BOOKSTORE WEBSITE USING

MERN STACK

PROJECT REPORT

SUBMITTED BY

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Bookstore Website Using MERN Stack

Abstract

This project focuses on the design and development of a full-stack Bookstore Website using the MERN stack, which includes MongoDB, Express.js, React.js, and Node.js. The system allows users to browse books, search by category or author, view book details, add books to a cart, and place orders. Administrators can manage books, categories, users, and orders through a secure admin panel. The main goal of this project is to provide an efficient, scalable, and user-friendly online bookstore platform.

Introduction

With the rapid growth of e-commerce, online bookstores have become an essential platform for readers to access books easily from anywhere. Traditional bookstores are limited by location, time, and physical inventory. An online bookstore overcomes these limitations by offering a wide range of books, digital management, and secure online transactions.

This project is developed using the MERN stack, a popular JavaScript-based technology stack that enables the creation of modern, scalable web applications. The Bookstore Website provides features such as user authentication, book listing, shopping cart, order management, and admin controls.

Objectives of the Project

The primary objectives of the Bookstore Website are:

- To develop a full-stack web application using the MERN stack.
- To provide a user-friendly interface for browsing and purchasing books.
- To implement secure user authentication and authorization.
- To manage book inventory efficiently.
- To allow administrators to manage books, users, and orders.
- To ensure scalability and performance.

Scope of the Project

The scope of this project includes the development of both frontend and backend modules of an online bookstore. The frontend is developed using React.js to ensure a responsive and interactive user interface. The backend is developed using Node.js and Express.js to handle API requests, authentication, and business logic. MongoDB is used as the database to store user data, book details, and order information.

Future enhancements may include payment gateway integration, book reviews, ratings, and recommendation systems.

Existing System

In the existing system, customers must visit physical bookstores to purchase books. Inventory management is done manually, which may lead to errors and inefficiencies. Searching for specific books is time-consuming, and availability is limited.

Drawbacks of the existing system include:

- Limited accessibility
- Manual record maintenance
- Time-consuming search process
- Limited inventory visibility

Proposed System

The proposed system is an online bookstore website that allows users to browse and purchase books online. The system provides a centralized database to manage books, users, and orders efficiently.

Advantages of the proposed system include:

- 24/7 accessibility
- Easy search and filtering
- Secure user authentication
- Efficient inventory management
- Scalable architecture

System Architecture

The system follows a three-tier architecture:

1. Presentation Layer (Frontend): Developed using React.js.
2. Application Layer (Backend): Developed using Node.js and Express.js.
3. Database Layer: MongoDB is used to store application data.

The frontend communicates with the backend using RESTful APIs, and the backend interacts with the database.

Technology Stack

Frontend:

- React.js
- HTML5
- CSS3
- JavaScript

Backend:

- Node.js
- Express.js

Database:
- MongoDB

Other Tools:
- Git & GitHub
- Postman
- VS Code

Module Description

User Module:
- User registration and login
- Profile management
- Browse and search books
- Add to cart and place orders

Admin Module:
- Admin authentication
- Add, update, delete books
- Manage users
- View and manage orders

Database Design

The database is designed using MongoDB collections.

User Collection:
- User ID
- Name
- Email
- Password
- Role

Book Collection:
- Book ID
- Title
- Author
- Category
- Price
- Stock

Order Collection:
- Order ID
- User ID
- Book IDs

- Total Amount
- Order Status

Implementation Details

The frontend is implemented using React components and hooks. State management is handled using Context API or Redux. The backend provides REST APIs for authentication, book management, and order processing. JWT is used for secure authentication. MongoDB is used for data persistence.

Testing

Testing is an important phase of software development. The system is tested using unit testing, integration testing, and system testing. Postman is used to test API endpoints. Frontend testing ensures responsiveness and usability.

