

Build a Scheduler Component in ReactJS

Objective

Build a dynamic Scheduler UI component in ReactJS that displays events for a single day in a time grid (e.g., 8AM–8PM). The UI must support adding, editing, and deleting events.

Requirements

1. Display Events

- Render a time-grid for a single day (8:00 AM to 8:00 PM).
- Each row represents an hour.
- For each event, display a colored block at the correct time slot on the grid.
- Example event data:

text

```
[  
  { id: 1, title: "Team Meeting", start: "09:30", end: "10:30" },  
  { id: 2, title: "Lunch", start: "12:00", end: "13:00" },  
  { id: 3, title: "Client Call", start: "14:00", end: "15:30" }  
]
```

2. Add New Event

- Provide a form (modal or inline) to add a new event with **Title**, **Start Time**, and **End Time**.
- On submit, add the event to the grid.

3. Edit Event

- Allow users to click on an event to edit details.
- Use the same form as for adding; on submit, update the event.

4. Delete Event

- Each event must have a delete (trash) button or icon.
- On click, remove the event.

5. Validation

- Start time must be before end time.
- Prevent overlapping events is a stretch goal, not required.

6. State Management

- Use React's `useState` for managing events.
- (Bonus: Use Context API or a simple store.)

7. Responsive Design

- The UI should be usable on both desktop and mobile devices.

8. Clean & Modular Code

- Use well-structured components, clear variable names, and comments.
- Suggested components: Scheduler, Event, EventForm.

9. Showcase/Demo Page

- Demonstrate your component in `App.js` with a set of starter events.

Deliverables

- **README** with instructions and notes on your approach.
- **Clean, commented code** with modular components.
- Drag-and-drop event rescheduling.
- Multi-day or weekly view.
- Persist events in `localStorage` or to a mock API.
- Unit-test your helper functions for time validation.
- Use a UI library like Material-UI for a professional look.

Stretch Goals

- Drag-and-drop support.
- Prevent overlapping events.
- Multi-day or weekly calendar view.