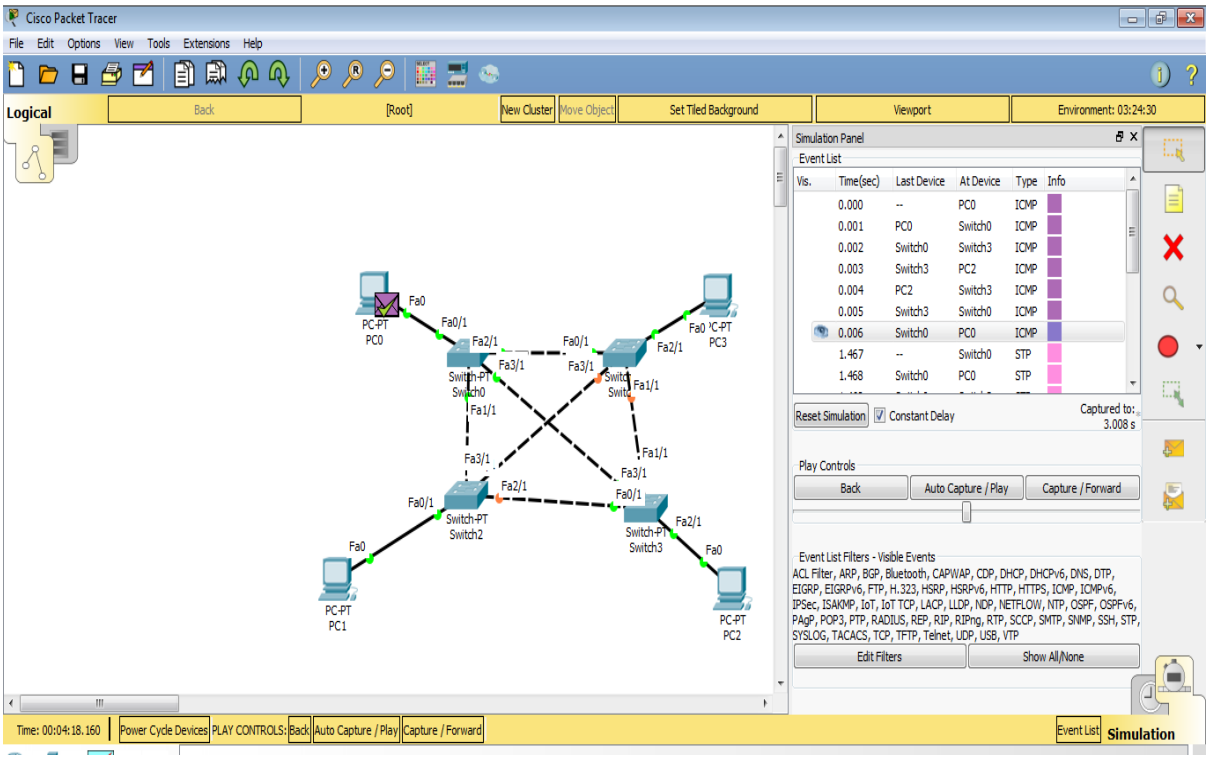
Practical 10 : Configuration of different topologies in Cisco Packet Tracer to understand decision taken at each 4 layers of TCP/IP protocol stack.

Software requirements: cisco packet tracer

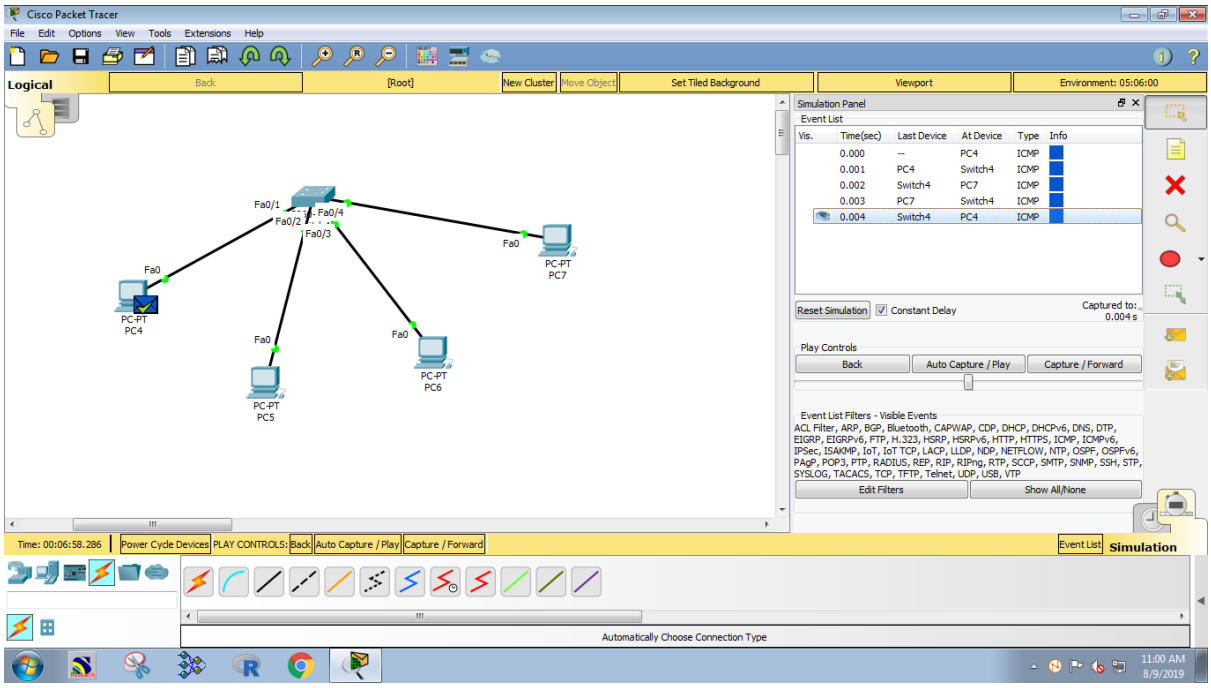
knowledge requirements: basic of knowledge of cisco packet tracer and topology.