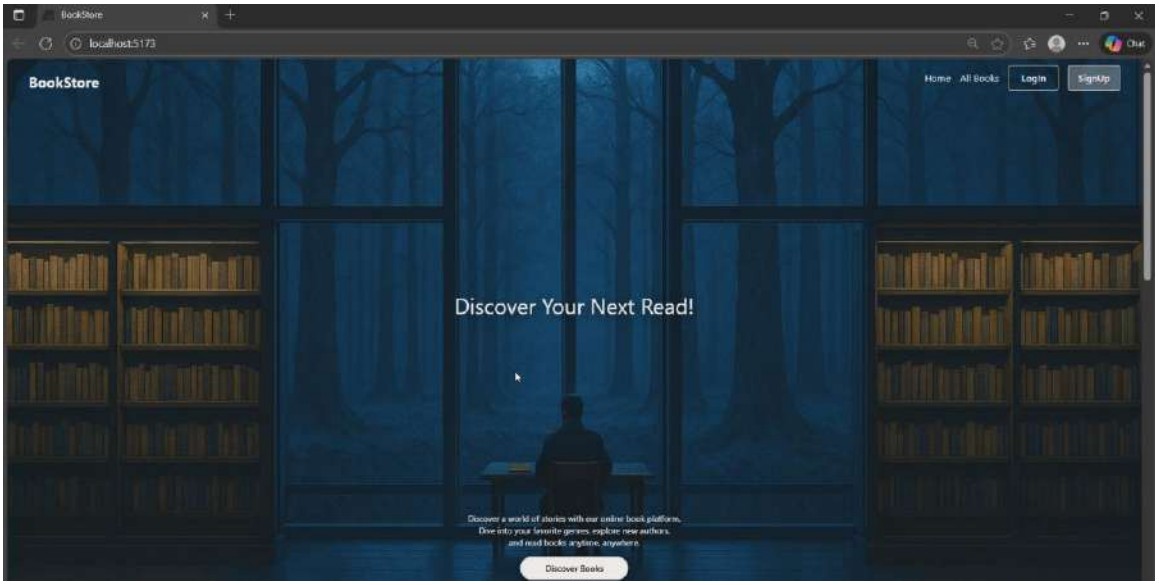
Advantages of the System

- Easy access to books
- Time-saving
- Secure and reliable
- Scalable and flexible
- Efficient inventory management

Future Enhancements

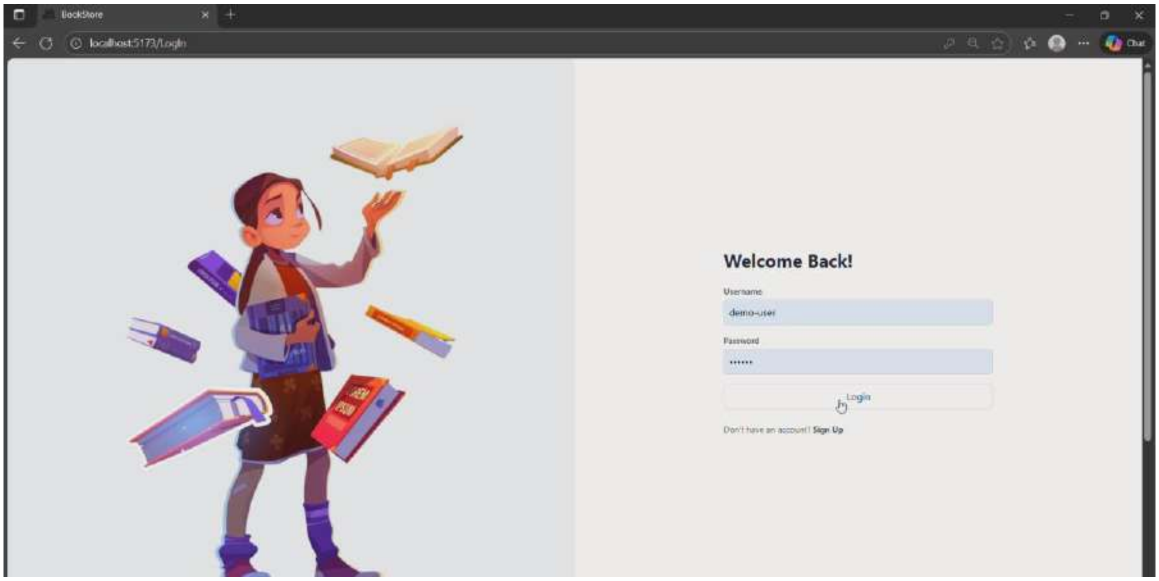
- Online payment gateway integration
- Book reviews and ratings
- Recommendation system
- Mobile application development
- Advanced search features

Output



Discover Your Next Read!

