CN LAB EXAMINATION REPORT

Aim:

To create and configure a suitable network topology for both LAN and WAN using Cisco Packet Tracer, involving 10-15 computers, switches, and routers. The goal is to simulate the transmission of a message from a computer in one network to a computer in another network, ensuring proper connectivity and communication across different network segments.

Procedure:

1. Topology Design: LAN Configuration:

1. Designanetworktopologyfeaturingatleast10computersconnectedviaswitches. Ensure proper switch connectivity within the LAN segment.
2. ImplementWANconfigurationtoconnecttheLANnetworktoanothernetworkusing routers. This involves expanding the network to enable communication between different LANs.

2. Network Setup in Cisco Packet Tracer:

Add Devices:

1. Placeandconnect10-15computerswithintheLANsegment.
2. Addaminimumof2switchestoconnectthecomputers.
3. Includeatleast2routerstofacilitateWANconnectivity.

Configure IP Addresses:

1. AssignuniqueIPaddressestoeachcomputerintheLANsegment,ensuringtheyare within the same subnet.
2. Configurerouterinterfaceswithappropriate IPaddressestoenableroutingbetween the LAN and WAN segments.
3. Setuproutingprotocolsorstaticroutesasnecessarytoensuresmoothcommunication between different LANs through the WAN.

3. Configuration Steps:

LAN Configuration:

1. Connectthecomputerstotheswitchesusingnetworkcables.
2. ConfigureuniqueIPaddressesoneachcomputerwithinthesamesubnet.
3. Connect the switches to each other to enable network expansion and communication within the LAN.

WANConfiguration:

1. ConnecttherouterstoeachothertoestablishtheWANconnection.
2. ConfiguretherouterinterfaceswithIPaddressesthatsupportcommunicationacross theWAN.
3. Setuprouting,eitherstaticordynamic,toensurethattrafficcanberoutedbetween different LAN segments.

4. Simulation:

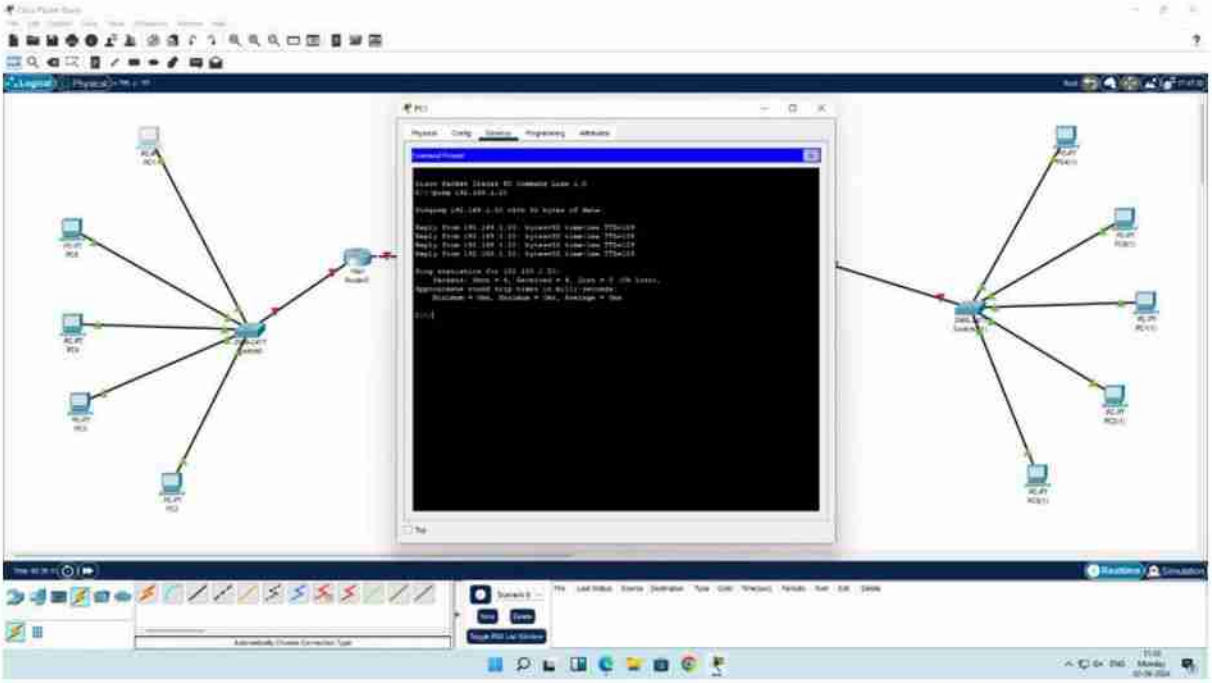
Send a Message:

