

Loan Management System – User Guide

Team: Loan Management System 1

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1. Introduction

The **Loan Management System (LMS)** is a full-stack web application designed to manage the complete loan lifecycle.

- **Purpose:** To simplify loan application, approval, repayment tracking, and EMI management for both customers and admins.
 - **Who can use it:**
 - **Customers** – Apply for loans, view EMI schedules, track loan status, download receipts.
 - **Admins** – Approve/reject loans, manage loan types, monitor repayments, and view dashboards.
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2. System Requirements

Hardware Requirements

- Basic laptop/PC with at least 4 GB RAM
- 2 GHz processor
- 2 GB free storage

Software Requirements

- **Backend:** Java 21, Spring Boot, Maven, MySQL 8+
- **Frontend:** Node.js 18+, React
- Modern browser (Chrome/Edge/Firefox)

3. Installation & Setup

- **Backend (Spring boot)**

Prerequisites: Java 21, Maven 3.8+, MySQL 8.x

Steps:

1. **Configure the database and secrets**

- Open application.properties and application-secret.properties.
- Update them with your MySQL credentials and any required secrets.

2. **Create the database**

- CREATE DATABASE lms_db;
-

3. **Build and run the backend**

- cd backend
- mvn clean install
- mvn spring-boot : run

Backend URL: <http://localhost:8081>

- **Frontend (React)**

Prerequisites: Node.js 18+, Npm

Steps:

1. **Install dependencies**

- cd frontend
- npm install

2. **Start the frontend development server**

- npm start

Frontend URL: <http://localhost:3000>

4. User Roles and Access

Customer Features

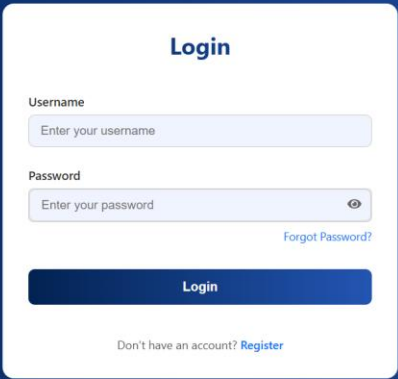
- **Register/Login** with authentication (JWT)
- **Apply for Loan** with details like amount, tenure, purpose, etc.
- **Track Loan Status** with timeline view and comments
- **View EMI Calendar** → Due dates & EMI amounts
- **Pay EMI** and download receipts/NOC (PDF via jsPDF, sent via email)
- **Chat Support** with Admins
- **Profile Management** (update info & password)

Admin Features

- **Approve/Reject Loans** with comments
- **Manage Loan Types** (interest rates, penalties, tenure)
- **View Dashboard Analytics** (graphs, charts with Recharts)
- **Monitor Repayments & EMIs**
- **User Management** (delete users, validate super admin key)
- **Handle Chat Support** with customers

5. Navigation Guide

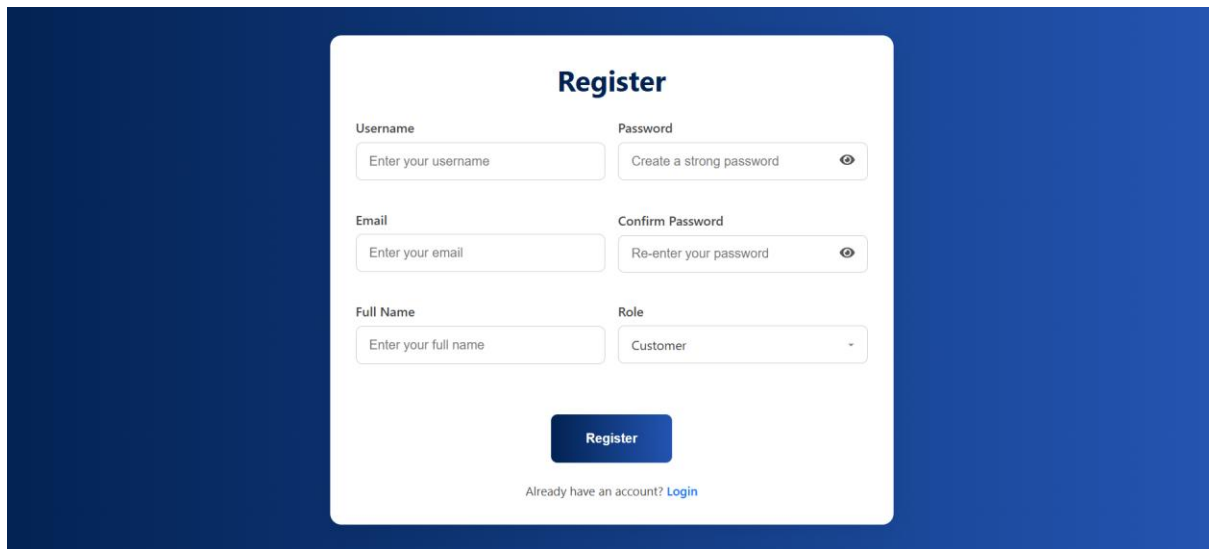
- **Login Page:** Allows existing users (customers/admins) to securely access the system using their credentials.



