

Praktikum 1

Membuat Program dengan Visual C++ dan Python

A. Tujuan

1. Mahasiswa dapat melakukan instalasi MS Visual C++
2. Mahasiswa dapat melakukan instalasi PyCharm
3. Mahasiswa dapat membuat aplikasi dengan MS Visual C++ dan PyCharm

Software yang diperlukan:

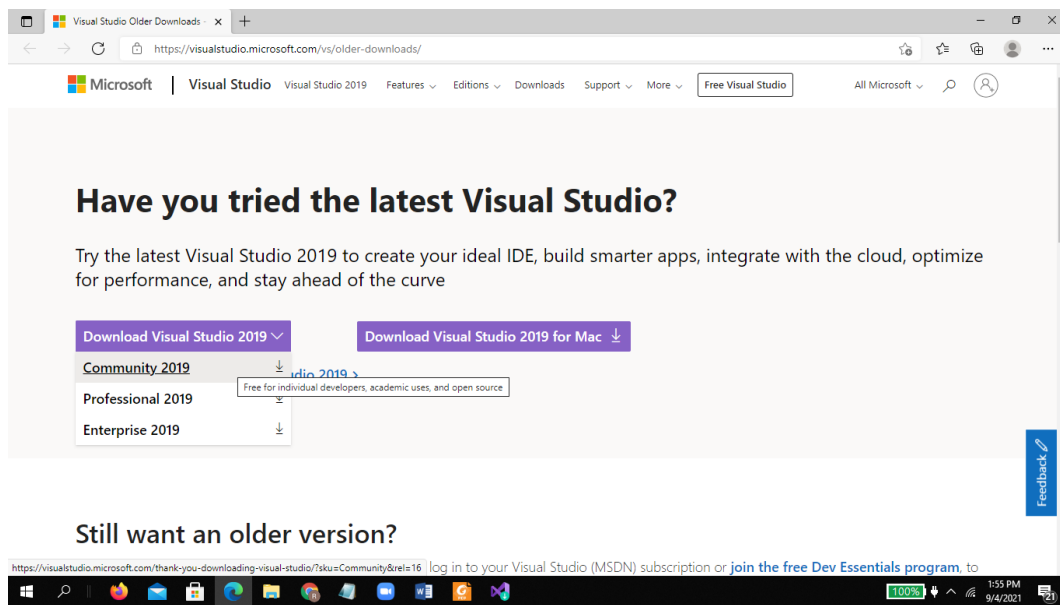
- Microsoft Visual C++
- PyCharm

B. Percobaan

1. Instalasi MS Visual C++

Masukkan CD MS Visual C++ (pada buku ini digunakan MS Visual C++ 2010) untuk instalasi, atau kunjungi website berikut dan ikuti Microsoft Guide untuk menginstal Visual C++.

[Visual Studio Older Downloads - 2017, 2015 & Previous Versions \(microsoft.com\)/](https://visualstudio.microsoft.com/vs/older-downloads/)

