Online Gym Management System Application Documentation

# Project Information

Project Name: Gym Management System Application

Project Description: A web-based application designed to manage various gym operations such as member registration, fee management, and scheduling.

Version: 1.0

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# Introduction

**Project overview:** This project is a comprehensive system to streamline gym management, allowing for effective member and schedule management.

**Goals and objectives**: To provide a digital solution for gym operations, improving efficiency and user experience.

**Target audience**: Gym owners, managers, and staff.

# Features and Functionalities

**User Authentication and Registration**: Allows users to register and authenticate securely.

**Gym Slot Scheduling Interface**: Provides an interface for scheduling gym slots or classes.

**Slot Availability Management**: Manages and displays available gym slots for booking.

**Slot Booking Information Management**: Handles booking information and reservations for gym slots.

**Feedback Management**: Manages feedback from gym members.

**User Management:** Manage gym user

**Admin Dashboard**: Provides administrators with a dashboard to manage users, slots, items, and system settings

# Technologies Used

**Programming languages**: Java & JavaScript

**Frameworks and libraries**: Spring Boot

**Databases**: MySQL 8

**Other tools and technologies**: Maven for project management, Apache Tomcat 9.x, CSS,JSP and Servlet

# System Requirements For Development

**Hardware requirements:**

Standard server or local machine with sufficient RAM and storage

**Software requirements:**

JDK 17 or higher

Apache Tomcat 9.x

MySQL 8

Maven

IDE (e.g., IntelliJ IDEA or Eclipse)

Network requirements: Basic internet connectivity for accessing the application

# Installation and Setup

**1. Clone the repository:**  
 git clone https://github.com/AdityaBondre/GymManagementSystemApplication.git  
  
**2. Navigate to the project directory:**  
 cd GymManagementSystemApplication  
  
**3. Build the project using Maven:**  
 mvn clean install  
  
**4. Run the application:**  
 mvn spring-boot:run  
  
**5. Deploy on Apache Tomcat:**

Configure Tomcat to deploy the application.

# User Guide

**How to use the system**:

Log in with your credentials to access various modules like member management, fee tracking, and scheduling.

**User interface overview**:

A dashboard with navigation options for different modules.

# Developer Guide

Code structure and organization:

src/main/java: Contains all Java source files

src/main/resources: Configuration files and templates

APIs and interfaces: RESTful APIs for managing different resources.

Development environment setup:

Install JDK, MySQL, and Maven

Import the project into an IDE

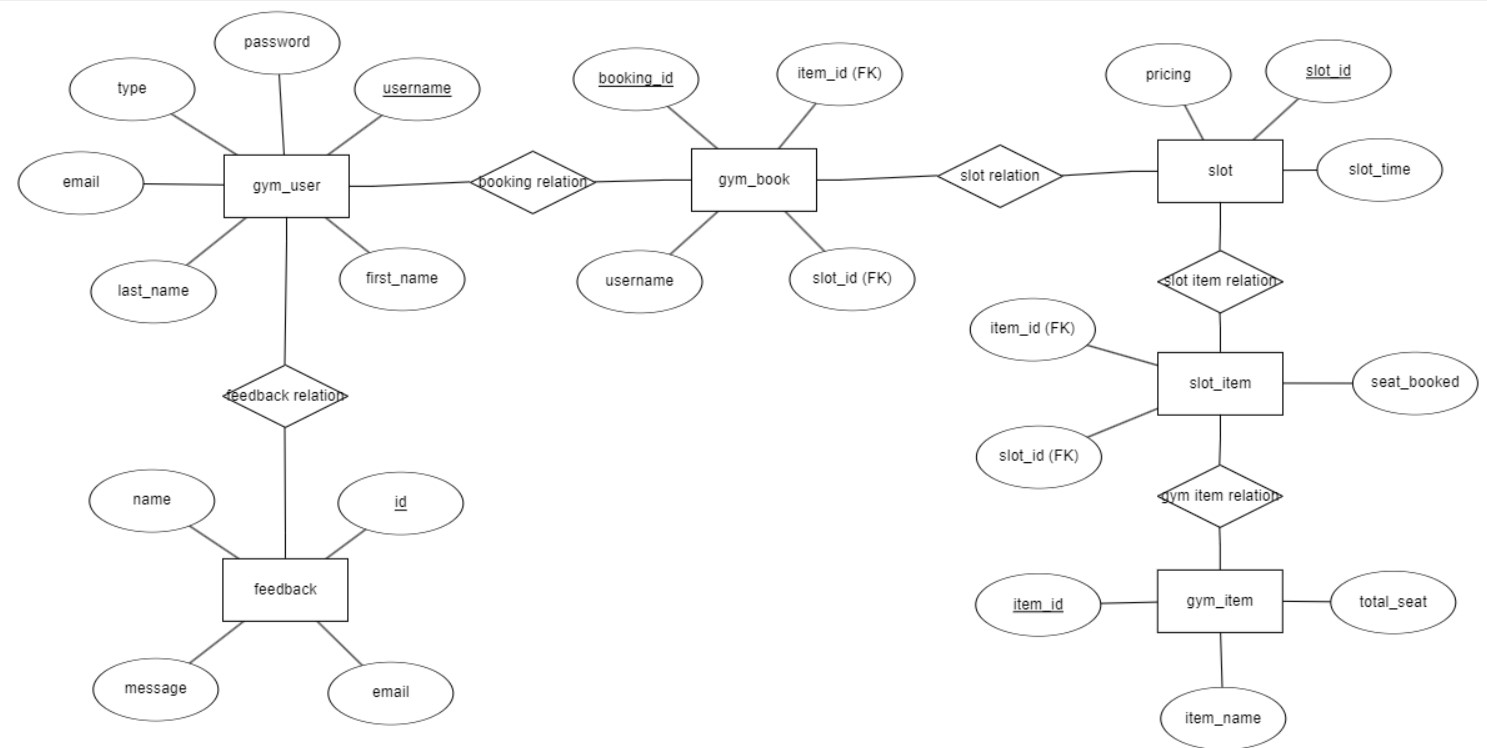
Configure database settings in application. Properties

