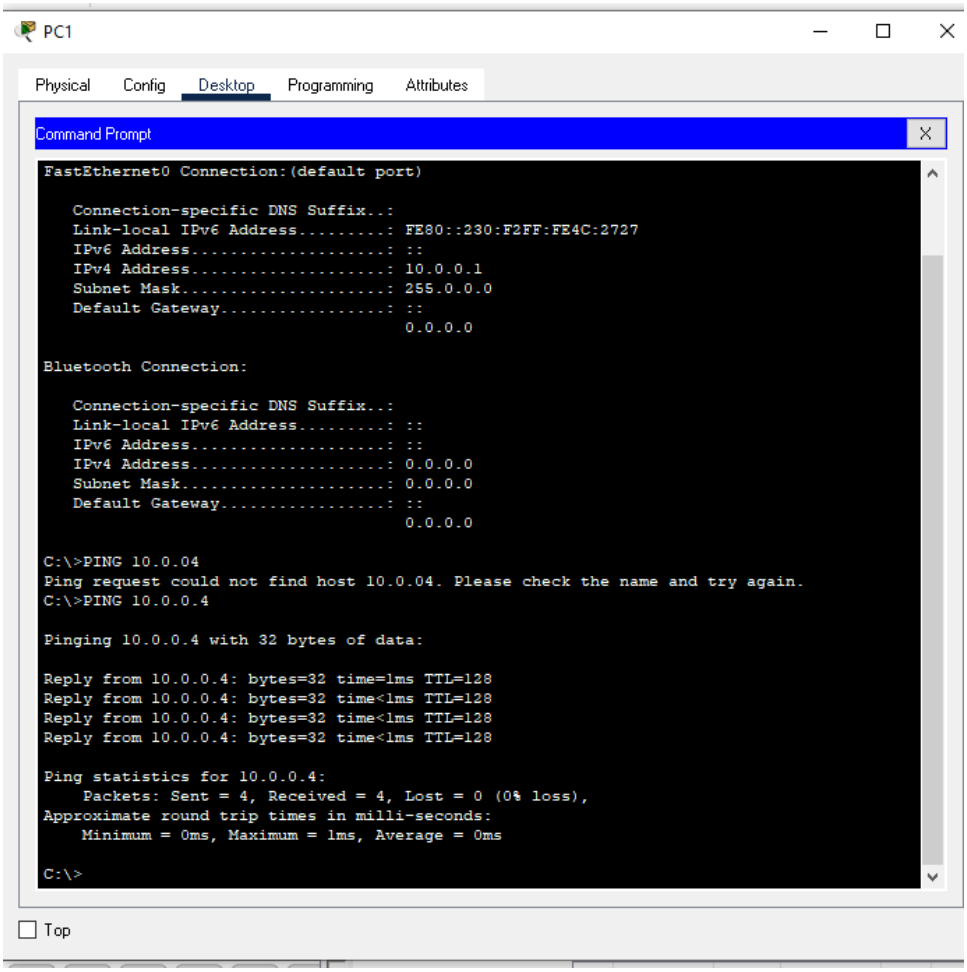

Simulation Panel
Event List
Vis. Time(sec) Last Device At Device
150.129 -- PC1
150.133 -- PC1
PC-PT PC0
PC-PT PC3
Fa0/1
Switch-PT Switch1
Fa0
PC-PT PC1
PC-PT PC2
Reset Simulation
Constant Delay
Captured to: 150.133 s
Play Controls
Event List Filters - Visible Events
ICMP
Edit Filters
Show All/None


Simulation Panel
Event List
Vis. Time(sec) Last Device At Device
150.129 -- PC1
150.133 -- PC1
150.134 PC1 Switch1
PC-PT PC0
PC-PT PC3
Switch1
PC-PT PC1
PC-PT PC2
Reset Simulation
Constant Delay
Captured to: 150.134 s
Play Controls
Event List Filters - Visible Events
ICMP
Edit Filters
Show All/None

