

Test Task for Mid-Level Go Engineer

Objective:

Create a simple API using GoFiber to perform currency conversion using an external API (e.g., ExchangeRate-API). Utilize GORM for ORM and PostgreSQL as the database. Use Postman to demonstrate the API functionality.

Requirements:

1. API Endpoint:
 - `POST /convert`: Convert an amount from one currency to another.
 - URL Parameters:
 - `base_currency`: The currency to convert from (e.g., "USD").
 - `target_currency`: The currency to convert to (e.g., "EUR").
 - JSON Body:
 - `amount`: The amount to convert.
2. Database:
 - Use PostgreSQL to log the conversion requests and responses.
3. External API:
 - Use a popular free external API for currency conversion (e.g., ExchangeRate-API).

Instructions:

1. Project Setup:
 - Initialize a new Go module.
 - Set up GoFiber and GORM.
 - Connect to a PostgreSQL database (use a local or a cloud instance).
 - Configure the external API client for currency conversion.
2. Implementation:
 - Create a model to log conversion requests and responses in the database.
 - Implement the `/convert` endpoint to:
 - Parse URL parameters and JSON body.
 - Fetch the conversion rate from the external API.
 - Calculate the converted amount.
 - Log the request and response in the database.

- Return the converted amount in the response.
 - Ensure proper error handling and input validation.
3. Testing:
 - Use Postman to test the `/convert` endpoint.
 - Document the Postman requests for the endpoint.
 4. Commits:
 - Make multiple commits to the GitHub repository to show the progression of your development process. This will help us understand your approach and thought process.
 5. Use of AI Tools:
 - We encourage the use of AI tools like ChatGPT or GitHub Copilot to assist in your development. However, ensure that you understand the suggestions provided by these tools.
 6. Time Limit:
 - Spend no more than one hour on this task. The task does not need to be fully completed. Focus on demonstrating your approach and thought process.

Deliverables:

1. The source code of the project (push to a GitHub repository).
2. A Postman collection demonstrating the API request.
3. Notes on what you completed and any areas you'd like to discuss in the live coding interview.