Recruitment task – Python Developer@Quantee

File Upload Service

Develop a mini-project that allows users to upload and manage large files (4GB–8GB) efficiently. The system must adhere to RESTful API principles and handle multiple concurrent uploads reliably.

The API should provide a POST endpoint to upload files, including metadata specifying their intended location in a structured file storage system. Files must pass validation for allowed extensions, and the uploaded files should be organized accordingly on a Docker volume. Additionally, the API must provide an endpoint to list all uploaded files, returning metadata such as name, size, and storage location.

The codebase must be fully type-annotated for clarity. To test the system's scalability, include a docker compose setup supporting scaled client containers (docker compose up --scale client=6), where each client simulates generating and uploading a file before shutting down. This ensures the service can handle multiple simultaneous uploads in a realistic scenario.

Basic API tests written in pytest are required for both endpoints (file upload and file listing), covering validation, metadata handling, and file organization. These tests should demonstrate the reliability of the implementation.

Deliverables:

- A fully functional API with endpoints for file uploads (including metadata validation) and file listing.

- Unit tests for both endpoints covering all core functionalities.

- A docker compose configuration for testing multiple simultaneous clients.

- A README.md file with a brief project description, setup instructions, and guidance for running and testing the service.