**Project: Library Management System**

**Description**: Developed a robust Library Management System using Java 8 and Spring Boot, incorporating a MySQL database for data storage. The system efficiently manages books and categories, offering functionalities for adding, updating, and deleting books and genres. Employed RESTful APIs to interact with the system and provided essential error handling and logging mechanisms using SLF4J.

**Key Accomplishments:**

* Designed and implemented Book and Category Entity classes to represent data structure efficiently.
* Developed BookRepository and CategoryRepository interfaces to manage data storage and retrieval operations.
* Created a Library Service layer with well-defined methods for managing books and genres, ensuring modularity and separation of concerns.
* Utilized MySQL connector to seamlessly integrate the database with the application.
* Implemented a set of RESTful APIs in the LibraryController class, enabling seamless interaction with the system.
* Incorporated exception handling for various scenarios, including EmptyFieldException, NotFoundException, and NullFieldException, providing informative error messages for better user experience.
* Developed a global exception handler using ControllerAdvice to manage exceptions consistently and generate appropriate responses.
* Configured the application using the application.yml file, ensuring easy maintenance and customization.
* Employed SLF4J logger for effective error logging and monitoring during runtime.
* Leveraged Java's Stream API for efficient data manipulation and retrieval.
* Demonstrated strong attention to detail by conducting thorough testing and validation of all functionalities.

**Technologies Used:**

Java 8, Spring Boot, MySQL, RESTful APIs, SLF4J, Exception Handling, Application Configuration, Stream API.

**Outcome:**

The Library Management System provides a user-friendly interface for managing books and genres efficiently, ensuring data integrity and user satisfaction. The implemented error handling and logging mechanisms contribute to a smooth user experience and aid in system monitoring and maintenance.