

# Integrating Python with UiPath

## Python:

**Python** is a general-purpose programming language, so it can be **used** for many things. **Python** is **used** for web development, AI, machine learning, operating systems, mobile application development, and video games.

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together.

## Pre-Requisite:

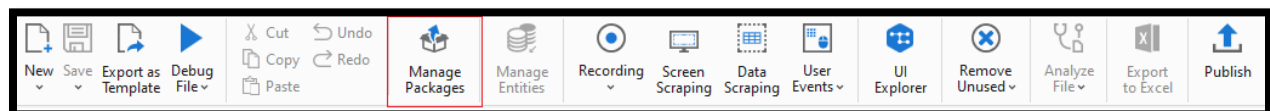
1. Supported Python Interpreter (Not all Interpreter are being supported by UiPath at the moment such as 3.7 or 3.7 +)
2. UiPath Python Activities Pack Must be added as Dependencies

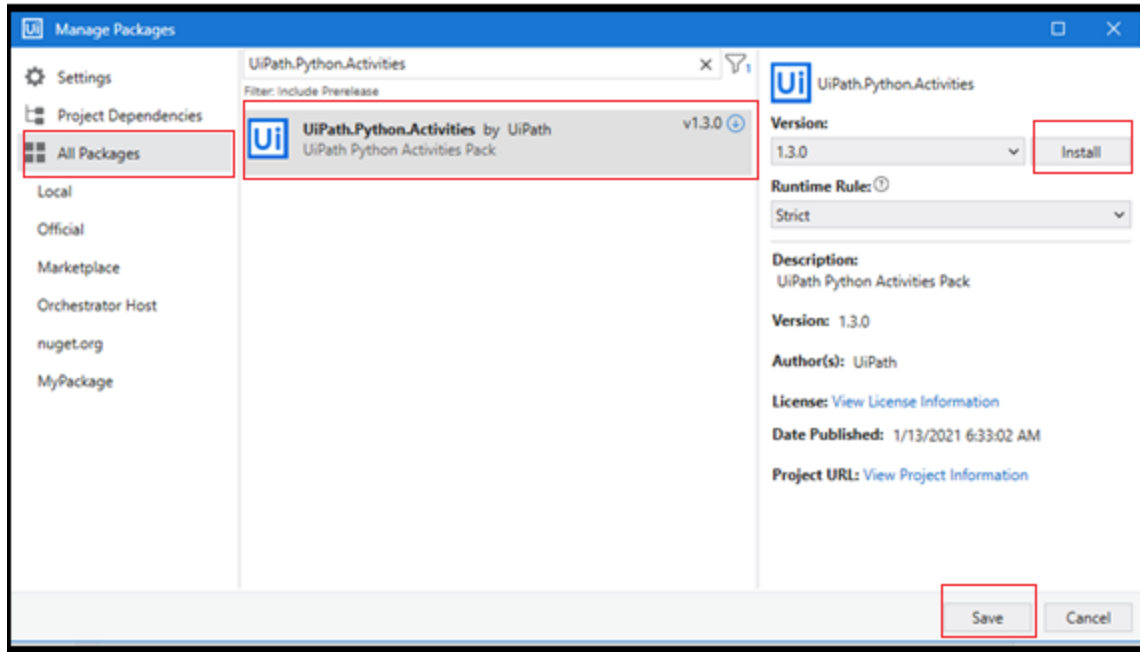
## Key Points

- Python commands can be written and stored in a plain text file
- This file can then be run by using the `python or py <script name>.py`
- Python scripts generally use the `.py` extension
- You should try to use a syntax-highlighting text editor like PyCharm, Visual Studio Code, Atom, Brackets etc... to edit your Python scripts ()
- Use comments to improve the readability of your code and aid understanding for both other people and yourself in the future

