

## Loan Management System – Project Documentation

This document describes the frontend and backend functionality of the Loan Management System. The project is a full-stack application built using Angular (frontend) and Spring Boot (backend). It implements a complete loan lifecycle with authentication, authorization, KYC, loan processing, and repayments.

### Technology Stack

- Frontend: Angular
- Backend: Spring Boot (Microservices)
- Database: MongoDB & SQL (service-specific)
- Security: JWT Authentication & Role-Based Access Control (RBAC)
- Deployment: Docker & Docker Compose

### Authentication Pages

#### Login Page

The login page allows existing users to authenticate using their username and password.

Validations:

- Username is required
- Minimum length validation
- Regex validation for allowed characters
- Password is required with minimum length

On successful login, a JWT token is issued by the backend and stored securely on the client.

#### Register Page

The registration page enables new users to create an account.

Validations:

- Email format validation
- Username uniqueness and format validation
- Strong password validation (uppercase, lowercase, number, special character)

After successful registration, users can log in to access the system.

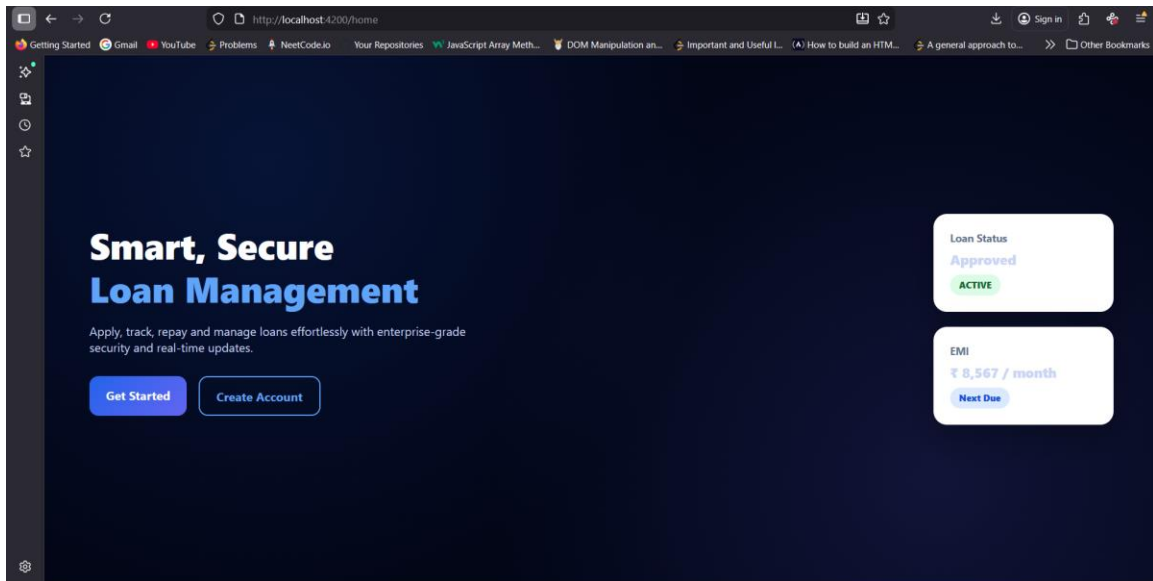
## Forgot Password Page

This page allows users to reset their password securely.

Validations:

- Username required
- New password strength validation
- Confirm password match validation

The backend updates the password after validation.



## Create Account

Register

Already have an account? [Login](#)

Enter your personal details to  
get started

## Create Account

Email is required

Username is required

Password is required

Register

Already have an account? [Login](#)

