Computer Networks Lab

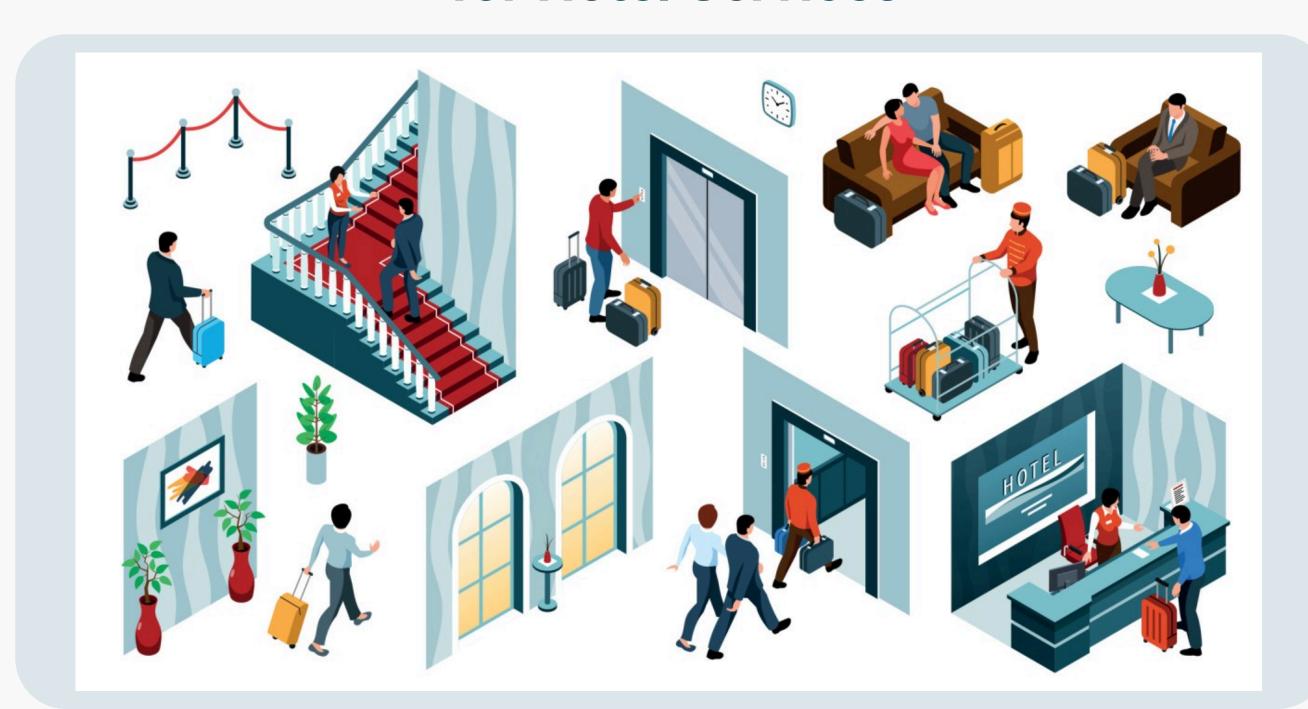
Course Code - CSE 320

Presented to:

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Project Title:

Developing a High-Performance Network for Hotel Services





Team Members



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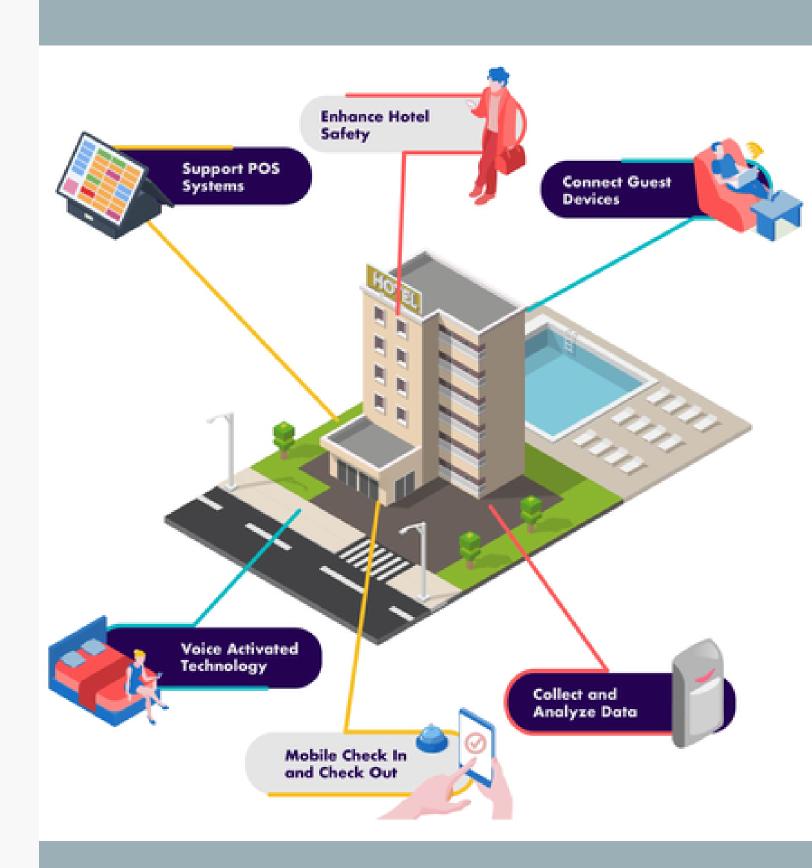
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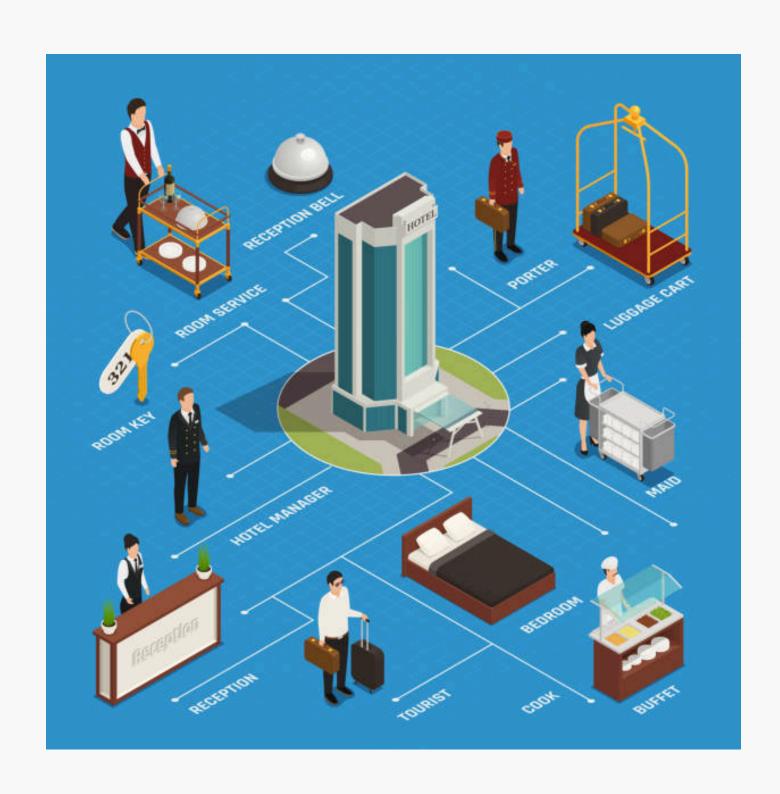
Objectives:

This project aims to develop a secure and efficient IT network to support the core operations of a modern hotel management system using Cisco Packet Tracer.

- 1.Design a scalable network to support hotel departments, guest services, and centralized systems.
- 2.Implement network segmentation and security to protect sensitive data and control access.
- 3.Ensure reliable connectivity and communication through dynamic routing and essential network services.



Project Purpose & Benefits



- Efficient Communication: It ensures smooth and fast data exchange between hotel departments, enhancing operational efficiency.
- Secure Guest and Staff Access: By using VLANs and routing, the network keeps guest and internal traffic separate and protected.
- Scalability and Reliability: The structured design allows easy expansion as the hotel grows, with reliable routing to avoid downtime.

Topology we're using:

Star Topology (for LAN segments):

- 1.Each department (e.g., reception, guest rooms, security) connects to a central switch.
- 2.Easy to manage and expand if one device fails, it doesn't affect the rest.
- 3.Ideal for hotel floors and rooms connected to a central network closet.

