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B.TECH CSE - C

III - YEAR

## Observation

**Objective:** Create and configure a suitable topology for both LAN and WAN using 10-15 computers, routers, and switches. Simulate the transmission of a message from one network to a computer in another network.

## Procedure:

### 1. Topology Design:

- The network topology was successfully created in Cisco Packet Tracer, including both LAN and WAN configurations.
- The LAN was configured with 10-15 computers connected to at least two switches.
- The WAN setup was achieved by connecting the LAN networks via two routers.

### 2. Network Setup:

- Devices were added and connected as per the topology design.
- IP addresses were correctly assigned to all computers within the LAN, ensuring proper communication.
- Router interfaces were configured with appropriate IP addresses to enable WAN communication between networks.

### 3. LAN Configuration:

- All computers were connected to switches, and each computer was assigned a unique IP address within the specified subnet.
- Switches were connected to each other to ensure full LAN connectivity.

#### **4. WAN Configuration:**

- Routers were successfully connected to each other, and interfaces were configured with correct IP addresses.
- Static routes were set up on the routers, enabling successful communication between the LANs over the WAN.

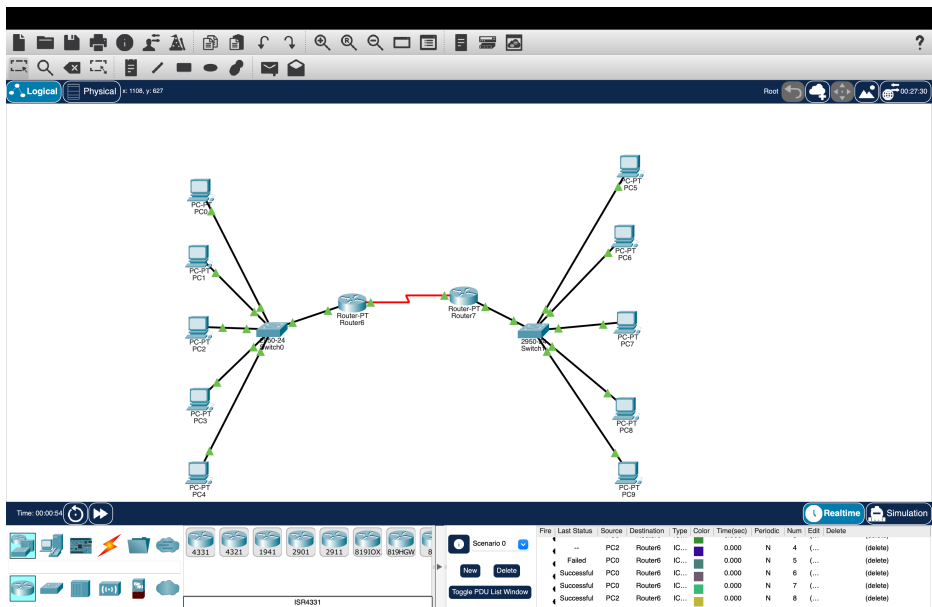
#### **5. Simulation:**

- A message was sent from one computer in one LAN to a computer in another LAN using the simulation mode in Cisco Packet Tracer.
- The message was transmitted successfully across the network, traveling through switches, routers, and the WAN.
- The path of the message was observed, and the transmission was verified to be correct with no errors.

#### **6. Network Performance:**

- The network operated as expected, with no packet loss or transmission errors observed.
- The successful message transmission confirmed that the network was properly configured for both LAN and WAN communication.

OUTPUT:



| <div><div>Realtime</div><div>Simulation</div></div> |             |        |             |       |       |           |          |     |       |          |
|---|-------------|--------|-------------|-------|-------|-----------|----------|-----|-------|----------|
| Fire  | Last Status | Source | Destination | Type  | Color | Time(sec) | Periodic | Num | Edit  | Delete   |
|   | Successful  | PC4    | Router6     | IC... |       | 0.000     | N        | 0   | (...) | (delete) |
|   | Successful  | PC2    | Router6     | IC... |       | 0.000     | N        | 1   | (...) | (delete) |
|   | Successful  | PC3    | Router6     | IC... |       | 0.000     | N        | 2   | (...) | (delete) |