Enter your personal details to  
get started

← → ↻ http://localhost:4200/login

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# Login

aka

Username must be at least 4 characters

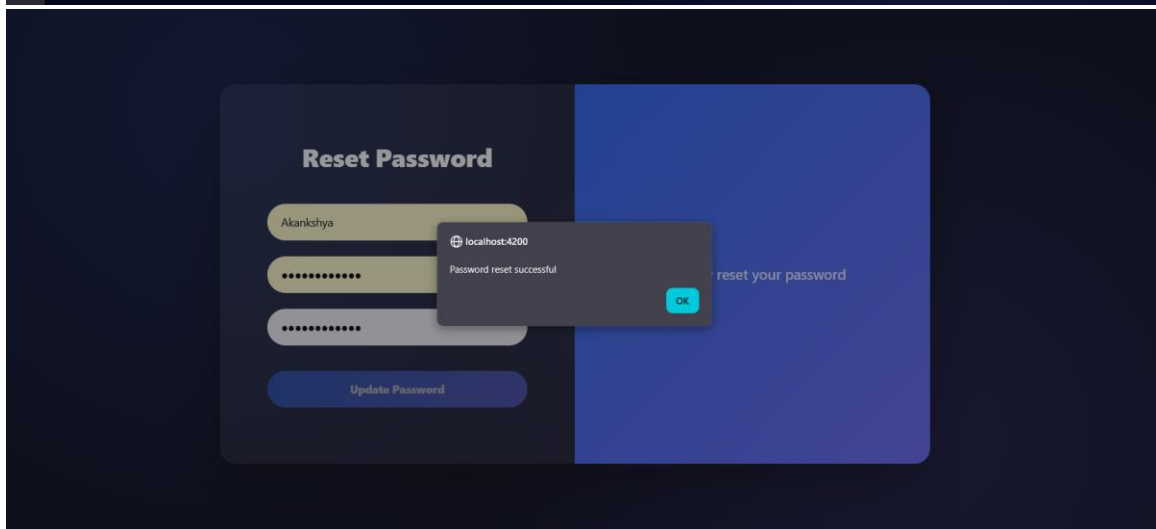
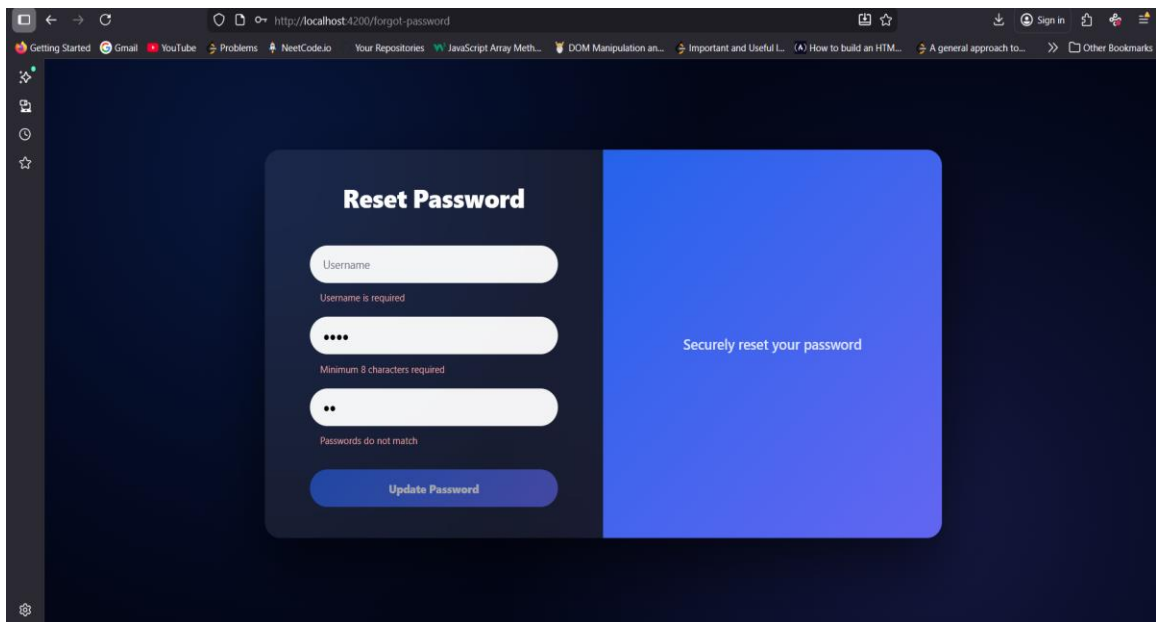
....

