Izicap Homework

Backend Engineering - Internship

Context

We want to communicate with **ChatGPT AI** via a call to an endpoint that we will expose. For the purpose of this test we need to build a microservice which updates a "database" in our system with questions we send to ChatGPT and answers that the API gives us. (we don"t mind having duplicates of questions and answers)

You will need to create an account with ChatGPT (you can use your gmail account)

Url: https://beta.openai.com/

After you signup and sign in create an API key that you will use to communicate with the AI's API endpoint (https://beta.openai.com/account/api-keys)

API URL: https://api.openai.com/v1/completions

Example of a call using curl:

```
curl https://api.openai.com/v1/completions \
  -H 'Content-Type: application/json' \
  -H "Authorization: Bearer [use you api key here]" \
  -d '{
  "model": "text-davinci-003",
  "prompt": "What is gluten sensitivity?",
  "max_tokens": 4000,
  "temperature": 1.0
}'
```

The answer:

```
{
  "id": "cmpl-6aUxNRJ7H41eD7YulqfHg2DsXDvrd",
  "object": "text_completion",
  "created": 1674156825,
  "model": "text-davinci-003",
  "choices": [
      {
      "text": "\n\nGluten sensitivity is a condition in which ingestion of gluten, a protein found in wheat, barley, and rye, causes a range of symptoms, such as abdominal pain, bloating, diarrhea, and constipation. People with gluten sensitivity have difficulty tolerating products which contain gluten, but are not diagnosed with celiac disease.",
      "index": 0,
```

```
      "logprobs": null,
      "finish_reason": "stop"
      }
  ],
  "usage": {
      "prompt_tokens": 5,
      "completion_tokens": 67,
      "total_tokens": 72
  }
}
```

Objective

What you should implement:

- Create a **Java microservice** which will query the ChatGPT API using input string by the user (some question the user wants an answer for)

  When invoked, the endpoint in the microservice should
  1. create a chat gpt request using the provided question
  2. call chat gpt
  3. extract the answer from the response form chat gpt
  4. Append the question and answer to a csv file
  5. respond to the user with the answer provided by chatgpt

  The CSV file is stored in a volume mapping a location in the host to a location in the container, so that it survives after the container is stopped and can continue to be appended to each time the app is executed.
  Example of csv file content:

```
Question;answer
What is gluten sensitivity?;Gluten sensitivity is a condition in which
ingestion of
What is jenkins?;Jenkins is an open source automation server written in
Java
```

The file has a Header: **Question;answer**
The CSV separator is **;** (semicolon)

Engineering Notes

- The microservice should be encapsulated in a **docker** container.
- You should assume your code will be integrated in a production environment, so your project has to be organised in the appropriate way.
- Use **Springboot3, Java 17**, swagger/openapi, maven and actuator.
- Your deliverable should be a **Git repository** (your Github or Gitlab for example) containing your source code and relevant documentation.

- We expect **unit/integration tests.** Please don't write repetitive tests, we'd rather see tests which are specific (things you want to demo how you'd test some specific area of code, rather than testing setters and getters from the domain model)

Project notes

Please provide a **readme** explaining how to run your code. (at the root of your source code)
We'd like you to highlight any decision you made (framework, precompiler, project architecture...), as well as any notes you'd like to share with the team.
- The aim of this exercise is to see a code that is representative of the way you're working. We are not looking for a perfectly well-tuned solution, so you could timebox the amount of time you want to dedicate to it before you start.
- Assume we want well architectured, well documented, well tested code. It doesn't have to be a lot (as you can see the task is minimal) but it needs to be representative of your skills and mindset.