Discover a world of stories with our online book platform.
Dive into your favorite genres, explore new authors,
and read books anytime, anywhere.

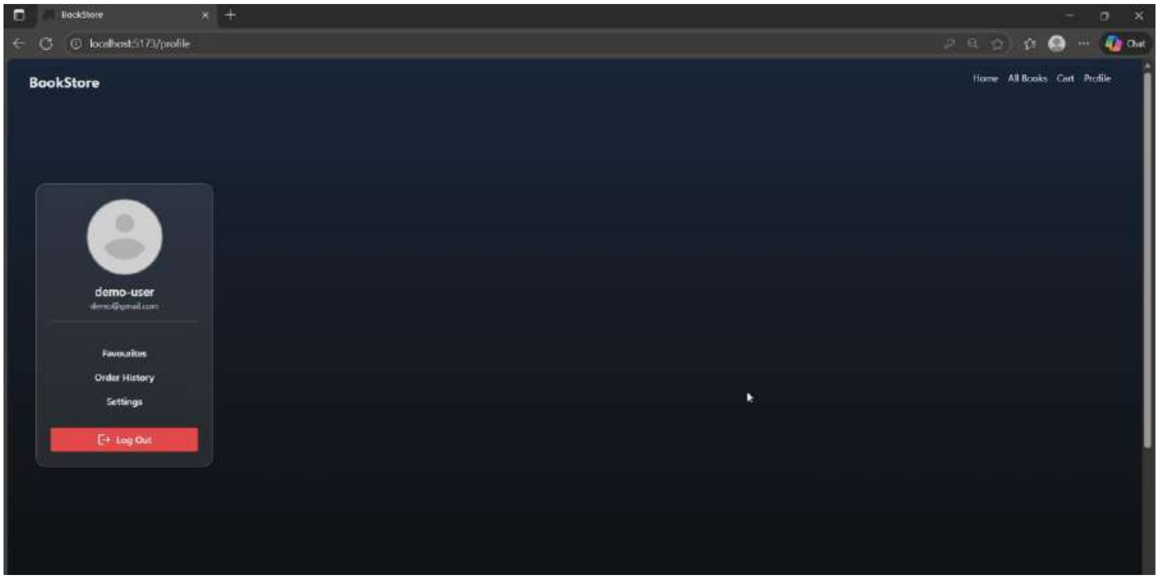


Welcome Back!

