

CN Lab Exam - 2

Objective:

Set up and configure a network topology using RIP and OSPF routing protocols in Cisco Packet Tracer. Customize the network by assigning each computer a name and an IP address using the last three digits of your roll number.

Procedure:

1. Network Topology Design:

- Create a topology that includes:
 - 10-12 computers distributed across two LANs.
 - Use two or more switches.
 - At least two routers connected via a WAN link.
 - Each computer must be assigned a name with the format: PC_RollNumber (e.g., PC_123).

2. IP Address Configuration:

- Assign IP addresses to the computers in each LAN.
- The last three digits of each student's roll number must be used for the last octet of the computer's IP address (e.g., 192.168.1.RollNumber).
- Use a different subnet for each LAN (e.g., 192.168.1.0/24 for LAN 1 and 192.168.2.0/24 for LAN 2).

3. Routing Protocols Configuration:

- Configure one router with RIP v1.
- Configure the other router with OSPF.
- Ensure communication between LANs using these protocols.

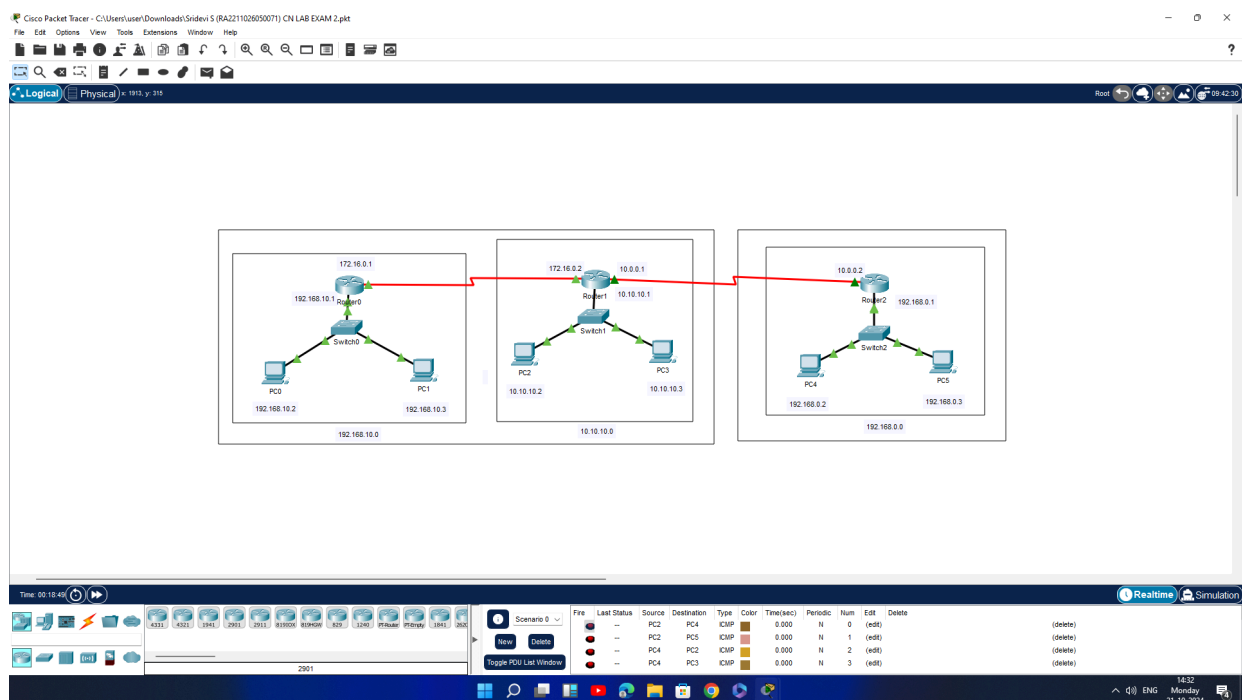
4. Packet Tracer Configuration Steps:

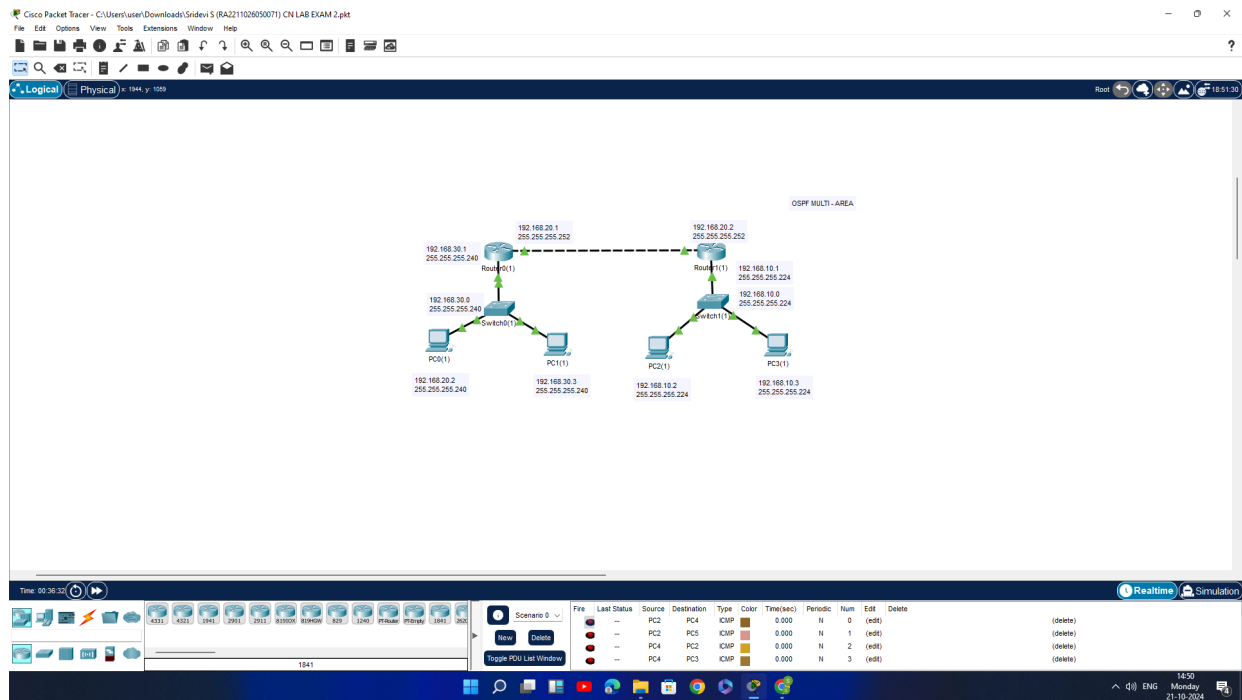
- Add devices and create connections between them.
- Configure IP addresses on the computers, switches, and routers.
- Set up static routes or enable RIP/OSPF on the routers.
- Ensure correct routing between the two LANs and that data can be transmitted between networks.

5. Simulation:

- Use Cisco Packet Tracer's simulation mode to test message transmission.
- Ensure a message can be successfully transmitted from one network to another.

Output:





Results:

- Successfully configured a network topology with two LANs using RIP and OSPF routing protocols.
- All devices were assigned IP addresses based on the last three digits of the roll number, maintaining the required subnet structure.
- Routing protocols were configured on the routers, allowing seamless communication between LAN 1 and LAN 2.
- The simulation mode in Cisco Packet Tracer demonstrated successful packet transmission across the network.
- Documentation and files were submitted as per the requirements.