# **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:
  - Medical insights
  - o Nutrition plans
  - 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.tx	xt (recommended)
— data/ S	tores uploaded PDFs
Lvenv/	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:
  - o Diagnosis

- Diet planning
- Exercise scheduling

#### Output:

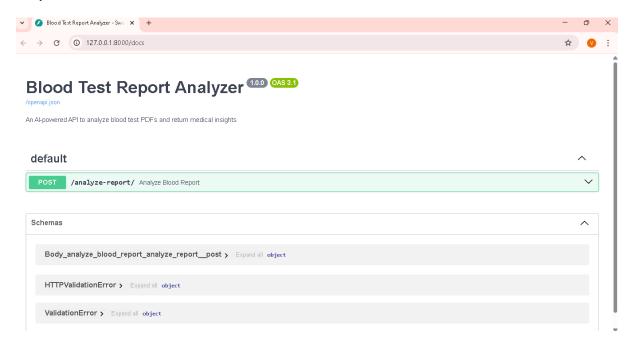


Fig 1.1

```
venv) C:\Users\hp\Desktop\blood-test-analyser-debug>uvicorn main:app --reload
NFO: Will watch for changes in these directories: ['C:\\Users\hp\\Desktop\\blood-test-analyser-debug']
NFO: Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
NFO: Started reloader process [7860] using WatchFiles
:\Users\hp\Desktop\blood-test-analyser-debug\venv\Lib\site-packages\pydantic\_internal\_generate_schema.py:918: UserWar
ing: Mixing V1 models and V2 models (or constructs, like `TypeAdapter') is not supported. Please upgrade `CrewAgentExec
tor' to V2.
warn(
:\Users\hp\Desktop\blood-test-analyser-debug\venv\Lib\site-packages\langchain\tools\__init__.py:63: LangChainDeprecatio
Warning: Importing tools from langchain is deprecated. Importing from langchain will no longer be supported as of langc
ain=0.2.0. Please import from langchain-community instead:
from langchain_community.tools import DuckDuckGoSearchRun'.

o install langchain-community run `pip install -U langchain-community'.
warnings.warn(
NFO: Started server process [7180]
NFO: Waiting for application startup.
NFO: Application startup complete.
NFO: 127.0.0.1:61557 - "GET /docs HTTP/1.1" 200 OK
NFO: 127.0.0.1:61557 - "GET /docs HTTP/1.1" 200 OK
```

Fig 1.2