



APAI 2024

Lesson 2

Editors, IDE, Distributions & VENV

Writing code = Writing Errors

Editors, IDE, Distributions & VENV

Writing code without debug? Impossible!

Debugging is the process of identifying and fixing errors or defects in computer code to ensure it operates as intended.

Editors, IDE, Distributions & VENV

Editor VS IDE



Editors, IDE, Distributions & VENV

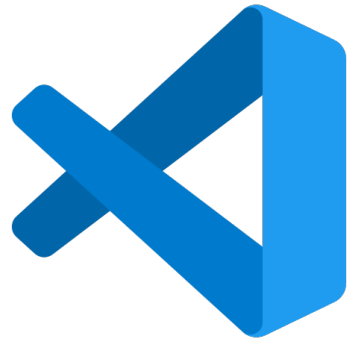
Editor **VS** IDE

Editor is a simpler tool focused on text editing.

IDE (Integrated Development Environment) is a comprehensive environment for software development that offers advanced features such as code editing, debugging, project management, and integration with external tools.

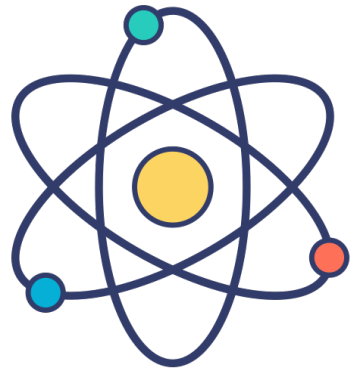
Editors, IDE, Distributions & VENV

Famous IDE



Editors, IDE, Distributions & VENV

Famous Editor



My Choice

PyCharm



Editors, IDE, Distributions & VENV

Distribution

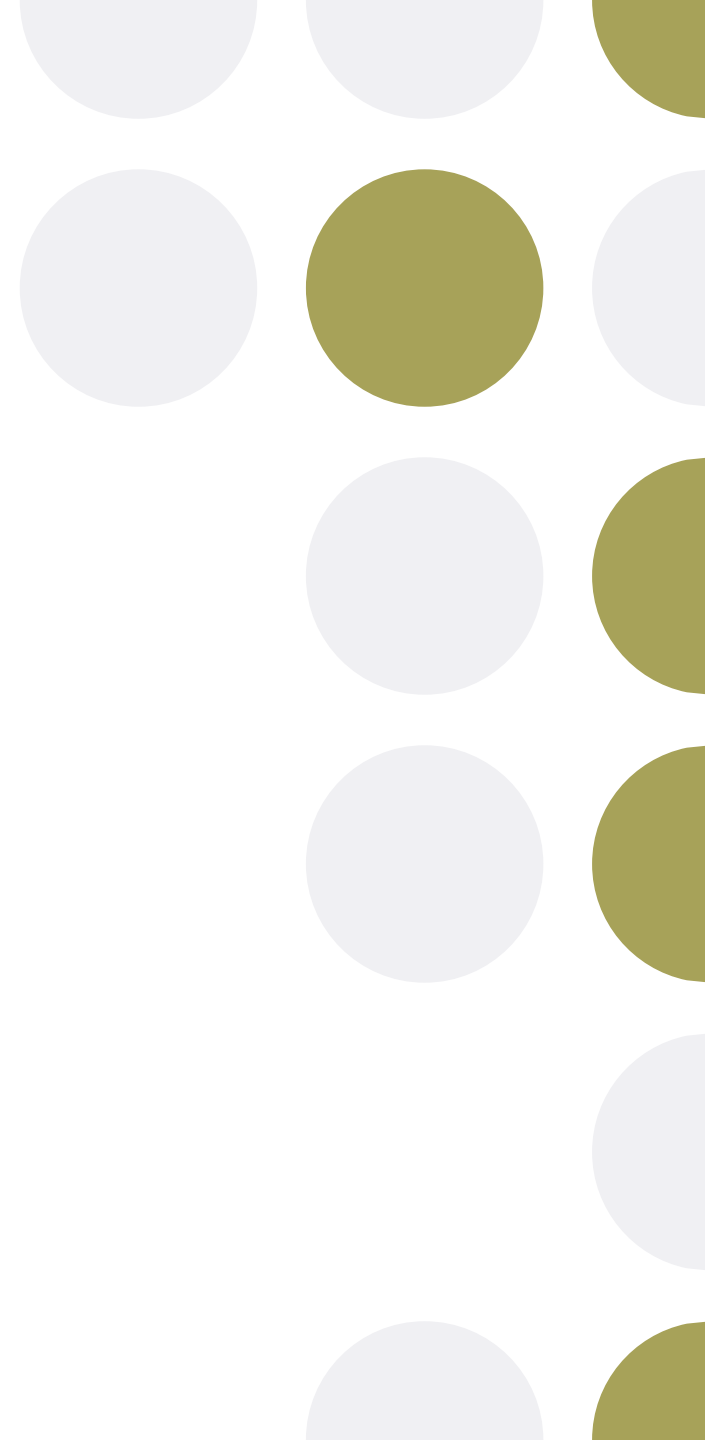
There are several distributions of Python, including

- the "standard" from `python.org`
- Anaconda
- Miniconda
- many others.

The choice depends on various factors. Distribution can differ from different factors for example the package manager (conda vs pip)