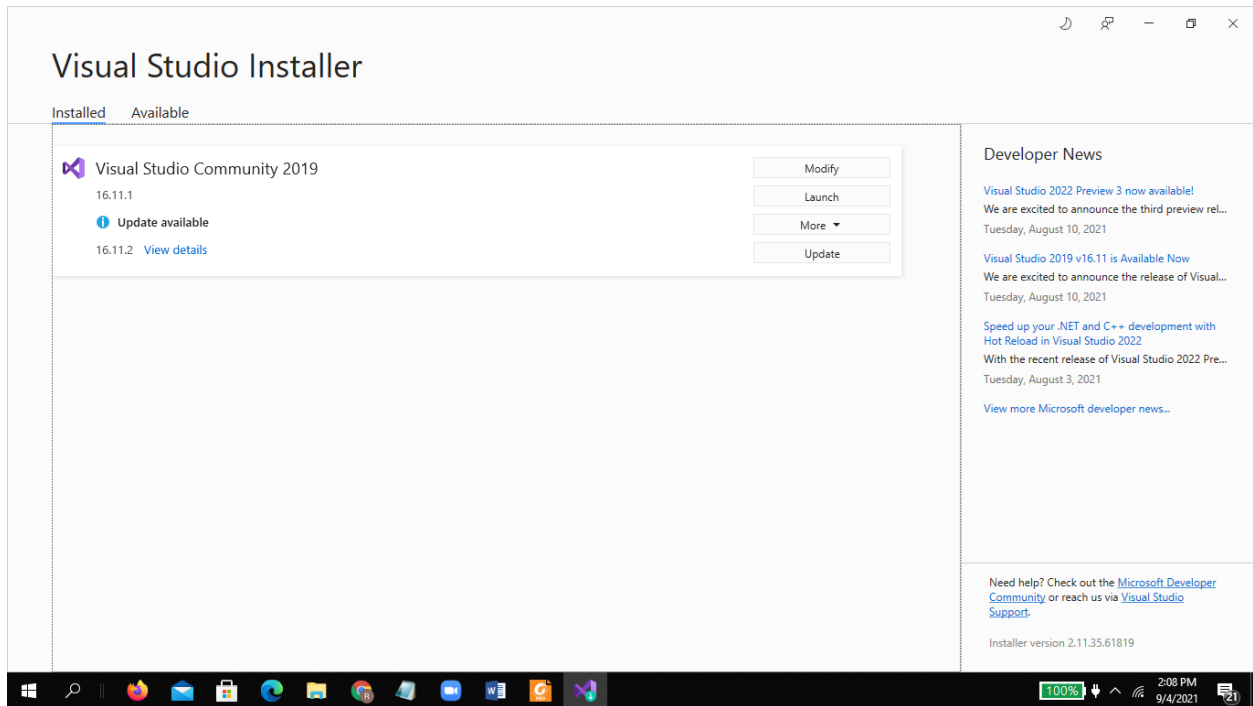


Gambar 1. Download Visual C++

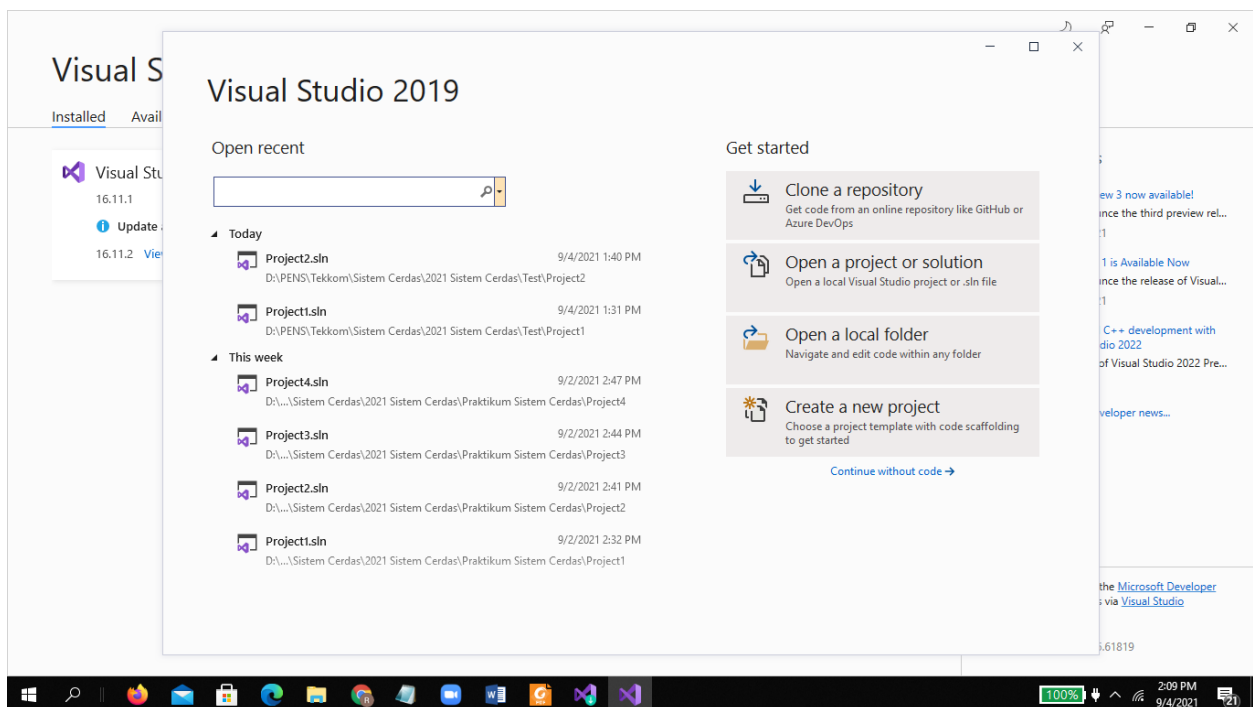
Pilih Download Visual Studi 2019 (untuk window)