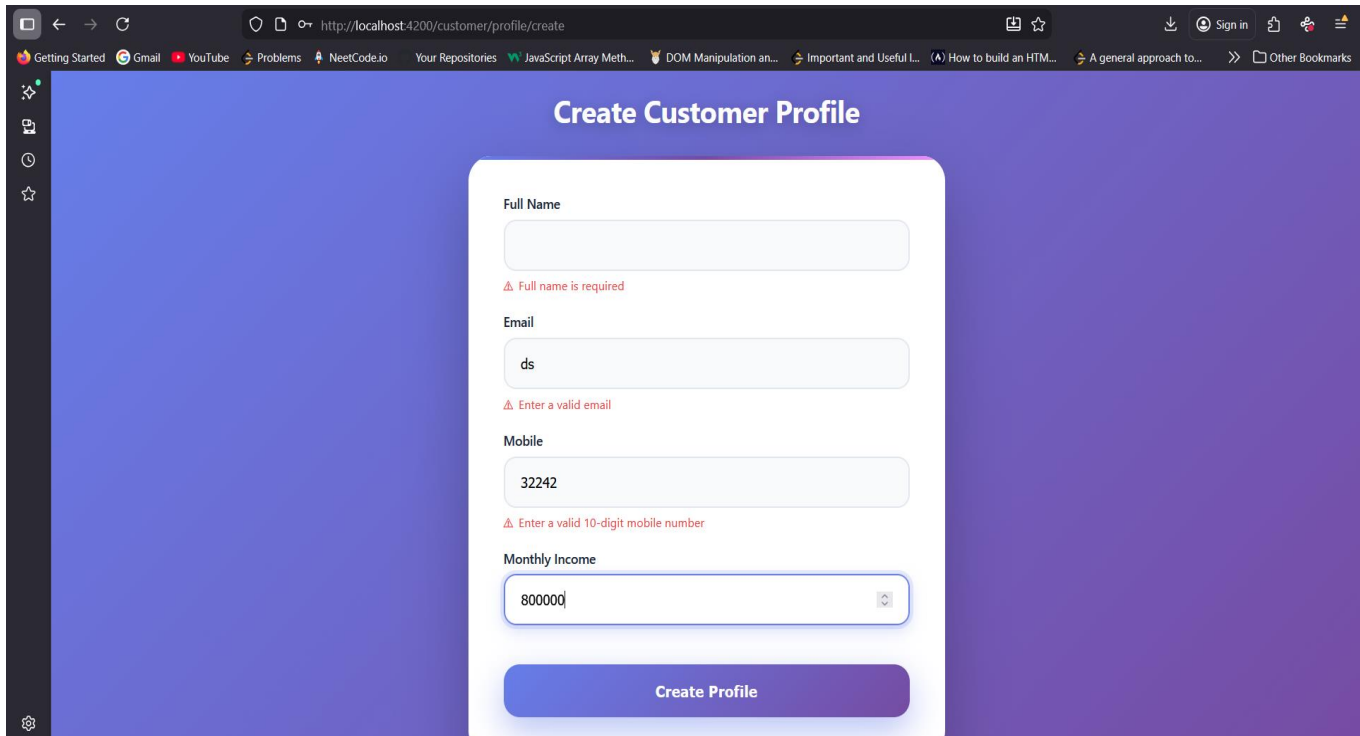
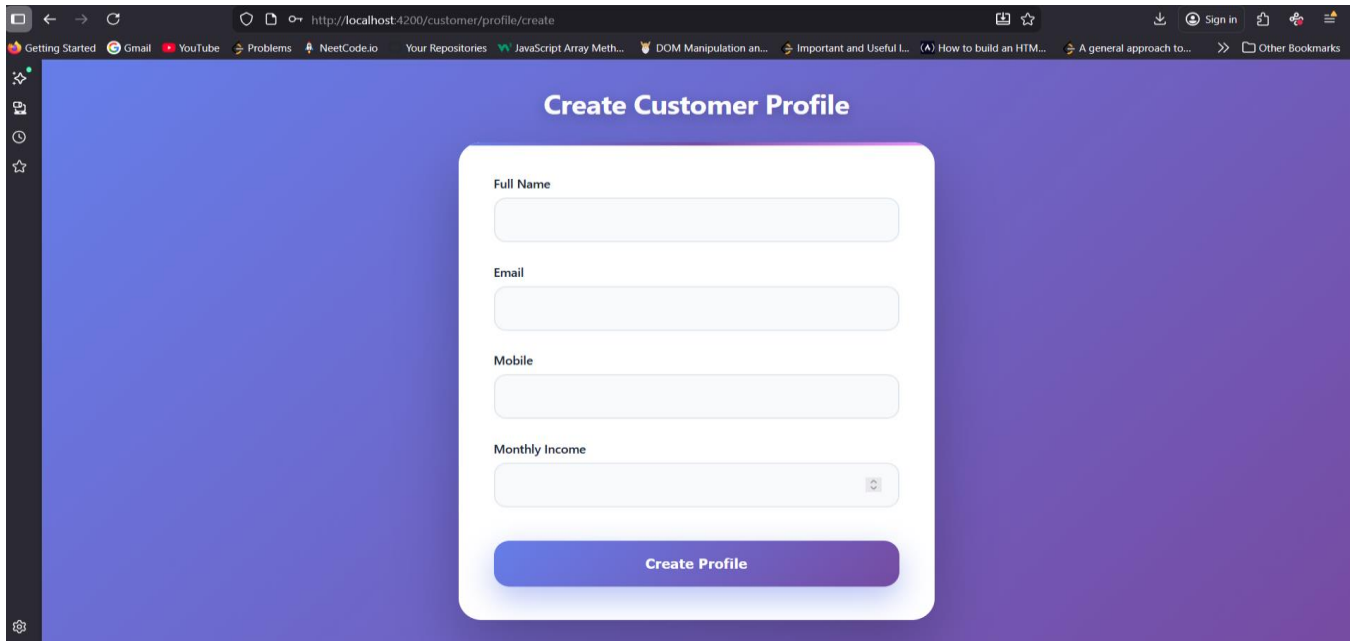
Password must be at least 8 characters

Login

Don't have an account? [Register](#)

[Forgot your password?](#)





## Customer Dashboard

The customer dashboard provides an overview of loan-related information such as active loans, EMI status, and quick navigation to core features like applying for a loan, repayments, and profile management.

## Apply Loan Page

This page allows customers to apply for different types of loans.

Features:

- Loan type selection
- Principal, tenure, and interest inputs
- Backend validation and eligibility checks

On submission, the loan application is sent to the loan processing service.

### **My Loans Page**

Displays a list of all loans associated with the logged-in customer.

Details shown:

- Loan type
- Principal amount
- Tenure
- Loan status

Users can click on a loan to view detailed EMI information.

### **Loan Details & EMI Overview**

Shows detailed information of a selected loan including EMI amount, outstanding balance, paid EMIs, pending EMIs, and overdue EMIs.

Data is fetched dynamically from the backend.

### **Repayments Page**

This page displays the EMI schedule for the active loan.

Features:

- EMI number, due date, amount, and status
- Only the next unpaid EMI shows the 'Pay Now' button
- Paid EMIs are marked clearly

Payment requests are processed through the backend payment service.

### **KYC Upload Page**

Allows customers to upload KYC documents such as Aadhaar, PAN, or Address Proof.

Validations:

- Document type selection
- Document number format

Uploaded documents are sent for admin verification.

## Profile Page

Displays customer profile details including personal information, income, credit score, KYC status, and account status.

This data is fetched securely from the customer service.

The screenshot displays the 'LoanHub' dashboard for a user named 'Akankshya'. The left sidebar contains navigation links: Dashboard, Apply Loan, My Loans, Repayments, Profile, and KYC Verification (highlighted). The main content area is titled 'KYC Verification' and includes a form with a 'Document Type' dropdown (set to 'Select Document'), a 'Document Number' input field (placeholder: 'Enter document number'), and an 'Upload KYC' button. Below the form, a green message states 'KYC document uploaded successfully'. A section titled 'My KYC Documents' lists two entries: 'AADHAAR 123' with a 'VERIFIED' status and 'AADHAAR 123456789' with a 'PENDING' status. The browser's address bar shows 'http://localhost:4200/customer/kyc'.

