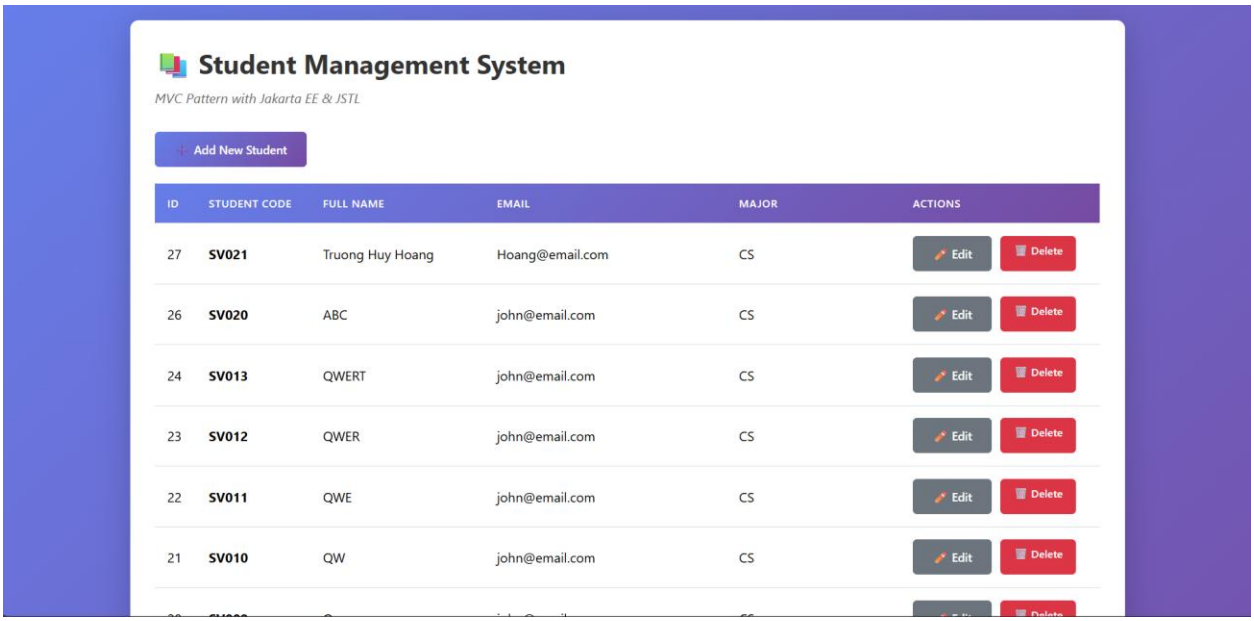
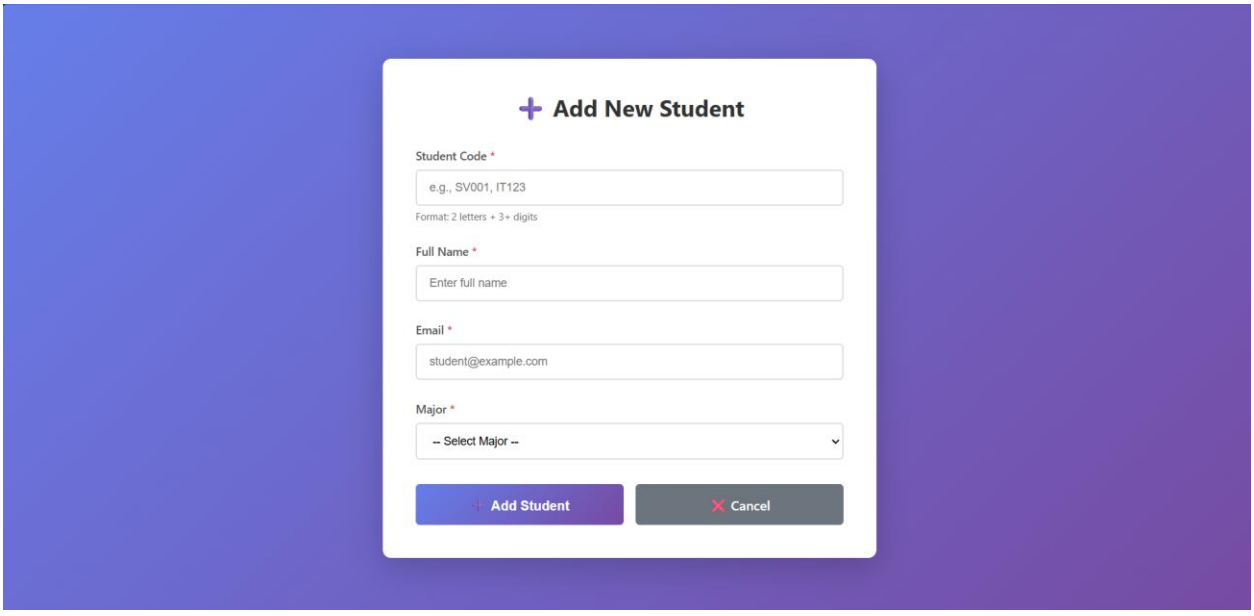