My Choice

PyCharm + Python standard

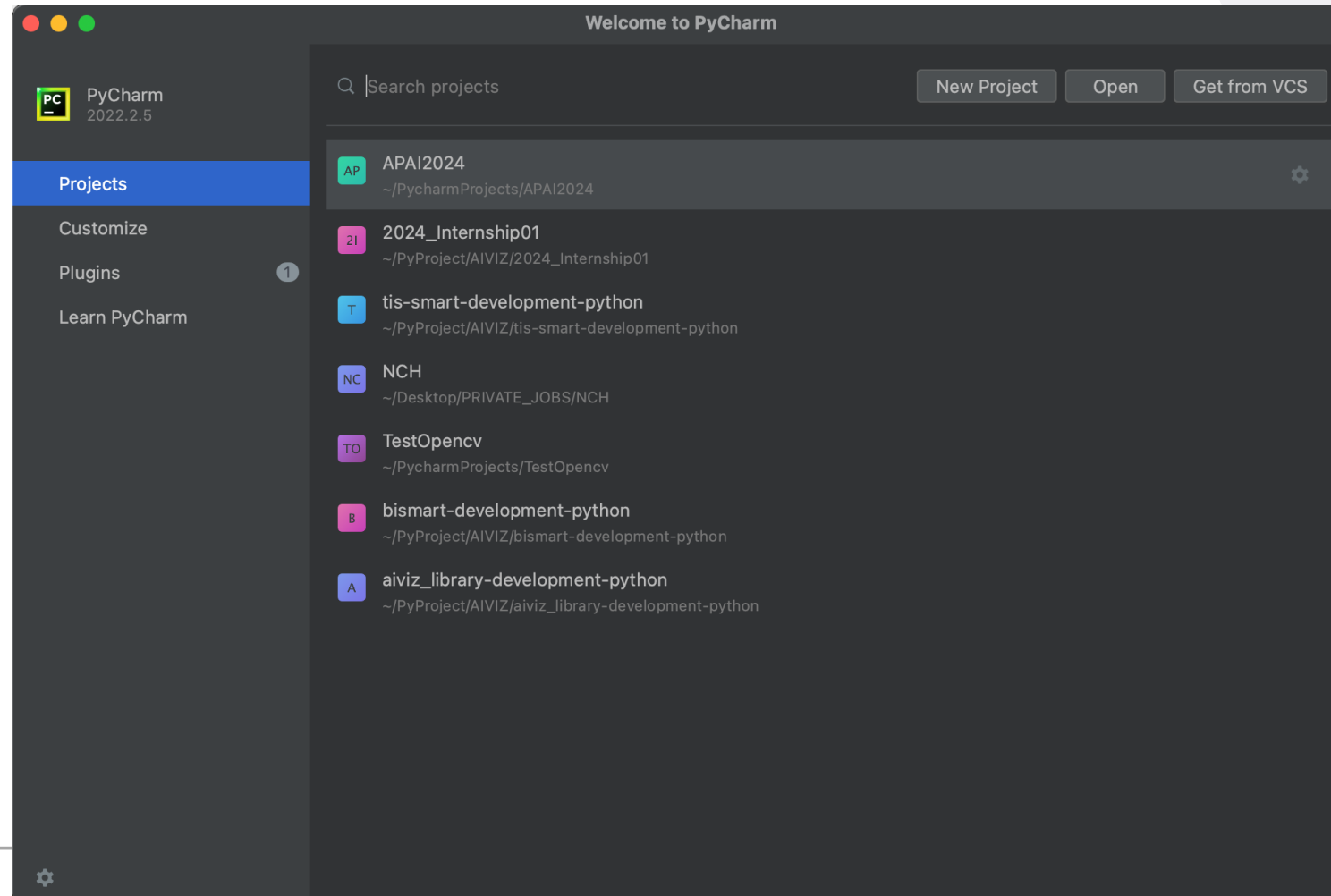


Editors, IDE, Distributions & VENV

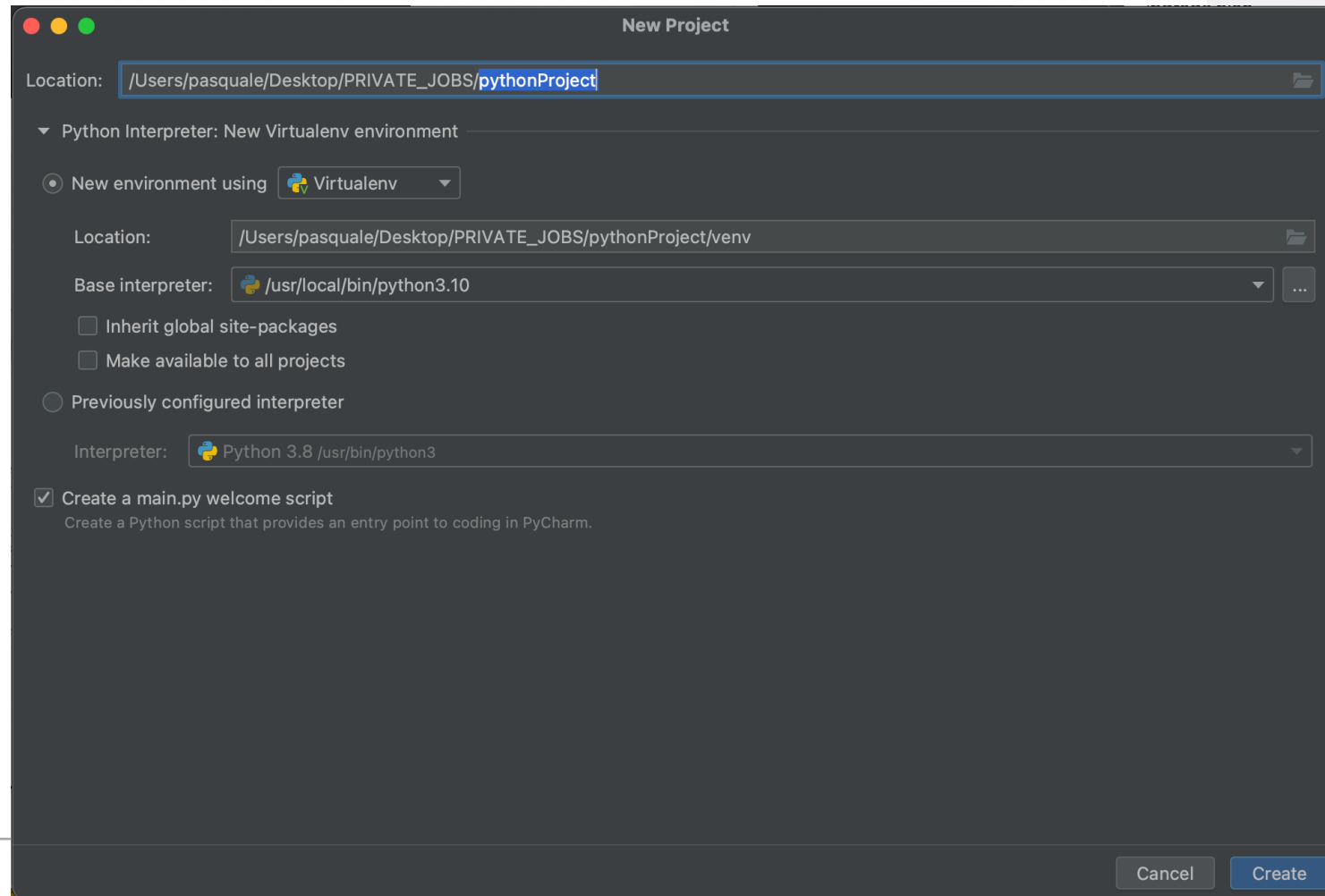
What is a Virtual Environment

A virtual environment is a self-contained directory tree that contains a specific version of Python interpreter and its own set of installed packages. It allows multiple Python projects to coexist on the same system, each with its own dependencies and configurations, without interfering with each other.