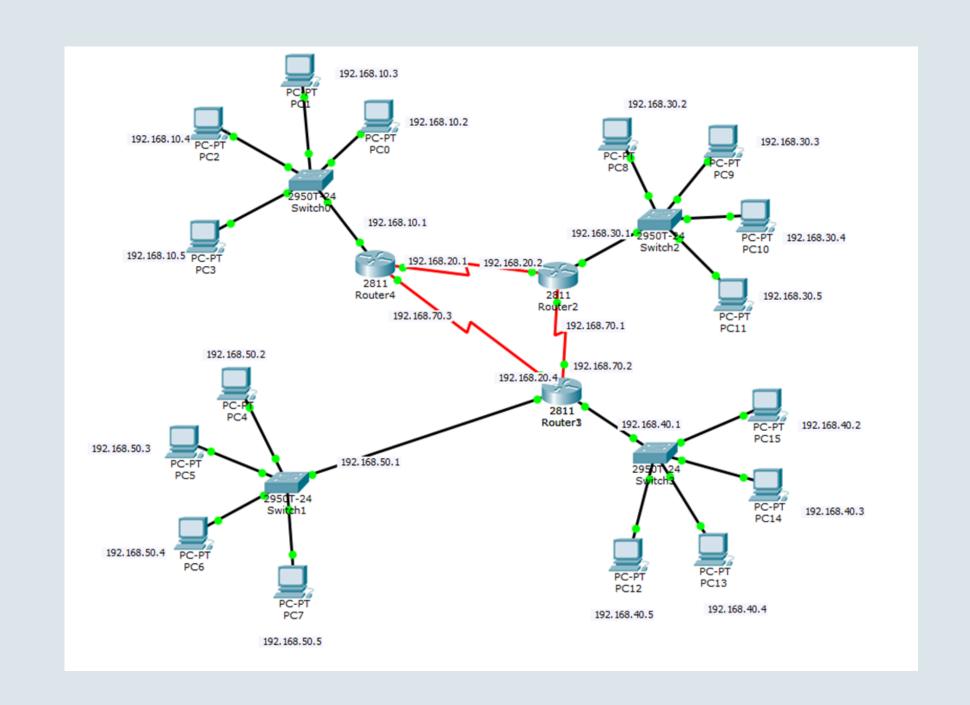
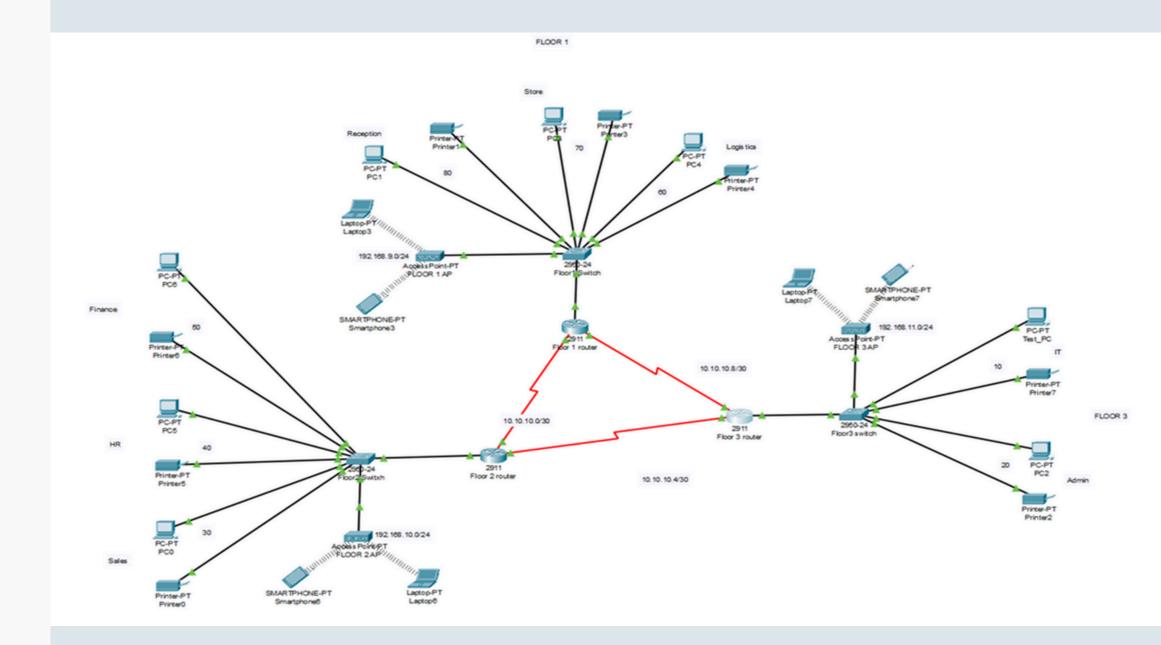


fig: star topology and partial mesh topology



Sample Networking Operation:

- 1. Inter-VLAN Communication.
- 2. Dynamic Routing (using EIGRP).
- 3. Wireless Access Integration.
- 4. Centralized Floor-Based Network Design.
- 5. End Device Communication & Resource Sharing.



Thank you