**🎯 Part 1: What is pip?**

### **✅ pip = Package Installer for Python**

It’s the tool you use to install external Python libraries.

### **📌 Example:**

pip install pandas

Downloads and installs the **pandas** library from PyPI.

## **📦 Part 2: What is PyPI?**

### **✅ PyPI = Python Package Index**

It’s a **central hub of all public Python libraries**, like an app store for Python packages.

* Website:<https://pypi.org>
* Developers can **upload** their packages
* Users can **download** packages using pip

## **🚀 Part 3: How to Create & Upload a Package to PyPI**

### **🔧 Step-by-step:**

### **🔹 Step 1: Create a simple project folder**

mycalculator/

│

├── mycalculator/

│ └── \_\_init\_\_.py # Package code

│ └── operations.py # Your logic

│

├── setup.py # Metadata

├── README.md # Project description

### **🔹 Step 2: Add some sample code in operations.py**

# mycalculator/operations.py

def add(a, b):

return a + b

def subtract(a, b):

return a - b

### **🔹 Step 3: Create \_\_init\_\_.py**

# mycalculator/\_\_init\_\_.py

from .operations import add, subtract

### **🔹 Step 4: Create setup.py**

# setup.py

from setuptools import setup, find\_packages

setup(

name='mycalculator',

version='0.1',

packages=find\_packages(),

author='Gowtham SB',

description='A simple calculator package',

long\_description=open('README.md').read(),

long\_description\_content\_type='text/markdown',

classifiers=[

'Programming Language :: Python :: 3',

],

python\_requires='>=3.6',

)

### **🔹 Step 5: Create README.md**

# mycalculator

A simple calculator package with add and subtract.

### **🔹 Step 6: Build the package**

Install build tool:

pip install build

Build the package:

python -m build

You'll get:

dist/

├── mycalculator-0.1.tar.gz

├── mycalculator-0.1-py3-none-any.whl

### **🔹 Step 7: Upload to PyPI**

Install Twine:

pip install twine

Upload using Twine:

python -m twine upload dist/\*

➡️ You’ll need a [PyPI account](https://pypi.org/account/register/) and token or password.

## **🟢 Once Approved: Install Your Own Package**

Anywhere in the world, people can now install your package:

pip install mycalculator

And use it:

python

from mycalculator import add

print(add(5, 3)) # Output: 8

## **🧠 Bonus: How to Install a Package in PyCharm**

### **✅ Method 1: Using Terminal (Recommended)**

bash

pip install pandas

### **✅ Method 2: Using PyCharm GUI**

1. Go to **File > Settings > Project > Python Interpreter**
2. Click the **+ icon**
3. Search for the package (e.g., pandas)
4. Click **Install Package**

## **🔚 Summary:**

| **Task** | **Tool/Command** |
| --- | --- |
| Install a package | pip install packagename |
| Check installed packages | pip list |
| Upload your own package | twine upload dist/\* |
| Package hub | <https://pypi.org> |
| Create builds | python -m build |

## 

### **About the Author**

**Gowtham SB** is a **Data Engineering expert, educator,** **and content creator** with a passion for **big data technologies, as well as cloud and Gen AI** . With years of experience in the field, he has worked extensively with **cloud platforms, distributed systems, and data pipelines**, helping professionals and aspiring engineers master the art of data engineering.

Beyond his technical expertise, Gowtham is a **renowned mentor and speaker**, sharing his insights through engaging content on **YouTube and LinkedIn**. He has built one of the **largest Tamil Data Engineering communities**, guiding thousands of learners to excel in their careers.

Through his deep industry knowledge and hands-on approach, Gowtham continues to **bridge the gap between learning and real-world implementation**, empowering individuals to build **scalable, high-performance data solutions**.

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🎥𝐘𝐨𝐮𝐓𝐮𝐛𝐞 - https://www.youtube.com/@dataengineeringvideos

📸𝐈𝐧𝐬𝐭𝐚𝐠𝐫𝐚𝐦 - <https://instagram.com/dataengineeringtamil>

📸𝐈𝐧𝐬𝐭𝐚𝐠𝐫𝐚𝐦 - [https://instagram.com/](https://instagram.com/dataengineeringtamil)thedatatech.in

🤝𝐂𝐨𝐧𝐧𝐞𝐜𝐭 𝐟𝐨𝐫 𝟏:𝟏 - https://topmate.io/dataengineering/

💼𝐋𝐢𝐧𝐤𝐞𝐝𝐈𝐧 - https://www.linkedin.com/in/sbgowtham/

🌐𝐖𝐞𝐛𝐬𝐢𝐭𝐞 - https://codewithgowtham.blogspot.com

💻𝐆𝐢𝐭𝐇𝐮𝐛 - http://github.com/Gowthamdataengineer

💬𝐖𝐡𝐚𝐭𝐬 𝐀𝐩𝐩 - https://lnkd.in/g5JrHw8q

📧𝐄𝐦𝐚𝐢𝐥 - atozknowledge.com@gmail.com

📱𝐀𝐥𝐥 𝐌𝐲 𝐒𝐨𝐜𝐢𝐚𝐥𝐬 - <https://lnkd.in/gf8k3aCH>