Lab 2: Setting Up a Local Area Network (LAN) with a Switch

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Aim: Configure a LAN using a switch and multiple PCs to understand basic networking and connectivity within a LAN.

Objectives:

1. Connect multiple PCs to a switch.
2. Assign IP addresses to each PC.
3. Test network connectivity between PCs using the ping command.

Steps:

1. Open Cisco Packet Tracer:
    ○ LaunchCiscoPacketTracerandcreateanewproject.

2. Add Devices:
    ○ Add a Switch: Dragaswitch(e.g.,2960)fromthe"Switches" category to the workspace.
    ○ Add PCs: DragmultiplePCs(e.g.,PC0,PC1,PC2)fromthe"End Devices" category to the workspace.

3. Connect PCs to Switch:
    ○ Copper Straight-Through CableUseacopperstraight-through cable to connect each PC's FastEthernet0 port to one of the switch ports.
        ■ ColorCodesforCopperStraight-ThroughCable (TIA/EIA-568B Standard):
            ■ Pin1:White/Orange
            ■ Pin2:Orange
            ■ Pin3:White/Green
            ■ Pin4:Blue

■ Pin5:White/Blue
■ Pin6:Green
■ Pin7:White/Brown
■ Pin8:Brown

4. Assign IP Addresses:
   ○ Configure Each PC:
      ■ ClickonaPC,gototheDesktoptab,andopenIP
        Configuration.
      ■ AssignIPaddressesinthesamesubnet(e.g.,PC0:
        192.168.1.2, PC1: 192.168.1.3, PC2: 192.168.1.4) with a
        Subnet Mask of 255.255.255.0.
5. Test Connectivity:
   ○ On each PC, use the Command Prompt to ping the other PCs to
     verify connectivity.