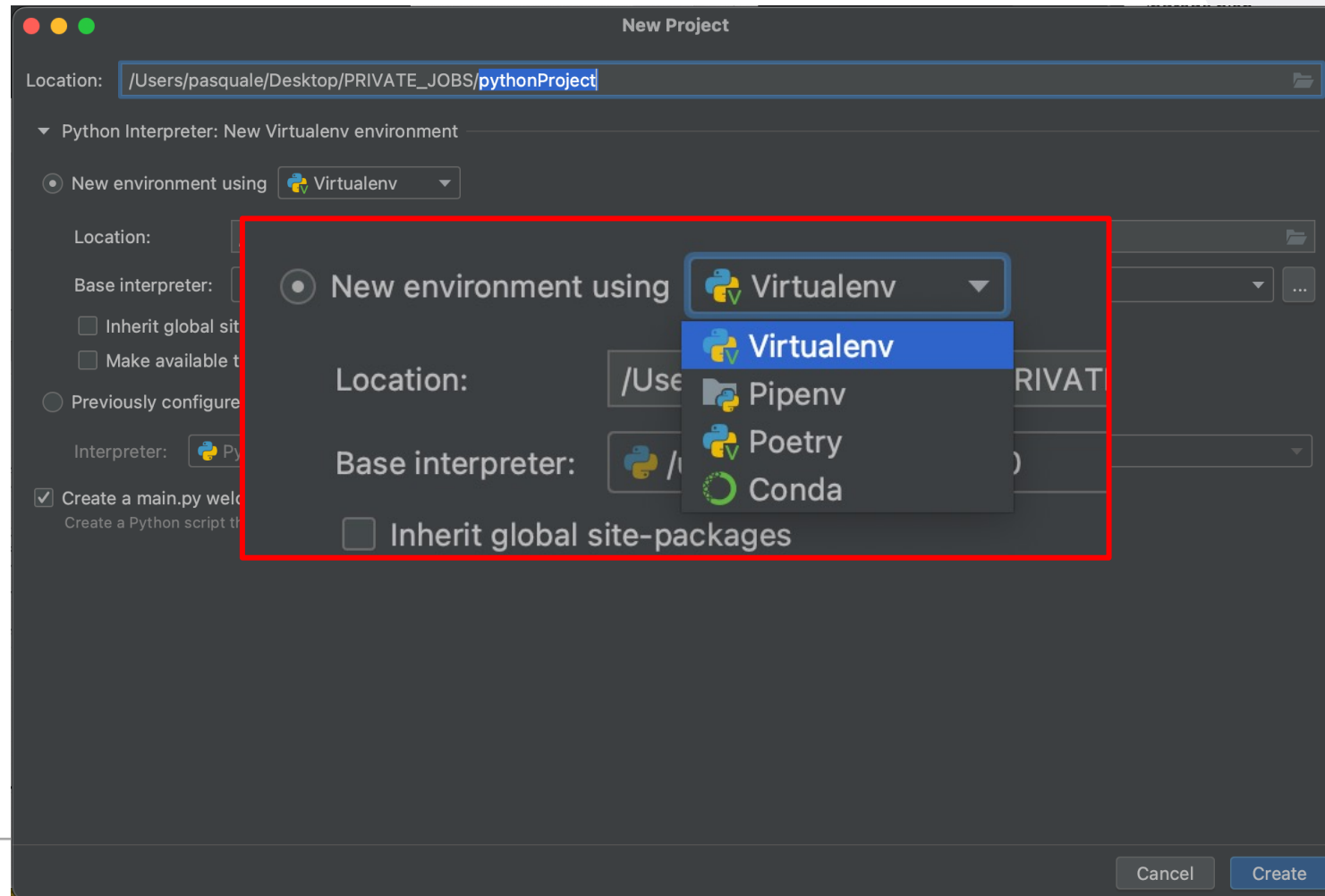
First Project



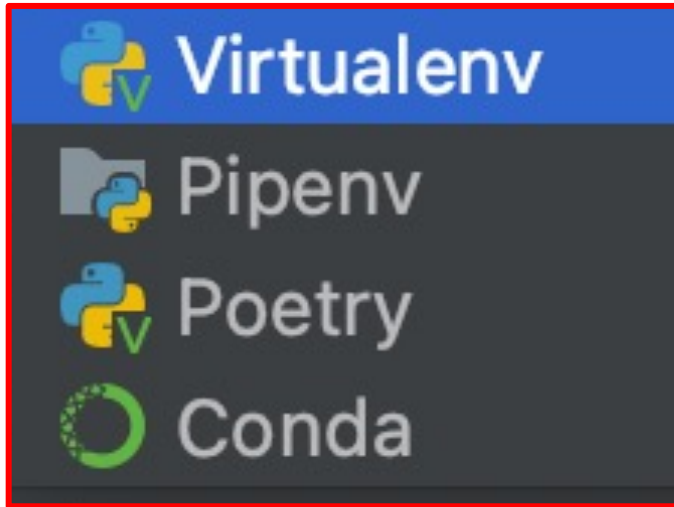
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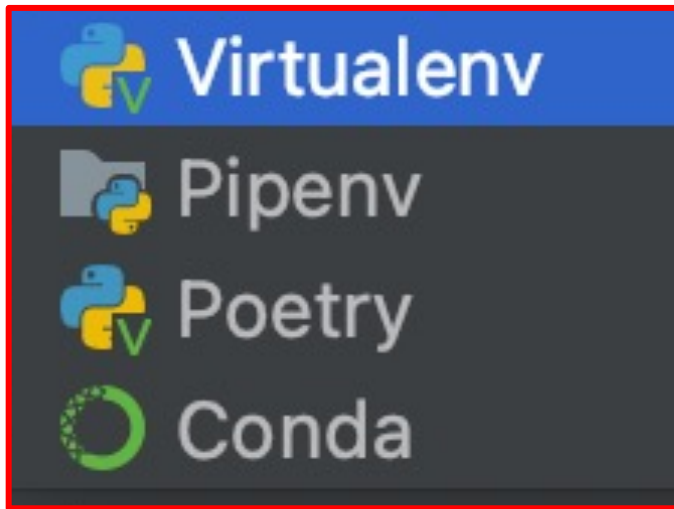
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Virtualenv is a tool for creating isolated Python environments.

- It allows you to create independent Python virtual environments where you can install specific packages without affecting the global Python installation.
- It's useful for keeping dependencies of different projects separate and manageable.

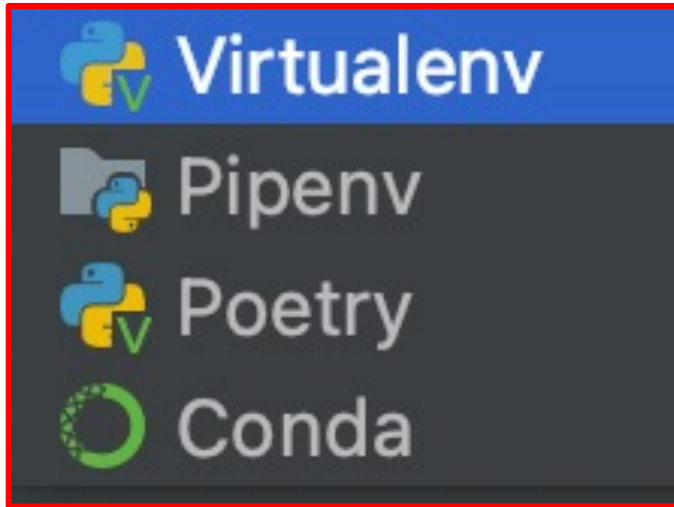
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PipEnv is a tool that combines dependency management and virtual environments.

- It automates the creation of virtual environments for projects and manages dependencies through a “Pipfile”.
- It provides a simplified interface for installing, updating, and managing project dependencies.

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Poetry is a dependency manager and build tool for Python projects.

- It focuses on managing project dependencies, creating virtual environments, and handling library versions.
- It also provides features for creating Python packages, distribution, and publishing.
- Poetry aims to simplify the Python project development and distribution process.

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PACKAGE WITH EASE

Build

Easily **build** and **package** your projects with a single command.

```
$ poetry build

Building poetry (1.0.0)
- Building sdist
- Built poetry-1.0.0.tar.gz

- Building wheel
- Built poetry-1.0.0-py2.py3-none-any.whl
```

Supports source distribution and wheels.

SHARE YOUR WORK

Publish

Make your work known by **publishing** it to PyPI.

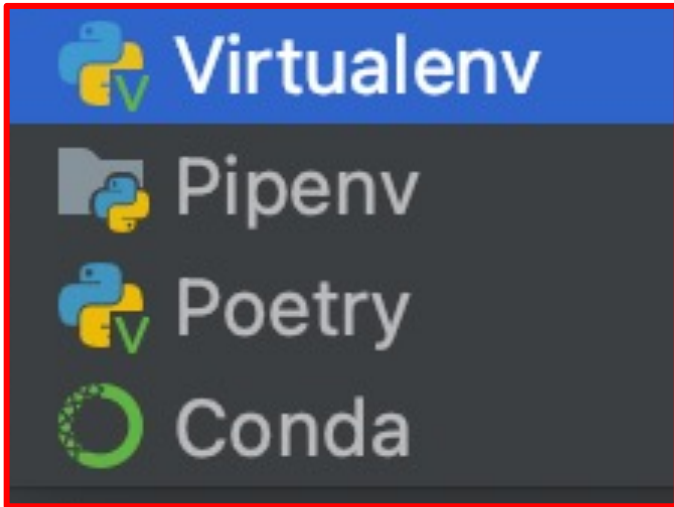
```
$ poetry publish

Publishing poetry (1.0.0) to PyPI

- Uploading poetry-1.0.0.tar.gz 100%
- Uploading poetry-1.0.0-py2.py3-none-any.whl 58%
```