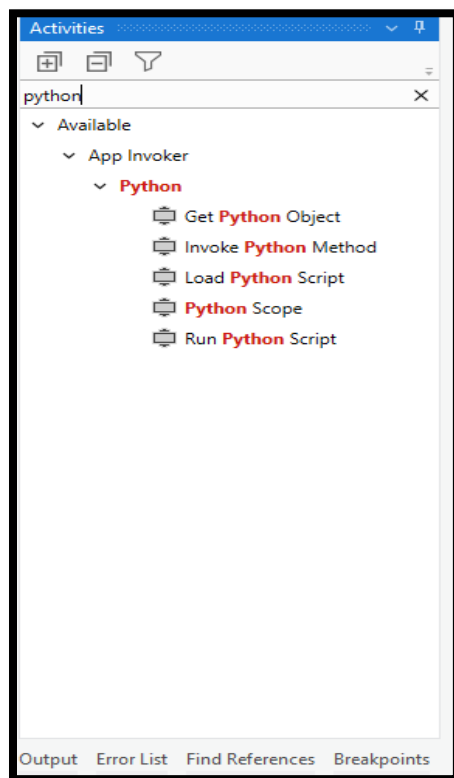
## How to install Python activities in UiPath Studio:

1. Open UiPath Studio in Ribbon tab click on Manage Packages, go to All Packages in search field enter **UiPath.Python. Activities**, select the pack click on install button and click ok. It will add all dependencies to the project.





Now we can see all python activities in uipath studio activities panel



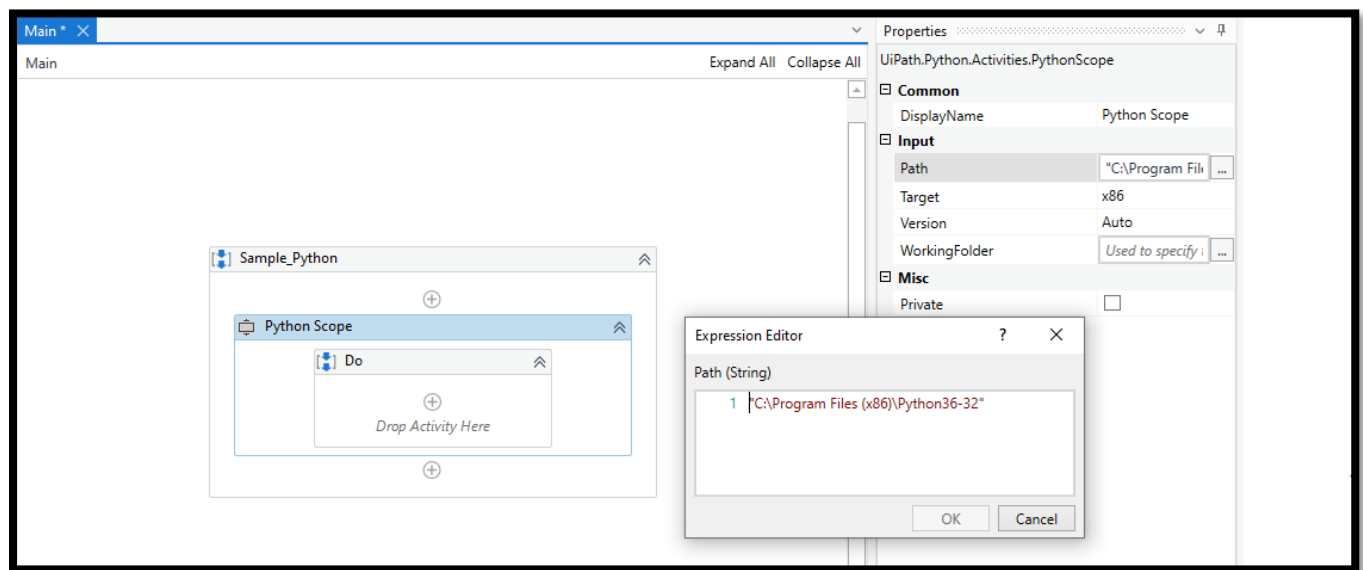
The **UiPath.Python. Activities** contain the following activities:

- Get Python Object – Retrieves the .NET type used in a specified Python script.
- Python Scope – A container which provides scope for Python activities.
- Invoke Python Method – Helps you run a specified method from a Python script directly in a workflow.
- Load Python Script – Converts your Python code to a PythonObject variable.
- Run Python Script – Enables you to execute Python code. You can input the code directly in the activity or provide a file path for it.

