

Simple Laravel API with Job Queue, Database, and Event Handling

Objective

Create a Laravel API that demonstrates your proficiency with Laravel's job queues, database operations, migrations, and event handling. This test should take approximately 2-3 hours to complete.

Requirements

1. **API Endpoint:** Develop a single API endpoint `/submit` that accepts a `POST` request with the following JSON payload structure:

```
{  "name": "John Doe",  "email": "john.doe@example.com",  "message": "This is a test message."}
```

 - a. Validate the data (ensure `name`, `email`, and `message` are present).
2. **Database Setup:** Use Laravel migrations to create a table named `submissions` with columns for `id`, `name`, `email`, `message`, and timestamps (`created_at` and `updated_at`).
3. **Job Queue:** Upon receiving the API request, the data should not be immediately saved to the database. Instead, dispatch a Laravel job to process the data. The job should perform the following tasks:
 - a. Save the data to the `submissions` table in the database.
4. **Events:** After the data is successfully saved to the database, trigger a Laravel event named `SubmissionSaved`. Attach a listener to this event that logs a message indicating a successful save, including the `name` and `email` of the submission.
5. **Error Handling:** Implement error handling for the API to respond with appropriate messages and status codes for the following scenarios:
 - a. Invalid data input (e.g., missing required fields).
 - b. Any errors that occur during the job processing.
6. **Documentation:** Briefly document the following in a README file:
 - a. Instructions on setting up the project and running migrations.
 - b. A simple explanation of how to test the API endpoint.
7. Write a simple **Unit test**.

Deliverables

- Source code for the Laravel project, including all migrations, models, controllers, jobs, and event classes.
- A README file with setup and testing instructions.

Submission Instructions

Please submit your project as a link to a GitHub repository. Ensure that any necessary setup instructions are included in your README to facilitate the review of your project.