The image shows a login form centered on a dark blue background. The form is white with rounded corners and contains the following elements:

- Title:** "Login" in bold blue text.
- Username Field:** Labeled "Username" with a placeholder "Enter your username".
- Password Field:** Labeled "Password" with a placeholder "Enter your password" and a toggle icon (eye) on the right.
- Forgot Password Link:** A blue link labeled "Forgot Password?" located below the password field.
- Login Button:** A dark blue button with the text "Login" in white.
- Register Link:** A blue link labeled "Don't have an account? Register" located below the login button.

- **Register Page:** Enables new customers to create an account by providing basic details and authentication information.



The Register form is centered on a dark blue background. It has a white background and a rounded rectangle shape. The title 'Register' is at the top center in bold. Below the title, there are six input fields arranged in three rows. The first row has 'Username' and 'Password'. The second row has 'Email' and 'Confirm Password'. The third row has 'Full Name' and 'Role'. The 'Role' field is a dropdown menu with 'Customer' selected. Below the input fields is a blue 'Register' button. At the bottom, there is a link 'Already have an account? Login'.

Register

Username: Enter your username

Password: Create a strong password

Email: Enter your email

Confirm Password: Re-enter your password

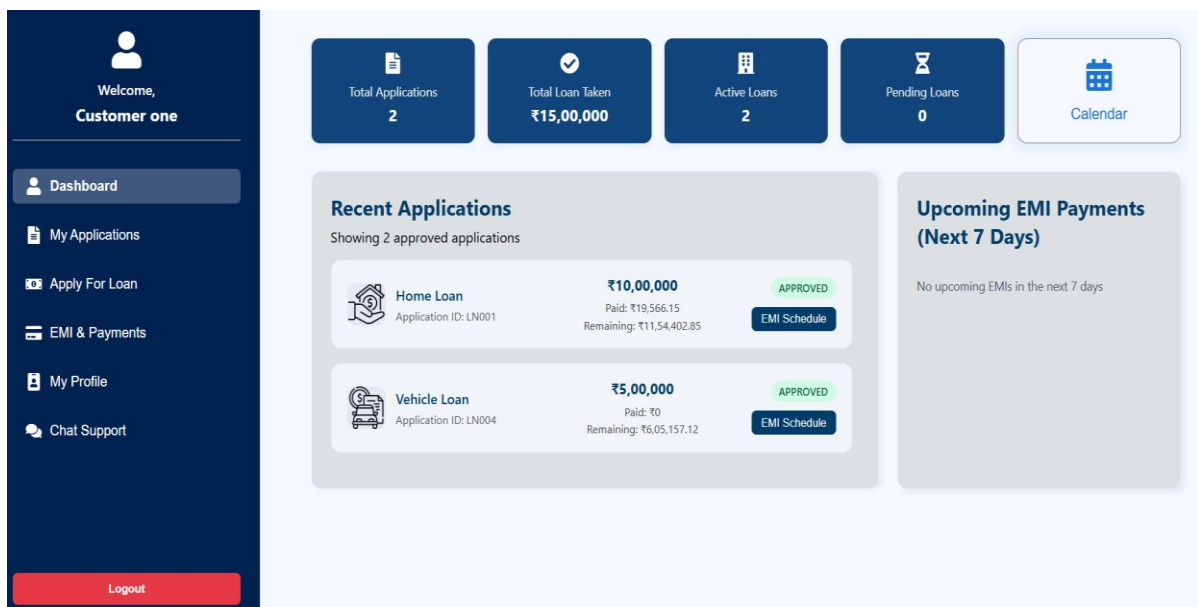
Full Name: Enter your full name

Role: Customer

Register

Already have an account? [Login](#)

