**README FILE**

**API Setup and Testing Guide**

This guide provides instructions on how to set up and run my API, and how to test it using the two test methods I used for this project. **Swagger UI** and **curl**.

**Prerequisites**

Before starting, make sure you have the following installed:

* **Python 3.x**: For running the FastAPI server.
* **pip**: To install necessary Python packages.
* **Git Bash or any terminal**: For running curl commands.

**Step 1: Clone the Repository**

Clone the repository containing the FastAPI project to your local machine (if you haven't already):

git clone < https://github.com/Chernor91/library\_system.git>

**Step 2: Install Required Dependencies**

Navigate to my project folder and create a virtual environment:

cd < https://github.com/Chernor91/library\_system.git>

python -m venv venv

Activate the virtual environment:

* **On Windows**:
* venv\Scripts\activate
* **On Mac/Linux**:
* source venv/bin/activate

Install the required dependencies by running:

pip install -r requirements.txt

If you don't have a requirements.txt file, you can install the necessary packages with:

pip install fastapi uvicorn

**Step 3: Run the API Server**

To start the FastAPI server, run:

uvicorn main:app --reload

By default, the server will be running on <http://127.0.0.1:8000>. Include \docs extension You can now access the **Swagger UI** or use curl to test your API.

**Testing Your API**

You can test my API in two different ways: using **Swagger UI** or by sending HTTP requests via **curl**.

**1. Testing with Swagger UI**

Swagger UI provides an interactive interface where you can send requests directly from your browser.

* Open your browser and go to http://127.0.0.1:8000/docs.
* This page will display the available API endpoints.
* To test the endpoints:
  + **Create an Author**:
    1. Click on **POST /authors/**.
    2. Click **Try it out**.
    3. Provide the required JSON body, for example:
    4. {
    5. "id": 105,
    6. "name": "Chimamanda Adichie",
    7. "nationality": "Nigerian"
    8. }
    9. Click **Execute** to create the author.
  + **Get All Authors**:
    1. Click on **GET /authors/**.
    2. Click **Try it out**, then click **Execute** to fetch the list of authors.
  + **Get a Specific Author**:
    1. Click on **GET /authors/{author\_id}**.
    2. Enter an author\_id (e.g., 105), click **Try it out**, and then **Execute** to get details of that author.
  + **Update an Author**:
    1. Click on **PUT /authors/{author\_id}**.
    2. Provide the updated information for the author.
    3. Click **Execute**.
  + **Delete an Author**:
    1. Click on **DELETE /authors/{author\_id}**.
    2. Provide an author\_id (e.g., 105).
    3. Click **Execute** to delete the author.

**2. Testing with curl**

You can also test the API using the command line with curl. Here's how to make various API requests:

1. **Create an Author** (POST /authors/):

curl -X 'POST' \

'http://127.0.0.1:8000/authors/' \

-H 'accept: application/json' \

-H 'Content-Type: application/json' \

-d '{

"id": 105,

"name": "Chimamanda Adichie",

"nationality": "Nigerian"

}'

1. **Get All Authors** (GET /authors/):

curl -X 'GET' \

'http://127.0.0.1:8000/authors/' \

-H 'accept: application/json'

1. **Get a Specific Author** (GET /authors/{author\_id}):

curl -X 'GET' \

'http://127.0.0.1:8000/authors/105' \

-H 'accept: application/json'

1. **Update an Author** (PUT /authors/{author\_id}):

curl -X 'PUT' \

'http://127.0.0.1:8000/authors/105' \

-H 'accept: application/json' \

-H 'Content-Type: application/json' \

-d '{

"id": 105,

"name": "Chimamanda Adichie Updated",

"nationality": "Nigerian"

}'

1. **Delete an Author** (DELETE /authors/{author\_id}):

curl -X 'DELETE' \

'http://127.0.0.1:8000/authors/105' \

-H 'accept: application/json'

**Troubleshooting**

* **API not running**: Ensure that the FastAPI server is running by checking the terminal for Uvicorn running on http://127.0.0.1:8000.
* **404 errors**: Make sure the endpoint and method (GET, POST, PUT, DELETE) are correct.
* **Swagger UI not loading**: Ensure that the server is running and accessible at http://127.0.0.1:8000/docs.