Lesson 4 Demo: Prerequisite

Create *pyproject.toml* File to Install Requirements

Objective: To create a *pyproject.toml* file to install all requirements for the project and set up an .env file with the required API key

Tools and prerequisites

Editors: VSCode or PyCharm

1. Pipx - the lab should have this installed already (optional if already installed)**:**

   pipx is a Python tool that installs and runs Python applications in isolated virtual environments. It simplifies managing standalone Python command-line tools without interfering with your system's Python installation or the dependencies and environments of your other projects.

   Installation on macOS:
   - Use command: brew install pipx
   - Run: pipx ensurepath

   Installation on Windows:
   - Use command: scoop install pipx
   - Run: pipx ensurepath

2. Poetry - the lab should have this installed already (optional if already installed):

   Poetry is a Python tool for managing dependencies, packaging projects, and handling virtual environments. It simplifies project setup and dependency installation and ensures consistency across different environments using a `pyproject.toml` and `poetry.lock` file. Poetry makes it easy to manage and publish Python packages with minimal effort.

   Installation:
   - Command: pipx install poetry
   - Confirm installation with: poetry --version

A. Setting up the project

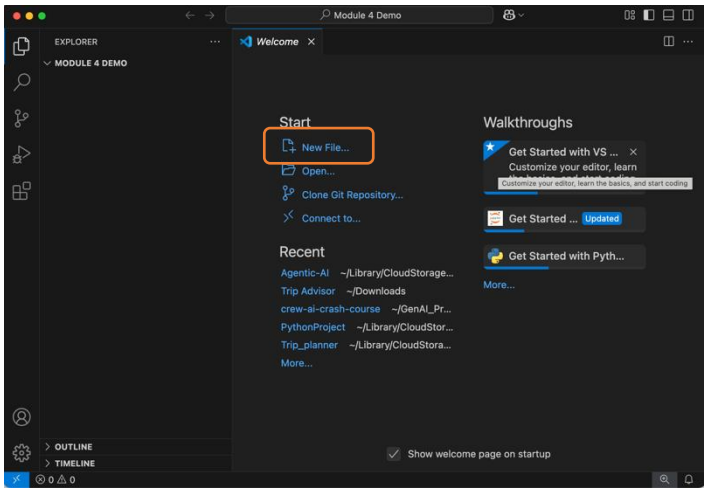
Step 1: Create a new folder named “Module_4_demo”

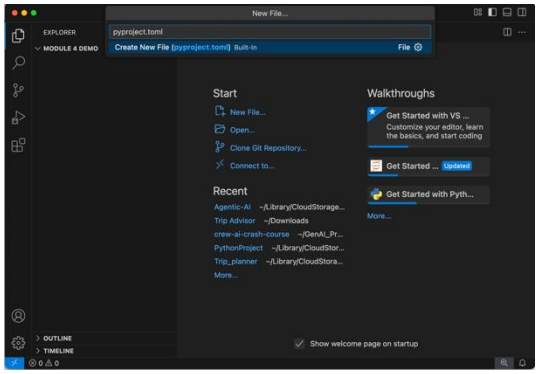
1.1 Open VSCode and create a new folder for your project