- **Customer Dashboard:** Shows total applications, loan details, recent applications, and upcoming EMI payments.



The Customer Dashboard is a complex interface with a dark blue sidebar on the left and a light blue main area. The sidebar contains a user profile section with 'Welcome, Customer one' and a list of menu items: Dashboard, My Applications, Apply For Loan, EMI & Payments, My Profile, and Chat Support. At the bottom of the sidebar is a red 'Logout' button. The main area features a top row of five cards: Total Applications (2), Total Loan Taken (₹15,00,000), Active Loans (2), Pending Loans (0), and a Calendar icon. Below these cards are two main sections: 'Recent Applications' and 'Upcoming EMI Payments (Next 7 Days)'. The 'Recent Applications' section shows two approved applications: a Home Loan (Application ID: LN001) and a Vehicle Loan (Application ID: LN004). The 'Upcoming EMI Payments' section shows 'No upcoming EMIs in the next 7 days'.

Welcome, Customer one

Dashboard

My Applications

Apply For Loan

EMI & Payments

My Profile

Chat Support

Logout

Total Applications
2

Total Loan Taken
₹15,00,000

Active Loans
2

Pending Loans
0

Calendar

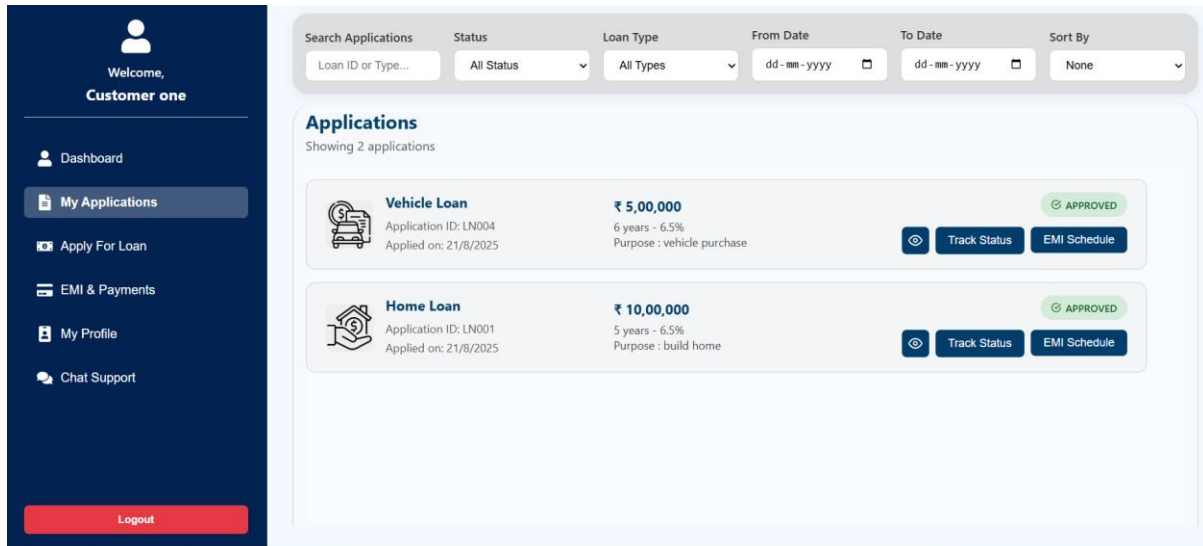
Recent Applications
Showing 2 approved applications

Home Loan
Application ID: LN001
₹10,00,000
Paid: ₹19,566.15
Remaining: ₹11,54,402.85
APPROVED
EMI Schedule