Pilih Community 2019

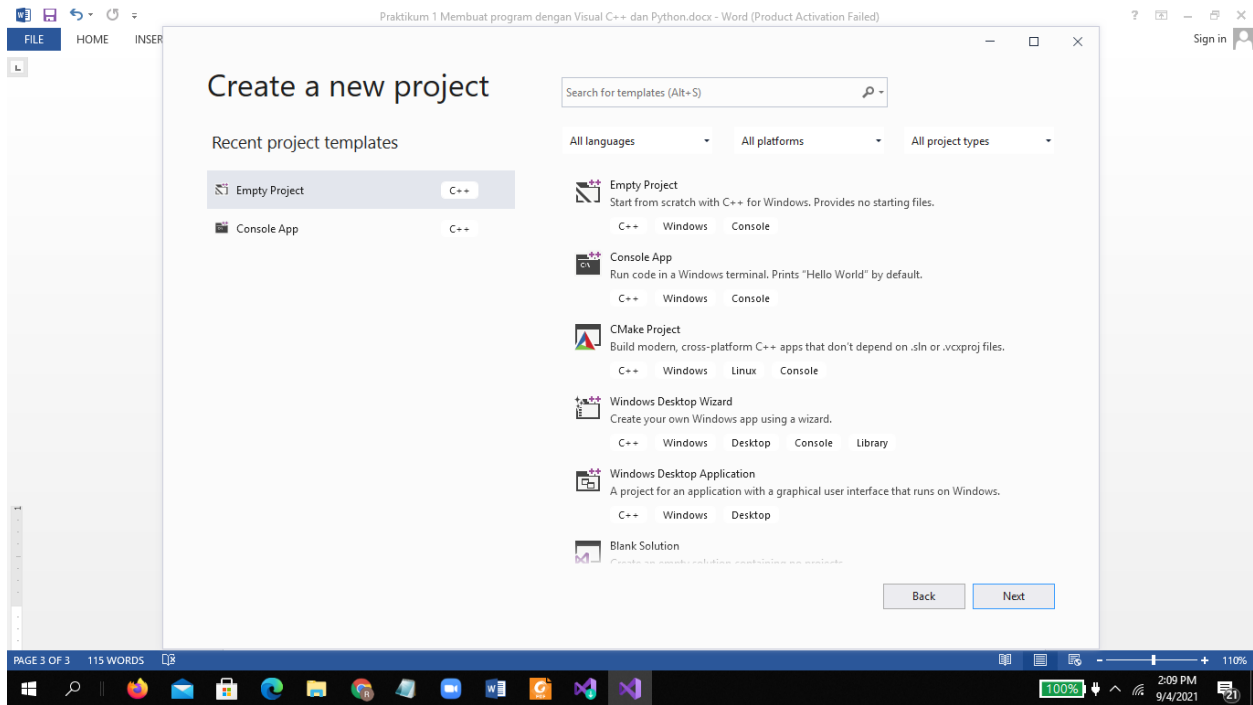
2. Run MS Visual C++



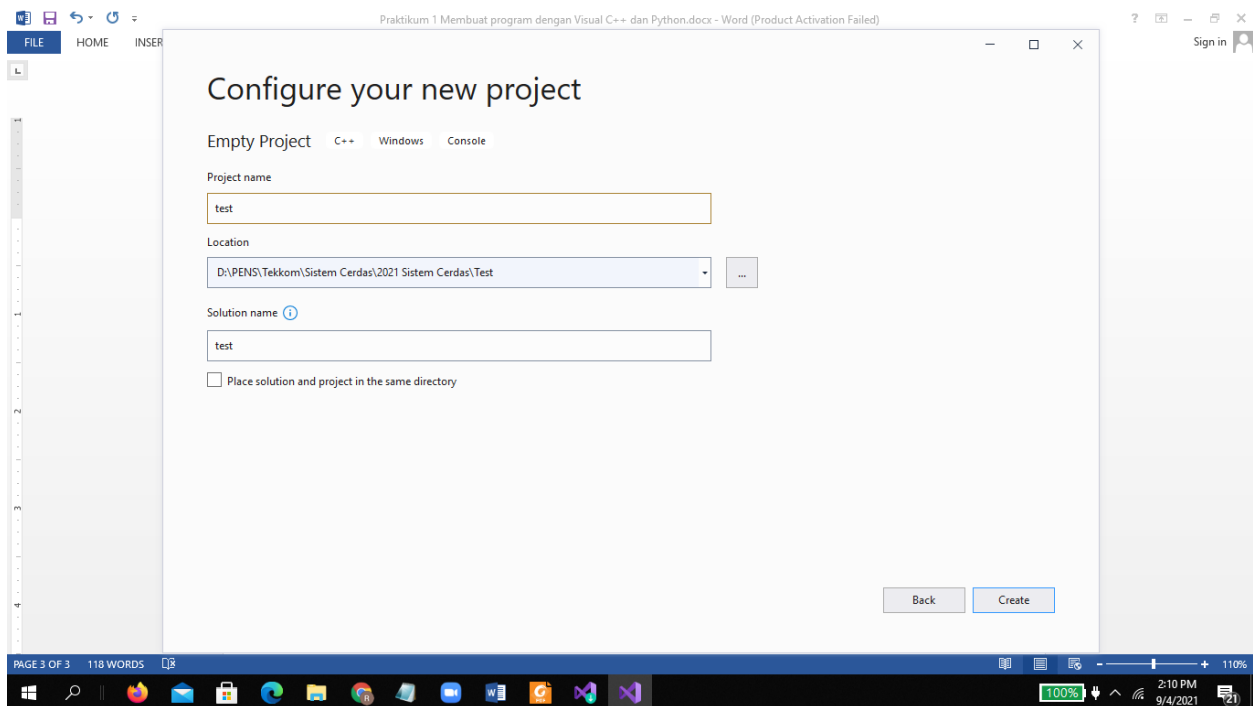
Pilih Launch



Pilih Create a new project

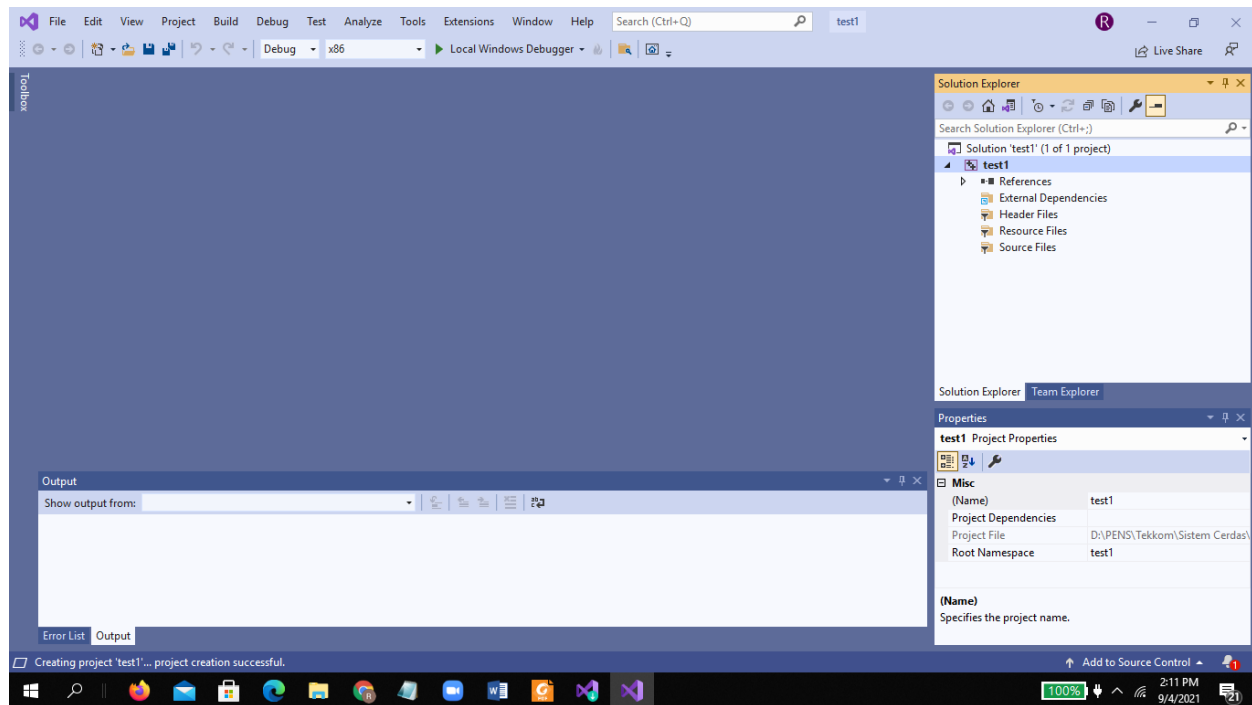


Pilih Empty Project

