ITE5432 - J2EE Business Components
Assignment 2

Objective:

The primary objective of this application is to provide students with hands-on experience in developing a full-stack application using Spring Framework. It aims to help students understand and apply key concepts in software development.

Learning Outcome:

By the end of the project, students will:

- Be able to design and develop full-stack web applications.
- Gain confidence in using Spring Boot for web development.
- Understand how to integrate databases and frontend components.
- Understand how logging works.

Instructions:

This assignment requires you to **develop a Student Record Management System** using **Spring Framework**, **Spring JPA**, **Spring Database Connectivity (MySQL), Lombok,** and **Slf4j Logging**.

- Student
- Admin

Both roles will have different permissions and functionalities.

Tasks & Requirements:

1. Connect MySQL Database
   - Set up a **MySQL database** and configure it in `application.properties`.
   - Use **Spring Data JPA** for database interactions.
   - Implement the necessary **Entity classes** and **Repositories**.

2. Implement Student Role with the following functionalities:
   - Login student user and authentication.
   - Upon successful login,
     - View or Update Personal Information (e.g., Name, Email, Address).
     - View Courses available in the system.
     - Enroll in Courses and Drop Courses.
     - Keep track of modifications using `created_date` and `modified_date`.
   - Otherwise show error message "Invalid Credentials".

- Show proper success and error messages for operations.

3. Implement Admin Role with the following functionalities:

   - Login admin user and authentication.
   - Upon successful login,
     - View All Students with their course enrollments.
     - Perform CRUD Operations on any student.
     - When deleting data, do not perform a hard delete (use soft delete).
     - Keep track of modifications using `created_date` and `modified_date`.
   - Otherwise show error message "Invalid Credentials".
   - Show proper success and error messages for operations.

4. Implement Logging with Slf4j

   - Use `Slf4j` to create logs for all CRUD operations (Create, Read, Update, Delete).
   - Log successful and failed operations.
   - Log user login events and role-based actions.

Submission:

- Name project as **HumberNumber_YourLastName_assignment2**
- Submit your code through GitHub repository
- Create a brief demo video of the running project with explanation.
- Upload the video on blackboard
  - Log in to your Blackboard account.
  - Navigate to the **"J2EE Business Components - ITE-5432-IRA"** course and `Assessments -> Assignments -> Assignment 2` section.
  - Upload video in the designated area.
  - Also, provide a link of your GitHub repository.
  - Each day of late submission incurs a **5% penalty**, up to a maximum of **25%**; submissions beyond this limit receive **0 marks**.
  - Submission deadline is **Feb 24, 2025, 11:59 PM EST.**

Rubric:

Deliverables	Score
Code Submission through GitHub	10%
Video Submission on the Blackboard	10%
MySQL Connection & JPA Entities	20%
Student Role Functionalities	20%
Admin Role Functionalities	20%
Code Quality & Best Practices, Proper messages and CRUD operations Implementation	10%
Logging using SLF4J (CRUD & Authentication)	10%