Project Setup and Testing Guide

Project Requirements

Ensure you have the following installed:

- Postman

- PostgreSQL

- Node.js version 16

Frontend

1. Open the Frontend folder in File Explorer, click on an empty space in the path section at the top, and type cmd to open Command Prompt in this directory.

2. In Command Prompt, run npm install to install dependencies.

3. Once installation is complete, run npm start to start the frontend application.

4. Open your browser and go to http://localhost:4200. Ensure the backend server is also running.

Backend

1. Open the Backend folder in File Explorer, click on an empty space in the path section at the top, and type cmd to open Command Prompt in this directory.

2. In Command Prompt, run npm install to install dependencies.

3. Create a .env file in the Backend directory and add the following lines, replacing your_database_url with your actual PostgreSQL connection URL:

   DATABASE_URL=your_database_url

   PORT=10000

4. Once installation is complete and the .env file is configured, run nodemon to start the backend application.

5. Open your browser to interact with the application. Click the + icon to add items, use the three dots (...) next to an item to edit or delete, search using the top center field, and sort by clicking on table headers.

API Testing with Postman

1. Open Postman and set up requests as follows:

   o **GET** for search: Use URL http://127.0.0.1:10000/api/1.0.0/books.json. For filtering by published date, use a URL like

http://127.0.0.1:10000/api/1.0.0/books.json?from=1725811200&to=172589754 0. Use [Epoch Converter](#) to convert dates.

- **POST** for insert: Use URL http://127.0.0.1:10000/api/1.0.0/books.json. Set the Body to JSON and use the following example:

json

```json
{
    "title": "Pirates",
    "author": "Jack",
    "isbn": "978-1524712331238",
    "published_date": 1725936003,
    "genre": "Biography"
}
```

- **PUT** for update: Use URL http://127.0.0.1:10000/api/1.0.0/books.json. Set the Body to JSON and use the following example:

```json
{
    "id": 1,
    "title": "New Pirates",
    "author": "Jack Sparrow",
    "isbn": "978-1524712331238",
    "published_date": 1725936003,
    "genre": "Fictional"
}
```

- **DELETE** for delete: Use URL http://127.0.0.1:10000/api/1.0.0/books.json?id=70 and click Send.

Unit Testing (Backend)

Run npm test in the backend directory to execute unit tests.