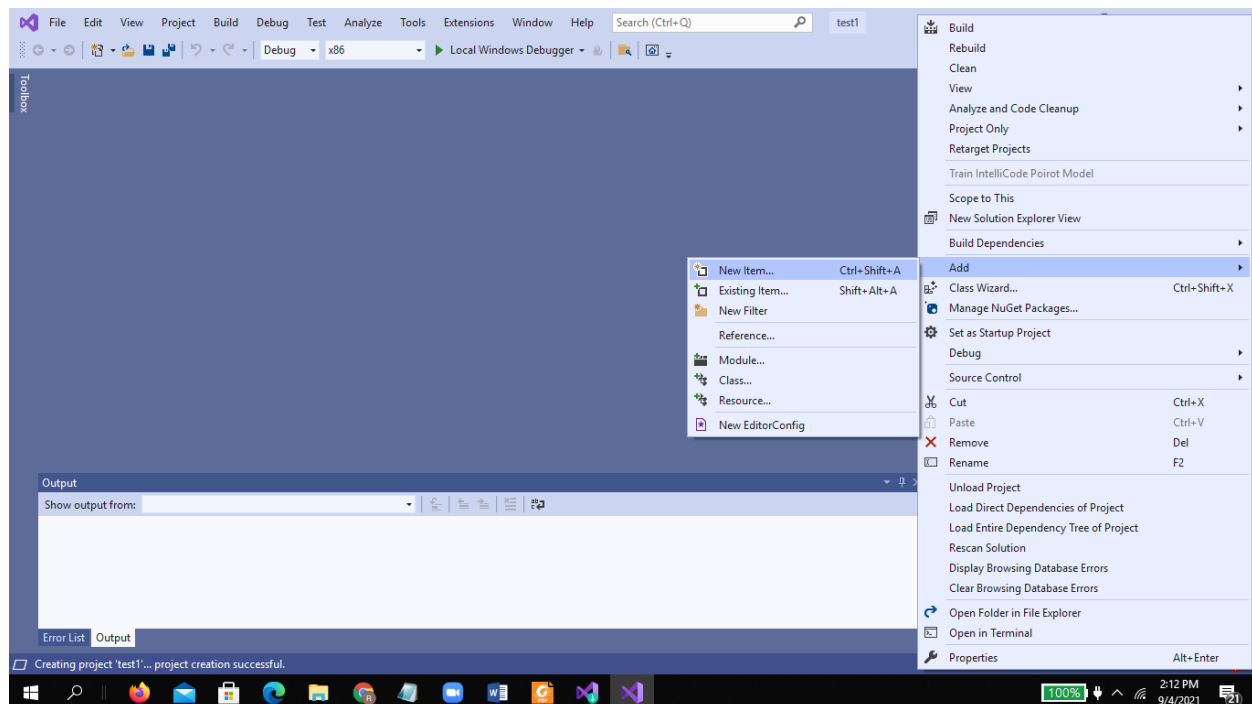


Isi project name dengan misalnya: test1

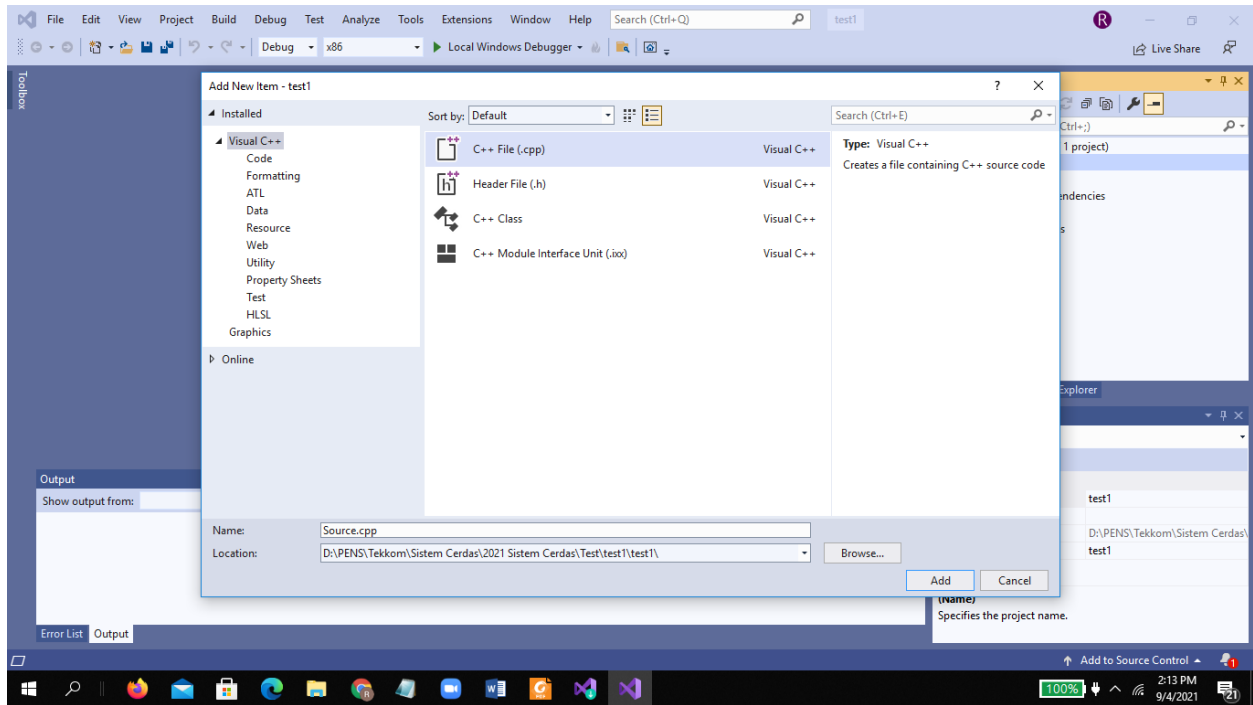
Pilih Create



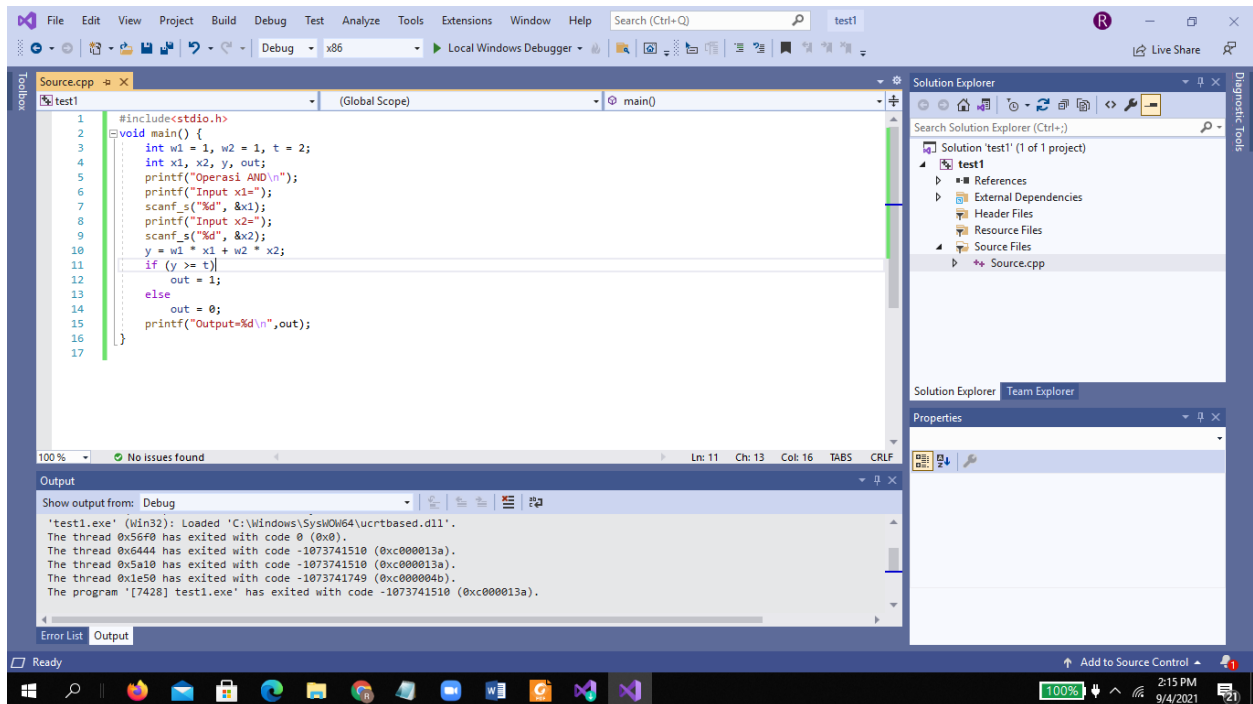
Klik kanan pada test1



Pilih Add->New Item



Pilih C++ File(.cpp)