**LoanHub**

**Dashboard**  
Welcome back, Akankshya

**KYC Verification**  
Upload documents for verification

Document Type  
Select Document

Document Number  
Enter document number

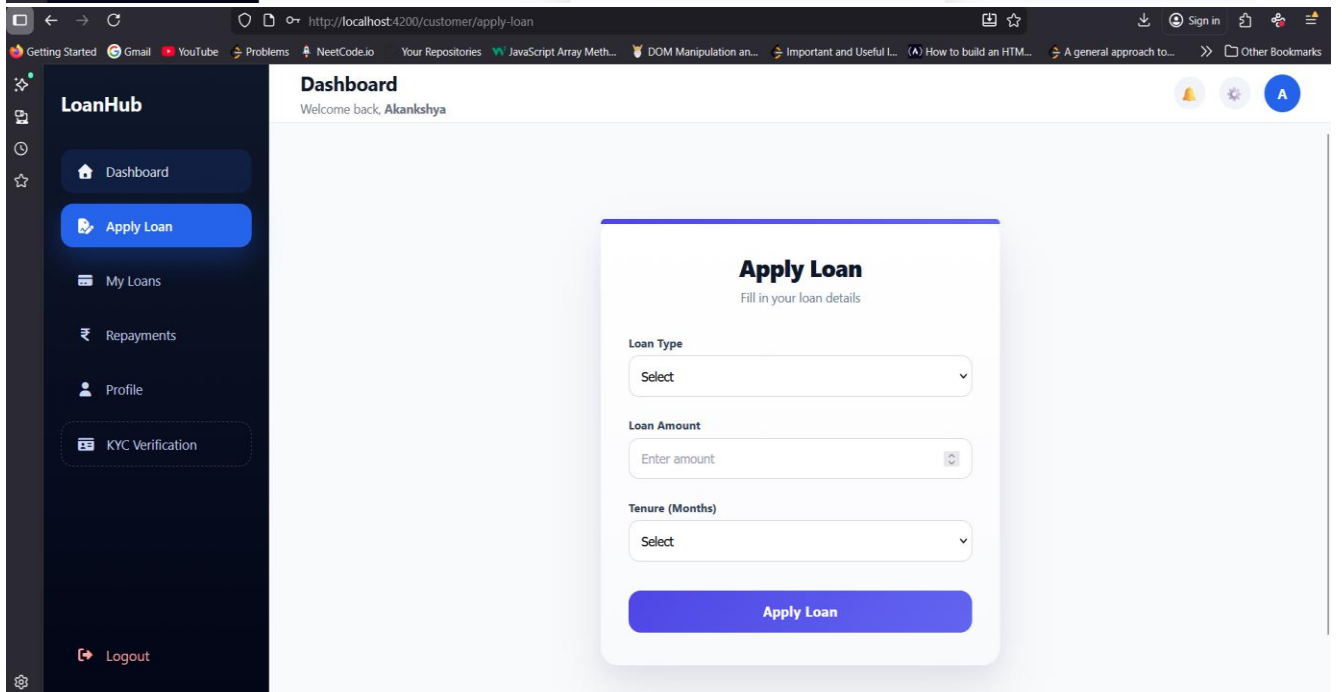
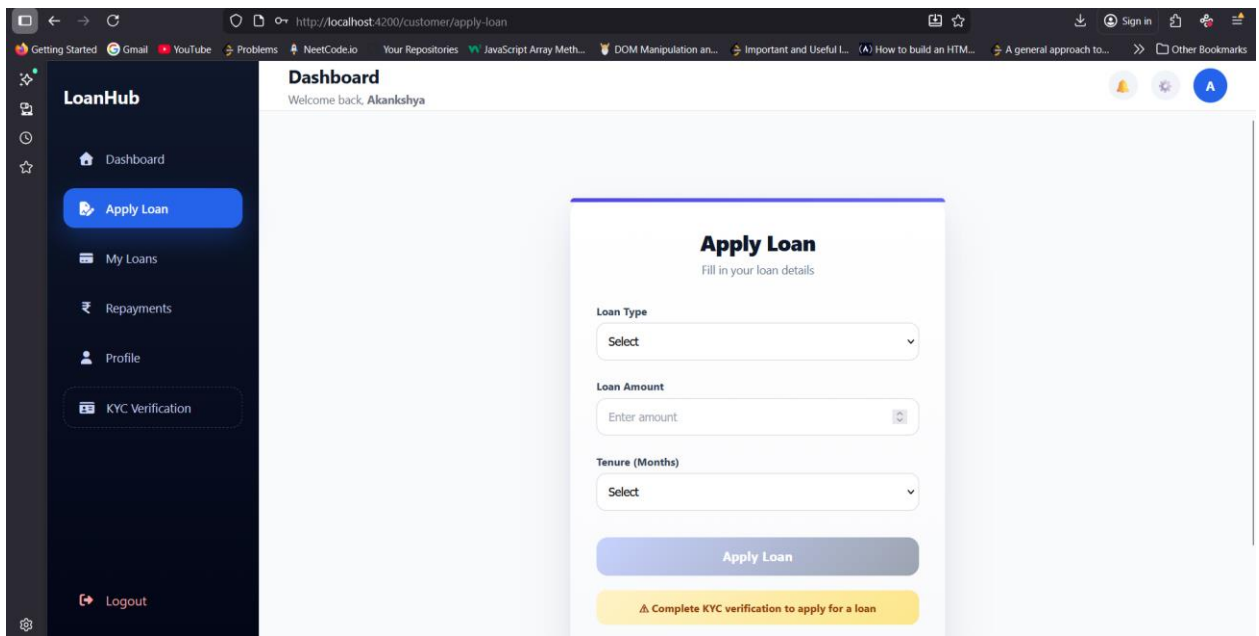
Upload KYC

