

BookVerse — AI-Powered Online Bookstore

Link: <https://bookstore-application-3eyp.onrender.com>

(Please note: The website may take up to 2 minutes to load as it wakes from sleep mode. If you encounter a gateway error, kindly refresh the page.)

What is BookVerse?

BookVerse is a online bookstore built with Spring Boot, offering a seamless shopping experience. It includes secure authentication, a shopping cart, order processing, billing, email notifications, and an AI chatbot for personalized book recommendations.

Why I Built This Project

This project was developed to deepen practical skills in full-stack development using Spring Boot and to create an intelligent platform that connects readers with books through personalized, AI-driven recommendations.

Problem Statement / Need

Lack of integrated online bookstores combining secure transactions and AI-based suggestions.

Need to demonstrate backend expertise with real-world e-commerce workflows and AI integration.

Key Features

- Intuitive bookstore catalog
- Secure user authentication and access control
- Dynamic shopping cart with complete management
- Order processing with billing and invoice generation
- Email notifications for order updates
- AI chatbot powered by OmniDim for book recommendations

Technologies Used (Tech Stack)

- Backend: Java, Spring Boot (MVC, Security, Data JPA)
- Frontend: HTML5, CSS3, Thymeleaf
- Database: PostgreSQL
- Email Service: JavaMailSender
- AI Chatbot: OmniDim agent integration
- Build: Maven
- Version Control: Git & GitHub
- Deployment: Docker, Render

Learning Outcomes

- Advanced Spring Boot web and security features
- RESTful API design and frontend integration
- Email automation for customer communication
- AI chatbot integration and user interaction design
- Debugging, testing, and deployment best practices

Challenges Overcome

- Maintaining data consistency during orders
- Balancing security with user experience
- Integrating a third-party AI chatbot with limited customization
- Managing edge cases in cart and billing flows
- Configuring reliable email notifications

Limitations

- The AI chatbot uses OmniDim, a third-party agent with a fixed knowledge base, limiting customization and domain-specific intelligence.
- Full control over chatbot learning and responses is currently restricted.

Future Enhancements

- Develop a custom AI recommendation engine with advanced NLP for deeper personalization
- Add user reviews, ratings, and social sharing features
- Adopt microservices architecture for improved scalability
- Integrate more diverse payment gateways