## Implementation using UiPath:

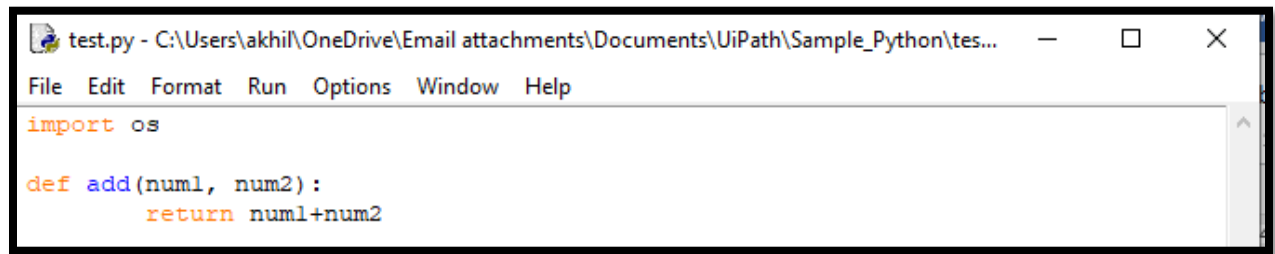
write a small python program which will calculate the sum of two numbers and display result in the output window. Let's say python program is saved as "**test.py**"

1. Open UiPath Studio and create a new **Process**.
2. Drag a **Python Scope** activity to the **Workflow Designer**. Specify the installation directory of **Python** in the **Path** property of the **Python Scope** activity.



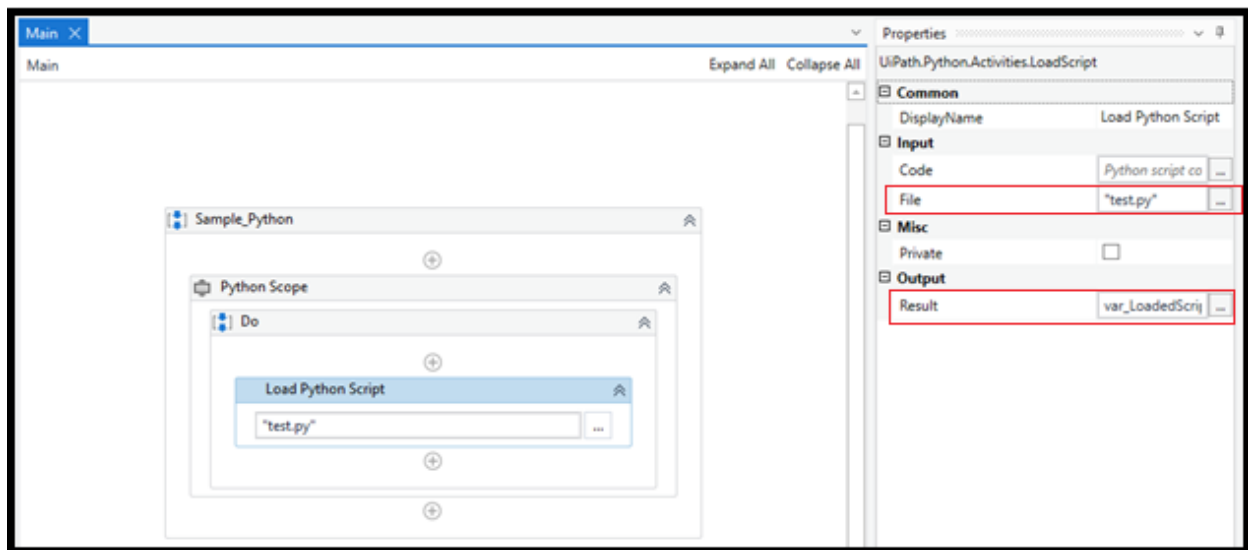
3. Drag a **Load Python Script** activity in the **Do** section of the **Python Scope** and add the file path to the **test.py** (created python file) Python script in the **File** property. Create **PythonObject** type variable and pass it to the properties of load python activity.

