How Star Topology is Achieved Using Cisco Packet Tracer

Star topology is a network design where all devices are connected to a central device such as a switch or hub. In Cisco Packet Tracer, star topology is achieved by connecting multiple end devices directly to a single central switch.

Steps to Achieve Star Topology:

- Step 1: Open Cisco Packet Tracer.
- Step 2: From Network Devices, select a Switch (e.g., 2960) and place it at the center of the workspace.
- Step 3: From End Devices, add multiple PCs to the workspace.
- Step 4: Click on Connections (lightning icon) and choose Copper Straight-Through cable.
- Step 5: Connect each PC to the switch using FastEthernet ports (e.g., PC0 to Fa0/1, PC1 to Fa0/2).
- Step 6: Assign IP addresses to each PC under Desktop > IP Configuration.
- Step 7: Test connectivity using the ping command in Command Prompt.

Example IP Address Configuration:

Device	IP Address	Subnet Mask
PC0	192.168.1.1	255.255.255.0
PC1	192.168.1.2	255.255.255.0
PC2	192.168.1.3	255.255.255.0
PC3	192.168.1.4	255.255.255.0

Explanation:

In this setup, the switch acts as the central device. All PCs are connected directly to the switch, and there are no direct connections between the PCs themselves. This structure forms a star shape, which is why it is called star topology. Communication between devices passes through the switch.