Cathay United Bank - JAVA engineer Interview

Use maven to build a Spring-boot project, implement the following content, upload the results to gitHub, and provide a link.

Java: 17

Repository: H2 (OpenJPA/Spring Data JPA)

Function Description：

1. Use below API with any 3 more base currencies, analyze its response and data conversion, and implement the new API. (replace the red part)

   https://fxds-public-exchange-rates-api.oanda.com/cc-api/currencies?base=EUR&quote=USD&data_type=chart&start_date=2025-03-26&end_date=2025-03-27

2. Create a table of currencies and their corresponding names (the SQL syntax must be attached), and provide query/add/modify/delete functional APIs.

3. To query currency, please sort by currency code.

Requirements：

Must

1. Currency DB maintenance function.

2. Call API.

3. Call API and convert the data to form a new API. This new API provides:

   A. Update time (time format example: 1990/01/30 00:00:00).

   B. Currency-related information.

4. All features must include unit tests.

5. Schedule synchronization of exchange rates.

Plus (Indicate in the README which of the following items are included)

1. Print out the request and response body log of all API be called and call out external APIs.

2. swagger-ui

3. i18n design

4. Implementation of more than 2 design patterns

5. Able to run on Docker

6. Error handling to decorate all API responses

7. Application of encryption and decryption technology (AES/RSA…etc.)