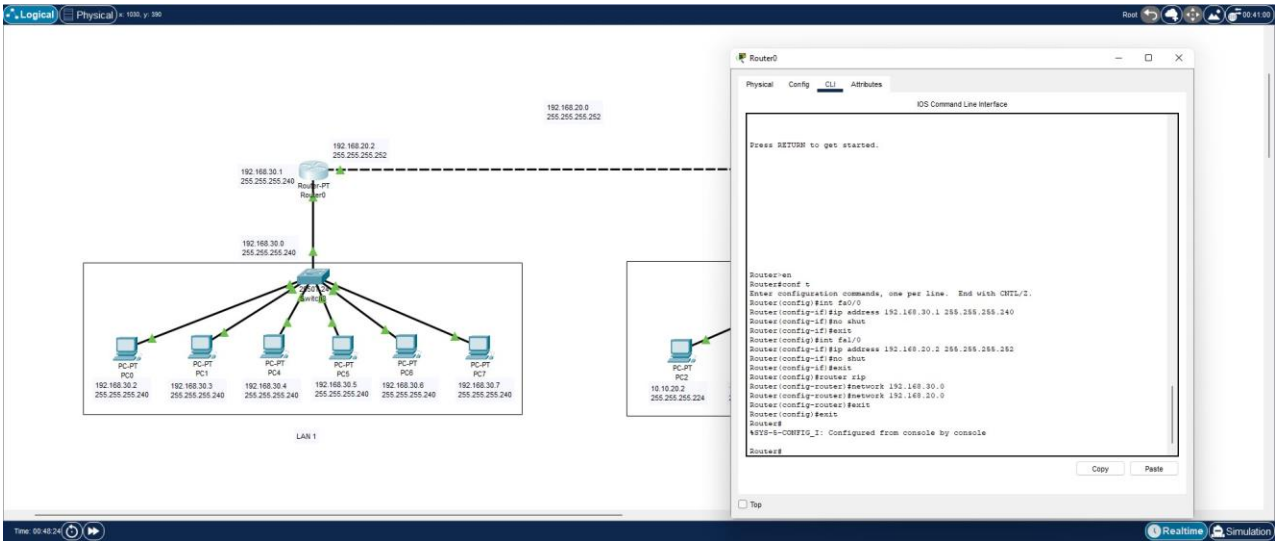
CN Lab Exam - II

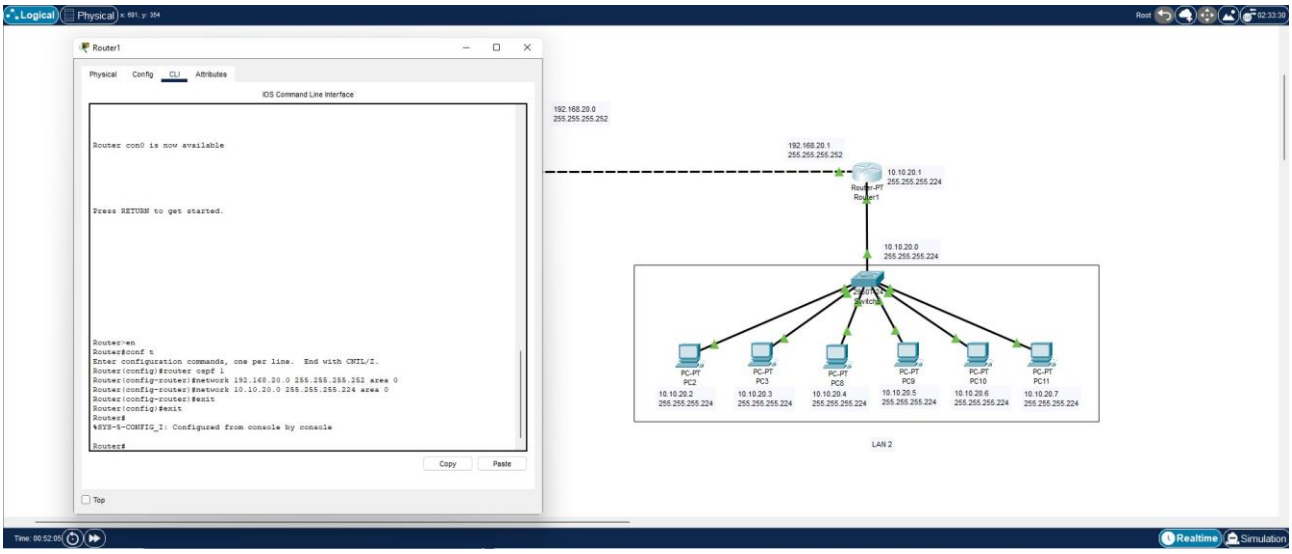
Objective:
Set up and configure a network topology using RIP and OSPF routing protocols in Cisco Packet Tracer. Customize the network by assigning each computer a name and an IP address using the last three digits of your roll number.