1. Mesh Topology:

2. 

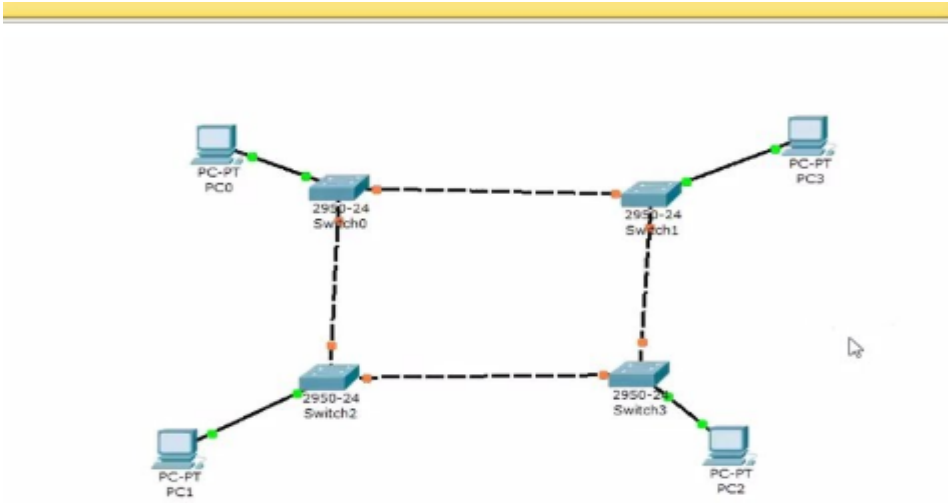
In a mesh topology, every computer in the network has a connection to each of the other computers in that network. for mesh topology we required n(n-1)/2 cables. the advantages of mesh topologya are it's high reliable,provide more security etc. and disadvantages are cost is high and amount of cable is also high.

2. Star Topology:



A star topology is a topology for a Local Area Network (LAN) in which all nodes are individually connected to a central connection point, like a hub or a switch. A star takes more cable than e.g. a bus, but the benefit is that if a cable fails, only one node will be brought down. we required n cables to make star topology.it's less reliable, it's a big disadvantage of star topology but it's give high security and cost is less.

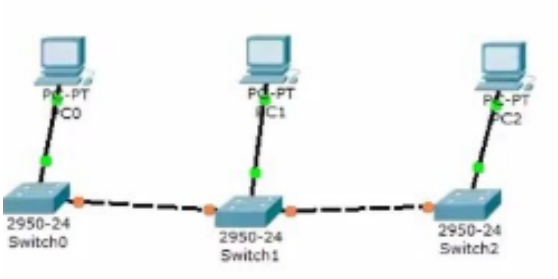
3. Ring Topology:



A ring topology is a network configuration in which device connections create a circular data path. Each networked device is connected to two others, like points on a circle. Together, devices in a

ring topology are referred to as a ring network. in ring topology we need n+1 cable. advantages are cost is low. but it has some disadvantages likw less security, less reliable etc.

4. Bus Topology:



A bus topology is a topology for a Local Area Network (LAN) in which all the nodes are connected to a single cable. The cable to which the nodes connect is called a "backbone". If the backbone is broken, the entire segment fails**.**

Questions Answer:

1. Which topology requires a multi point connection?

Ans. Multipoint connection is used in BUS Topology. All the devices are connected to a single transmission medium, which acts as the Backbone of the connection. This links all the devices in the network.

2.Which topology is highest reliability?

Ans. Bus topology has highest reliability.

3. Which topology requires a multi point connection?

Ans. Multipoint connection is used in BUS Topology. All the devices are connected to a single transmission medium, which acts as the Backbone of the connection. This links all the devices in the network.

4.Which network topologies has the highest transmission speed?

Ans. Star topology networks are cost-effective as it uses inexpensive coaxial cable. High data speeds: It supports a bandwidth of approx 100Mbps. Ethernet 100BaseT is one of the most popular Star topology networks.

Conclusion:

In this practical we studied about different topology in packet tracer.

We implement all the topology in CISCO PACKET TRACER and we observed all the characteristics of all the topologies by doing the same…