Lab no: 6 ***Date: 2024/09/23***

Title: Interconnecting two different LANs and testing the connectivity between them.

Objectives:

- To use a router to link several LANs.
- To transfer data between LANs.

Background Theory:

Interconnecting two LANs involves linking distinct local area networks (LANs) so that devices on each network can communicate. This is typically achieved using a router, which connects both LANs and facilitates data transfer between them. Each LAN operates on a separate IP address range, and the router manages traffic by routing packets between these different subnets.

The router is configured with IP addresses for each interface corresponding to the LANs it connects. It uses routing tables to determine the best path for data packets, ensuring that devices on different LANs can exchange information.

Observation and Findings:

The router was configured to connect two LANs, each with its own IP range. Both LANs having their own switch, server and end devices.

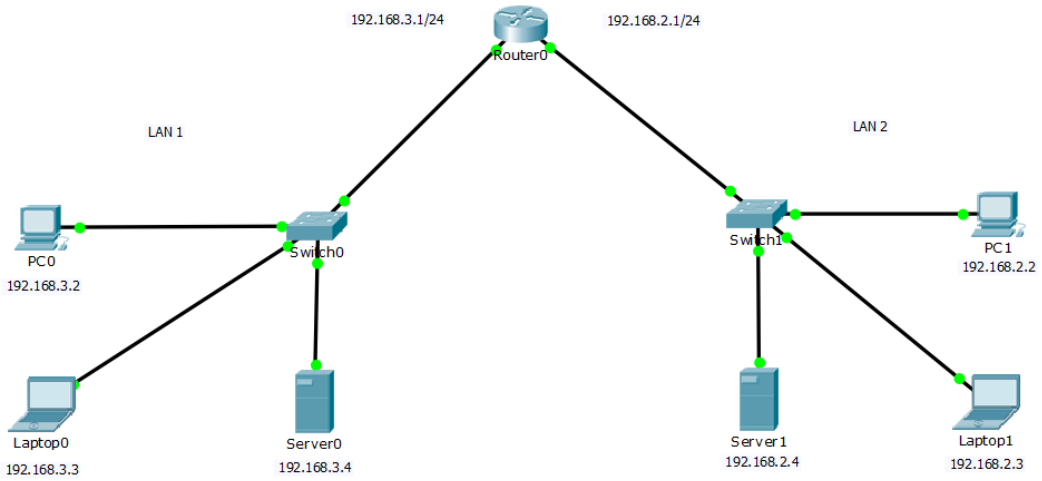
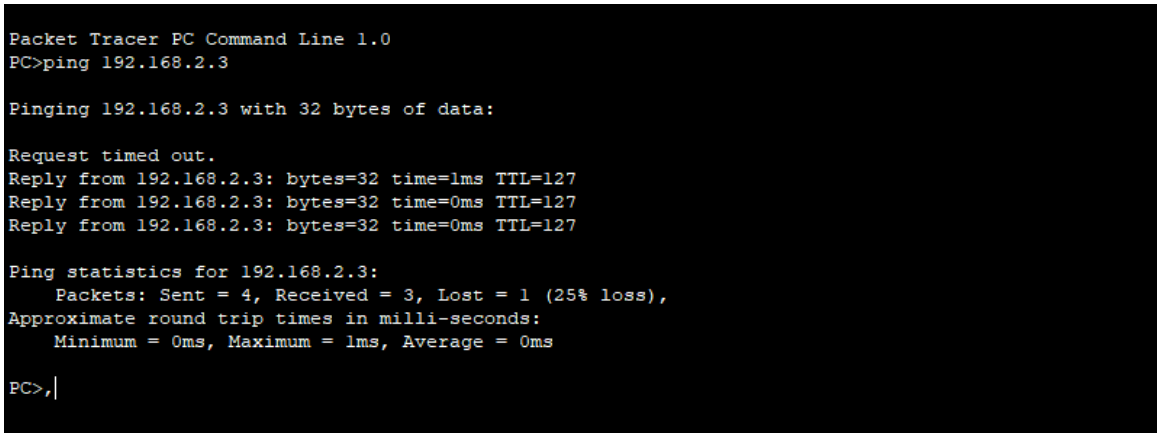


Fig: Interconnection of LAN

Output:



Discussions:

The interconnection between two LANs was configured using appropriate IP addresses, with successful ping tests confirming communication. The setup highlights the flexibility of routers in connecting multiple LANs while maintaining distinct IP schemes.

Conclusion:

The LANs were successfully interconnected, allowing seamless communication. This configuration is effective for expanding networks, though additional measures are needed for scalability and security in larger environments.