*You can also publish on **private** repositories.*

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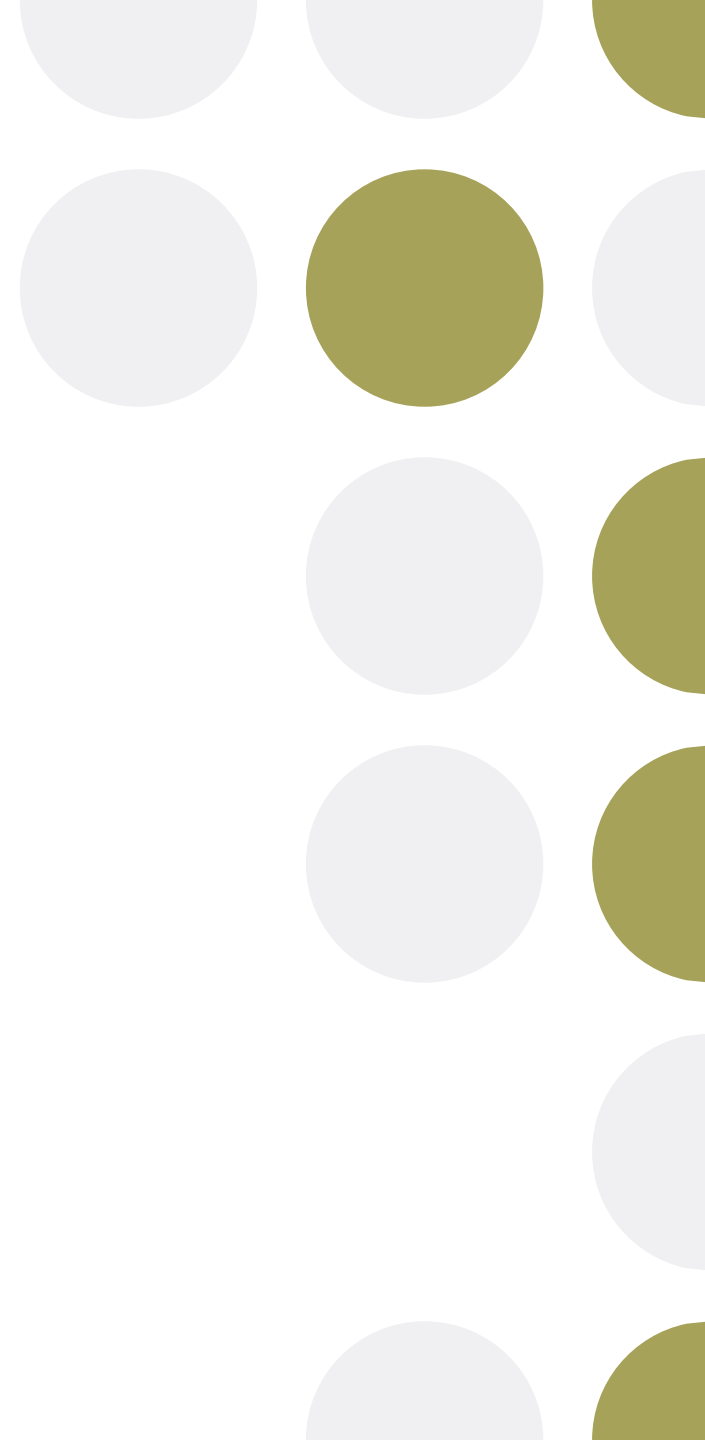


Conda is a package manager and environment management system that is not specific to Python only but widely used in the Python ecosystem.

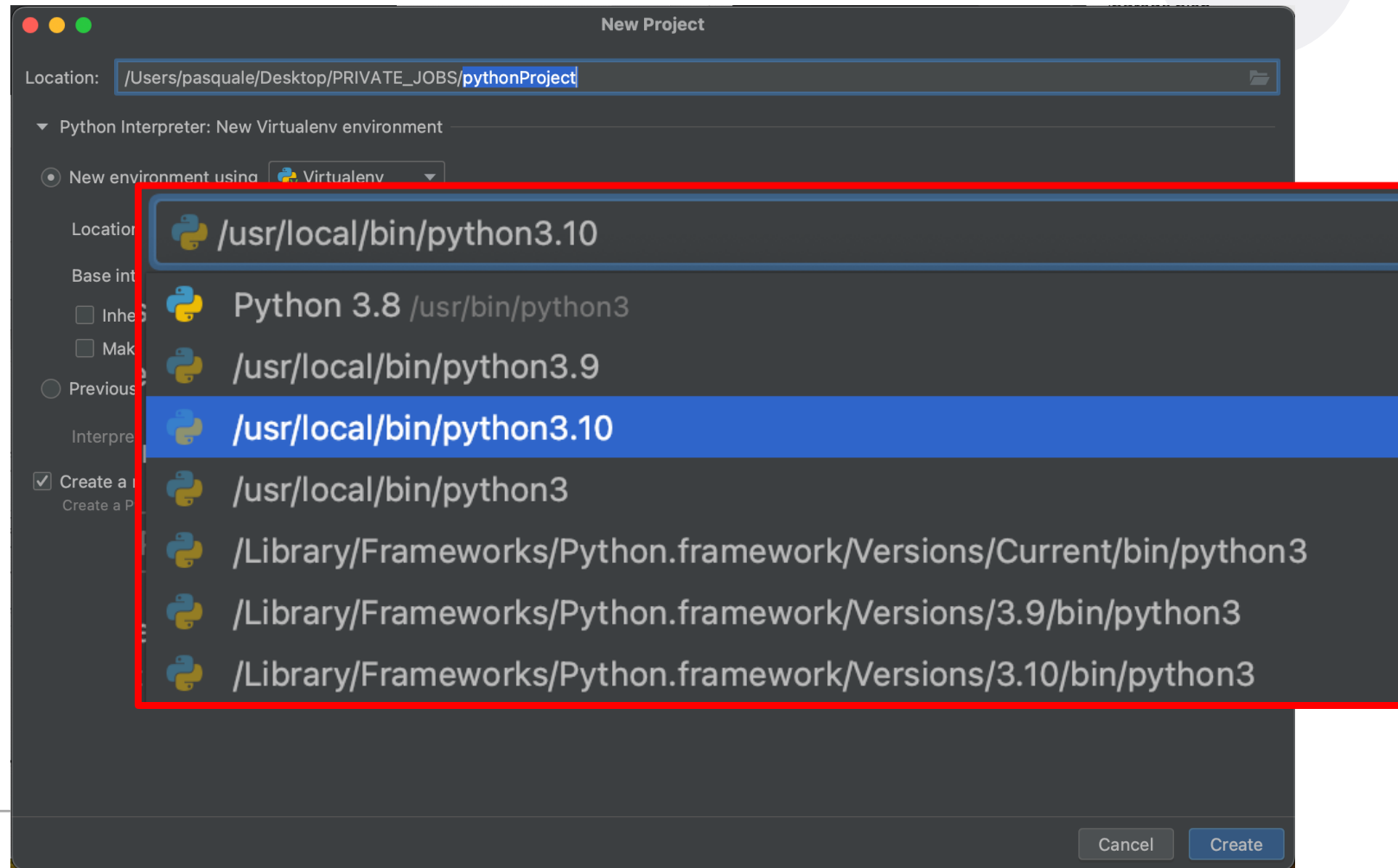
- It allows creating isolated environments not only for Python but also for other programming languages and tools.
 - It offers the ability to install Python and non-Python packages from dedicated repositories.
 - It's particularly useful for managing dependencies in projects involving both Python and non-Python libraries.
-