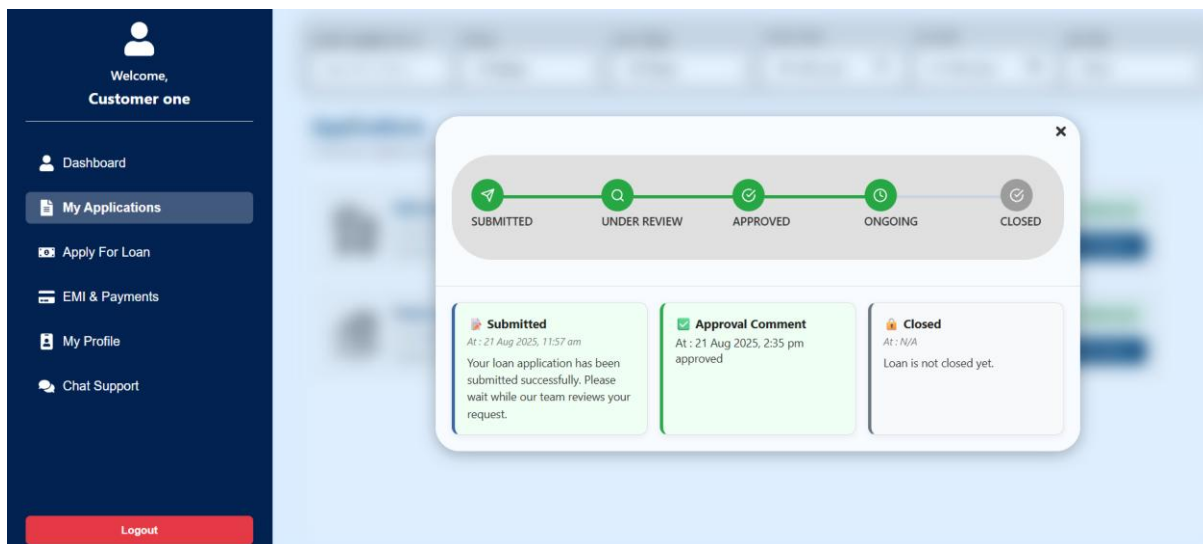
Vehicle Loan
Application ID: LN004
₹5,00,000
Paid: ₹0
Remaining: ₹6,05,157.12
APPROVED
EMI Schedule

Upcoming EMI Payments (Next 7 Days)
No upcoming EMIs in the next 7 days

- **Customer Loan Applications** : shows all the customer's loan applications along with details like loan type, amount, interest, and current status.



- Customers can track the loan progress (Submitted → Under Review → Approved → Ongoing → Closed) and access the EMI schedule for each loan.



- **Loan Application Page** – Fill loan details & apply.

Welcome,
Customer one

Dashboard

My Applications

Apply For Loan

EMI & Payments

My Profile

Chat Support

Logout

Apply For Loan

Loan Type

Select Loan Type

Loan Amount (₹)

Enter loan amount

Min : ₹20,000 Max allowed : ₹N/A

Purpose

Describe the purpose of the loan

PAN Number

Enter your PAN number

Active Loans

0

Employment Info

Select Employment Info

Loan Tenure (Years)

Enter tenure in years

Max allowed tenure: 30 years

Monthly Income

Select Monthly Income

Aadhaar Number

Enter 12-digit Aadhaar number

Expected EMI

EMI auto-calculated

Submit Application

Reset Form

- **EMI & Payments:** Displays loan-wise EMI details including due dates, payment status, and options to pay or download receipts.

Welcome,
Customer one

Dashboard

My Applications

Apply For Loan

EMI & Payments

My Profile

Chat Support

Logout

Search Applications

Loan ID or Type...

