

Lab 1

LangChain/LangGraph Workbench

Instructions:

1. Complete the tasks and steps listed under the Requirements section below.
2. Participate in the Lab Discussions on Canvas

Requirements:

1. Install Python 3.10 from this URL:
 - <https://www.python.org/downloads/release/python-3100/>
2. Install Jupyter Notebook from this URL:
 - <https://jupyter.org/>
3. Install VS Code from this URL:
 - <https://code.visualstudio.com/download>
4. Check python versions installed on your computer and verify that you have Python 3.10 installed by executing from the terminal/window the command:
 - `py -list`
5. Create python 3.10 virtual environment by executing the following commands from the terminal/window:
 - `py -3.10 -m pip install virtualenv`
 - `py -3.10 -m virtualenv venv-langgraph`
 - `venv-langgraph\Scripts\activate`
6. We are using LangGraph in this Lab
 - <https://langchain-ai.github.io/langgraph/>
7. From venv terminal/window, execute the following commands to install langgraph:
 - `pip install uv`

- `uv pip install -U langgraph`
8. Use your personal email account to create a login and API KEY for OpenAI gtp-4o-mini from this URL:
 - <https://platform.openai.com/api-keys>
 9. Use your personal email account to create a login and API KEY for Tavily from this URL:
 - <https://app.tavily.com/home>
 10. Set up your environment variables for OpenAI Key and Tavily
 - `set OPENAI_API_KEY=ADD_YOUR_OPENAI_API_KEY_HERE`
 - `set TAVILY_API_KEY=ADD_YOUR_OPENAI_API_KEY_HERE`
 11. Use your school email or gmail account and enroll in LangGraph course for free
 - <https://learn.deeplearning.ai/courses/ai-agents-in-langgraph/lesson/1/introduction>
 12. Watch the following videos:
 - <https://learn.deeplearning.ai/courses/ai-agents-in-langgraph/lesson/1/introduction>
 - <https://learn.deeplearning.ai/courses/ai-agents-in-langgraph/lesson/2/build-an-agent-from-scratch>
 13. Run the attached code of Lesson 1 on your personal development computer:
 - <https://learn.deeplearning.ai/courses/ai-agents-in-langgraph/lesson/2/build-an-agent-from-scratch>