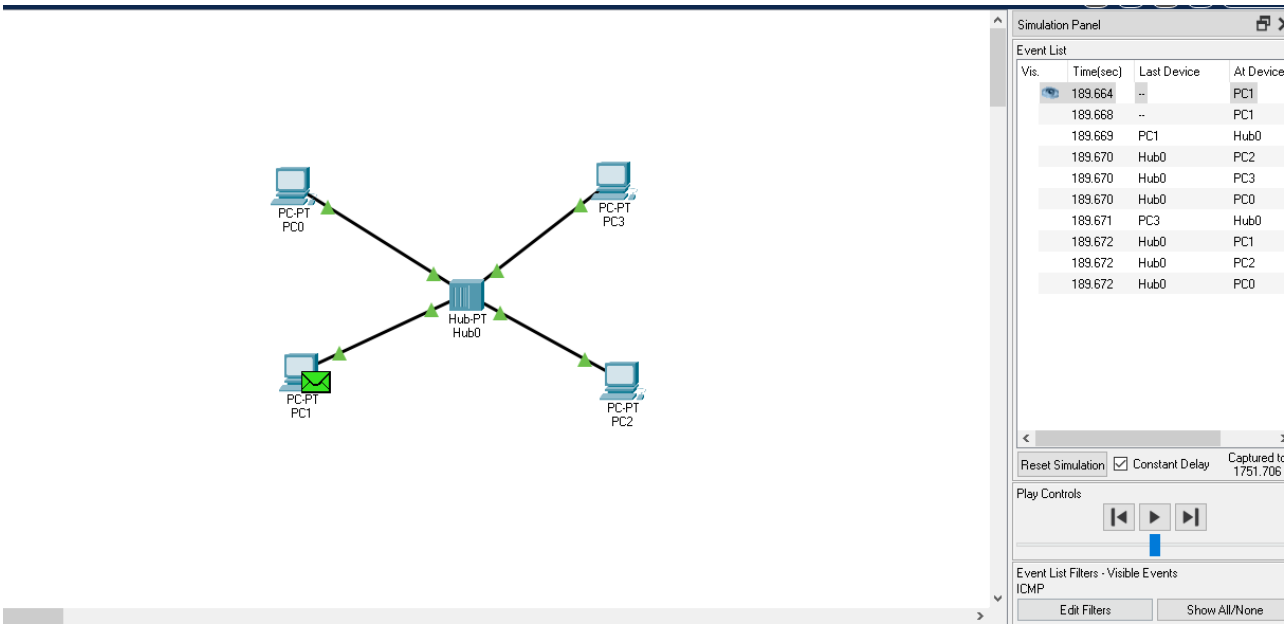

PC-PT PC0
PC-PT PC3
Switch-PT Switch1
PC-PT PC1
PC-PT PC2
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
150.129
--
PC1
150.133
--
PC1
150.134
PC1
Switch1
150.135
Switch1
PC3
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
ICMP
Edit Filters
Show All/None