Loan Type

ALL

EMI Status

All

Due From

dd - mm - yyyy

Due To

dd - mm - yyyy

EMI & Payments

Showing 2 loans

Home Loan

Loan ID: ln001
Applied on: 21/8/2025

Tenure & Interest: 5 yr - 6.5%
Last Paid: 21/8/2025

Amount: ₹10,00,000
Interest: ₹1,73,969

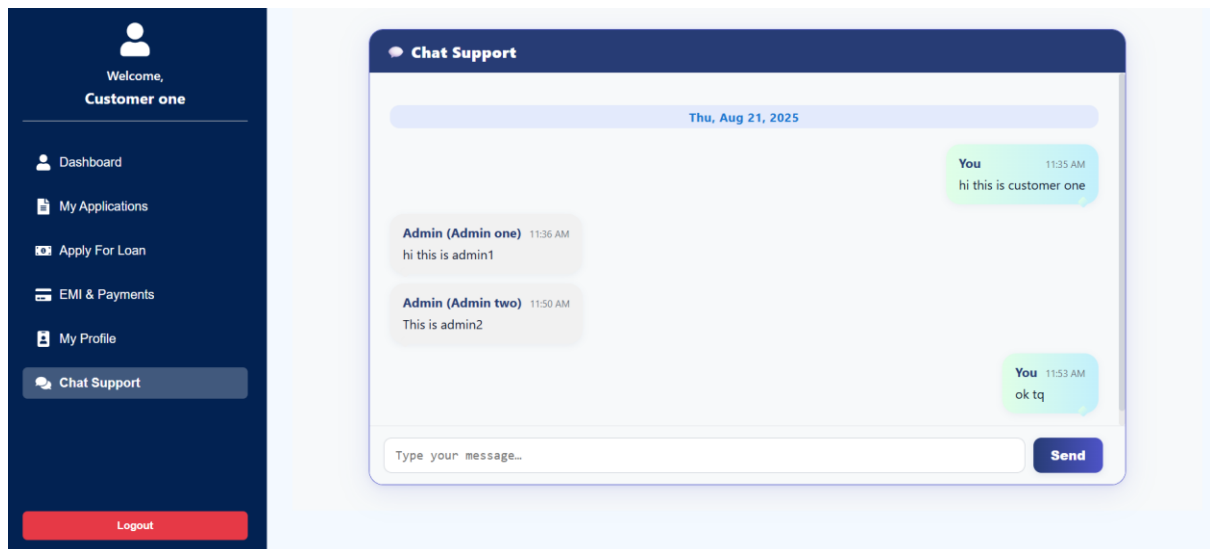
Total Payable: ₹11,73,969
Remaining: ₹11,54,402.85

| # | EMI_id | EMI Amt (₹) | Due Date | Status (Paid: 1/60) | Payment Date | Transaction Reference Id | Action |
|---|--------|-------------|------------|---------------------|--------------|--------------------------------------|------------------|
| 1 | 1 | 19,566.15 | 21/9/2025 | PAID | 21/8/2025 | 300ac48d-7151-4ddb-a6b4-8ea016900852 | Download receipt |
| 2 | 2 | 19,566.15 | 21/10/2025 | PENDING | - | - | Pay |
| 3 | 3 | 19,566.15 | 21/11/2025 | PENDING | - | - | Pay (locked) |

Show All

Vehicle Loan

- **Chat Support** – Real-time messaging between customer & admin.



- **Admin Dashboard:** Provides an overview of users, loan applications, sanctioned amounts, received payments, and loan statistics.



- **Admin Loan Applications Page** : Provides an overview of users, loan applications, sanctioned amounts, received payments, and loan statistics.

Welcome,
Admin one

- Dashboard
- User Management
- Loan Applications**
- Interest & Penalty Config
- Loan Type Configuration
- My Profile
- View Chats

Logout

Status:
Loan Type:
Sort By:

Loan Applications

Showing 4 applications

| Loan ID | Type | Amount | Interest Rate | Status | Actions |
|---------|--------------|-------------|---------------|----------|--|
| LN001 | Home Loan | ₹ 10,00,000 | 6.5% - 5 yrs | APPROVED | View Approve Reject Close Delete |
| LN002 | Vehicle Loan | ₹ 5,00,000 | 6.5% - 5 yrs | APPROVED | View Approve Reject Close Delete |
| LN003 | Vehicle Loan | ₹ 5,00,000 | 6.5% - 6 yrs | REJECTED | View Approve Reject Close Delete |
| LN004 | Vehicle Loan | ₹ 5,00,000 | 6.5% - 6 yrs | APPROVED | View Approve Reject Close Delete |

- **Loan Type Configuration:** Enables admins to add, modify, or delete loan categories with tenure, amount, and limits.

