

Objective:

Build a full-fledged **student management dashboard** that allows a teacher to:

- Add/edit/delete students
 - Track their grades
 - Filter and analyze performance
 - Store data persistently
 - Switch between light/dark modes
 - Deploy the project
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Milestone-Wise Breakdown:

Milestone 5 – Arrays & Objects

- Create a `students` array with objects `{ name, age, grades (array), id }`
- Each student has a method `getAverage()` that returns their average grade
- Implement functions:
 - Add, remove, and edit student using `push`, `pop`, `splice`
 - Filter students who passed (`grade > 60`)
 - Use `reduce` to get class average

Milestone 6 – DOM Manipulation

- UI to:
 - Add student via a form
 - Display all students in a table
 - Show/hide student details
- Implement:
 - Toggle password visibility when adding a teacher login
 - Dynamic background color change when a student is selected

Milestone 7 – Advanced JS Concepts

- Simulate grade fetching using `fetch` (e.g., get dummy grade data from JSONPlaceholder or reqres.in)
- Use `async/await` to update grades
- Use `setTimeout` to mimic delayed updates
- Use ES6:
 - Destructure student objects
 - Use spread/rest operators to copy/update state

- Use template literals to generate dynamic UI

Milestone 8 – Modular JS

- Split code:
 - `student.js` → add/edit/delete/filter
 - `dom.js` → all DOM manipulation
 - `api.js` → fake async operations
 - `theme.js` → theme toggling logic

Milestone 9 – JavaScript in the Browser

- Save the full student list in `localStorage`
- Validate student add/edit forms (name required, grade must be number)
- Implement theme switcher (light/dark)
- On reload, restore students and theme from storage

Milestone 10 – Web Ecosystem

- Link everything via HTML, CSS, JS
- Use Chrome DevTools to debug and inspect DOM events
- Host the project on GitHub Pages or Netlify