Blood Test Report Analyzer – Setup & Execution Guide

Project Overview

This is an AI-powered FastAPI web application that:

- Accepts a **blood test PDF** as input

- Uses **CrewAI agents** to extract, analyze, and recommend:

    o   Medical insights

    o   Nutrition plans

    o   Exercise routines

System Requirements

- **Python** 3.11 or later

- **Git** (optional but useful)

- OS: Windows/Linux/macOS

Folder Structure

blood-test-analyser-debug/

|

├── agents.py

├── tasks.py

├── tools.py

├── main.py

├── requirements.txt   (recommended)

├── data/   Stores uploaded PDFs

└── venv/   Python virtual environment

Step-by-Step Setup Guide

1. Clone or Copy the Project

cd Desktop

git clone <your-repo-url>

cd blood-test-analyser-debug

2. Create Virtual Environment

python -m venv venv

3. Activate Virtual Environment

Windows

venv\Scripts\activate

Linux/macOS

source venv/bin/activate

4. Install Required Packages

pip install --upgrade pip

Using uv (if available)

uv pip install -r requirements.txt

Or use pip directly

pip install -r requirements.txt

If you don't have a requirements.txt, install manually:

pip install fastapi uvicorn python-multipart python-dotenv

pip install crewai crewai-tools langchain langchain-community

pip install pydantic langchain-core

Environment Setup

Ensure you have a .env file if needed. Otherwise, the app still runs with:

- No OpenAI key (for testing)

- Uses DuckDuckGoSearchTool (no API needed)

Run the Application

uvicorn main:app --reload

Visit:

http://127.0.0.1:8000/docs

Swagger UI will open where you can test the /analyze-report/ endpoint.

Test the API

1. Click POST /analyze-report/

2. Upload your PDF file

3. Enter query like:

Analyze this report and give me health advice

4. Click **Execute** and wait for the AI response.

Common Issues & Fixes

Issue	Fix
python-multipart error	Run: pip install python-multipart
ModuleNotFoundError: crewai_tools	Run: pip install crewai-tools
Mixing V1 and V2 models warning	Update pydantic usage or ignore for now
langchain tools deprecated warning	Use langchain_community package instead

Notes

- CrewAI uses **agents** and **tasks** defined in agents.py and tasks.py.
- You can customize agent roles or query types for:
  - Diagnosis
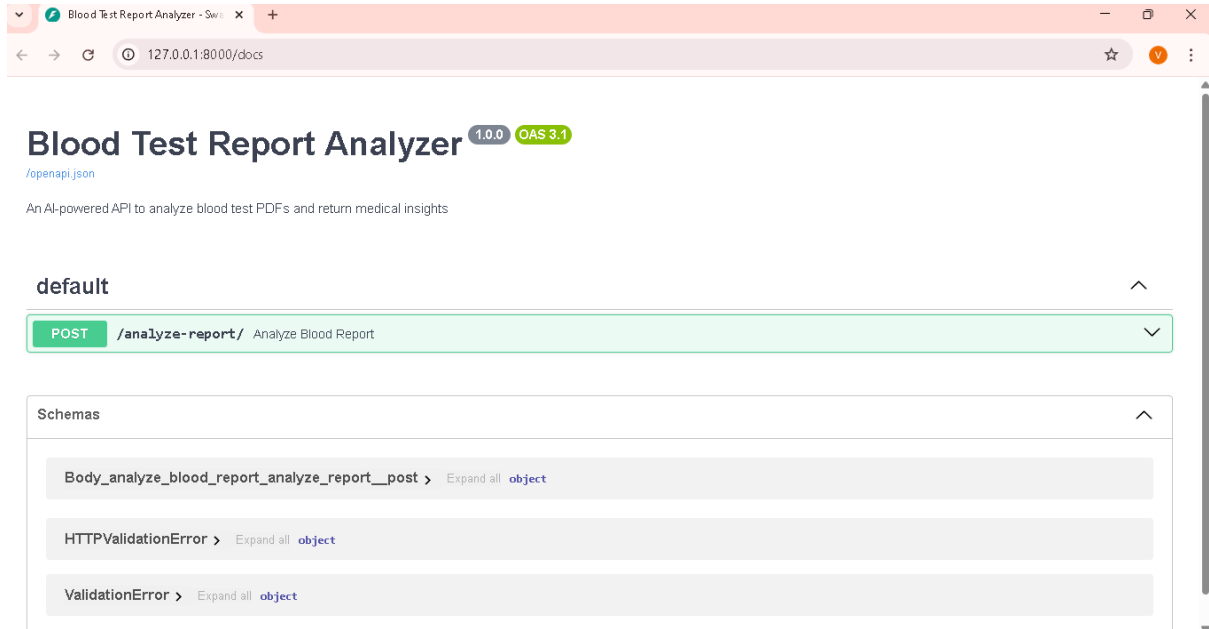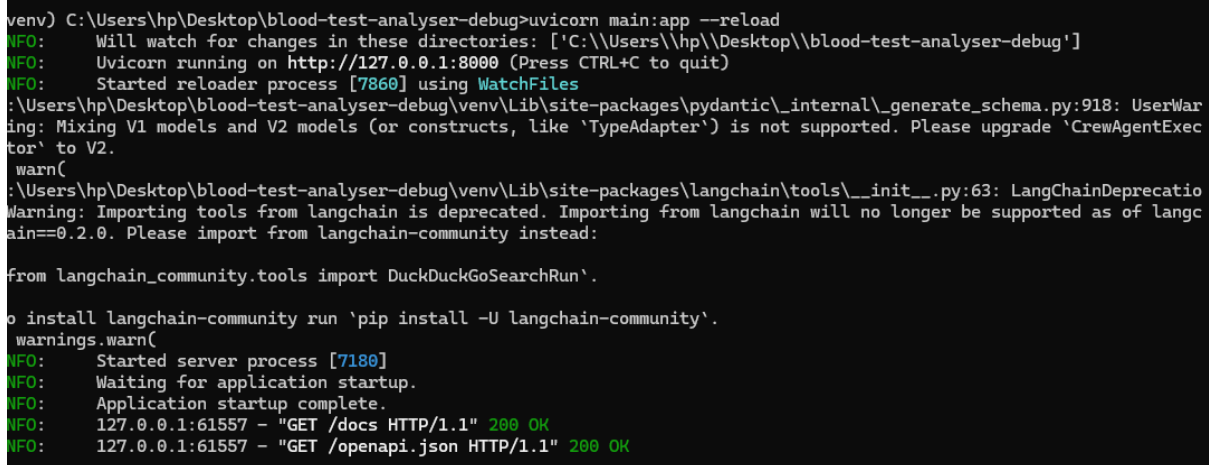
- o Diet planning

- o Exercise scheduling

Output:

Fig 1.1

Fig 1.2