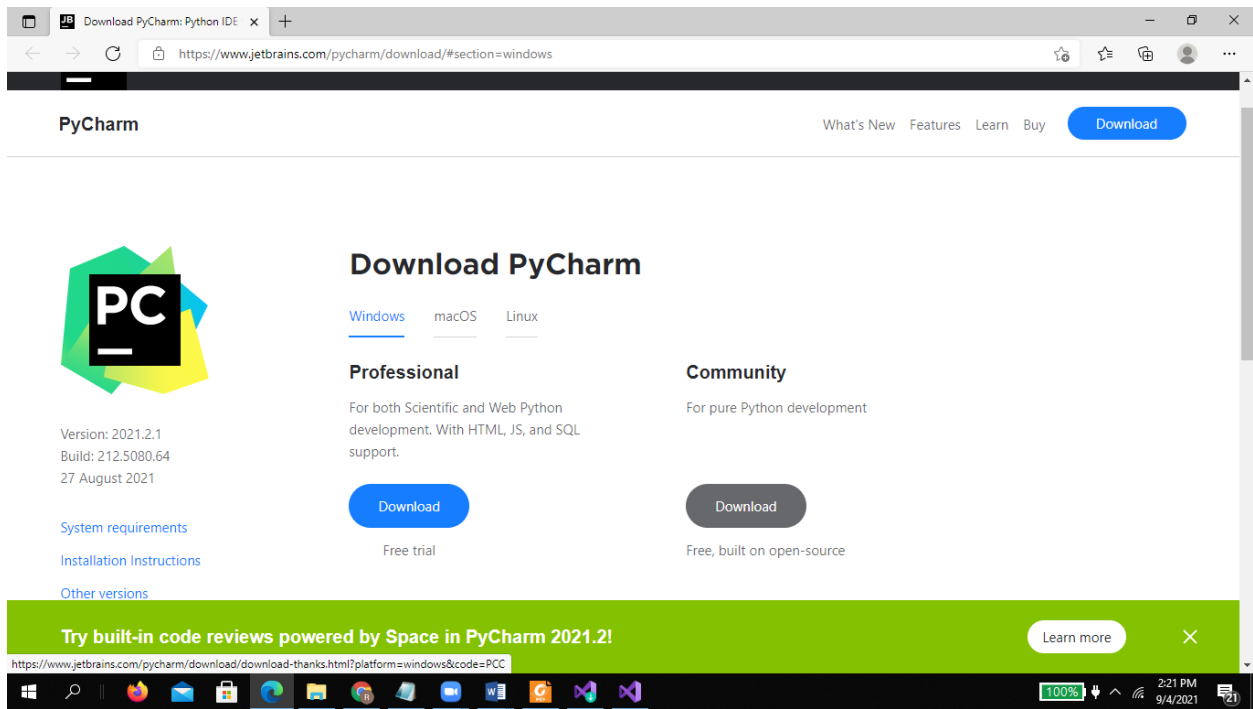


Buat program seperti diatas

Untuk Run -- Pilih Local Windows Debugger

3. Instalasi PyCharm di windows

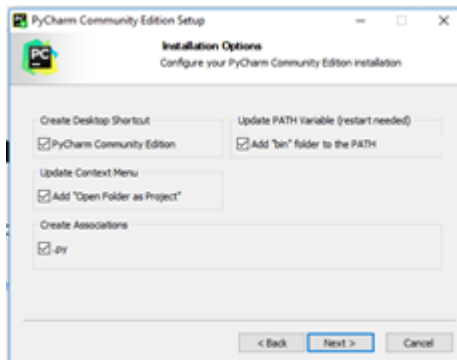
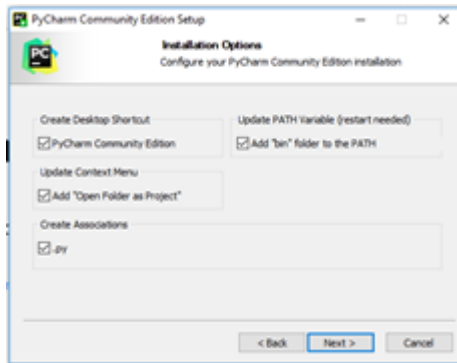
Download installer .exe in <https://www.jetbrains.com/pycharm/download/#section=windows>. Pilih versi Community. Ukuran file sekitar 366 MB.



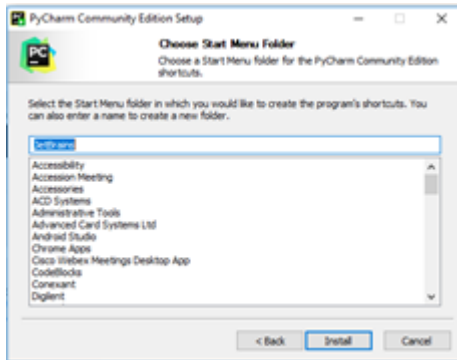
Pilih Community (tombol Download)