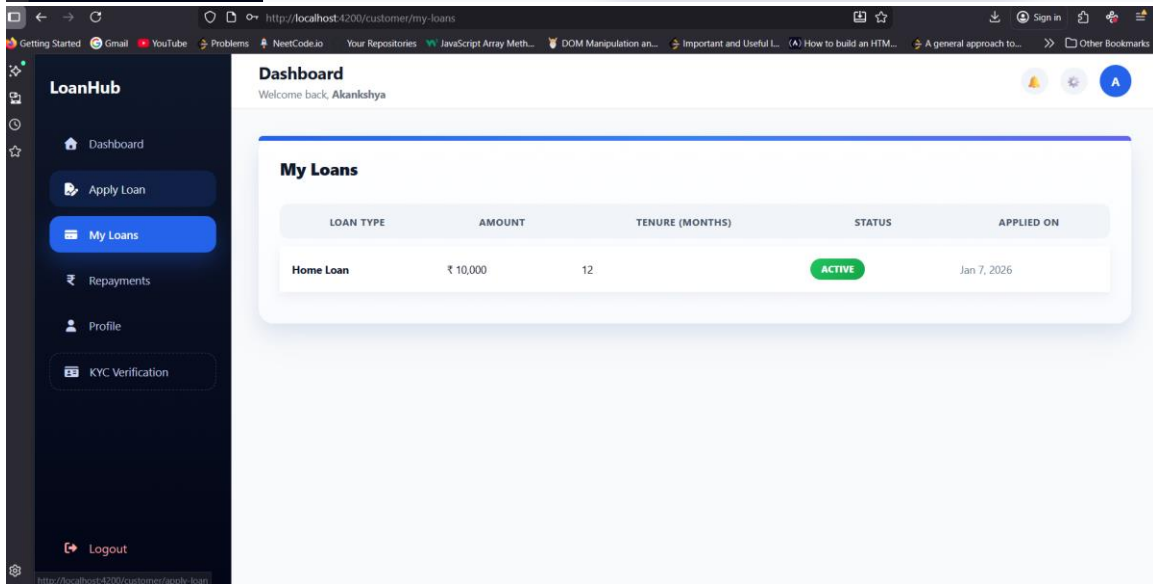
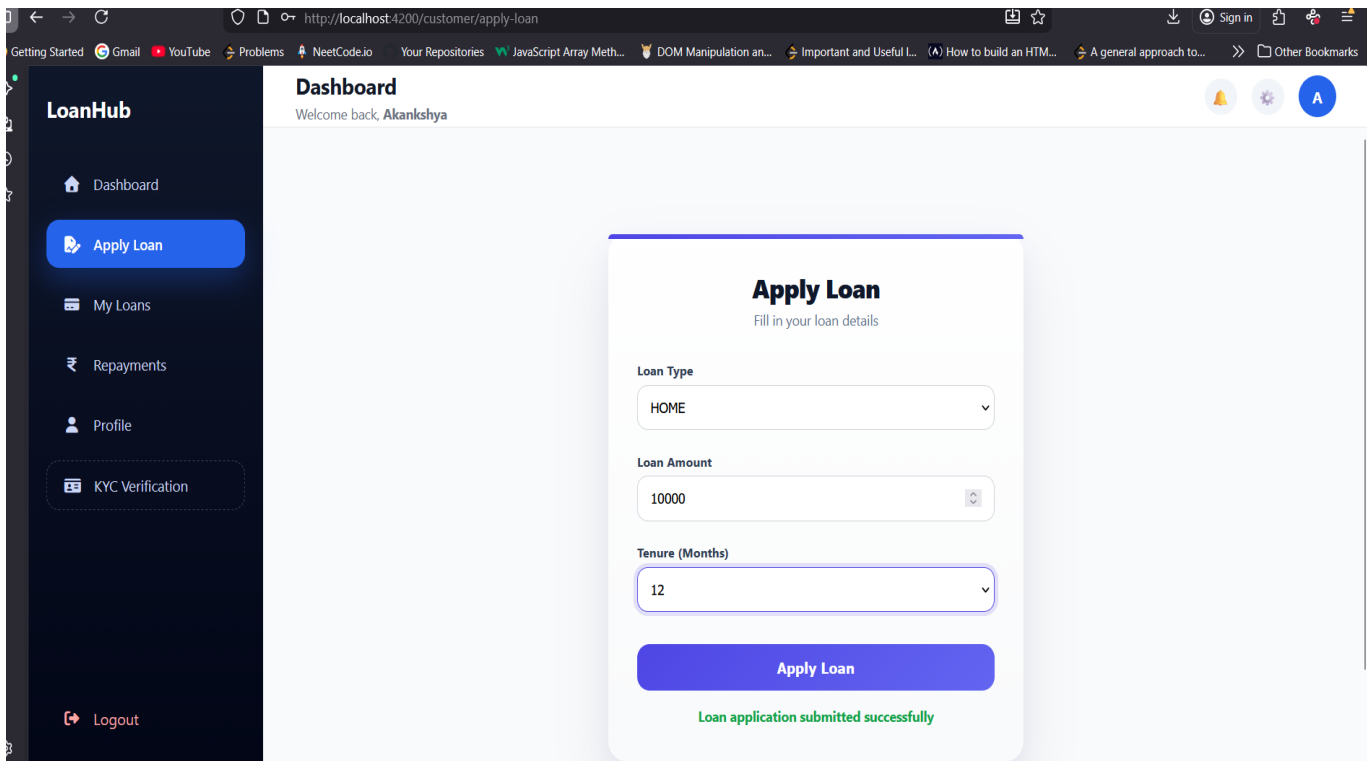
KYC document uploaded successfully