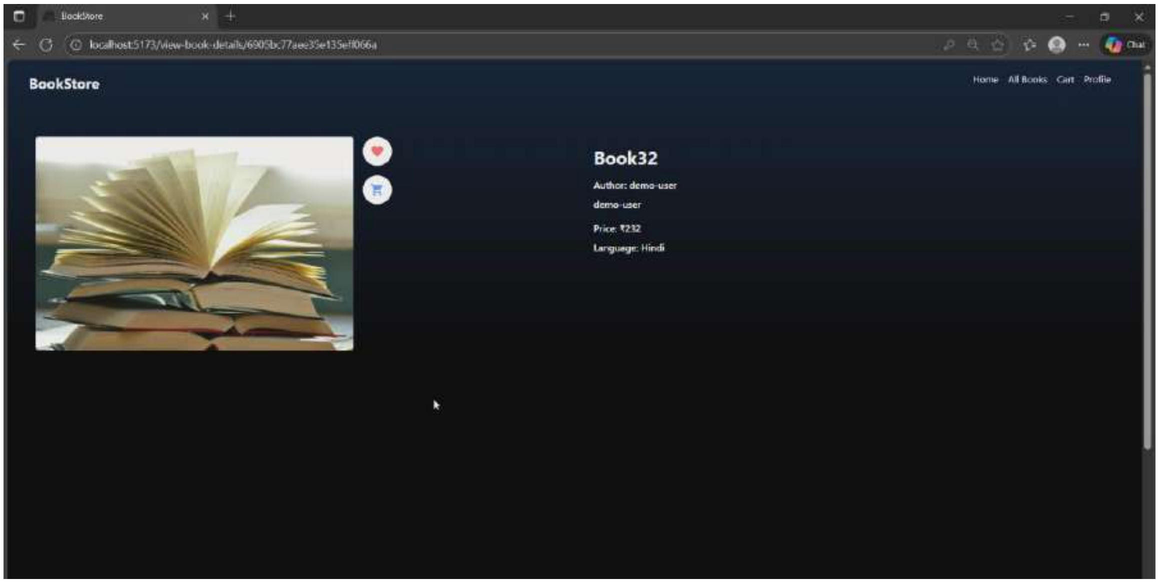
Username: demo-user

Password: ••••••

Don't have an account? Sign Up



demo-user
demo@gmail.com



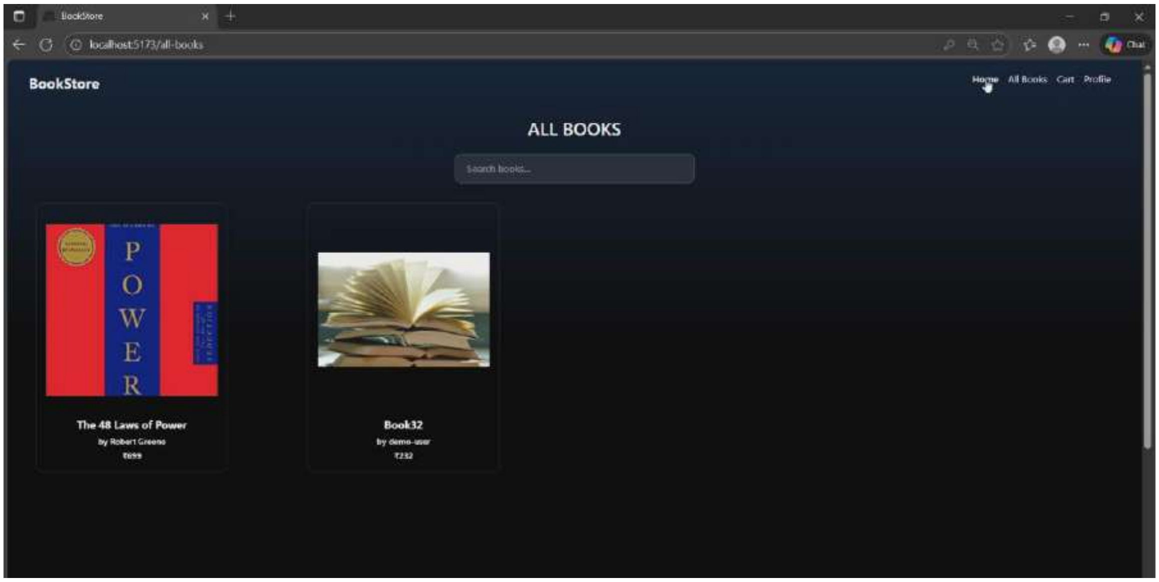
Book32

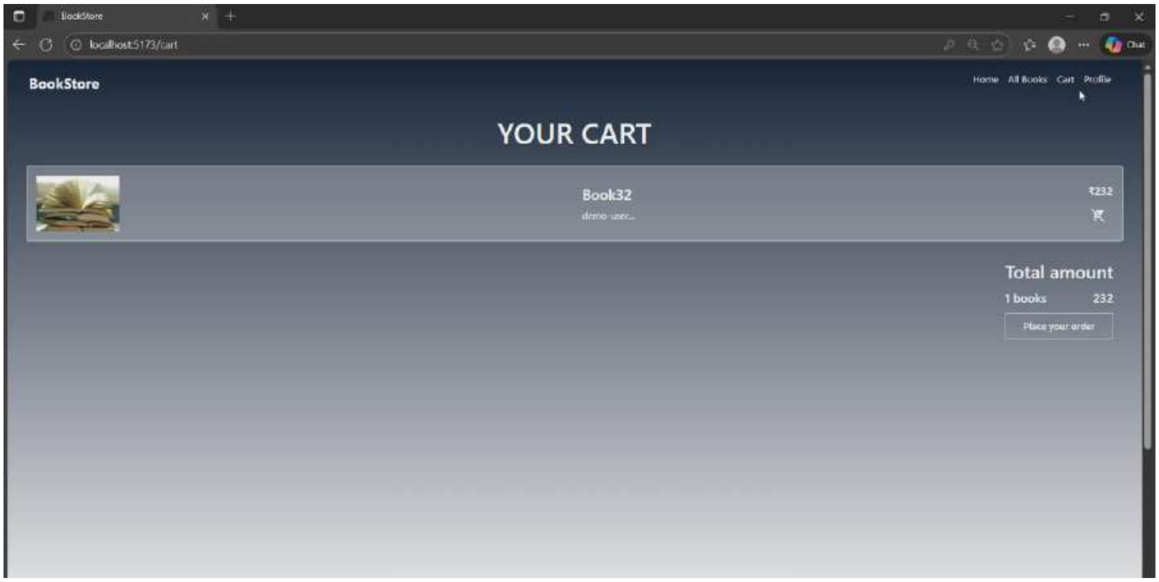
Author: demo-user

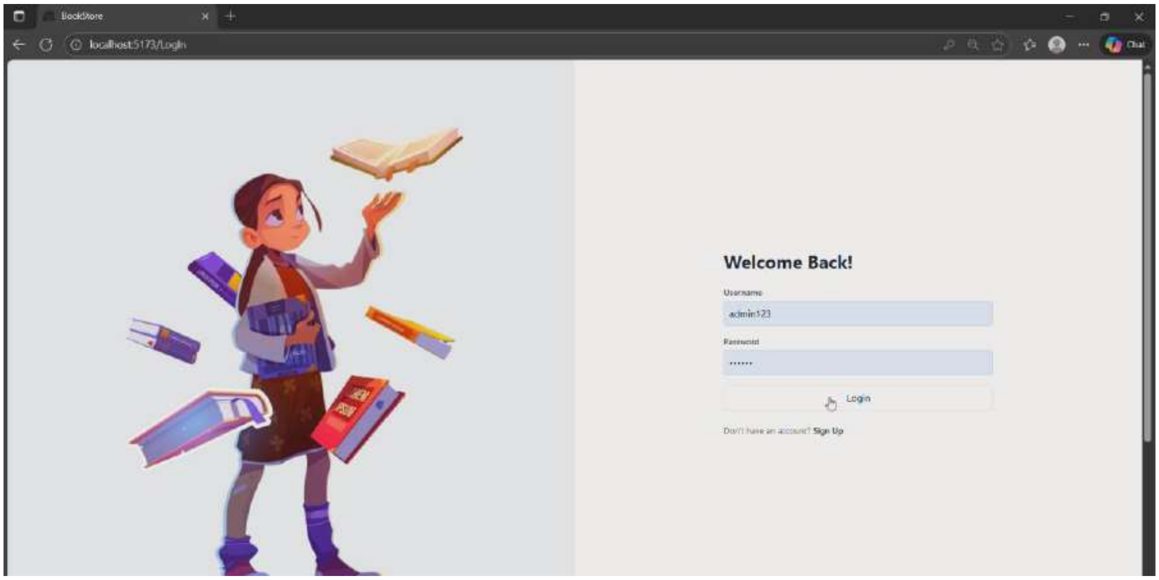
demo-user

Price: ₹232

Language: Hindi


BookStore
localhost:5173/all-books
BookStore
Home
All Books
Cart
Profile
ALL BOOKS
Search books...
The 48 Laws of Power
by Robert Greene
₹699
Book32
by demo-user
₹232


BookStore
localhost:5173/cart
BookStore
Home
All Books
Cart
Profile
YOUR CART
Book32
demo-user...
₹232
Total amount
1 books
232
Place your order



Welcome Back!