Pilih Next



Pilih semua dan Next

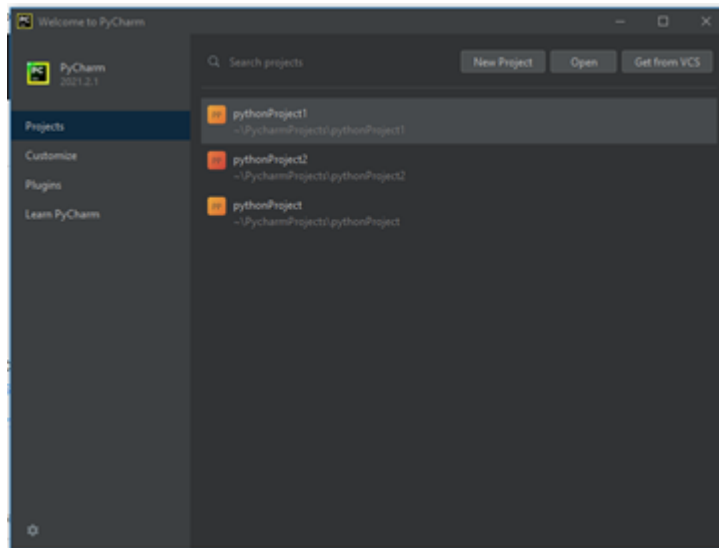


Pilih Install

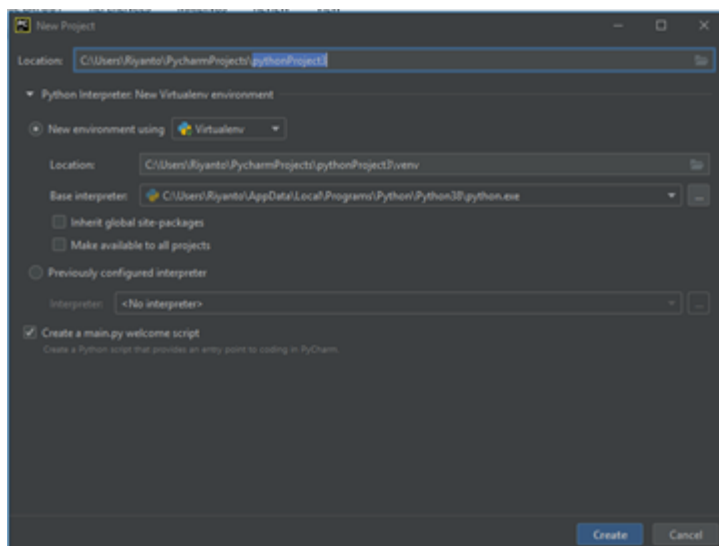


Pilih Finish

Run PyCharm

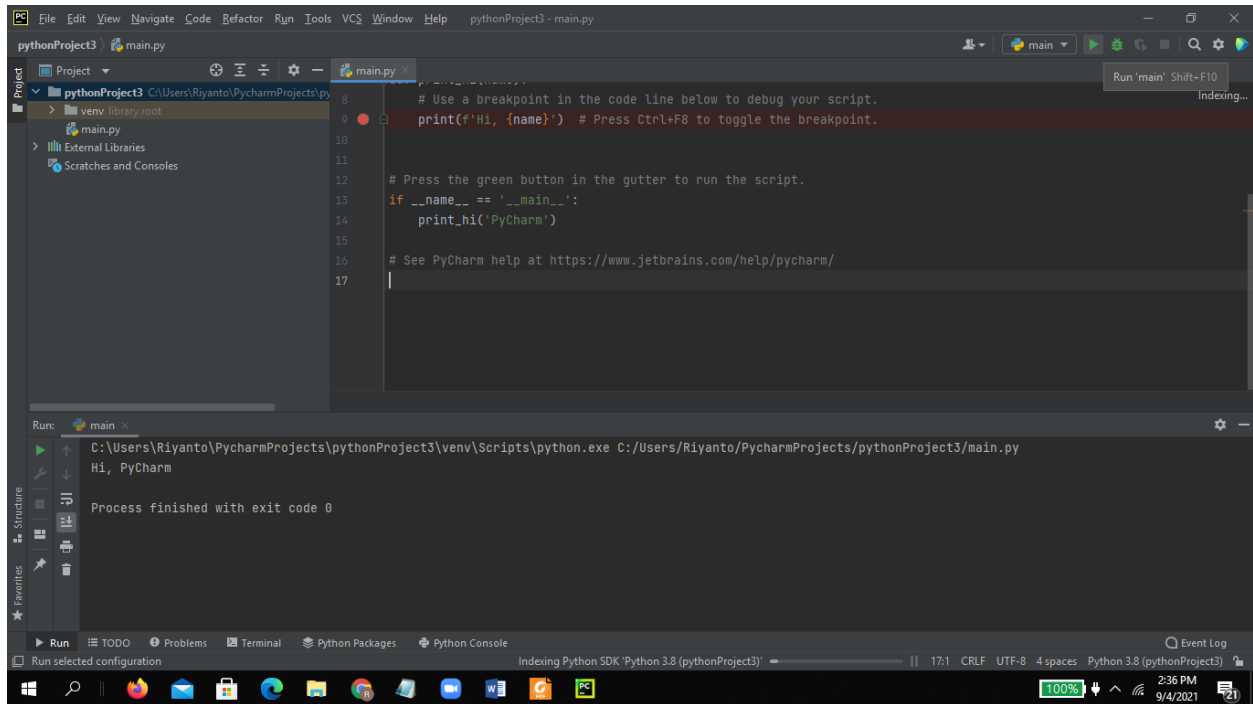


Pilih New Project

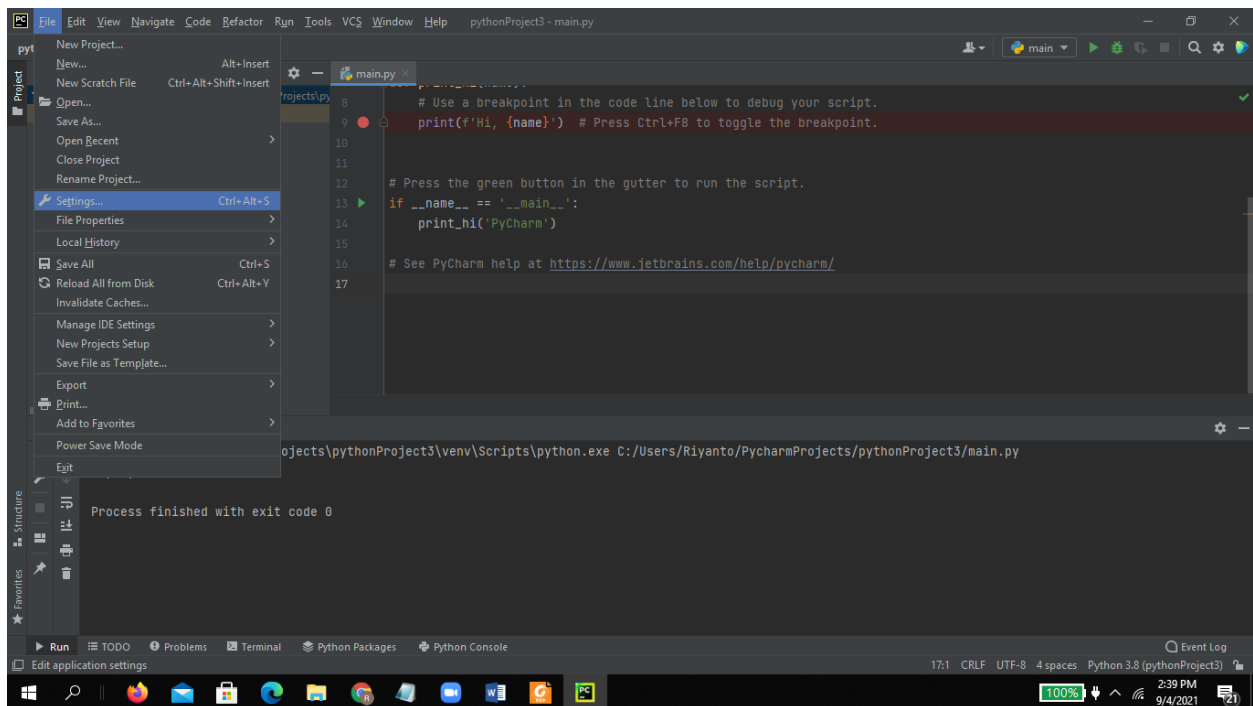


Pilih Create

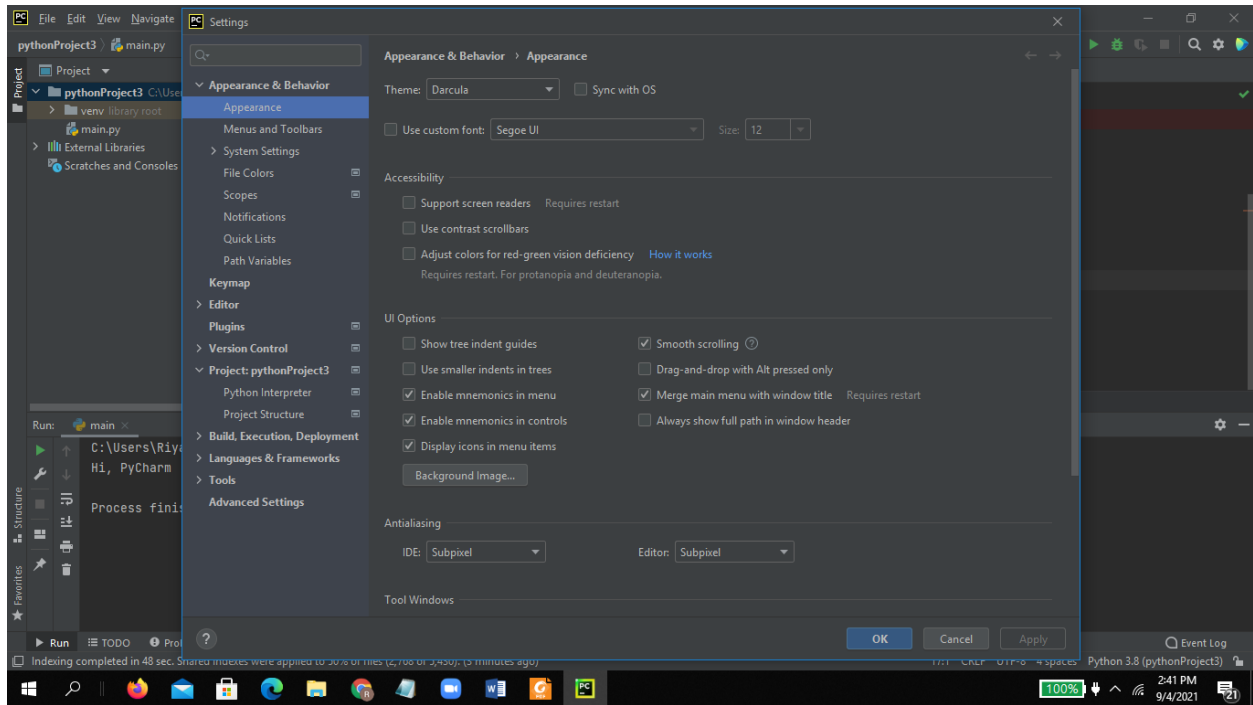