**My KYC Documents**

AADHAAR 123	VERIFIED
AADHAAR 123456789	PENDING







LoanHub

Dashboard

Apply Loan

My Loans

Repayments

Profile

KYC Verification

Logout

Dashboard

Welcome back, Akankshya

My Loans

Loan Type	Amount	Tenure (Months)	Status	Applied On
Home Loan	₹ 10,000	12	ACTIVE	Jan 7, 2026

Loan Details

HOME Loan

Principal: ₹ 10,000

Tenure: 12 months

Status: ACTIVE

EMI Overview

EMI Amount: ₹ 867.57

Outstanding: ₹ 10410.84

Paid: 0

Pending: 12

Overdue: 0

LoanHub

Dashboard

Apply Loan

My Loans

Repayments

Profile

KYC Verification

Logout

Dashboard

Welcome back, Akankshya

Repayments

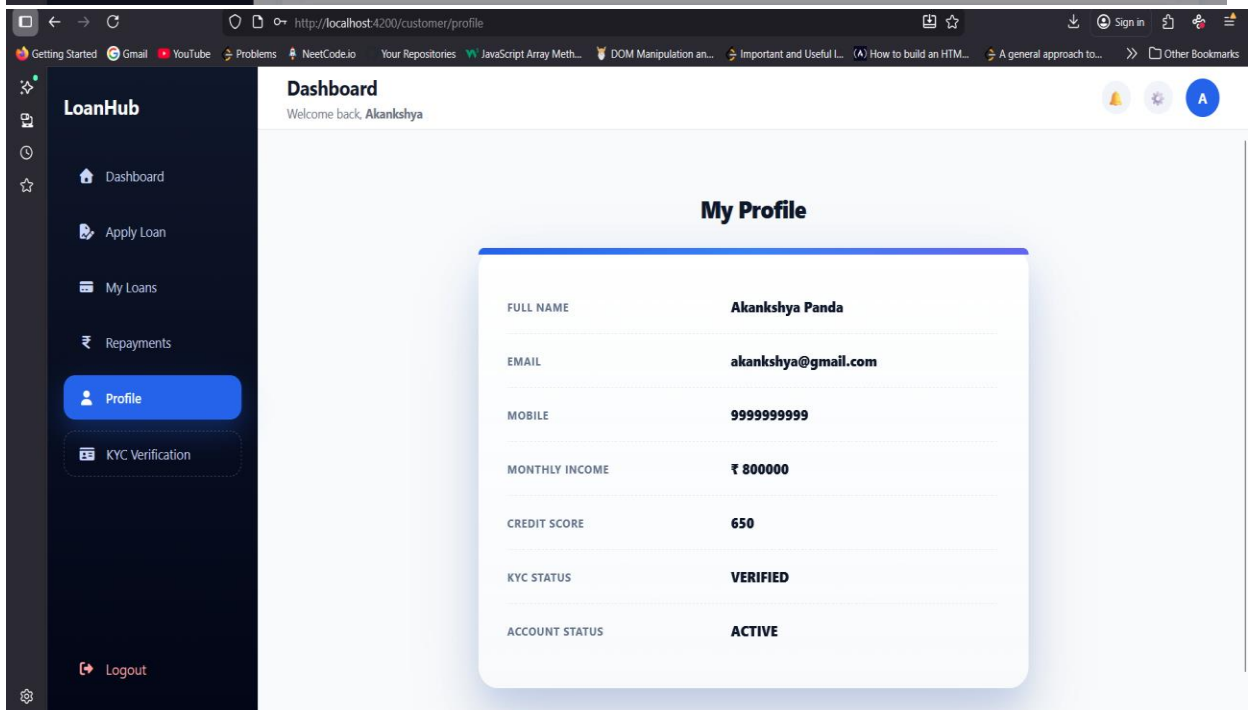
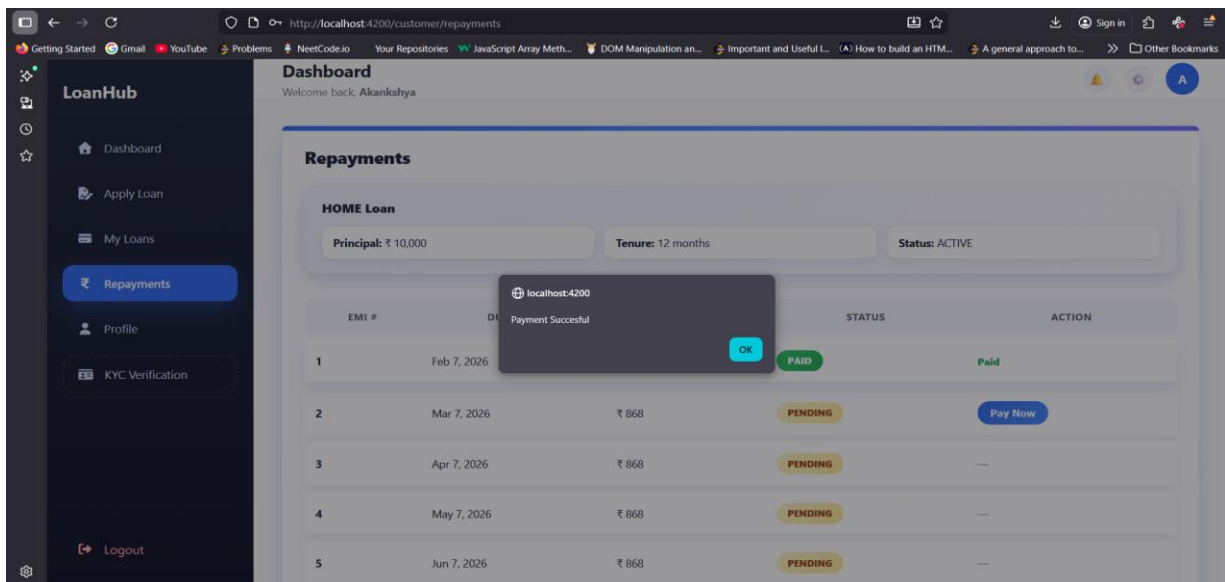
HOME Loan