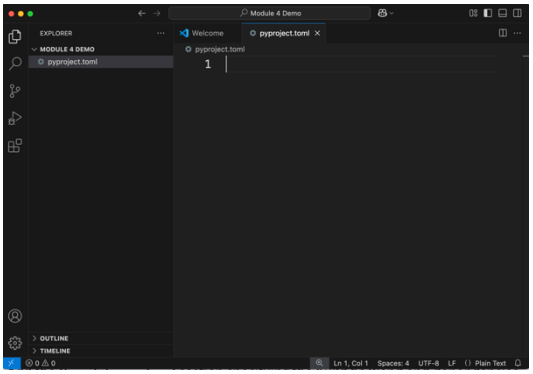
B. Creating the pyproject.toml file

Step 1: Create the file

1.1 Inside your project folder, create a new file named pyproject.toml

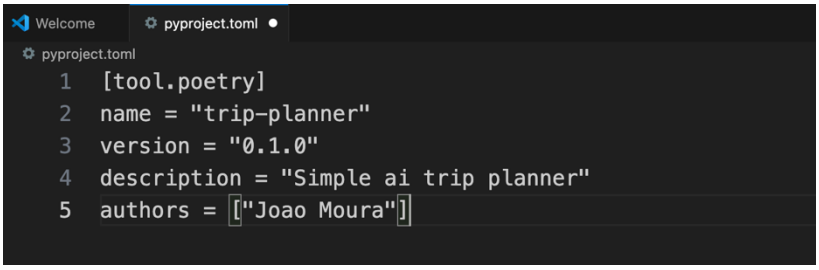






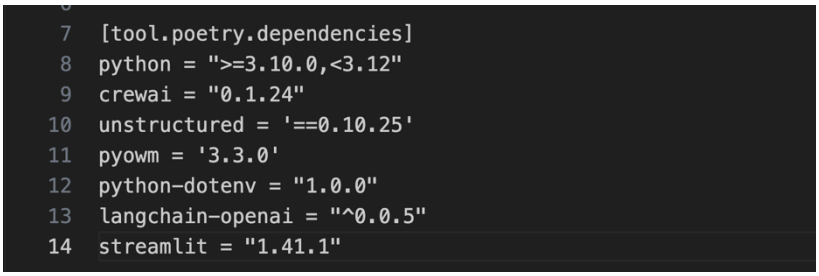
Step 2: Add the project metadata

2.1 Insert a [tool.poetry] section to define your project's metadata (like name, version, description, and more)



Step 3: Specify dependencies

3.1 Add a [tool.poetry.dependencies] section to list the required tools and their versions



Step 4: Add any additional sections if needed

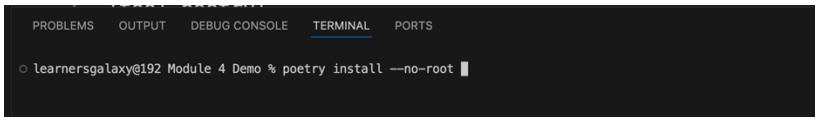
4.1 Include any extra configuration sections that your project might require

Step 5: Build system setup

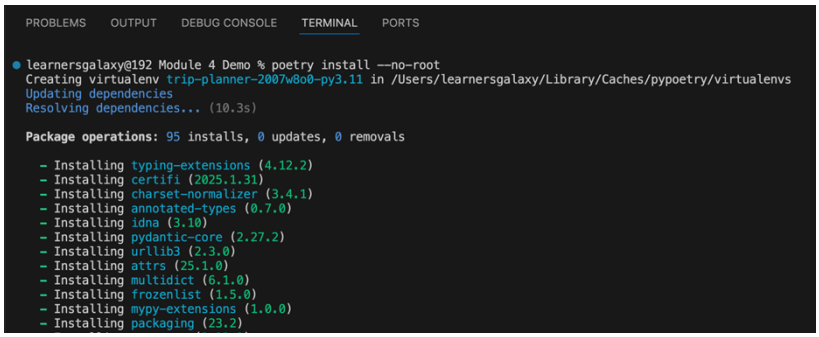
5.1 Add a [build-system] section specifying the build backend and its dependencies

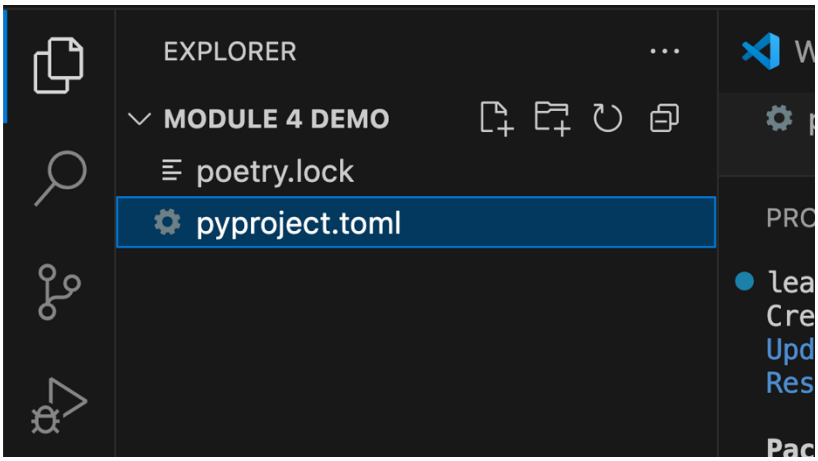
Step 6: Generate poetry.lock

6.1 Save your pyproject.toml file and run the appropriate command (usually poetry install) to generate the poetry.lock file



Output:





C. Accessing API keys

Fetch SerperAPI AI key

Step 1: Create a SerperAPI account

1.1 Visit the SerperAPI website: https://serperapi.com
1.2 Click the **Sign Up** button if you don't have an account or **Log In** if you already do
1.3 Sign up with your email or log in using an existing account

Step 2: Verify your email

2.1 After signing up, check your inbox for a verification email
2.2 Click the verification link in the email to confirm your account

Step 3: Choose a plan

3.1 After signing in, go to the **Pricing** page or dashboard to choose a subscription plan that suits your needs
3.2 Select the free trial or a paid plan, depending on your usage requirements

Step 4: Access the API keys section

4.1 Once you're logged in, go to the **Dashboard** or the **API Keys** page
4.2 You should be able to see an option to generate or view your API key.

Step 5: Generate the API key

5.1 Click the **Generate New Key** button if one isn't automatically provided
5.2 The key will be displayed on the screen. Copy it immediately and save it somewhere secure.

Step 6: Use the API key

6.1 Now that you have your API key, you can use it to make requests to the SerperAPI.
6.2 In your application or code, include the API key in the header or request body to authenticate and access the data

By following the above-mentioned steps, you have successfully set up your Python project with pipx and poetry and securely integrated your API keys using a .env file. This streamlined approach lays a solid foundation for efficient and organized development.