# Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur

## Title of the Project

**Web Based Mail Client Model**

## Abstract of the project

A web-based mail client designed to manage user email interactions by connecting to a Linux server running a mail server, with Tomcat as the web server. The system enables users to receive, send, and organize emails using POP3, send messages via Sendmail, and perform administrative functions such as user management and password resets. The interface provides secure access, efficient mail handling, and administrative controls, ensuring a user-friendly and robust mail management experience.

## Keywords

### Generic Keywords :
Mail Client, Email, POP3, Sendmail, User Management, Web Application

### Specific Technology Keywords :
Java, JSP, Servlets, Tomcat, Linux, POP3, Sendmail, MySQL

### Project Type keywords :
Analysis, Design, Implementation, Testing, Graphical User Interface

## Functional components of the project

- **Login Page:**
  Secure login system for users and administrators. Authentication is verified against a user database.
- **Inbox Management:**
  Users can view, receive, and organize emails fetched from the mail server using POP3.
- **Send Mail:**
  Users can compose and send emails using the Sendmail service on the Linux server.
- **Mail Organization:**
  Features for organizing mails into folders, marking as read/unread, and deleting mails.
- **Admin Dashboard:**
  Administrative panel for managing users, resetting passwords, and monitoring mail server status.
- **User Management (Admin):**
  Add new users, reset passwords, and deactivate/activate accounts.
- **About Us Page:**
  Displays project details, contributors, and technology stack.

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## Steps to start-off the project:

- Get familiar with required technologies (Java, JSP, Servlets, Tomcat, MySQL, POP3, Sendmail).
- Understand the mail server setup and web server configuration on Linux.
- Design a relational database for users, mail metadata, and logs.
- Define user roles: User, Administrator.
- Ensure a user-friendly interface with consistent design.
- Plan for security measures (authentication, authorization, secure storage of credentials).

## Software Requirements:

| Number | Description | Alternatives (If available) |
|--------|-------------|------------------------------|
| 1 | Linux OS (Ubuntu/CentOS) | Windows (for development) |
| 2 | Tomcat Web Server | Jetty |
| 3 | Java (JDK 8 or above) | OpenJDK |
| 4 | MySQL Database | PostgreSQL |
| 5 | POP3 Mail Server (e.g., Dovecot) | Courier |
| 6 | Sendmail | Postfix, Exim |
| 7 | Web Browser (Chrome/Firefox) | - |

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## Software requirements

| No. | Milestone Name | Milestone Description | Timeline | Remarks |
|---|---|---|---|---|
| 1 | Requirements Specification | Complete specification of the system with assumptions. Document and present. | 1-3 | Add relevant functionalities as needed. |
| 2 | Technology familiarization | Understanding and setup of Java, Tomcat, POP3, Sendmail, MySQL. | 4-5 | Focus on practical application. |
| 3 | Database connection | Design and implement user and mail metadata database. | 5-7 | Finalize schema for development and testing. |
| 4 | Front-end Implementation | Develop main screens: login, inbox, compose, admin panel, about us. | 7-9 | Start drafting a test plan. |
| 5 | Backend Integration | Connect front-end with mail server (POP3), Sendmail, and database for full workflow. | 10-12 | Prepare for integration testing. |
| 7 | Integration Testing | Test all functionalities and resolve issues. | 13-14 | Allocate time for bug fixes. |
| 8 | Final Review | Final fixes and review against requirements. | 15-16 | Ensure all requirements are met |

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- [JavaMail API Documentation](#)
- [Tomcat Official Documentation](#)
- [POP3 Protocol Overview](#)
- [Sendmail Documentation](#)
- [MySQL Tutorial](#)
- [Linux Mail Server Setup Guides](#)