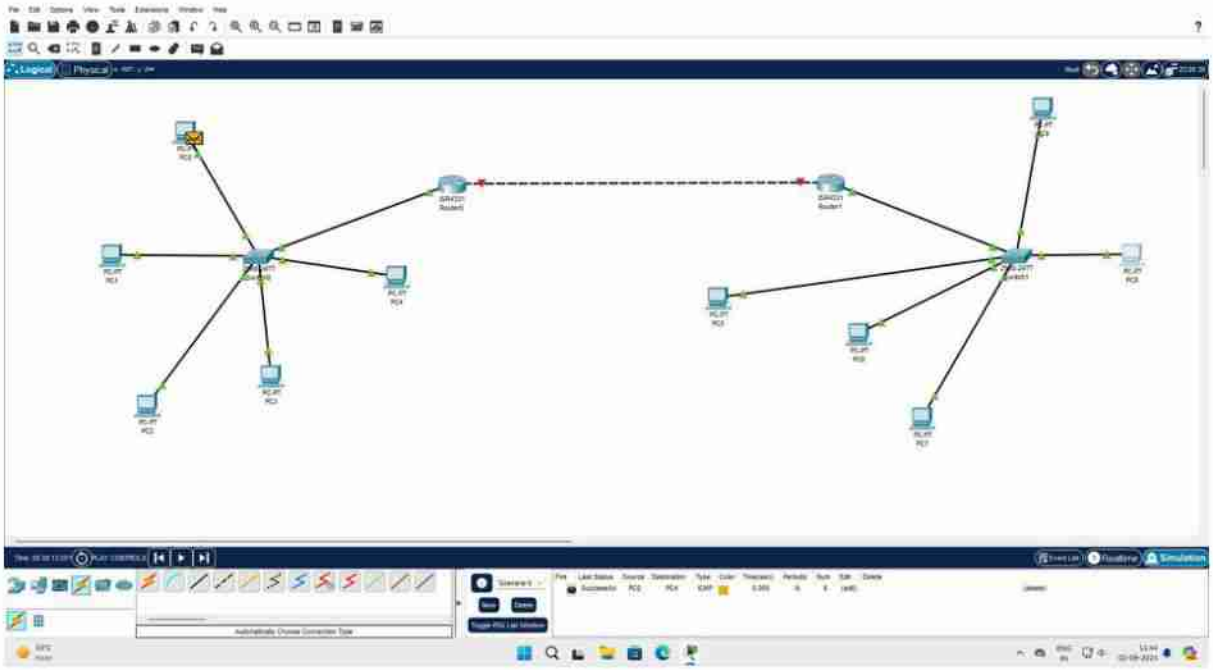
1. UseCiscoPacketTracer'ssimulationmodetomonitorandtestnetworkactivity.
2. Configureandsendamessagefromacomputerinonenetwork(e.g.,LAN1)toa computer in another network (e.g., LAN2).
3. Captureandverifythemessagetransmissiontoensuresuccessfuldeliveryfromone network to the other.

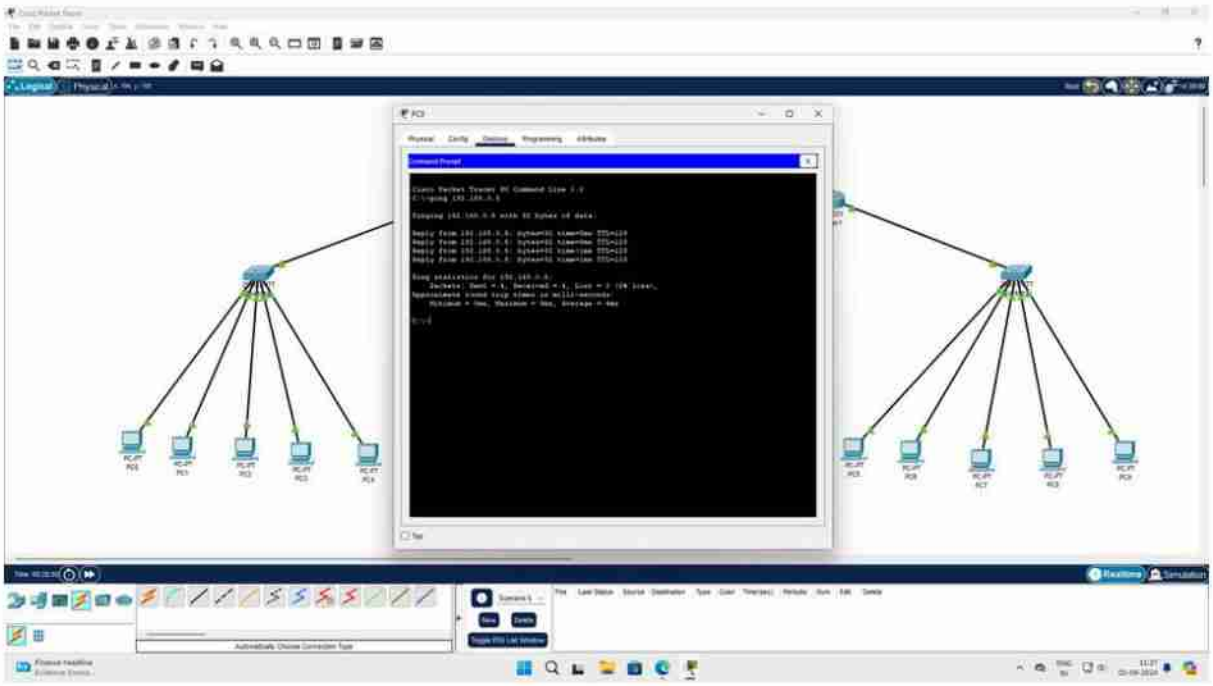
Message Transmission:

- Amessagewassuccessfullysentfromacomputer inLAN1toacomputerinLAN2.
- ThesimulationmodeinCiscoPacketTracerconfirmedthatthemessagewasrouted correctly through the WAN and received at the destination computer.

The network topology, IP configuration, routing setup, and message transmission were all verified to be functioning as expected, demonstrating successful inter-network communication.







GITHUB:

https://github.com/Sabana-07/RA2211026050057

Sabana Asmi G

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