My Choice

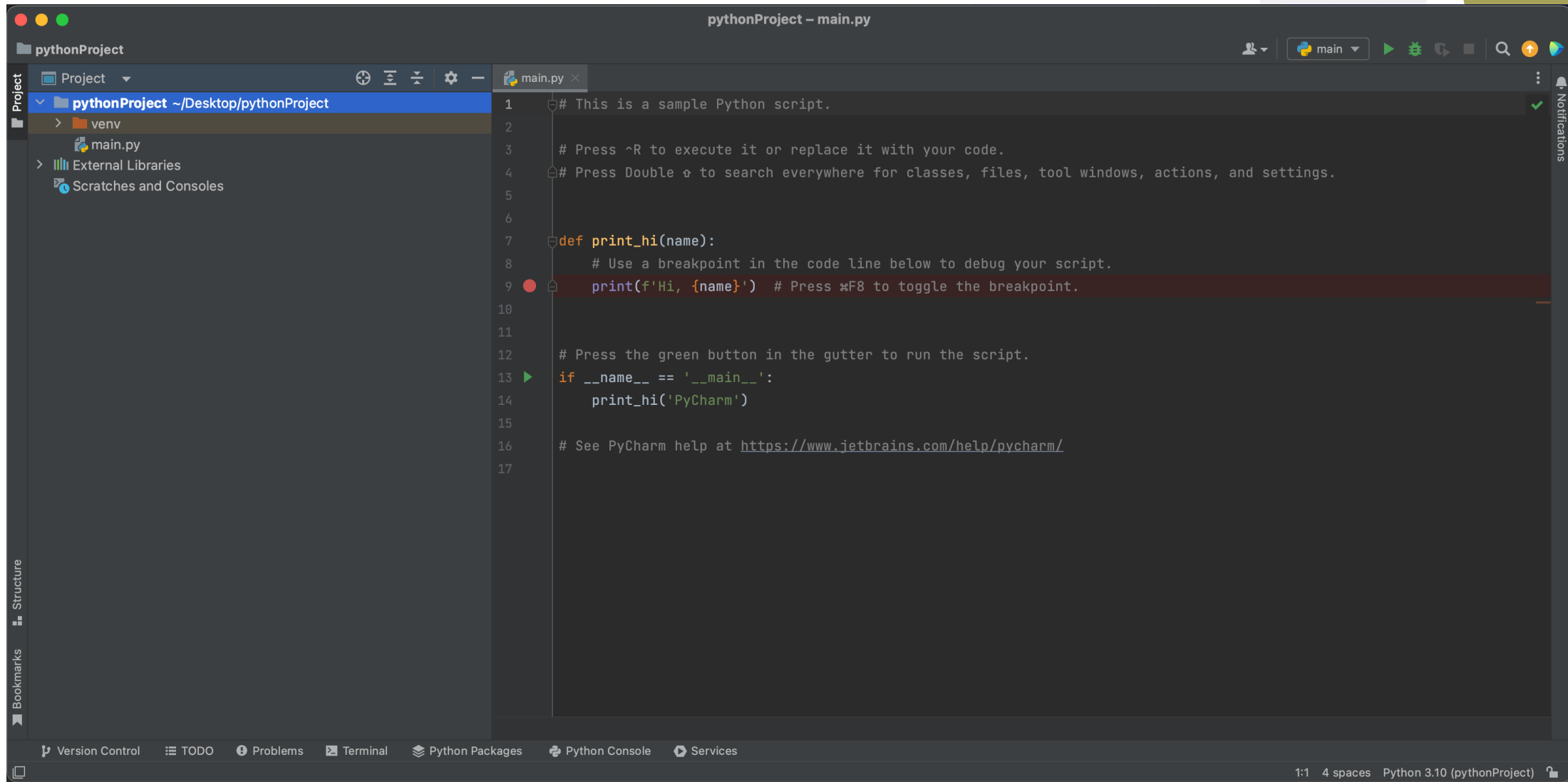
PyCharm + Python standard + Venv

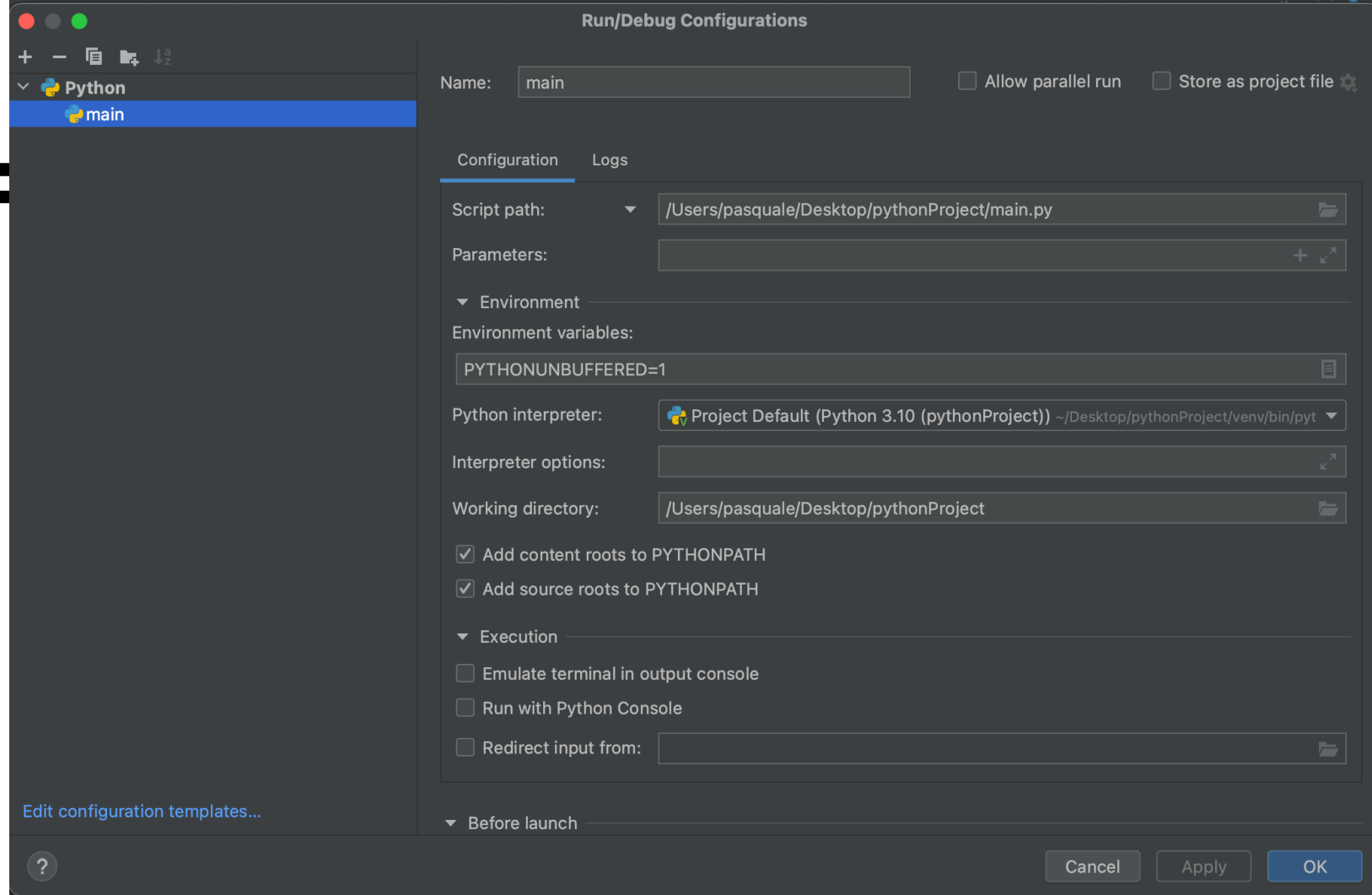


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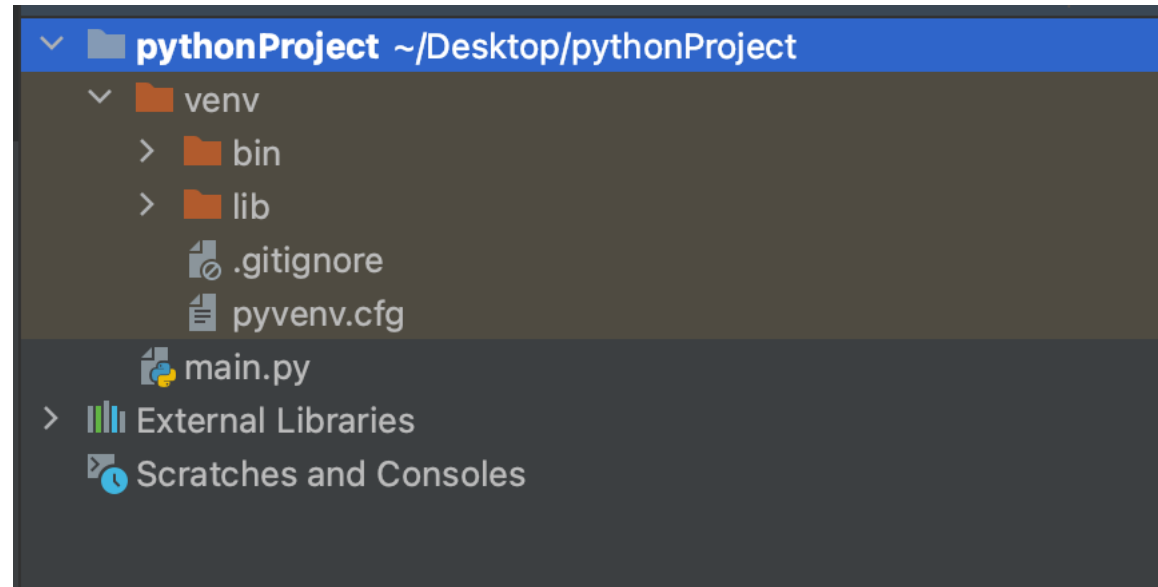