Username

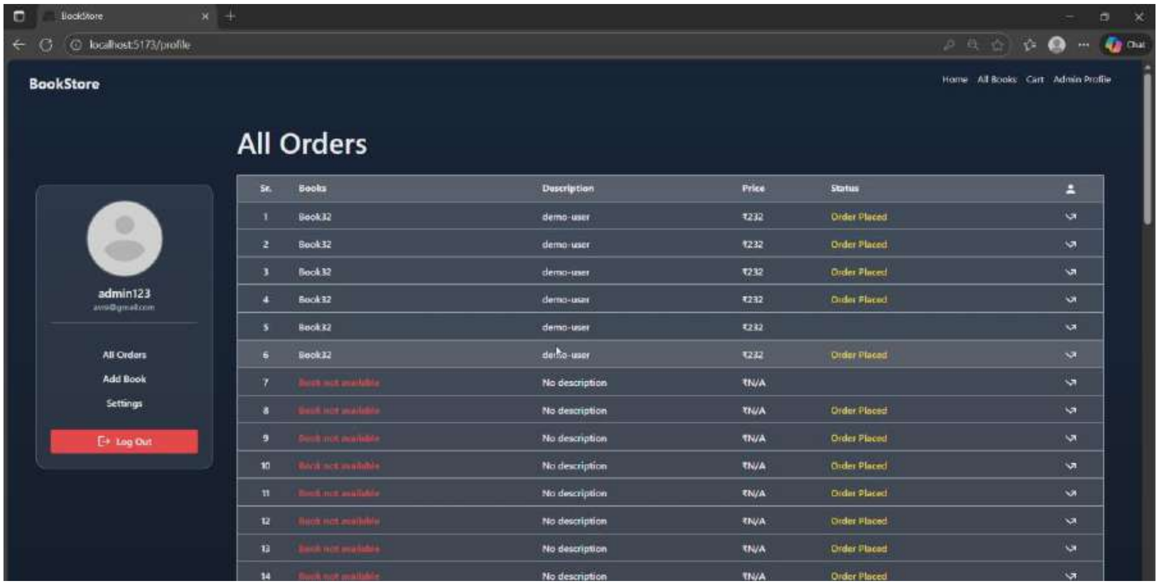
admin123

Password

••••••

Login

Don't have an account? Sign Up

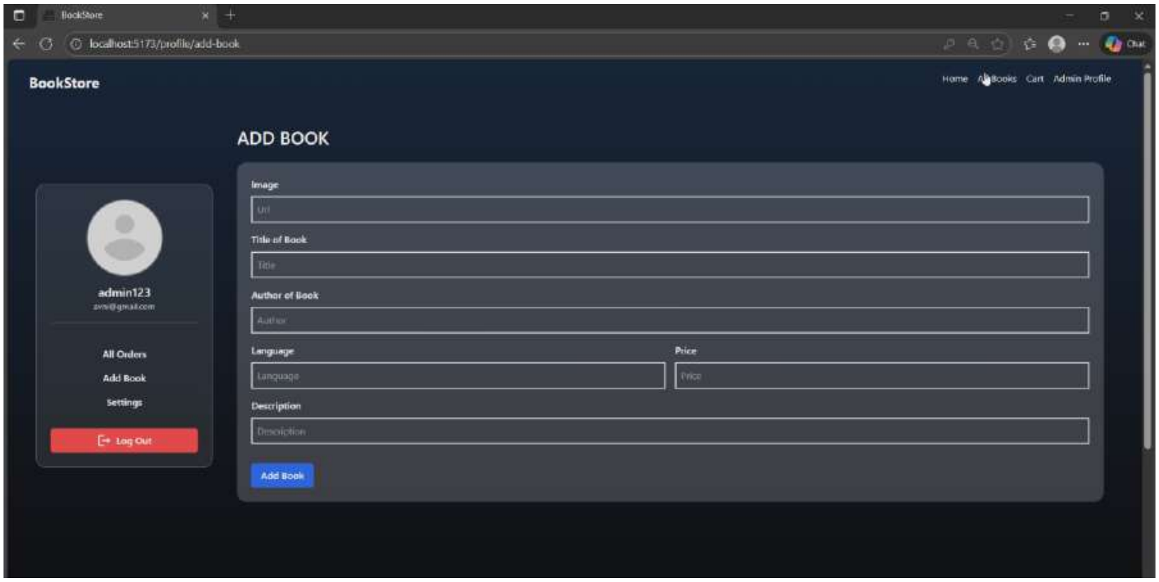


admin123

[illegible]@gmail.com

All Orders

Sr.	Books	Description	Price	Status	👤
1	Book32	demo-user	₹232	Order Placed	↗
2	Book32	demo-user	₹232	Order Placed	↗
3	Book32	demo-user	₹232	Order Placed	↗
4	Book32	demo-user	₹232	Order Placed	↗
5	Book32	demo-user	₹232		↗
6	Book32	demo-user	₹232	Order Placed	↗
7	Book not available	No description	₹N/A		↗
8	Book not available	No description	₹N/A	Order Placed	↗
9	Book not available	No description	₹N/A	Order Placed	↗
10	Book not available	No description	₹N/A	Order Placed	↗
11	Book not available	No description	₹N/A	Order Placed	↗
12	Book not available	No description	₹N/A	Order Placed	↗
13	Book not available	No description	₹N/A	Order Placed	↗
14	Book not available	No description	₹N/A	Order Placed	↗