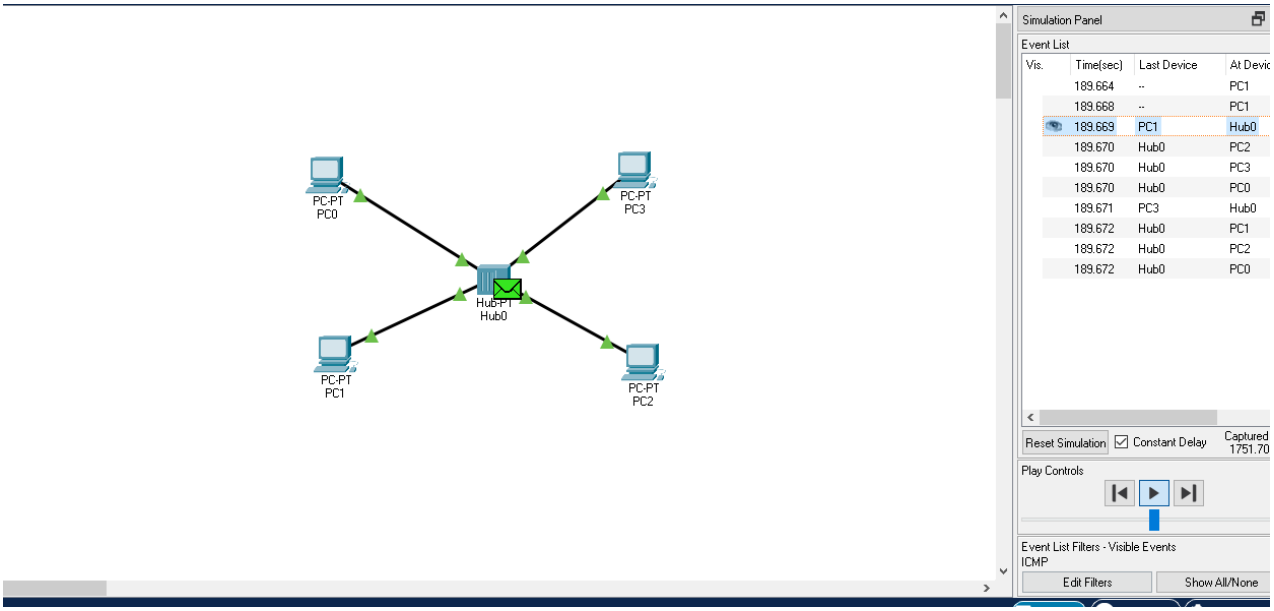

PC-PT PC0
PC-PT PC3
Switch1
PC-PT PC1
PC-PT PC2
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
150.129
--
PC1
150.133
--
PC1
150.134
PC1
Switch1
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
ICMP
Edit Filters
Show All/None

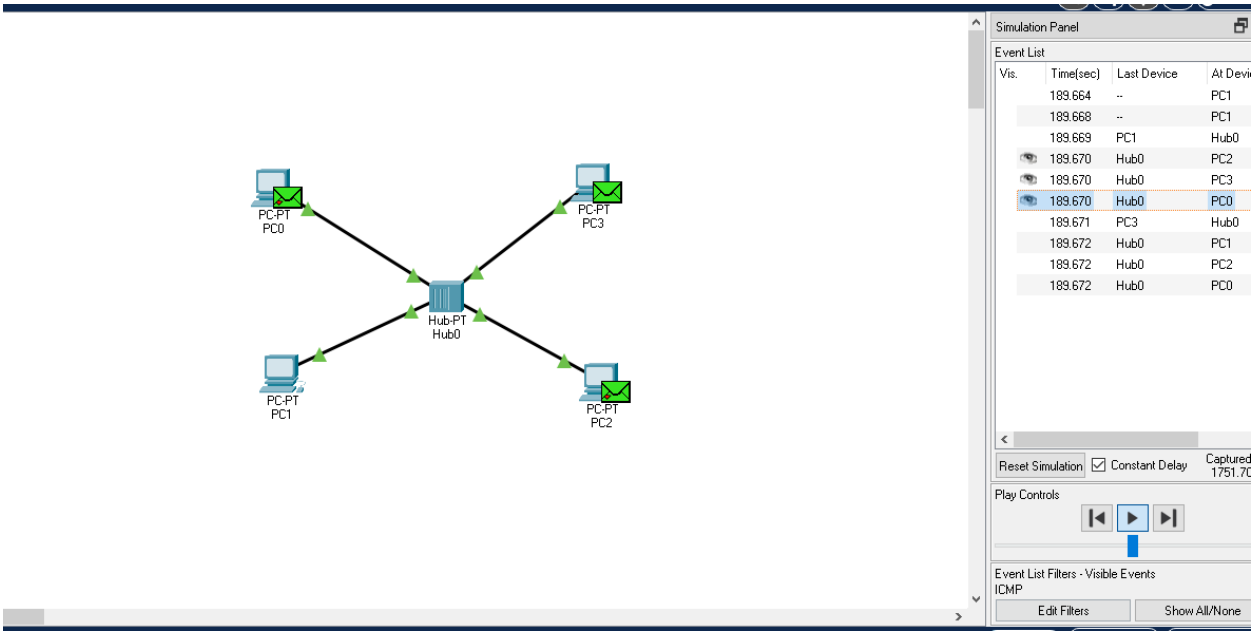

Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
150.129 -- PC1
150.133 -- PC1
150.134 PC1 Switch1
150.135 Switch1 PC3
150.136 PC3 Switch1
150.137 Switch1 PC1
Reset Simulation
Constant Delay
Captured to: 150.137 s
Play Controls
Event List Filters - Visible Events
ICMP
Edit Filters
Show All/None
PC-PT PC0
PC-PT PC3
Switch-PT Switch1
PC-PT PC1
PC-PT PC2