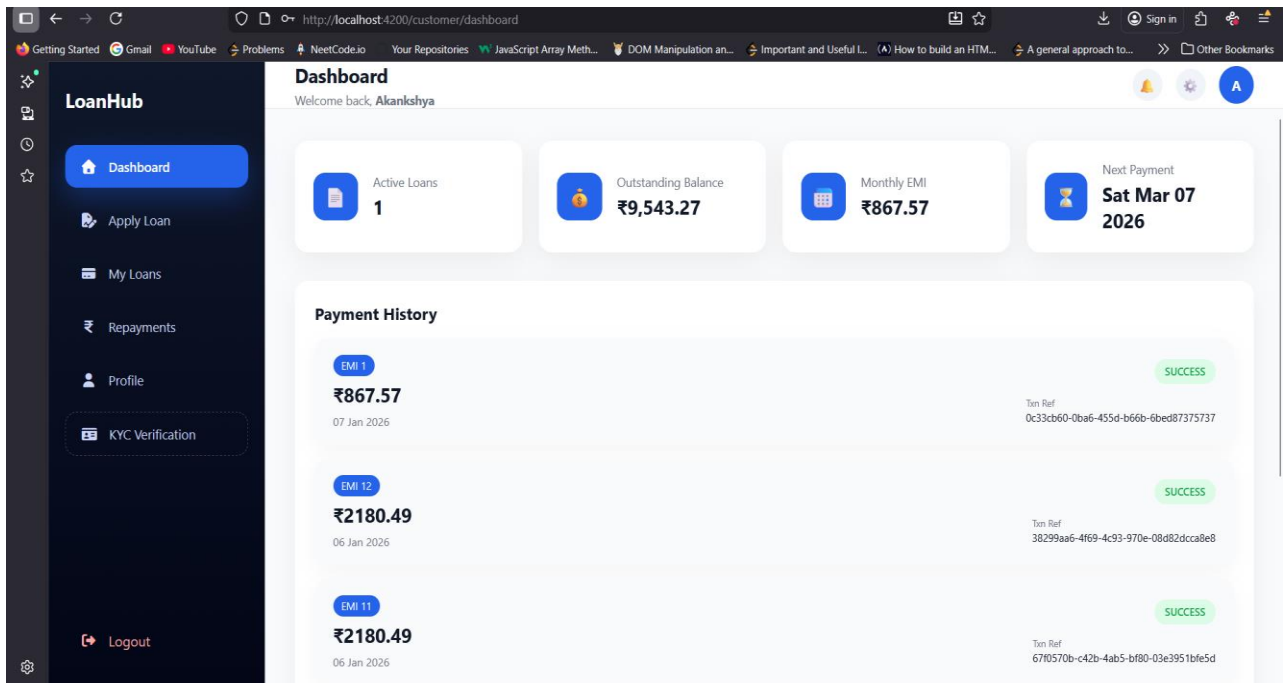
Principal: ₹ 10,000

Tenure: 12 months

Status: ACTIVE

EMI #	Due Date	Amount	Status	Action
1	Feb 7, 2026	₹ 868	PENDING	Pay Now
2	Mar 7, 2026	₹ 868	PENDING	—
3	Apr 7, 2026	₹ 868	PENDING	—
4	May 7, 2026	₹ 868	PENDING	—
5	Jun 7, 2026	₹ 868	PENDING	—





## Admin Module

Admins have access to a separate dashboard where they can:

- View and verify KYC documents
- Manage customers
- Approve or reject loan applications

Admin routes are protected using role-based authorization.

