“WEB BASED MAIL CLIENT MODEL”

A

Project Presentation

submitted

in partial fulfillment

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in Department of Information Technology

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Introduction

- This project aims to develop a web-based mail client that interfaces with a Linux-based mail server using POP3 protocol, and leverages Apache Tomcat as the web server. It provides core email functionalities such as sending, receiving, and organizing mails through an accessible browser-based interface.

Problem Statement

This project is about developing a web based mail client connecting to a Linux Server running a Mail Server and with Tomcat as the Web Server.

The Project has the following main functionality :-

1. Receiving/Sending/organizing mails using POP3
2. Sending mail using send mail.
3. Performing Admin functions like managing new user, resetting passwords etc.

Project Objectives

- To design a user-friendly web interface for email communication.
- To integrate with a Linux server using the POP3 protocol for receiving mails.
- To support basic email functionalities like sending, receiving, and organizing mails.
- To deploy the application using the Apache Tomcat web server.

Research & Background

- The project builds upon established mail server protocols like POP3 and SMTP, and explores technologies such as Java Servlets, JSP, and Apache Tomcat.
- Linux servers are commonly used for hosting secure and scalable mail services, and this project demonstrates integrating those with modern web technologies.

Proposed Solution

- The proposed solution is a web-based mail client application that connects to a Linux mail server using POP3 for mail retrieval and SMTP for sending. It utilizes Tomcat to serve the web application and ensures that users can access email functionalities through any standard browser.

Key Features

- Email retrieval using POP3.
- Send mails via SMTP.
- Mail organization. (inbox, sent, trash)
- Web-based interface accessible on any platform.
- User authentication and session management.
- Lightweight and responsive design

User Interface Design

The interface is designed with simplicity and usability in mind. It includes:

- Login screen for user authentication
- Dashboard showing folders like Inbox, Sent, Trash
- Compose mail interface with recipient, subject, and body fields
- Easy navigation and mobile responsiveness

Technology Stack

- Frontend :- HTML, CSS, JavaScript, Angular
- Backend :- Node JS, Express JS
- Protocol :- POP3, SMTP, IMAP
- Packages :- Nodemailer

Non Functional Requirements

- **Security**: Secure login and encrypted communication.
- **Reliability**: Consistent mail delivery and access.
- **Scalability**: Ability to handle multiple user accounts.
- **Performance**: Fast loading and quick mail retrieval.

Expected Challenges

- Ensuring secure communication over the POP3/SMTP protocols.
- Session management and user authentication.
- Handling various mail formats and attachments.
- Ensuring cross-browser compatibility and responsive design.

Future Enhancements

- IMAP support for real-time email synchronization.
- Attachment preview and advanced file handling.
- Integration with calendars and contact lists.
- Spam filtering and mail categorization.
- Mobile app version for enhanced accessibility.

Conclusion & Next Steps

The web-based mail client project provides a practical solution for users needing remote and platform-independent access to their mail accounts on a Linux server. With essential functionalities and a clean interface, it bridges the gap between command-line mail access and modern web usability.

THANK YOU