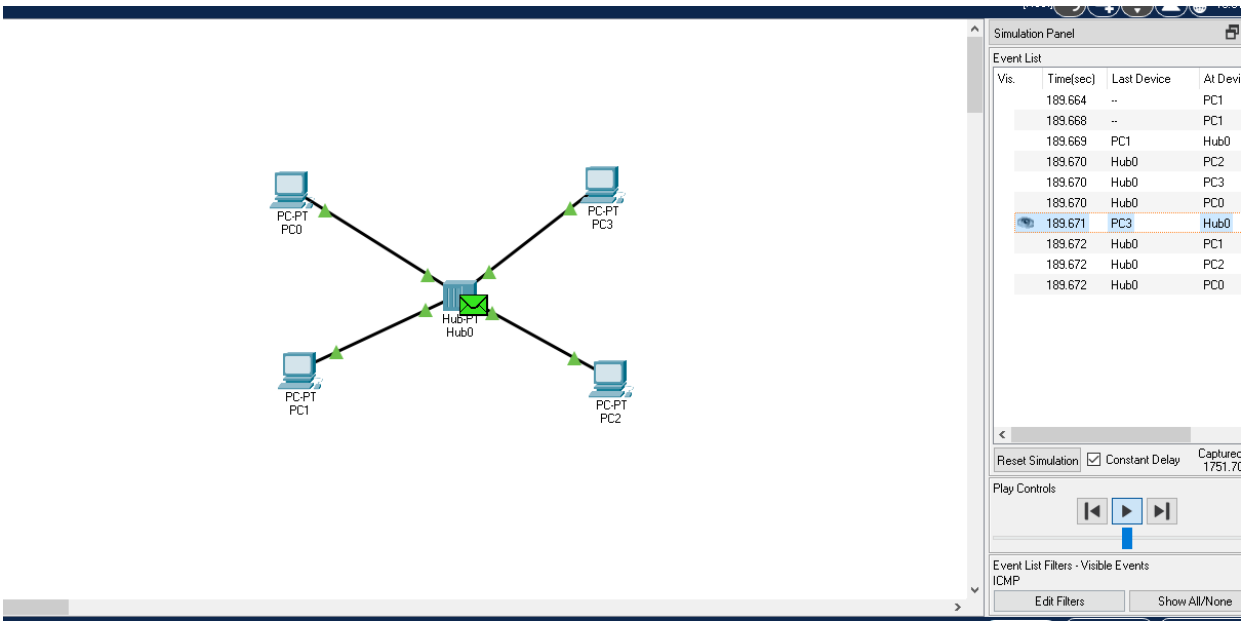

PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
FastEthernet0 Connection:(default port)
Connection-specific DNS Suffix..:
Link-local IPv6 Address.....: FE80::230:F2FF:FE4C:2727
IPv6 Address.....: ::
IPv4 Address.....: 10.0.0.1
Subnet Mask.....: 255.0.0.0
Default Gateway.....: ::
0.0.0.0
Bluetooth Connection:
Connection-specific DNS Suffix..:
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:\>PING 10.0.0.04
Ping request could not find host 10.0.0.04. Please check the name and try again.
C:\>PING 10.0.0.4
Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time=1ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>
Top

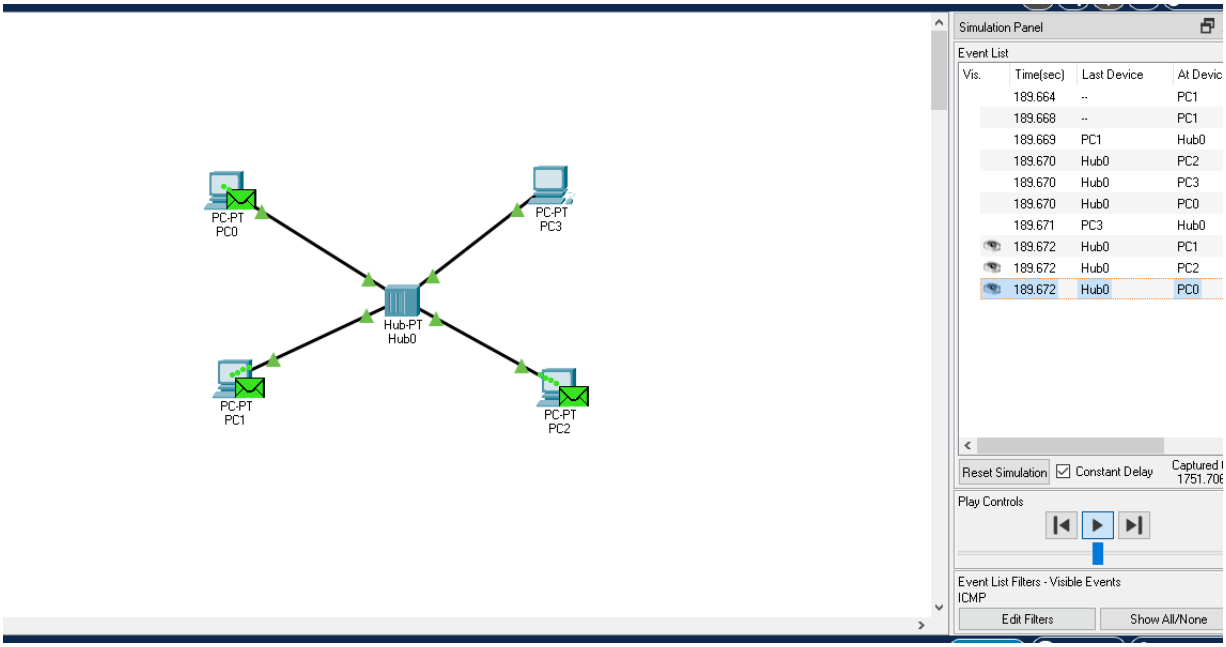
Network topology using HUB:

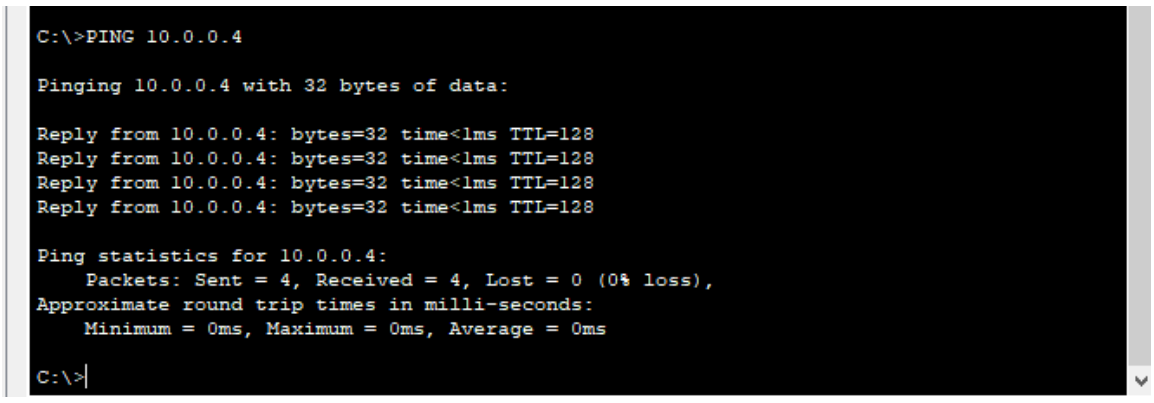





PC-PT PC0
PC-PT PC3
Hub-PT Hub0
PC-PT PC1
PC-PT PC2
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devi
189.664 -- PC1
189.668 -- PC1
189.669 PC1 Hub0
189.670 Hub0 PC2
189.670 Hub0 PC3
189.670 Hub0 PC0
189.671 PC3 Hub0
189.672 Hub0 PC1
189.672 Hub0 PC2
189.672 Hub0 PC0
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
ICMP
Edit Filters
Show All/None


PC-PT PC0
PC-PT PC3
Hub-PT Hub0
PC-PT PC1
PC-PT PC2
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devi
189.664 -- PC1
189.668 -- PC1
189.669 PC1 Hub0
189.670 Hub0 PC2
189.670 Hub0 PC3
189.670 Hub0 PC0
189.671 PC3 Hub0
189.672 Hub0 PC1
189.672 Hub0 PC2
189.672 Hub0 PC0
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
ICMP
Edit Filters
Show All/None





CONCLUSION: In this experiment We have Built simple network topology of hub and switch using cisco package tracer. The Experiment was performed successfully .

Post Lab Questions

1. **List features of CISCO packet tracer.**

Cisco Packet Tracer is a tool that provides a network simulation to practice simple and complex networks.

The main purpose of Cisco Packet Tracer is to help students learn the principles of networking with hands-on experience as well as develop Cisco technology specific skills.

Features are :

- Unlimited devices
- E-learning
- Customize single/multi user activities
- Interactive Environment
- Visualizing Networks
- Real-time mode and Simulation mode
- Self-paced
- Supports majority of networking protocols
- International language support
- Cross platform compatibility

Date: ___28/08/2022_____ **Signature of faculty in-charge**