



**DEPARTMENT OF COMPUTER SCIENCE
COMPUTER COMMUNICATION NETWORK LAB
PROJECT PROPOSAL FORM**

3RD SEMESTER	Fall 2024	BS IT 3A	2024
TITLE OF PROJECT			
<h2 style="margin: 0;">HOTEL MANAGEMENT SYSTEM</h2>			
Group Members			
S#	Student(s) Name	Registration Number	
1	FAIZA ALTAF	02-235232-036	
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2	ESHA ASHFAQ	02-235232-002	
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EXECUTIVE SUMMARY OF PROJECT PROPOSAL			
<p>Executive Summary:</p> <p>This project focuses on configuring Secure Shell (SSH) on network devices such as routers and switches to enable secure remote management. The primary goal is to provide administrators with a safe and encrypted method of accessing and managing network infrastructure from remote locations. The configuration process includes setting up domain names, user credentials, and RSA encryption keys, followed by testing secure SSH connections. Additionally, port security will be implemented on switches to ensure that only authorized devices are allowed to connect to the network. By the end of the project, secure, remote access to network devices will be established, with restrictions in place to prevent unauthorized access. This setup will improve network management efficiency while maintaining a high level of security</p>			
PROJECT PURPOSE, SCOPE AND OBJECTIVES			
<p>Purpose:</p> <p>The purpose of this project is to configure Secure Shell (SSH) on network devices (routers and switches) to enable secure remote access and management of network infrastructure. This configuration will ensure that network devices are accessible remotely in a secure manner, providing administrators the ability to manage devices and monitor network traffic from a remote location.</p> <p>Scope:</p> <p>This project focuses on configuring SSH on routers and switches within a given network topology. The configuration will include the setup of domain names, user credentials, RSA encryption keys, and port security to allow only authorized devices to connect. The scope includes configuring SSH on three routers, verifying remote access via SSH, and implementing port security on a switch to limit device access.</p> <p>In Scope:</p> <ul style="list-style-type: none">Configuration of SSH on multiple routers.Setting up of domain names and user credentials.Generation of RSA encryption keys.Secure remote login testing (SSH).Configuration of port security on switches to ensure authorized devices connect. <p>Out of Scope:</p> <ul style="list-style-type: none">Configuration of additional services such as HTTP/HTTPS.Detailed network traffic monitoring and analysis. <p>Objective:</p> <ul style="list-style-type: none">To securely configure remote access for administrators using SSH on routers and switches.To ensure that only authorized devices can access the network devices by using secure login protocols.To implement port security to prevent unauthorized devices from connecting to the network.To provide a stable and secure remote management solution for the network infrastructure. <p>Objectives:</p> <p>The main objectives of this project are:</p> <ul style="list-style-type: none">Design a Hotel Management System using Cisco Packet Tracer to simulate network infrastructure.			



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Implement Network Security through configuring secure SSH access for remote management.
Setup Wired and Wireless Networks to simulate internal hotel operations, including check-ins, room assignments, and guest services.
Demonstrate Remote Access through SSH for administrators and staff, providing secure management of hotel resources.
Optimize Network Performance to ensure smooth communication and service delivery between devices.

PROJECT DESCRIPTION (most important part)

Description:

This project involves configuring Secure Shell (SSH) on a series of network routers and switches. SSH is a protocol that allows secure remote management by encrypting data during communication. This will prevent unauthorized users from accessing sensitive configuration information. The project also includes configuring port security on the network switches to restrict the access of devices to specific interfaces, preventing unauthorized connections.

The configuration process will involve:

Setting up hostnames for routers and switches.

Configuring domain names for network devices.

Creating user credentials for secure login.

Generating RSA keys for encryption.

Configuring SSH on each device and testing the secure connection.

Implementing port security on switches to allow only authorized devices to connect.

TEAM PROFILE

Faiza, Esha, and Qurat are a team of dedicated and talented individuals who have worked together to complete various successful projects. The **Hotel Management System** was a collaborative effort where all three contributed to designing and implementing an efficient application for managing hotel operations. Similarly, the **Computer Communication Network** project was completed collectively, showcasing their understanding of network protocols and system communication. Their combined skills and teamwork have led to the successful execution of these projects.

ASSUMPTIONS AND CONSTRAINTS

Assumptions:

The network devices (routers and switches) are operational and properly connected to the network.

The network topology has been designed, and the necessary IP addresses and subnets have been assigned.

Administrators have access to the network and the required credentials to configure the devices.

The devices support SSH configuration and the required software for the setup is already installed.

Constraints:

The SSH configuration will be limited to specific routers and switches within the network as defined in the project.

The project assumes the existing network infrastructure is stable, and no major changes are needed during configuration.

The configuration must be completed within a predefined time frame, which may limit testing capabilities or troubleshooting time.

Security policies or firewall rules on some devices may require additional configuration or troubleshooting steps beyond basic SSH setup.

PROJECT DELIVERABLES NOT CHANGEABLE



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Deliverables include

- Software Project Proposal.
- Project progress
- Project report
- Team member's work, as per their contribution, you should have to be honest with your future.

Time Line

ITEM	DATE	SIGNATURE
Group Member Names		
Project title		
Project Proposal + classes name		
Project Structure Diagram + Data Sample		
Project Prototype		
Project Review 1		
Project Review 2		
Project Submission		

For Teacher Use Only

REMARKS

Course Teacher

Signature

Date

Name

Signature

Date