Welcome,
Admin one

- Dashboard
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- Interest & Penalty Config
- Loan Type Configuration**
- My Profile
- View Chats

Logout

Loan Type Configuration

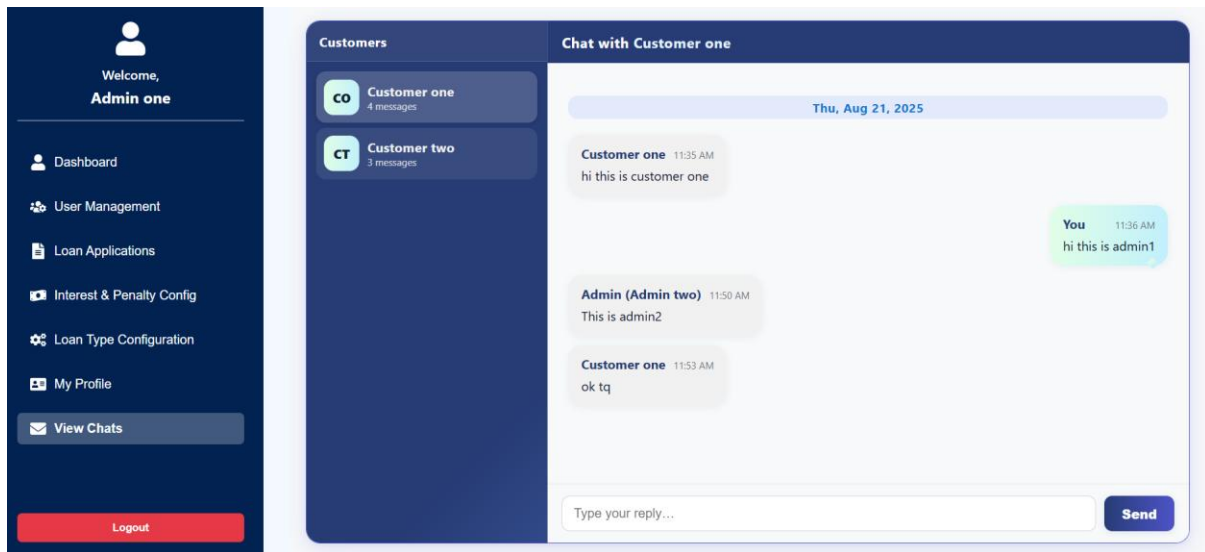
Manage and add new loan categories

Total Loan Types: 3

[Add New Loan](#)

| Name | Max Tenure | Max Amount | Max Loans / Customer | Actions |
|----------------|------------|-------------|----------------------|---|
| Home Loan | 10 yrs | ₹ 25,00,000 | 1 | Modify Delete |
| Vehicle Loan | 8 yrs | ₹ 15,00,000 | 2 | Modify Delete |
| Education Loan | 15 yrs | ₹ 10,00,000 | 1 | Modify Delete |

- **Admin Chat view:** Allows admins to communicate directly with customers and manage ongoing conversations.



6. Special Features

- **EMI Calendar** – Highlighted dates with EMI due; click to view amount.
- **Chat Support** – Real-time communication between customers and admins.
- **PDF Generation** – EMI receipts & NOC via jsPDF, auto-emailed.
- **CIBIL Score Simulation** – Loan eligibility check.
- **Analytics Dashboard** – Interactive charts for admins.
- **Loan Lifecycle Rules:**
 - Approved loans → must be closed before deletion.
 - Rejected loans → can be deleted directly.

7. Error Handling and Tips

- **Login fails** → Check credentials or server connection.
- **Server not running** → Ensure backend (8081) & frontend (3000) are started.
- **Database errors** → Verify application.properties DB config.
- **EMI Payment failure** → Retry after checking internet or DB connection.

8. Conclusion

The Loan Management System makes loan handling **digital, transparent, and user-friendly** by combining:

- Smooth loan application & approval process
- EMI tracking & reminders
- Secure chat
- Automated reports & analytics

It improves efficiency for admins and provides convenience for customers.