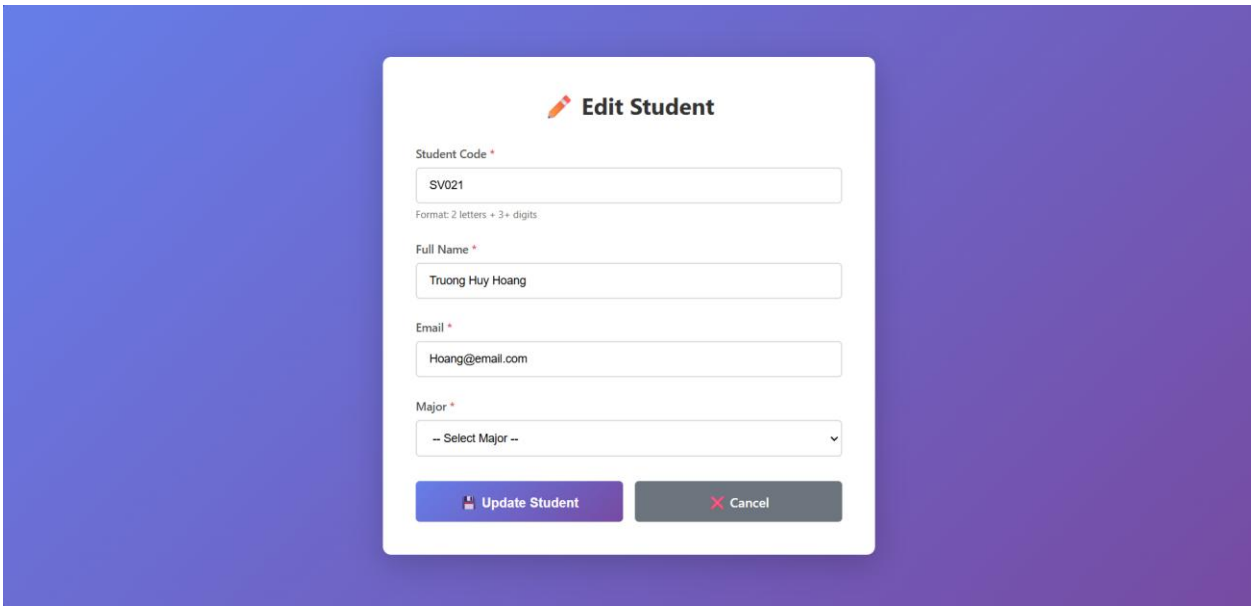
List students



