PROJECT REPORT

RESTful Bookstore API

INTRODUCTION :

This project is a RESTful Bookstore API developed using Java and Spring Boot. The aim was to build a backend service to manage books and authors, providing CRUD operations and additional features such as filtering, pagination, and sorting.

ABSTRACT :

The Bookstore API provides endpoints to create, read, update, and delete (Book and Author) records. It follows REST principles and demonstrates the implementation of a layered architecture, service-oriented design, and database interaction using JPA with MySQL/H2. The API was tested with Postman.

TOOLS USED :

1. Java (JDK 21)
2. Spring Boot (3.x)
3. Spring Data JPA
4. MySQL / H2 Database
5. Postman (API Testing)

STEPS INVOLVED IN BUILDING THE PROJECT :

1. Created a Spring Boot project with Spring STS tool(Spring Initializer).

2. Added required dependencies in the pom.xml file such as Spring Web, Spring Data JPA, MySQL Driver, Lombok, and Spring Boot DevTools.
3. Configured the application . properties file with database connection details (MySQL URL, username, password).
4. Defined Book and Author entities with appropriate relationships.
5. Implemented repository, service, and controller layers.
6. Integrated CRUD APIs for both Book and Author.
7. Configured MySQL/H2 database for persistence.
8. Used **Postman** to test CRUD endpoints for both Author and Book.
9. Added filtering, pagination, and sorting.
10. Cleaned codebase and added meaningful responses for better usability.

CONCLUSION :

The RESTful Bookstore API successfully demonstrates backend development using Spring Boot with a layered architecture. It provides a strong foundation for building scalable and maintainable applications. Through CRUD operations, filtering, pagination, and API documentation, this project fulfills the requirements of a modern web service.