**Step 1: Set Up a New Project with Cookiecutter**

1. **Open the Terminal**.
2. **Create a new project** using Cookiecutter:

Copy code

Pip install cookiecutter

cookiecutter https://github.com/khuyentran1401/data-science-template

1. **Answer the prompts**:
   * Project name: my\_data\_science\_project
   * Author name: (Your Name)
   * Description: (Project Description)
   * Follow any other prompts as necessary.
2. **Navigate to the new project directory**:

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cd my\_data\_science\_project

**Step 2: Manage Dependencies with Poetry**

1. pip install poetry
2. **Initialize Poetry** in the project:

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poetry init

* + Follow the prompts to set up project metadata (name, version, etc.). Press Enter to accept defaults where appropriate.

1. **Add a dependency** (e.g., NumPy):

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poetry add numpy

1. **Verify the installation**:

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poetry show

* + This command lists all installed dependencies.

1. **Activate the Poetry shell**:

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poetry shell

1. **Create a simple Python script**:
   * Create a file named main.py in the project directory and add the following content:

Copy code

import numpy as np

def main():

"""Main function to demonstrate NumPy usage."""

arr = np.array([1, 2, 3])

print("Numpy Array:", arr)

if \_\_name\_\_ == "\_\_main\_\_":

main()

1. **Run the script**:

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python main.py

* + This should output: Numpy Array: [1 2 3]

**Step 3: Generate Documentation with pdoc**

1. **Add docstrings** (if not already done) to the main.py file:

Copy code

import numpy as np

def main():

"""Main function to demonstrate NumPy usage."""

arr = np.array([1, 2, 3])

print("Numpy Array:", arr)

if \_\_name\_\_ == "\_\_main\_\_":

main()

1. **Generate HTML documentation**:
   * Run the following command to generate documentation for the main.py file:

bash

Copy code

pdoc main.py

1. **Check the output**:
   * After running the command, pdoc will generate a folder named html (or similar) containing the generated documentation.
   * Open the index.html file in a web browser to view the documentation.

**Conclusion**

In this hands-on demonstration, participants learned how to:

* Set up a Python project using **Cookiecutter**.
* Manage dependencies with **Poetry**.
* Generate and view documentation using **pdoc**.