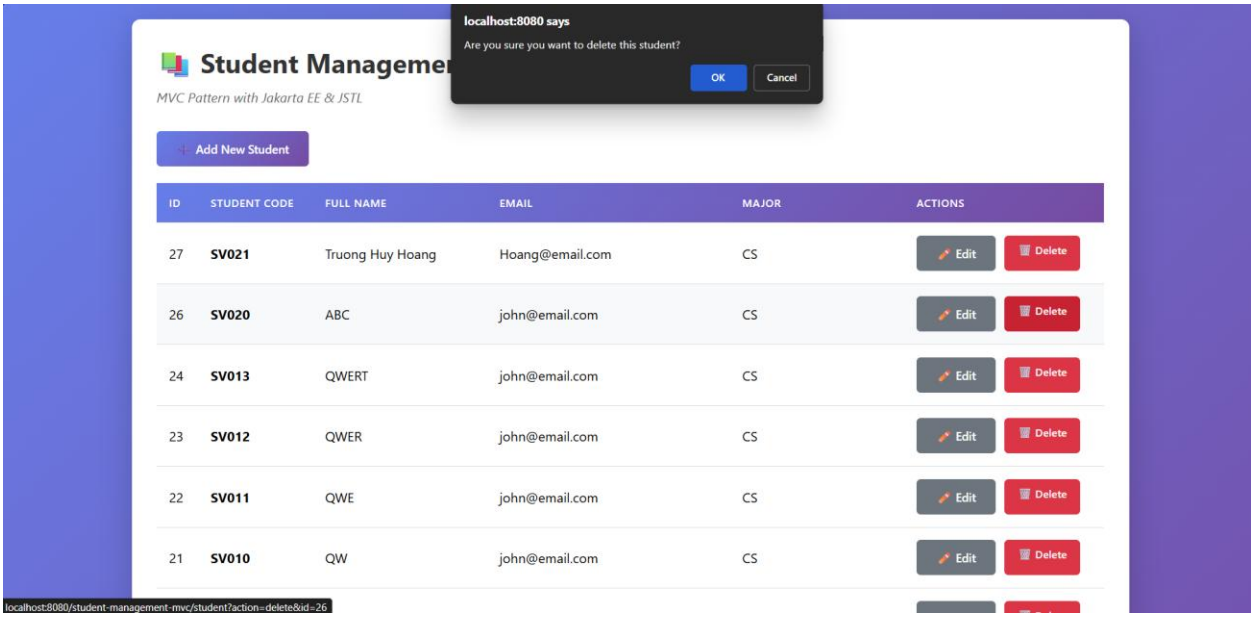
Add student



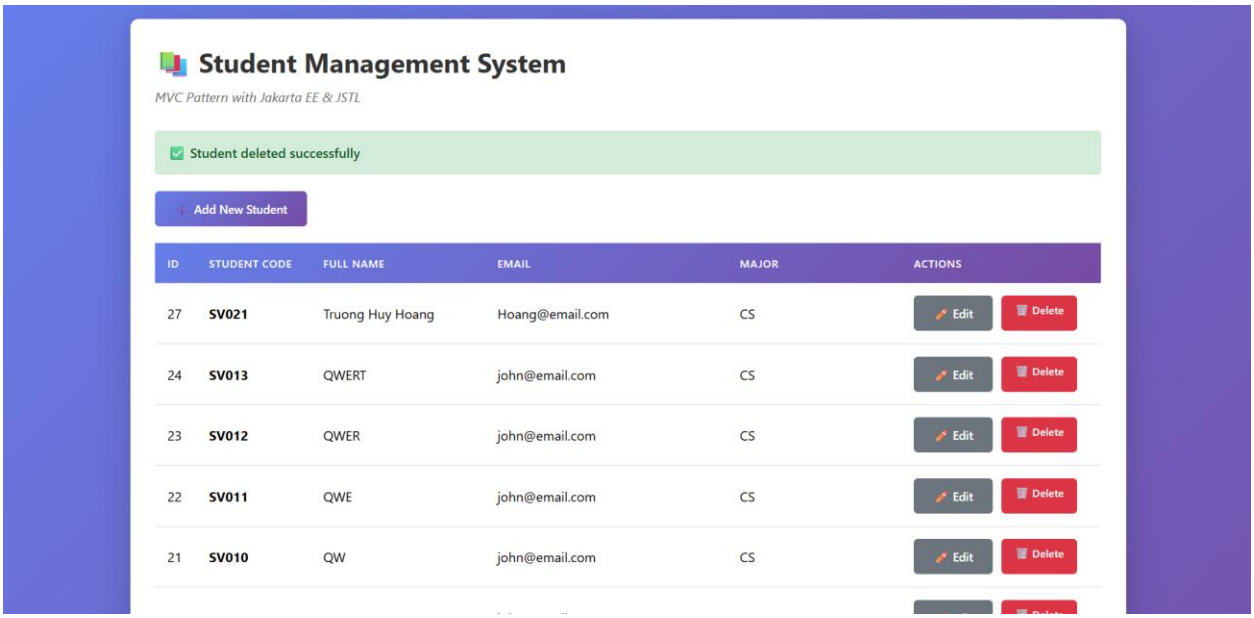
Edit student



Messages display



Delete student



Code flow

Model: Student.java (the data object) and StudentDAO.java (the data access logic).

View: student-list.jsp and student-form.jsp (the user interface).

Controller: StudentController.java (the servlet that manages all traffic).

Scenario: Viewing the Student List (The Default Action)

1. Browser → GET /student?action=list (http://localhost:8080/student-management-mvc/student?action=list)
2. Controller (StudentController.java)

- Server Tomcat routes this request to StudentController servlet (StudentController.java) @WebServlet("/student")
- The doGet() method is executed.
- It reads the action parameter. Since it's the first visit, action is null.
- The if (action == null) check sets action = "list".
- The switch statement calls the listStudents() method.

3. Controller calls DAO (listStudents() method)

- The controller calls studentDAO.getAllStudents().

4. Model/DAO (StudentDAO.java) executes SQL

- The getAllStudents() method connects to MySQL database.

- It executes the SQL query: SELECT * FROM students ORDER BY id DESC.
- It loops through the ResultSet, creates a List<Student> (a list of Model objects), and returns it.

5. DAO returns to Controller

- The listStudents() method receives the List<Student>.
- It stores this list in the request object: request.setAttribute("students", students);.

6. Controller forwards to View sets data as request attribute

- The controller gets a RequestDispatcher for /views/student-list.jsp.
- It uses dispatcher.forward(request, response). This is a server-side forward

7. View (student-list.jsp) displays using JSTL

- The JSTL tag <c:forEach var="student" items="${students}"> finds the students attribute in the request.

8. Browser receives HTML response