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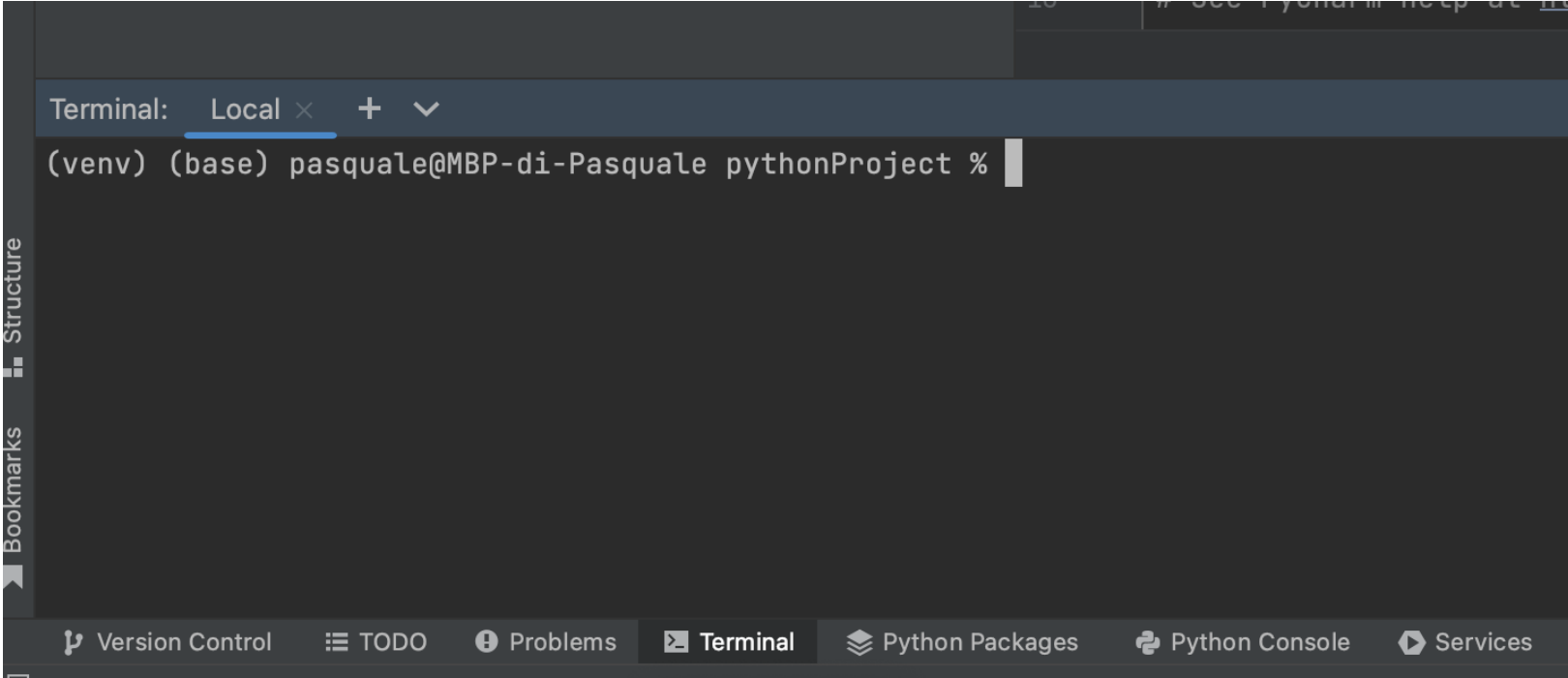




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First Project



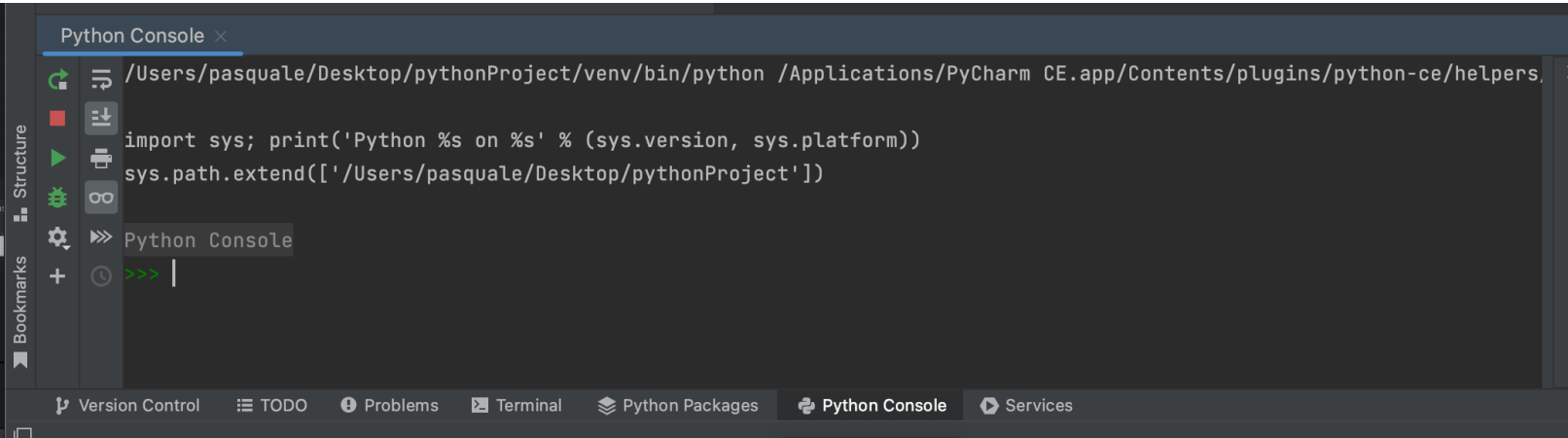
The image shows a terminal window within an IDE. The terminal has a tab labeled 'Terminal: Local' with a close button and a dropdown arrow. The prompt is '(venv) (base) pasquale@MBP-di-Pasquale pythonProject %'. The left sidebar shows 'Bookmarks' and 'Structure' views. The bottom status bar includes icons and labels for 'Version Control', 'TODO', 'Problems', 'Terminal' (which is active), 'Python Packages', 'Python Console', and 'Services'.

```
Terminal: Local × + ▾  
(venv) (base) pasquale@MBP-di-Pasquale pythonProject %
```