## Python Script:

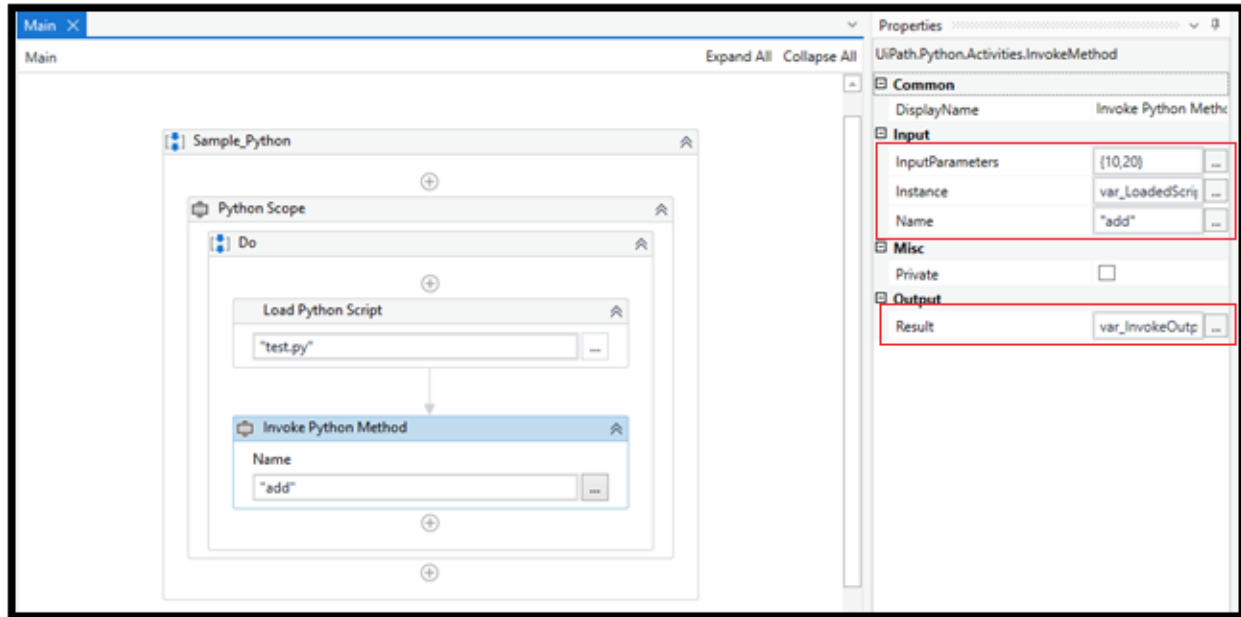


```
test.py - C:\Users\akhil\OneDrive\Email attachments\Documents\UiPath\Sample_Python\tes...
File Edit Format Run Options Window Help
import os

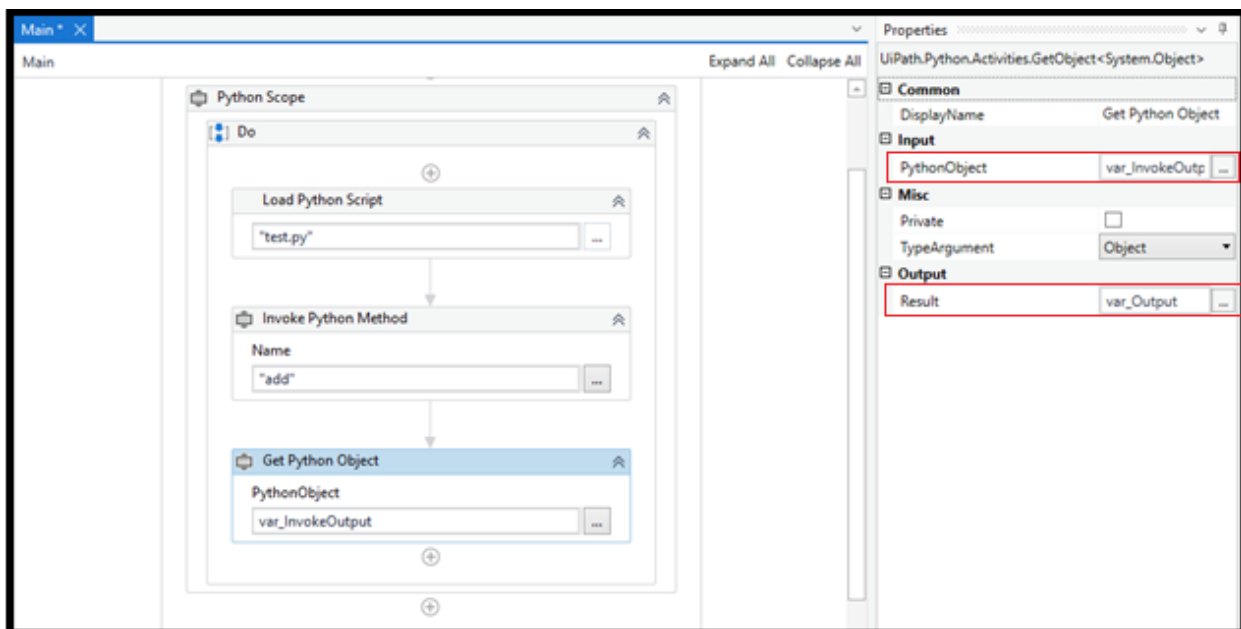
def add(num1, num2):
    return num1+num2
```