ADD BOOK

Image: Url

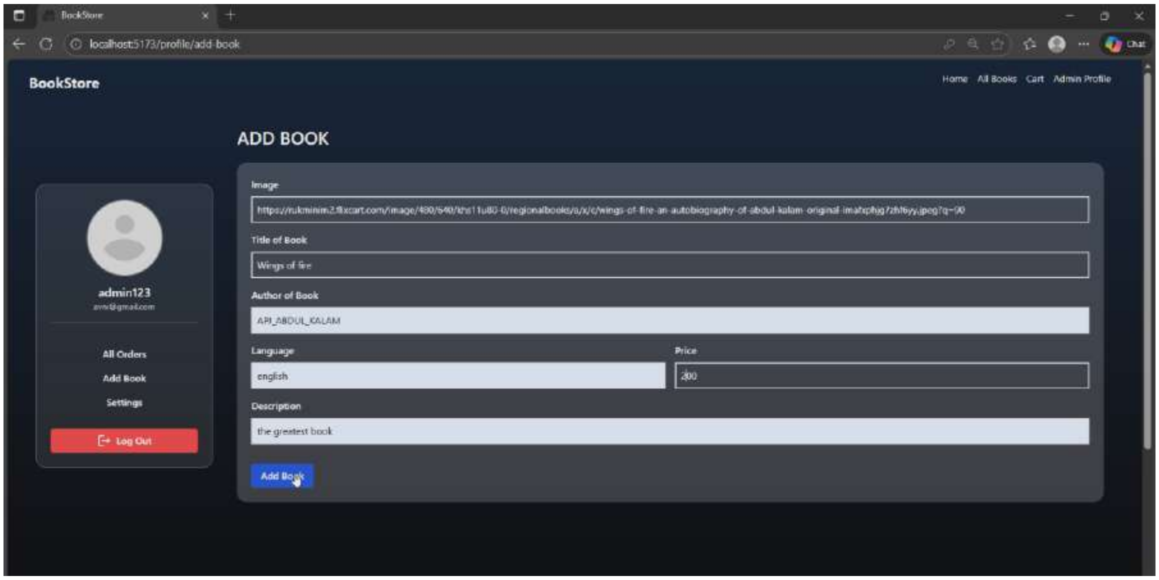
Title of Book: Title

Author of Book: Author

Language: Language

Price: Price

Description: Description



ADD BOOK

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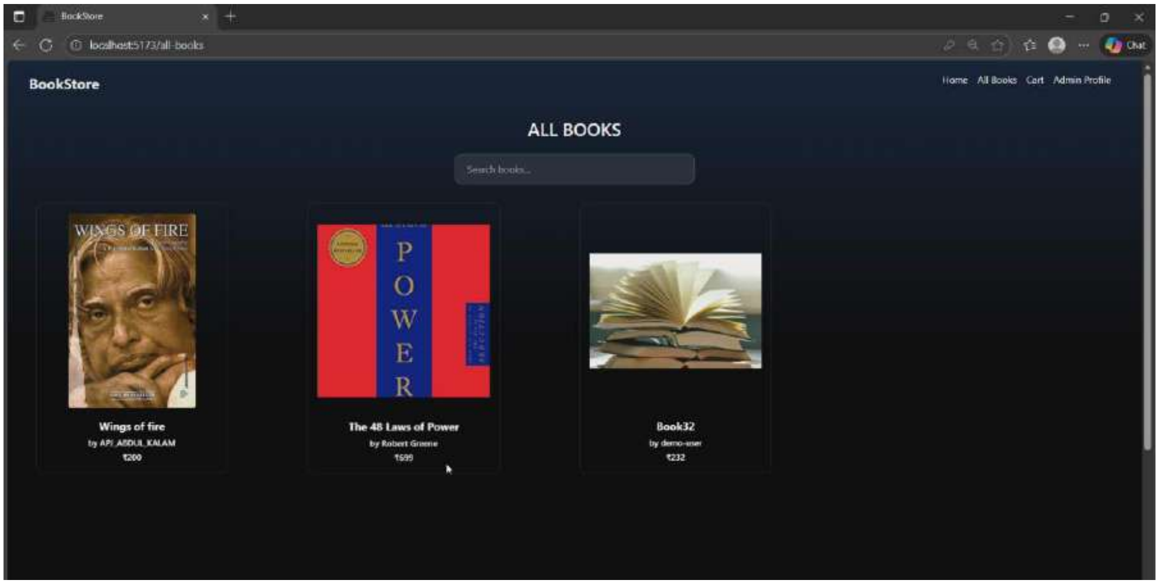
Title of Book: Wings of fire

