Project Report – RESTful Bookstore API

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1. Introduction

The Bookstore API Project was developed as part of my internship to demonstrate backend development skills using Java, Spring Boot, and RESTful Web Services. The API allows management of books and authors, showcasing CRUD operations, filtering, sorting, and integration with Postman and Swagger for testing and documentation.

2. Abstract

This project provides a RESTful API for handling book and author data in a bookstore system. It uses Spring Boot with Spring Data JPA for database interaction and an H2 in-memory database for testing. The API exposes endpoints for adding, retrieving, updating, and deleting records, ensuring smooth management of book–author relationships.

3. Tools & Technologies

- Java
- Spring Boot
- Spring Data JPA
- H2 Database
- Postman
- Swagger UI

4. Steps Involved

1. Project Setup – Created a Spring Boot project with Maven, JPA, and Web dependencies.
2. Entity Design – Defined Book and Author entities with one-to-many relationship.
3. Repository Layer – Implemented repositories using Spring Data JPA.
4. Service Layer – Business logic for handling CRUD operations.
5. Controller Layer – REST endpoints for book and author management.
6. Database Setup – Used schema.sql and data.sql for initialization.
7. Testing – Validated endpoints using Postman and Swagger UI.

5. Results

- Successfully created and tested CRUD operations for Books and Authors.
- Verified data storage and retrieval in H2 Database.
- Documented API endpoints using Swagger UI.

6. Conclusion

The project helped strengthen my knowledge in RESTful APIs, Spring Boot, and database management. It provided hands-on experience with real-world backend development and API testing tools.