Assessment Full-Stack Developer Large language model (LLM) Apps.

Confidential Assessment
Tue 26 May 2025

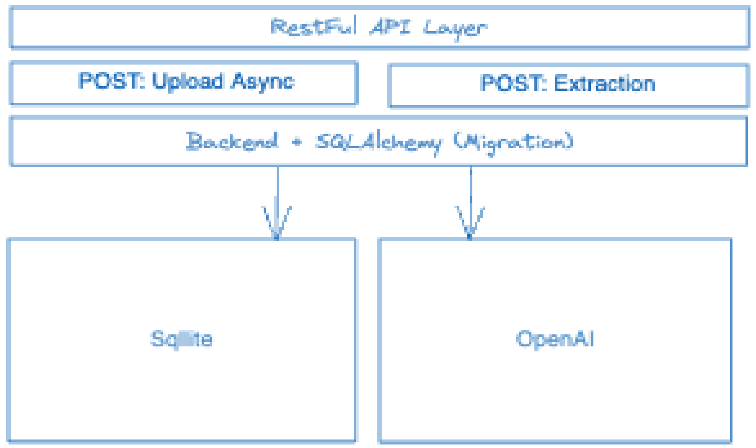
Assessment Developer Full Stack

Document Chunking

- User should be able to upload a file from a Single Web Application, the application should be created with React with TypeScript + CSS / SASS put focus on components reusables, and API with Node or Python.
- Once the document is uploaded, it should be divided into chunks, and each chunk with its parameters sent by the user should be saved in the database, is possible to use SQLite.
- Additionally, there should be an endpoint to retrieve all the chunks of the document.
- On User Interface, it should be possible to visualize the document and them chunks.

Stack

- React + CSS or SASS + TypeScript (SPA)
- Python or NodeJs for API
- LangChain (Chunking Document)
- SQLAlchemy - SQLite (ORM + DB)
- GitHub (Gitflow or Trunk Development)
- Docker compose

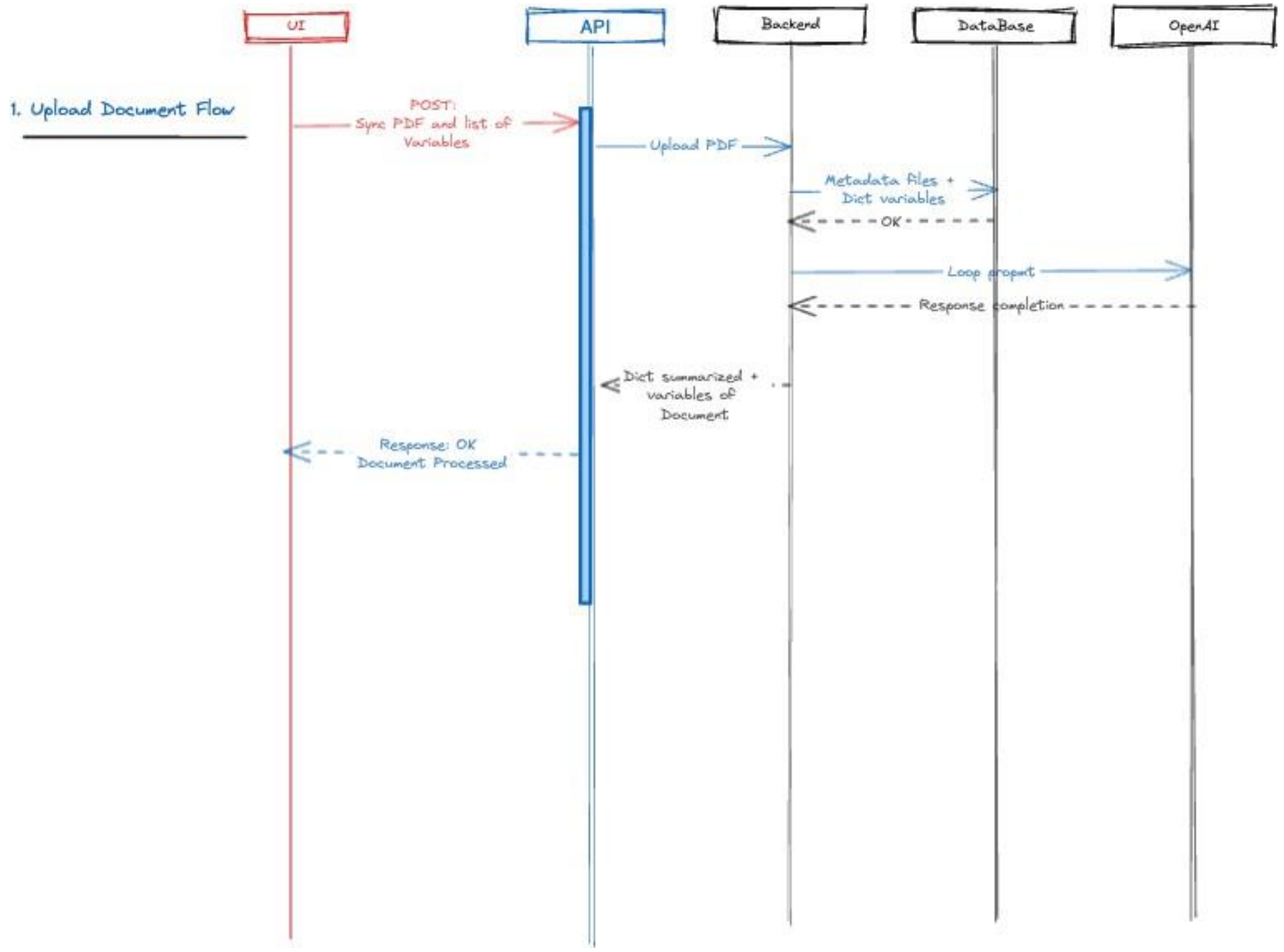


Assessment Full Stack

Document Chunks

Sequential Flow

1. The user utilizes a UI to send a set of parameters that identify the document and parameters for generating chunks (read documentation on document chunks in LangChain and review which parameters to expose to the user through an API).
2. The client (browser) through the Single Web Application makes a synchronous or asynchronous POST to the API. The endpoint receives the file and uses the LangChain chunk module (text splitter and others) to save all the data in a relational database (you can design the schemas as you see fit).
3. It is optional to send each chunk to OpenAI to obtain more information about the document or each chunk.
4. Once the processing is successful, the user is informed with the response so that they can visualize the document (previously uploaded) and the result of the chunks.


UI
API
Backend
DataBase
OpenAI
1. Upload Document Flow
POST: Sync PDF and list of Variables
Upload PDF
Metadata files + Dict variables
OK
Loop prompt
Response completion
Dict summarized + variables of Document
Response: OK Document Processed

Important

- The exercise is complex, and is focused on a full stack developer profile with extensive knowledge in Frontend and Backend, feel comfortable putting value where you have more knowledge, that is, if you feel comfortable in the frontend, apply everything you know there, or the same with the backend.