Pilih Run 'main Shift + F10



Setting



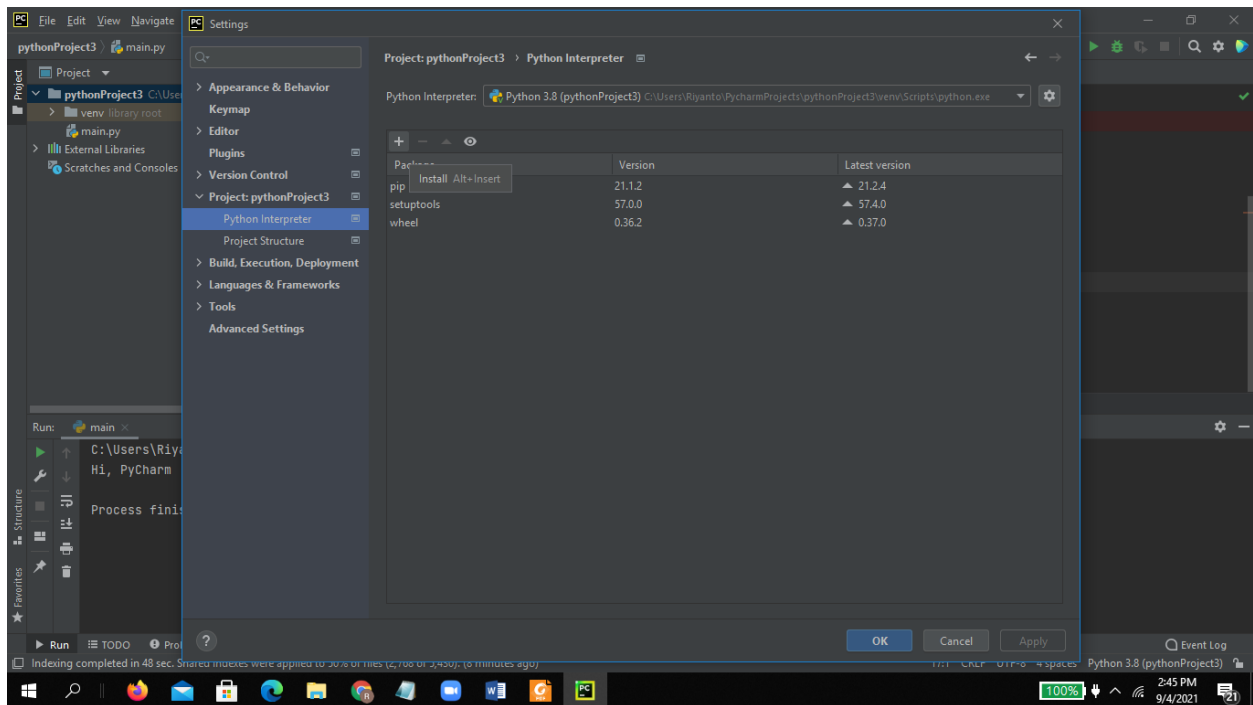
Pilih File Setting



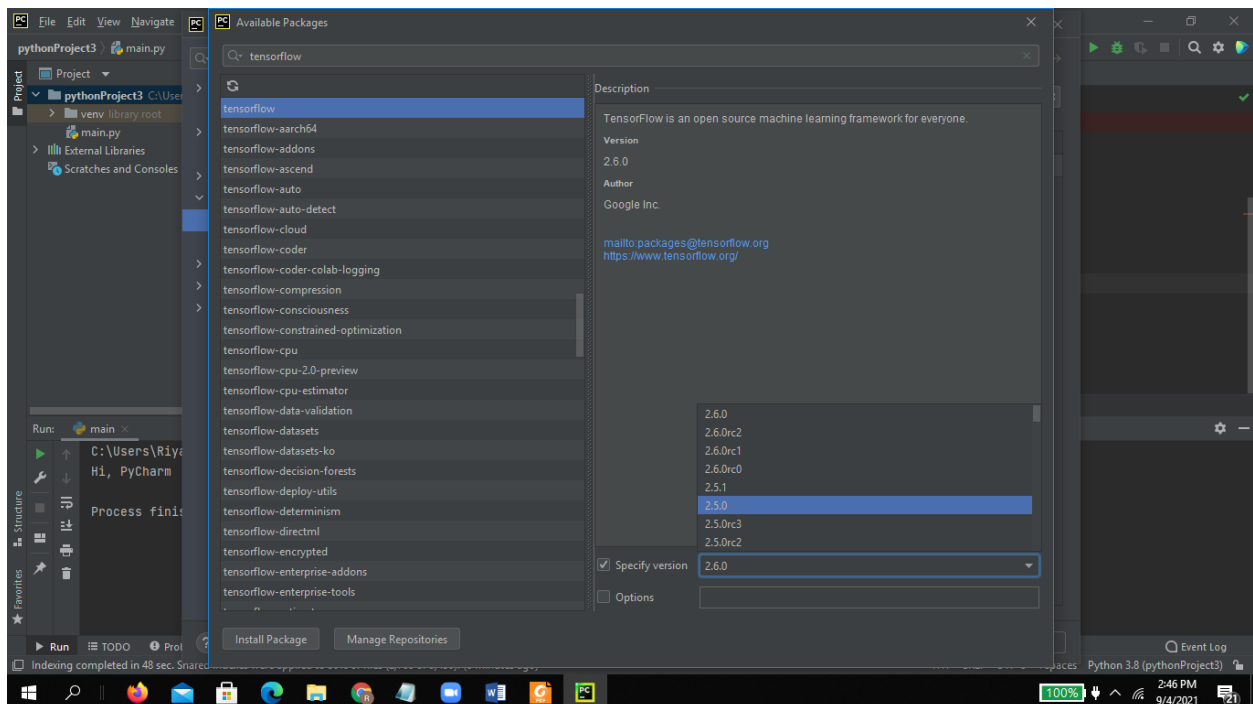
Pilih Project -> Python interpreter

Install library dibawah ini

- tensorflow==2.5.0
- tensorflow-datasets==4.3.0
- Pillow==8.2.0
- pandas==1.2.4
- numpy==1.19.5
- scipy=1.7.0

