

Procedure:

1. Topology Design:

LAN Configuration:

1. Design a network topology that includes at least 10 computers connected to switches. Ensure proper switch connectivity within the LAN segment.
2. Implement WAN configuration to connect the LAN network to another network using routers, creating a broader network structure for communication between distinct LANs.

2. Network Setup in Cisco Packet Tracer:

Add Devices

1. Place and connect 10-15 computers within the LAN segment.
2. Add at least 2 switches to facilitate connections between the computers.
3. Introduce at least 2 routers to establish WAN connectivity.

Configure IP Addresses:

1. Assign unique IP addresses to all computers within the LAN segment, ensuring they are within the same subnet.

2. Configure router interfaces with appropriate IP addresses to enable routing between LAN and WAN segments.
3. Set up routing protocols or static routes as needed to ensure seamless communication between different LANs via the WAN.

3. Configuration Steps:

LAN Configuration:

1. Connect computers to switches using network cables.
2. Assign unique IP addresses to each computer within the same subnet.
3. Interconnect the switches to support network expansion and communication within the LAN.

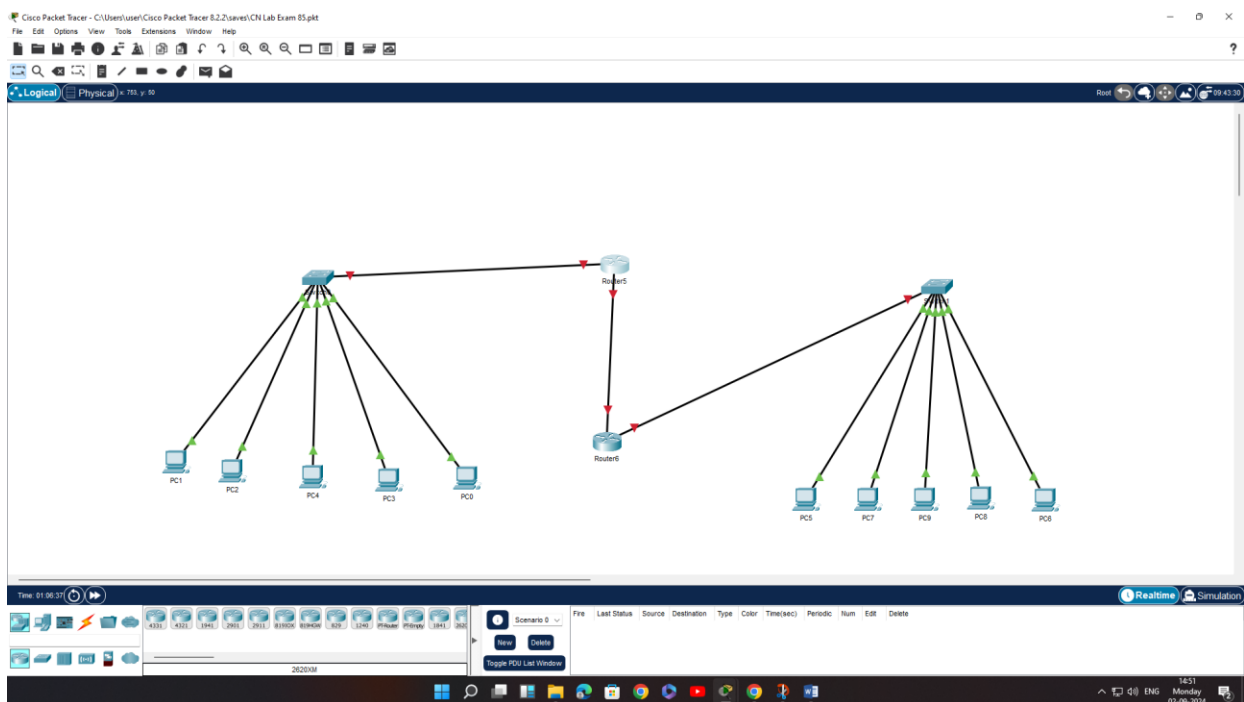
WAN Configuration:

1. Connect the routers to each other to establish the WAN connection.
2. Configure the router interfaces with IP addresses that support communication across the WAN.
3. Set up static or dynamic routing to ensure traffic can be routed between different LAN segments.

4. Simulation:

Send a Message:

1. Use Cisco Packet Tracer's simulation mode to monitor and test network activity.
2. Configure and send a message from a computer in one network (e.g., LAN1) to a computer in another network (e.g., LAN2). Command - ping 172.16.1.2
3. Capture and verify the message transmission to ensure successful delivery between networks.



Cisco Packet Tracer - C:\Users\user\Cisco Packet Tracer 8.2.2\user\CN Lab Exam 85.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 81 v 1

PC2

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=1ms TTL=128
Reply from 192.168.0.1: bytes=32 time=1ms TTL=128
Reply from 192.168.0.1: bytes=32 time=1ms TTL=128
Reply from 192.168.0.1: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Time: 01:00:30

Scenario 0

File Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

2023/08

Toggle PC0 List Window

14:33 Monday 02-09-2024

Cisco Packet Tracer - C:\Users\user\Downloads\LAN Network.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 72 v 08

PC4

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Time: 00:48:17

Scenario 0

File Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

(Select a Device to Drag and Drop to the Workspace)

Toggle PC4 List Window

00:37:50