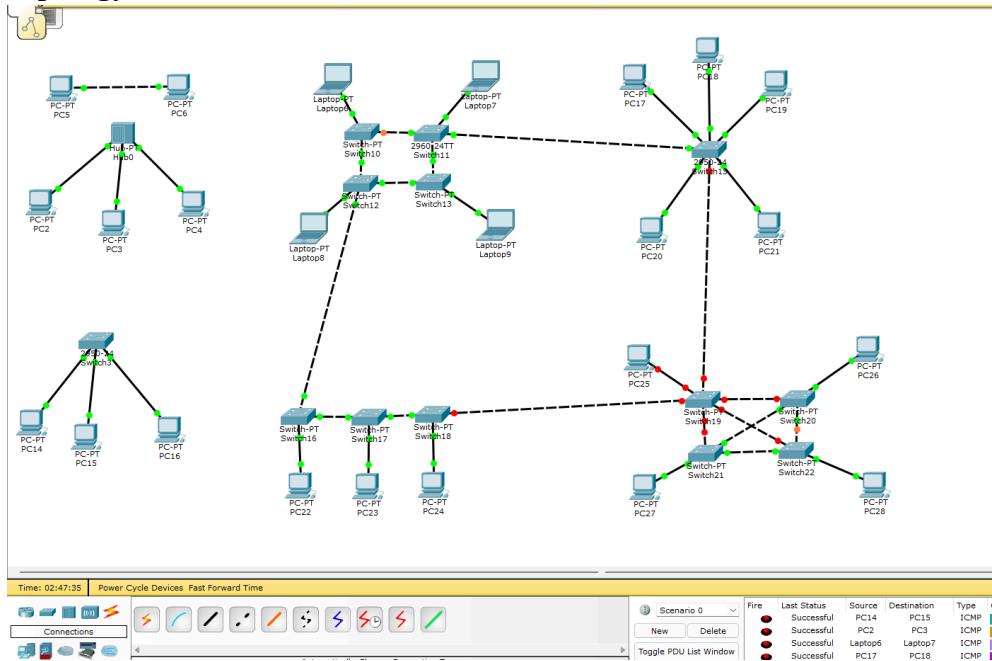


## **Program – 1:**

**Aim:** Create a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices and demonstrate ping message.

### **Topology:**



### **Procedure:**

- **Point-to-Point link**
  - PC5 → 20.10.0.2
  - PC6 → 20.10.0.3
- **Hub (PC2, PC3, PC4)**
  - PC2 → 20.10.0.4
  - PC3 → 20.10.0.5
  - PC4 → 20.10.0.6
- **Switch (PC14, PC15, PC16)**
  - PC14 → 20.10.0.7
  - PC15 → 20.10.0.8
  - PC16 → 20.10.0.9

### **LAN Topology & PC IP Configurations**

#### **1. Star Topology (Switch13 Region)**

- PC17 → 10.0.0.2
- PC18 → 10.0.0.3
- PC19 → 10.0.0.4
- PC20 → 10.0.0.5
- PC21 → 10.0.0.6

#### **2. Bus Topology (Switch16 → Switch17 → Switch18)**

- PC22 → 10.0.0.7
- PC23 → 10.0.0.8
- PC24 → 10.0.0.9

### 3. Ring Topology (Switch19 → Switch20 → Switch21 → Switch22)

- PC25 → 10.0.0.10
- PC26 → 10.0.0.11
- PC27 → 10.0.0.12
- PC28 → 10.0.0.13

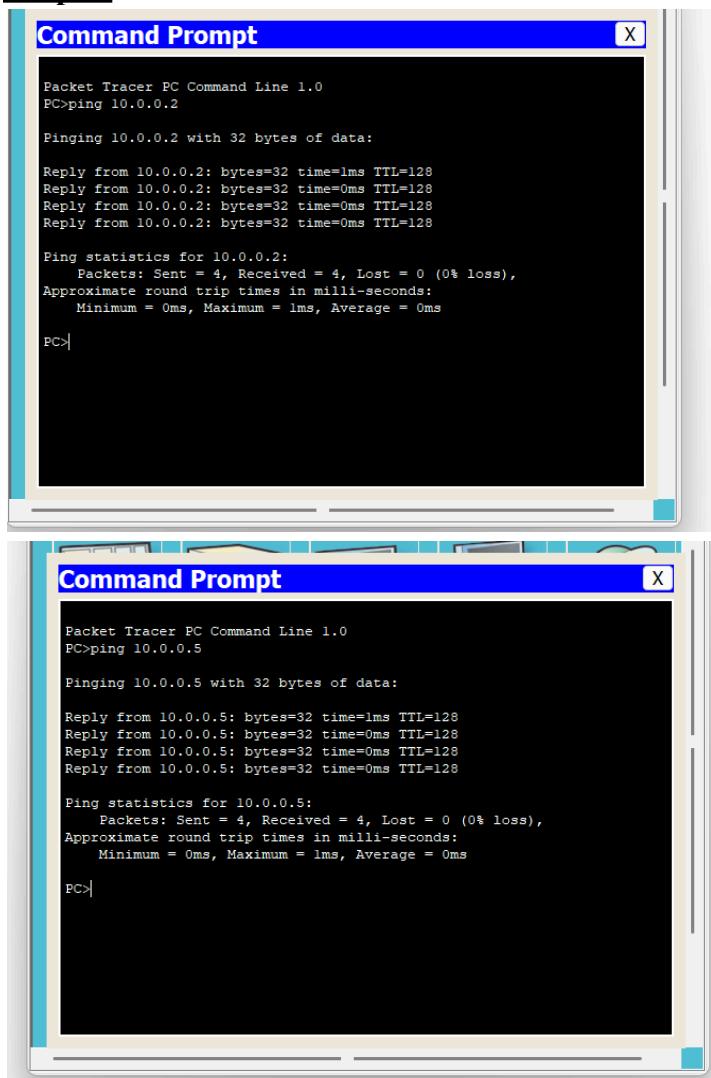
### 4. Mesh Topology (Bottom-right interconnected switches)

If mesh includes the same PCs (25–28), then **IPs remain the same**.

If you have more PCs, assign next IPs:

- **Next PC** → 10.0.0.14
- **Next PC** → 10.0.0.15
- Continue as needed...

#### Output:



The image shows two side-by-side screenshots of a Windows Command Prompt window titled "Command Prompt". Both windows display the output of a ping command from a host with IP 10.0.0.2 to another host with IP 10.0.0.5.

**Top Window (Host 10.0.0.2):**

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=1ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>
```

**Bottom Window (Host 10.0.0.5):**

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.5

Pinging 10.0.0.5 with 32 bytes of data:

Reply from 10.0.0.5: bytes=32 time=1ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>
```