Author of Book: APJ_ABDUL_KALAM

Language: english

Price: 200

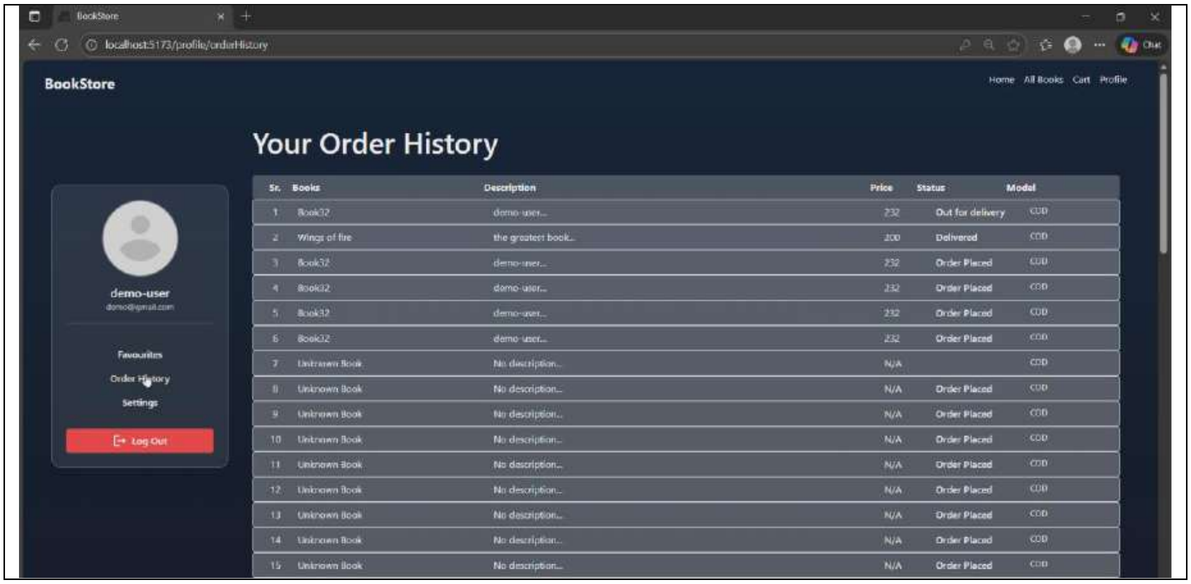
Description: the greatest book



Wings of fire
by APJ_ABDUL_KALAM
₹200

The 48 Laws of Power
by Robert Greene
₹599

Book32
by demo-user
₹232



Your Order History

Sr.	Books	Description	Price	Status	Model
1	Book32	demo-user...	232	Out for delivery	COD
2	Wings of fire	the greatest book...	200	Delivered	COD
3	Book32	demo-user...	232	Order Placed	COD
4	Book32	demo-user...	232	Order Placed	COD
5	Book32	demo-user...	232	Order Placed	COD
6	Book32	demo-user...	232	Order Placed	COD
7	Unknown Book	No description...	N/A		COD
8	Unknown Book	No description...	N/A	Order Placed	COD
9	Unknown Book	No description...	N/A	Order Placed	COD
10	Unknown Book	No description...	N/A	Order Placed	COD
11	Unknown Book	No description...	N/A	Order Placed	COD
12	Unknown Book	No description...	N/A	Order Placed	COD
13	Unknown Book	No description...	N/A	Order Placed	COD
14	Unknown Book	No description...	N/A	Order Placed	COD
15	Unknown Book	No description...	N/A	Order Placed	COD

Conclusion

The Bookstore Website using MERN Stack is a complete full-stack web application that demonstrates modern web development practices. The system provides an efficient and scalable solution for online book selling. This project helps students gain practical knowledge of full-stack development using JavaScript technologies.