# Project Structure

* **Bean file**
* Feedback.java
* GymBook.java
* GymItem.java
* GymUser.java
* Slot.java
* SlotItem.java
* SlotItemEmbed.java
* **Config file**
* EncoderConfig.java
* SecurityConfig.java
* **Controller file**
* GymController.java
* LoginController.java
* **Dao file**
* FeedbackRepository.java
* GymBookDao.java
* GymBookDaolmpl.java
* GymBookRepository.java
* GymltemDao.java
* GymltemDaolmpl.java
* GymltemRepository.java
* GymUserRepository.java
* SlotDao.java
* SlotDaolmpl.java
* SlotItemDao.java
* SlotItemDaolmpl.java
* SlotItemRepository.java
* SlotRepository.java
* **Exception file**
* DuplicateBookingException.java
* FeedbackException.java
* UserDeletionException.java
* SeatNotAvailableException.java
* **Service file**
* GymUserService.java
* FeedbackService.java
* GymItemService.java
* **Resource file**
* **Static**
* **Images**
* **Templaets**
* **application.properties**
* **Jsp pages**
* bookingCardPage.jsp
* error.jsp
* feedbackListPage.jsp
* feedbackPage.jsp
* feedback-success.jsp
* gymBookCancelPage.jsp
* gymBookReportPage.jsp
* gymltemEditPage.jsp
* gymltemEntryPage.jsp
* gymltemReportPage.jsp
* index1.jsp
* index2.jsp
* loginErrorPage.jsp loginPage.jsp
* newUserRegistration.jsp
* slotBookPage1.jsp slotBookPage2.jsp
* slotEditPage.jsp slotEntryPage.jsp
* slotReportPage1.jsp
* slotReportPage2.jsp
* userListPage.jsp

# Understanding of Databases

**Key Tables and Their Descriptions:**



**Database Access:**

* The application uses Java Database Connectivity (JDBC) to interact with the MySQL database. Spring Boot's Data JPA is leveraged to simplify data access and manipulation through repositories and entities.

# Troubleshooting

Common errors and solutions:

**Application not starting**: Check the logs for errors related to missing dependencies or configuration issues.

**Database connection issues:** Ensure the database is running and the connection settings are correct.

**Debugging techniques:** Use the IDE's debugging tools to set breakpoints and inspect variables.

# Conclusion

Summary of the project: The Gym Management System Application aims to digitize gym operations, making management more efficient and user-friendly.

Lessons learned: The importance of modular design and clear documentation.

Final thoughts: Further improvements will continue to enhance the system’s usability and functionality.