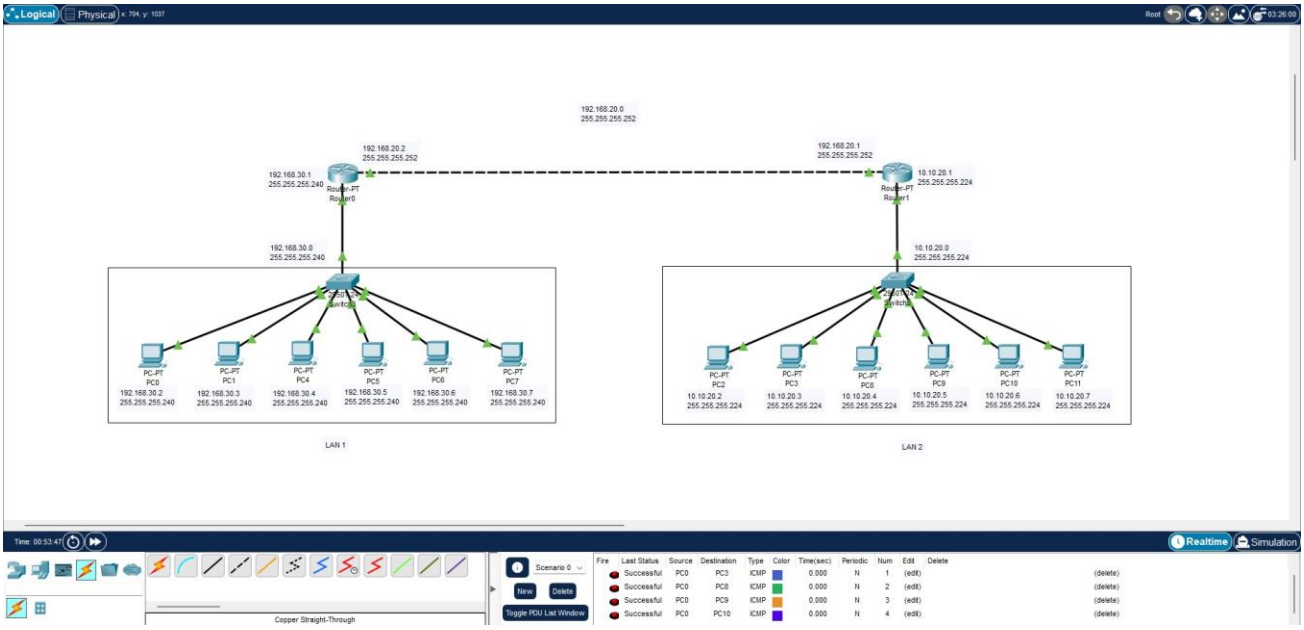
Procedure:

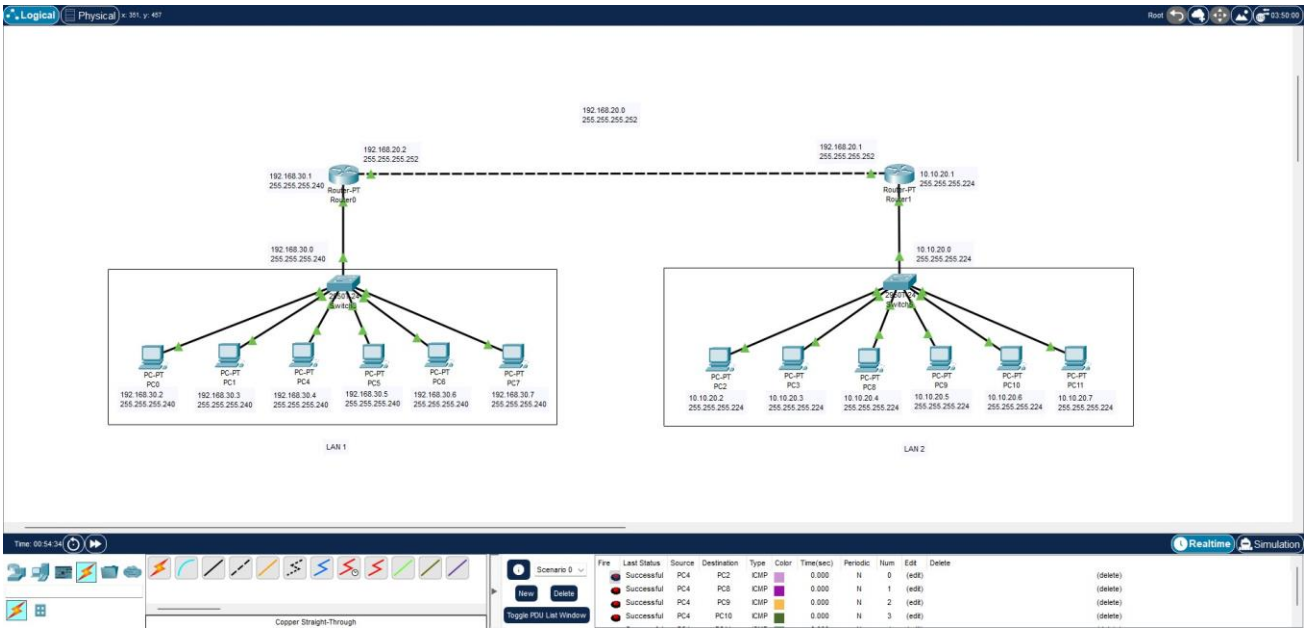
1. **Network Topology Design:**
    - Create a topology that includes:
        - 10-12 computers distributed across two LANs.
        - Use two or more switches.
        - At least two routers connected via a WAN link.
    - Each computer must be assigned a name.
2. **IP Address Configuration:**
    - 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.
    - Use a different subnet for each LAN.
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.

Result:


Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Press RETURN to get started.
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 192.168.30.1 255.255.255.240
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#int fa1/0
Router(config-if)#ip address 192.168.20.2 255.255.255.252
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.168.30.0
Router(config-router)#network 192.168.20.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#
Copy
Paste
Top
192.168.20.0
255.255.255.252
192.168.20.2
255.255.255.252
192.168.30.1
255.255.255.240
192.168.30.0
255.255.255.240
PC-PT PC0
192.168.30.2
255.255.255.240
PC-PT PC1
192.168.30.3
255.255.255.240
PC-PT PC4
192.168.30.4
255.255.255.240
PC-PT PC5
192.168.30.5
255.255.255.240
PC-PT PC6
192.168.30.6
255.255.255.240
PC-PT PC7
192.168.30.7
255.255.255.240
PC-PT PC2
10.10.20.2
255.255.255.224
LAN 1
Logical
Physical
Root
Realtime
Simulation


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router con0 is now available
Press RETURN to get started.
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 192.168.20.0 255.255.255.252 area 0
Router(config-router)#network 10.10.20.0 255.255.255.224 area 0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#
Copy
Paste
Top
192.168.20.0
255.255.255.252
192.168.20.1
255.255.255.252
10.10.20.1
255.255.255.224
10.10.20.0
255.255.255.224
PC-PT PC2
10.10.20.2
255.255.255.224
PC-PT PC3
10.10.20.3
255.255.255.224
PC-PT PC8
10.10.20.4
255.255.255.224
PC-PT PC9
10.10.20.5
255.255.255.224
PC-PT PC10
10.10.20.6
255.255.255.224
PC-PT PC11
10.10.20.7
255.255.255.224
LAN 2
Logical
Physical
Root
Realtime
Simulation


Logical
Physical
Root
192.168.20.0
255.255.255.252
192.168.20.2
255.255.255.252
192.168.20.1
255.255.255.252
192.168.30.1
255.255.255.240
10.10.20.1
255.255.255.224
Router0
Router1
192.168.30.0
255.255.255.240
10.10.20.0
255.255.255.224
PC0
PC1
PC4
PC5
PC6
PC7
PC2
PC3
PC8
PC9
PC10
PC11
LAN 1
LAN 2
Realtime
Simulation
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Successful
ICMP
(edit)
(delete)


Logical
Physical
Root
192.168.20.0
255.255.255.252
192.168.20.2
255.255.255.252
192.168.20.1
255.255.255.252
192.168.30.1
255.255.255.240
10.10.20.1
255.255.255.224
Router0
Router1
192.168.30.0
255.255.255.240
10.10.20.0
255.255.255.224
PC0
PC1
PC4
PC5
PC6
PC7
PC2
PC3
PC8
PC9
PC10
PC11
LAN 1
LAN 2
Realtime
Simulation
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Successful
ICMP
(edit)
(delete)