

# **Online Learning Management System**

This document provides an overview of the Online Learning Management System (LMS). The LMS is designed to facilitate learning by enabling students and instructors to interact, manage courses, track progress, and evaluate performance.

## **Introduction**

An Online Learning Management System (LMS) is a software application for the administration, documentation, tracking, reporting, and delivery of educational courses, training programs, or learning and development programs.

## Features

- User Management: Roles for students, instructors, and admins.
- Course Management: Create, edit, and manage courses.
- Module and Assignment Management: Organize course content and assignments.
- Enrollment Tracking: Monitor student participation in courses.
- Grading System: Evaluate and provide feedback on assignments.
- Progress Tracking: Track students' progress in courses.

## Database Schema

The LMS database consists of the following tables:

1. Users: Stores user information.
2. Courses: Manages course details.
3. Modules: Represents sections of a course.
4. Assignments: Tracks assignments for each module.
5. Enrollments: Tracks which students are enrolled in courses.
6. Grades: Stores grades and feedback for assignments.

## Sample SQL Code

-- Sample SQL for Users Table

```
CREATE TABLE users (  
  
    user_id INT AUTO_INCREMENT PRIMARY KEY,  
  
    username VARCHAR(50) NOT NULL UNIQUE,  
  
    password_hash VARCHAR(255) NOT NULL,  
  
    email VARCHAR(100) NOT NULL UNIQUE,  
  
    role ENUM('student', 'instructor', 'admin') DEFAULT 'student',  
  
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP  
  
);
```

## **Technologies Used**

- Frontend: HTML, CSS, JavaScript
- Backend: Java, Spring Boot
- Database: MySQL
- Tools: Apache Maven, MySQL Workbench

## **Conclusion**

The Online Learning Management System is a powerful tool for modern education. It enables efficient management of courses, students, and assessments, providing a centralized platform for learning and teaching.