Bookmarks Structure

Version Control TODO Problems Terminal Python Packages Python Console Services

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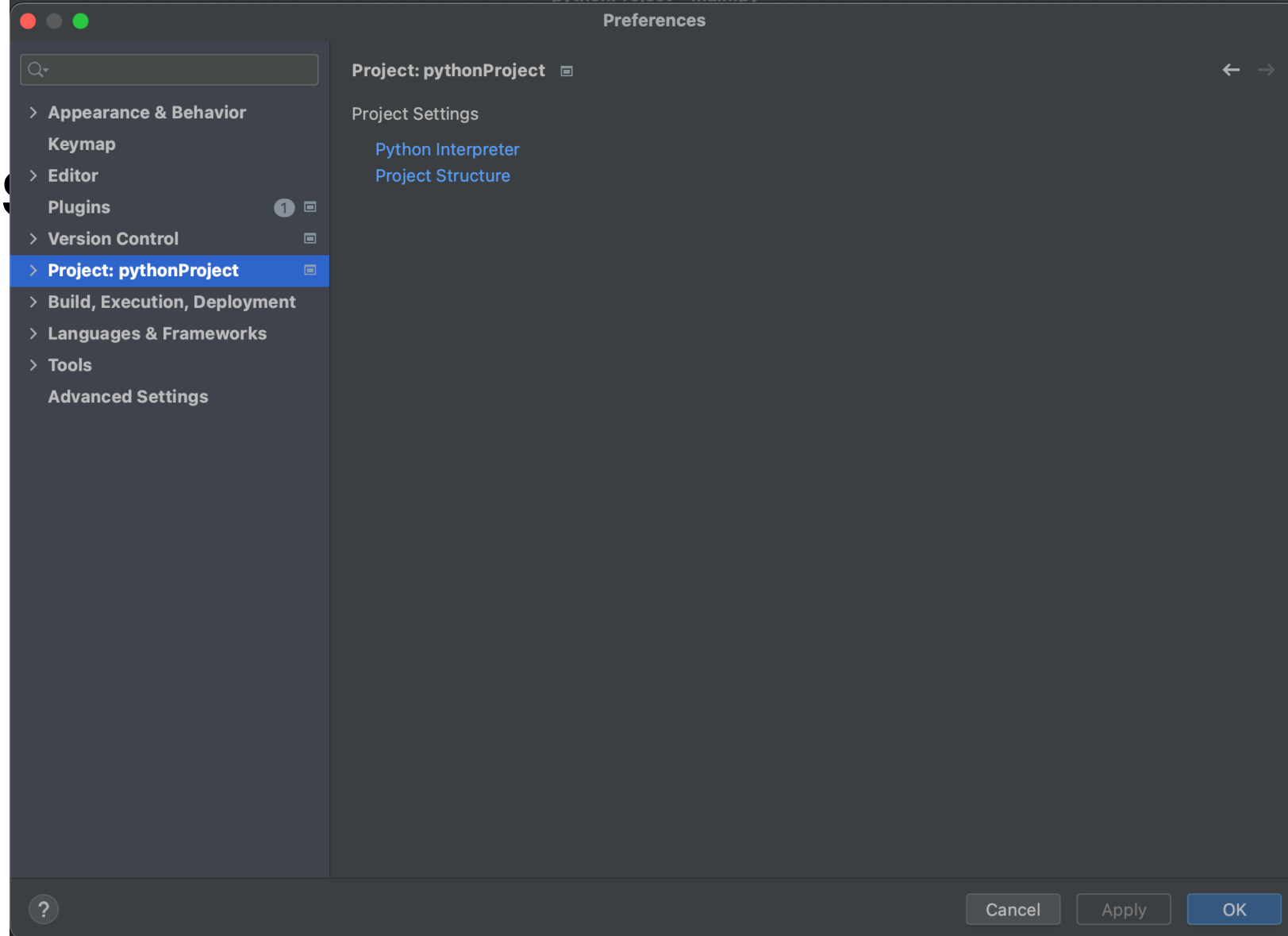
The screenshot shows the PyCharm Python Console window. The title bar reads "Python Console x". The command prompt shows the execution of a Python script: `/Users/pasquale/Desktop/pythonProject/venv/bin/python /Applications/PyCharm CE.app/Contents/plugins/python-ce/helpers.`. The script content is: `import sys; print('Python %s on %s' % (sys.version, sys.platform))` and `sys.path.extend(['/Users/pasquale/Desktop/pythonProject'])`. The console output shows the Python version and platform information. The bottom status bar includes tabs for Version Control, TODO, Problems, Terminal, Python Packages, Python Console (active), and Services.

```
Python Console x
/Users/pasquale/Desktop/pythonProject/venv/bin/python /Applications/PyCharm CE.app/Contents/plugins/python-ce/helpers. >
import sys; print('Python %s on %s' % (sys.version, sys.platform))
sys.path.extend(['/Users/pasquale/Desktop/pythonProject'])
Python Console
>>>
```

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First



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github.com/prototypeaiviz/pytorch_experiments

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prototypeaiviz / pytorch_experiments

🔍 Type to search

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🔗 Pull requests

🔄 Actions

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🔍 Go to file

⚙️ Add file

<> Code

👤 Pasquale Mirtuono

First Commit

07c37ec · last month

🕒 2 Commits

📁 .idea	First Commit	last month
📁 image_classification	First Commit	last month
📁 image_segmentation	First Commit	last month
📁 utils	First Commit	last month
📄 README.md	First Commit	last month
📄 requirements.txt	First Commit	last month

📖 README

✎

☰

📖 About

No description, website, or topic provided.

📖 Readme

🔄 Activity

★ 0 stars

👁️ 2 watching

🍴 0 forks

📖 Releases

No releases published

[Create a new release](#)