LoanHub  
ADMIN

Dashboard

KYC Verification

Customers

Logout

Admin Panel

Welcome, admin

Customer ID

695cdb43b25613e7c1bdd5e

Type: AADHAAR

Document No: 123

KYC VERIFIED

✓ Completed

Customer ID

695ce92d3b25613e7c1bdd65

Type: AADHAAR

Document No: 1

KYC VERIFIED

✓ Completed

Customer ID

695d13ba3b25613e7c1bdd67

Type: AADHAAR

Document No: 12

KYC VERIFIED

✓ Completed

Customer ID

695cdb43b25613e7c1bdd5e

Type: AADHAAR

Document No: 123456789

KYC PENDING

Remarks

Approve

Reject

LoanHub  
ADMIN

Dashboard

KYC Verification

Customers

Logout

Admin Panel

Welcome, admin

Customer ID

695cdb43b25613e7c1bdd5e

Type: AADHAAR

Document No: 123

KYC VERIFIED

✓ Completed

Customer ID

695ce92d3b25613e7c1bdd65

Type: AADHAAR

Document No: 1

KYC VERIFIED

✓ Completed

Customer ID

695d13ba3b25613e7c1bdd67

Type: AADHAAR

Document No: 12

KYC VERIFIED

✓ Completed

Customer ID

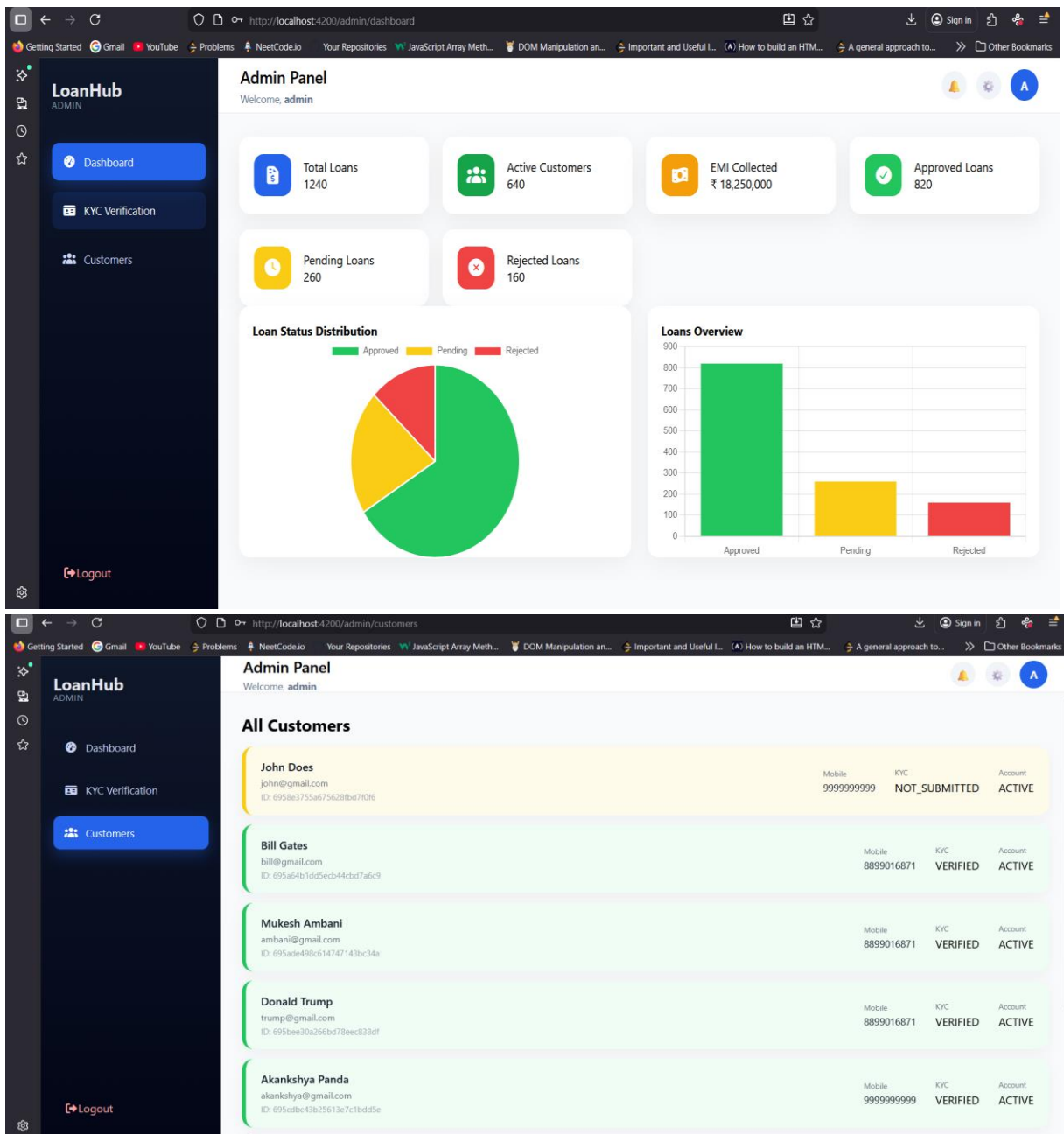
695cdb43b25613e7c1bdd5e

Type: AADHAAR

Document No: 123456789

KYC VERIFIED

✓ Completed



### Additional Highlights

- Secure JWT-based authentication
- Microservices architecture
- Clean, responsive UI
- Production-ready Dockerized deployment
- Real-world financial workflow implementation

This project demonstrates enterprise-level full-stack development skills, covering frontend design, backend architecture, security, and deployment.