

# TECHTONIC Evaluation Report

**Problem:** web-based Student System  
**Date:** 2025-05-08 10:33  
**Total Score:** 100.0 / 100

## Problem Statement

Design and implement a web-based Student Management System that allows users to perform basic CRUD (Create, Read, Update, Delete) operations on student records. The frontend should be developed using React and styled with HTML, CSS, and Bootstrap to ensure a clean and responsive user interface. The backend should be built using Express.js, exposing RESTful API endpoints to handle requests and interact with a MySQL database for persistent storage of student information such as name, email, and course. The system should include input validation, modular code organization, and follow best practices in API design and component-based architecture.

## Student Solution

To build the student management system, I divided the UI into reusable React components such as `StudentForm` for input and `StudentList` for displaying data. I used `useState` and `useEffect` for managing state and fetching the initial list of students. For API communication, I used Axios to connect to a RESTful Express.js backend, which performs SQL operations on a MySQL database using parameterized queries. All CRUD routes are implemented cleanly using Express Router. The form includes real-time validation for name and email fields. I styled the application using Bootstrap to ensure responsiveness and a consistent look. I also added error messages for failed operations and organized the project structure to be deployment-ready.

## Feedback Details

Category	Feedback	Score
React UI Components	The solution clearly demonstrates an understanding of component-based architecture with reusable components like StudentForm and StudentList, along with state management using hooks and proper Bootstrap styling.	50
RESTful API Design	The student effectively outlines a RESTful Express.js backend with well-structured CRUD routes using Express Router and secure SQL operations via parameterized queries.	50