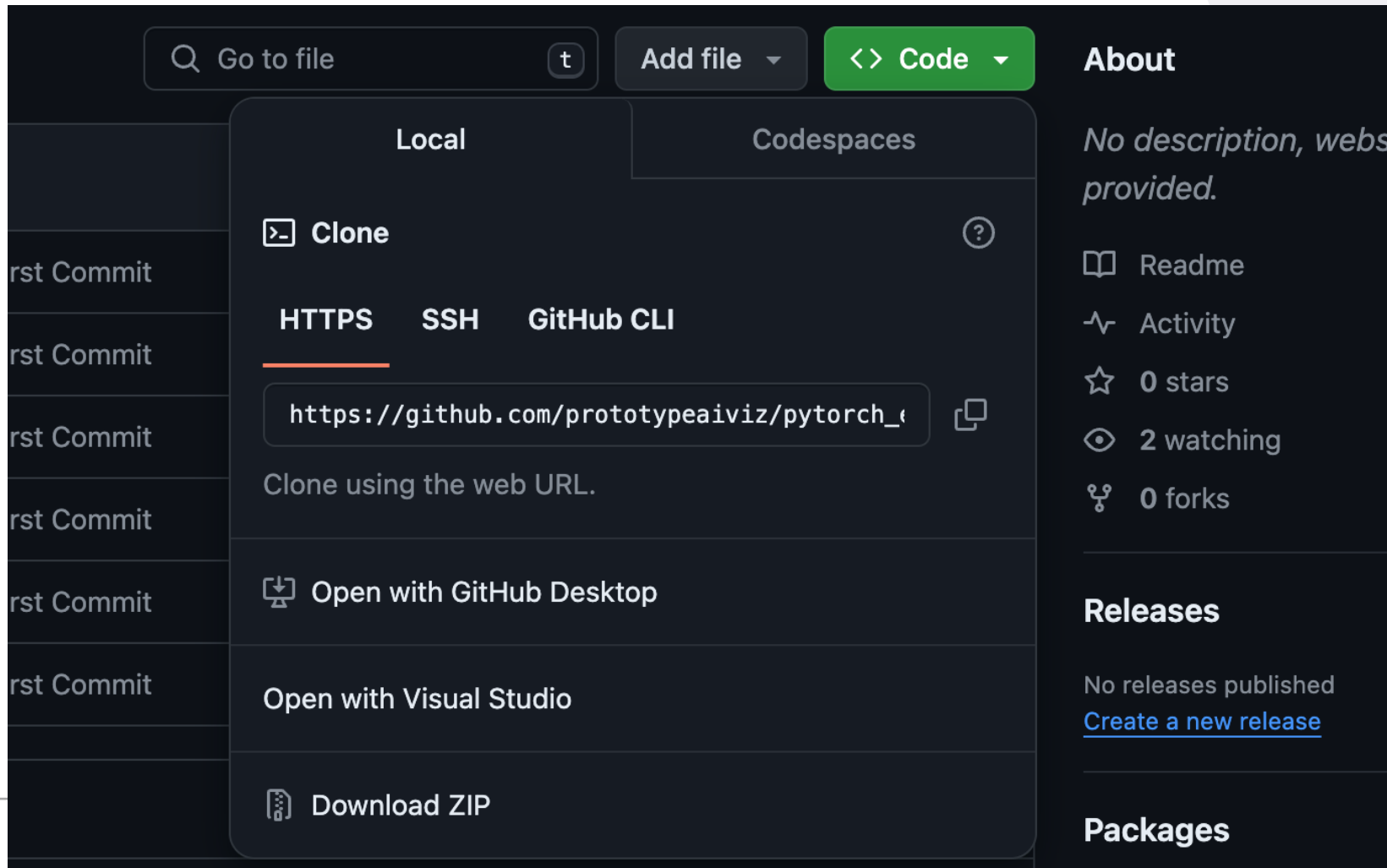
📖 Packages

No packages published

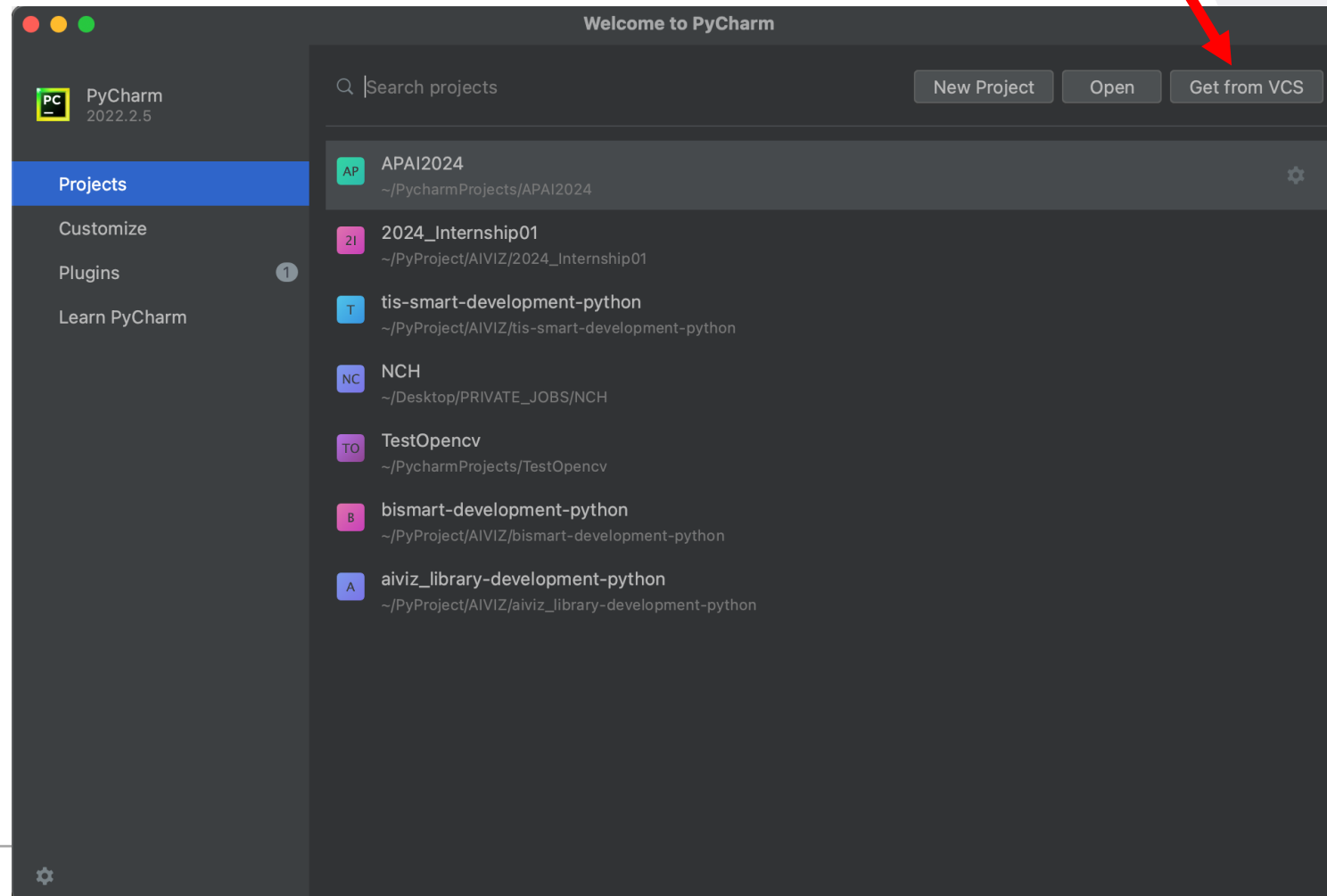
[Publish your first package](#)

Installazione Requirements

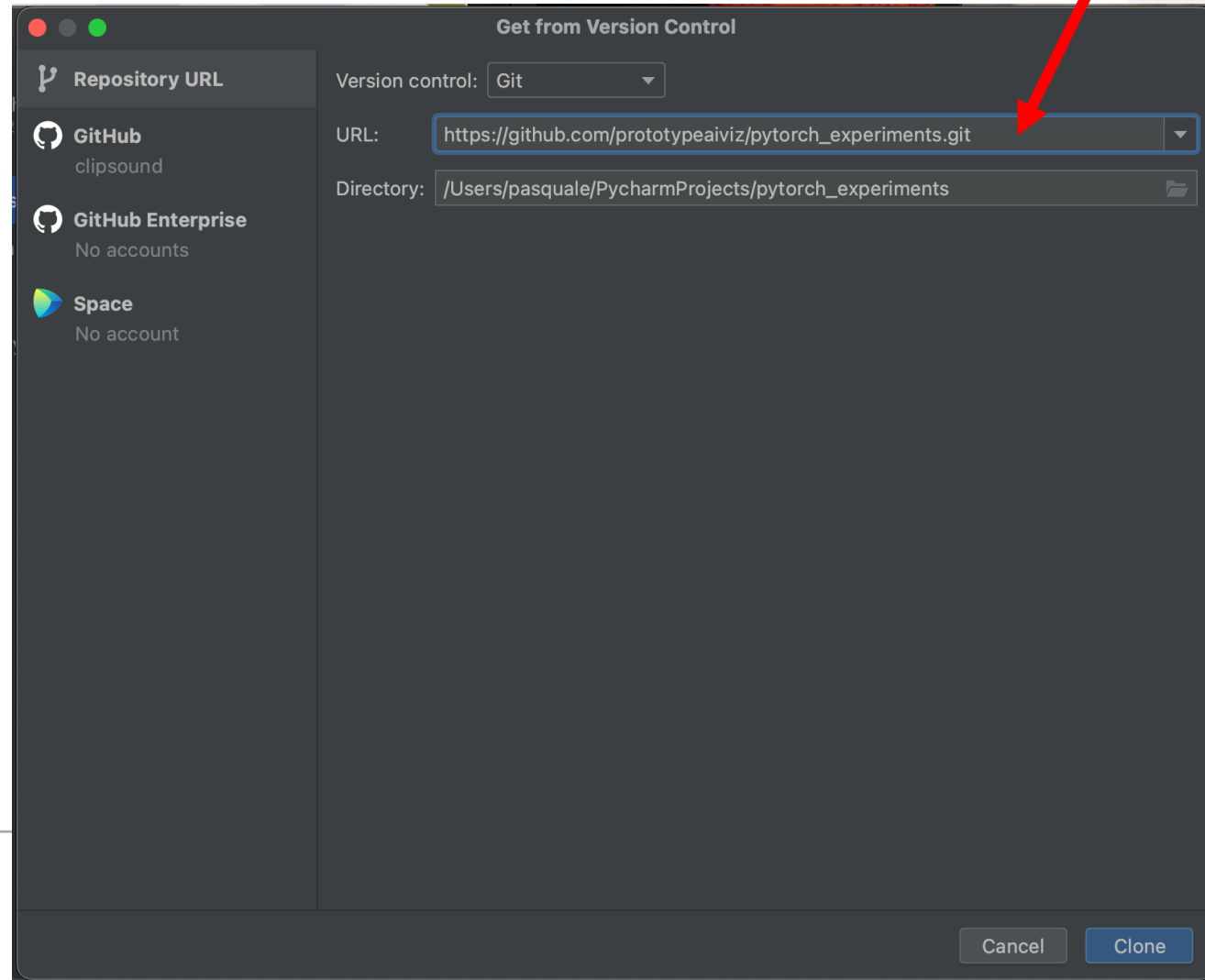
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