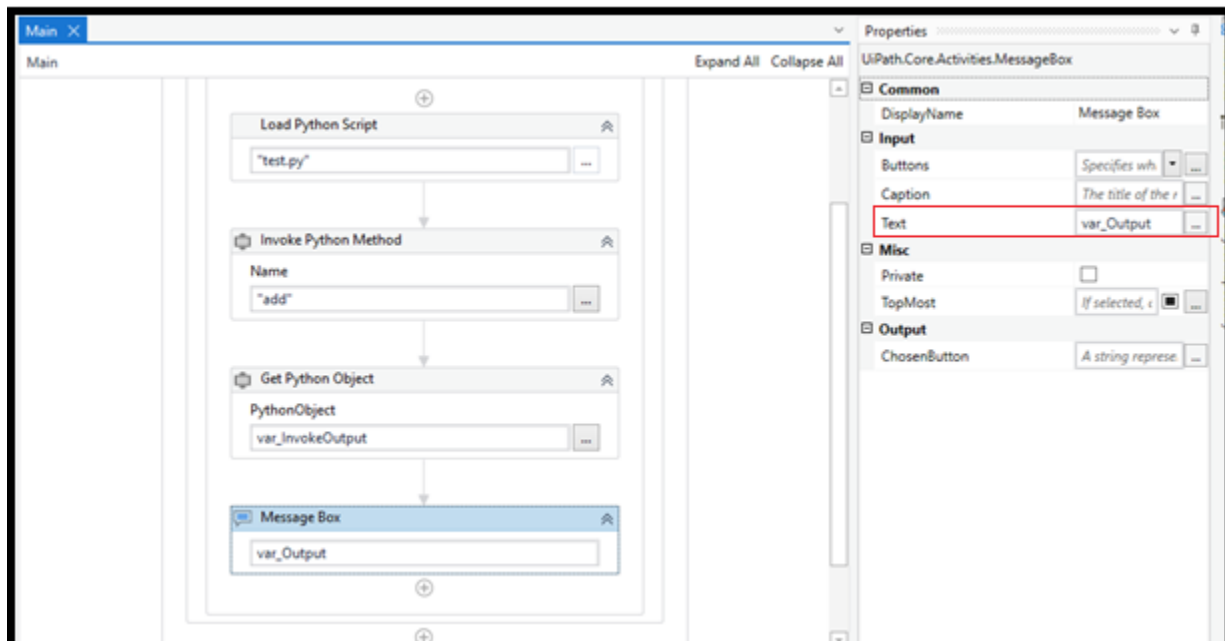
4. Drag **Invoke Python Method** activity into the designer panel. In properties panel give input parameters, in instance give the output of loaded python script, in name field give “add” method. Create a PythonObject type variable to store the output of invoke python method.



5. Drag “**Get Python Object**” activity into the designer panel. In Properties section, enter the python object from which it needs to get the value i.e., the result of Invoke Python Method. Create a variable in Result field, it will give the output of python script.



6. Drag a Message Box activity into designer panel to print the output. In properties, text field give the output variable of get python object activity.



**Output:**