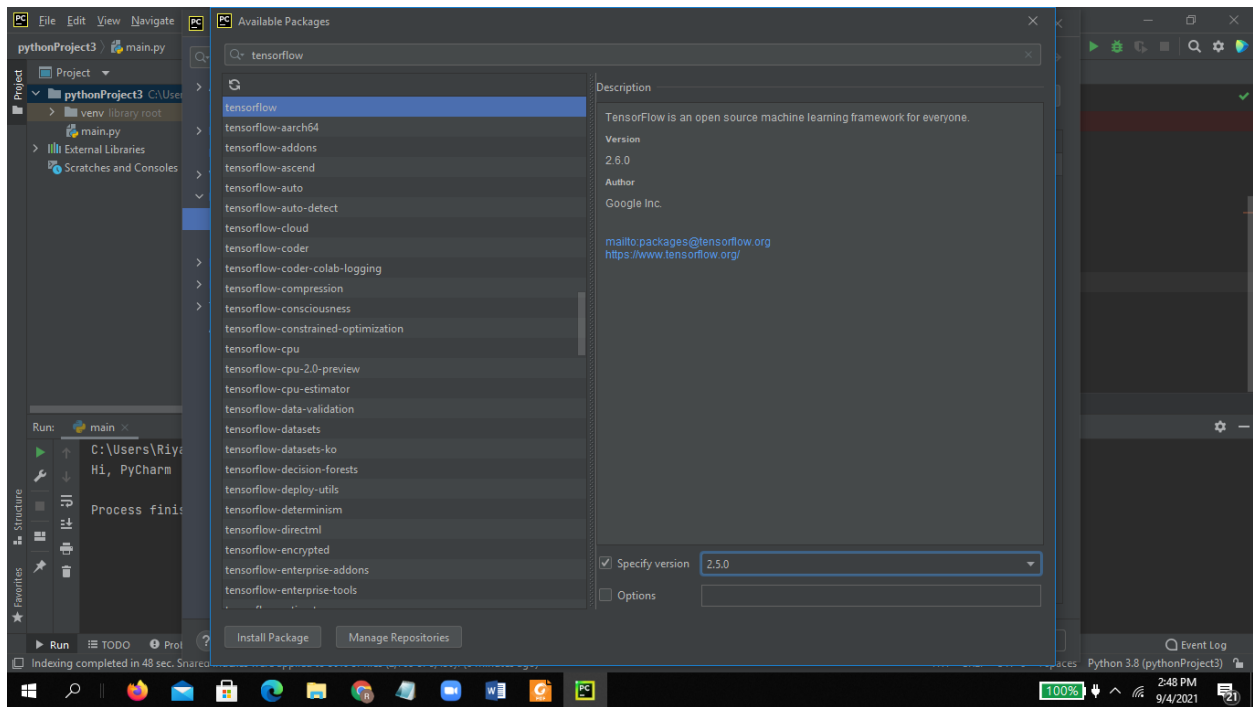


Pilih + (Install)

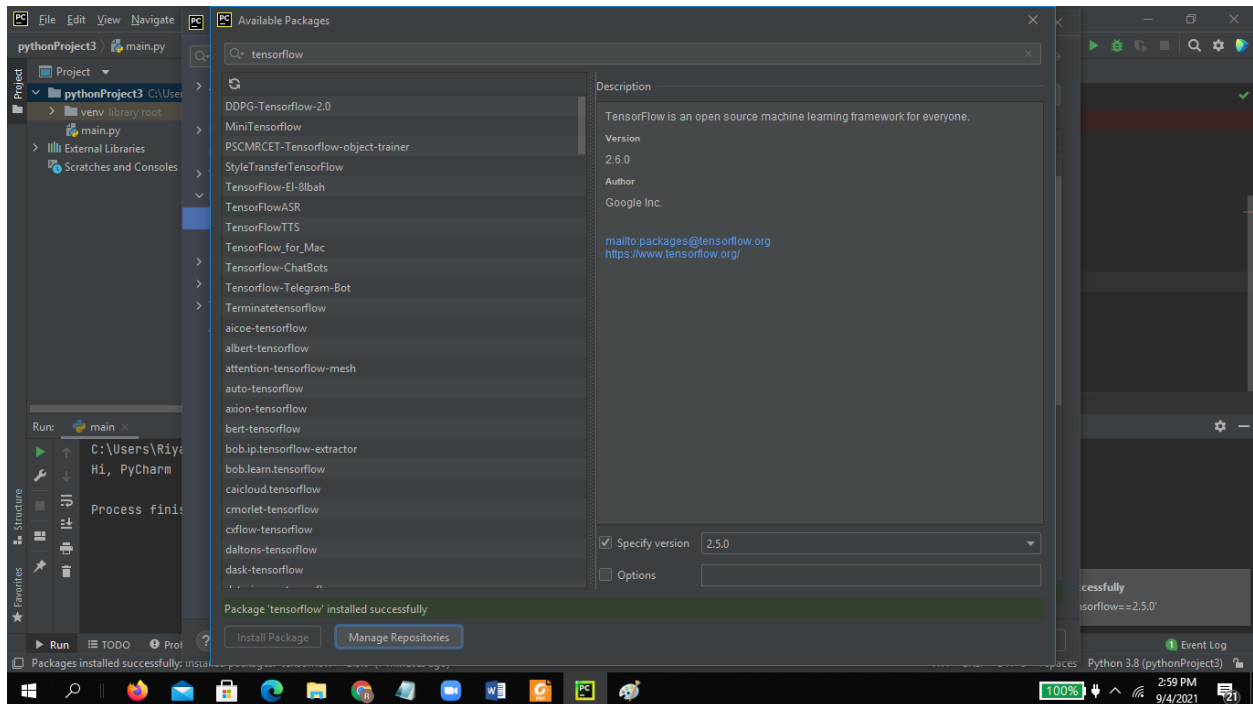


Cari tensorflow 2.5.0

Pilih Specify version dan pilih 2.5.0

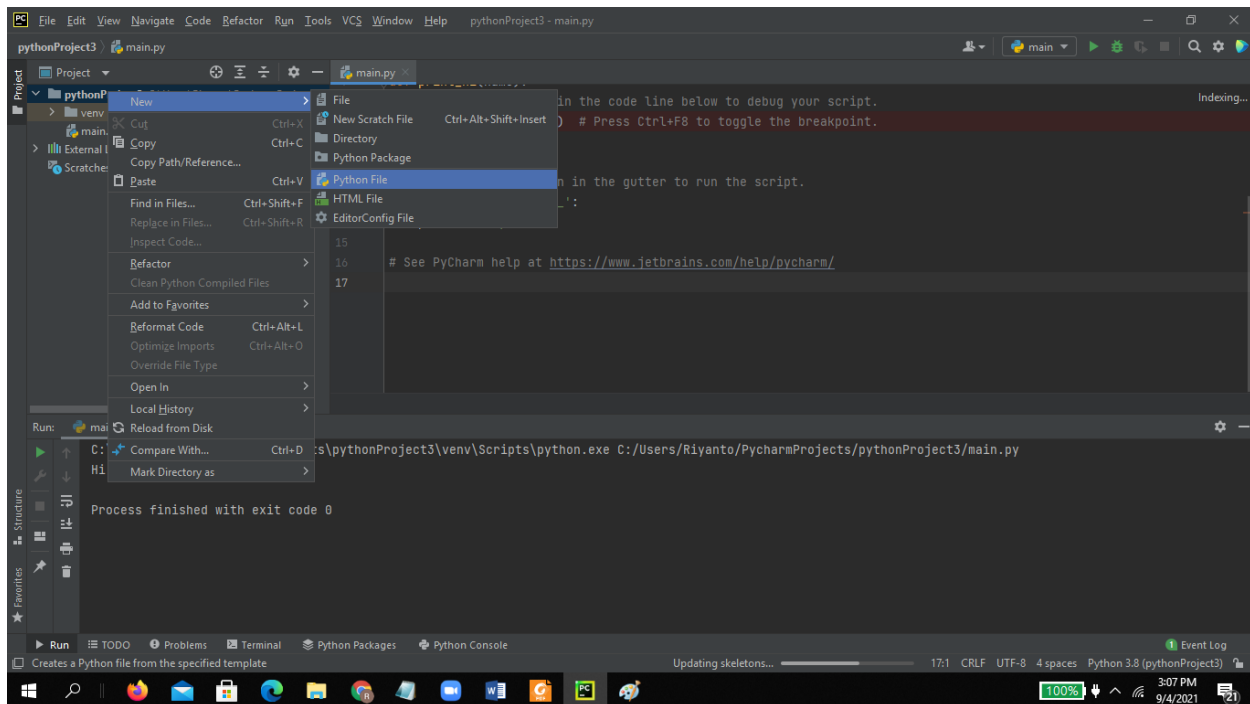


Install Package

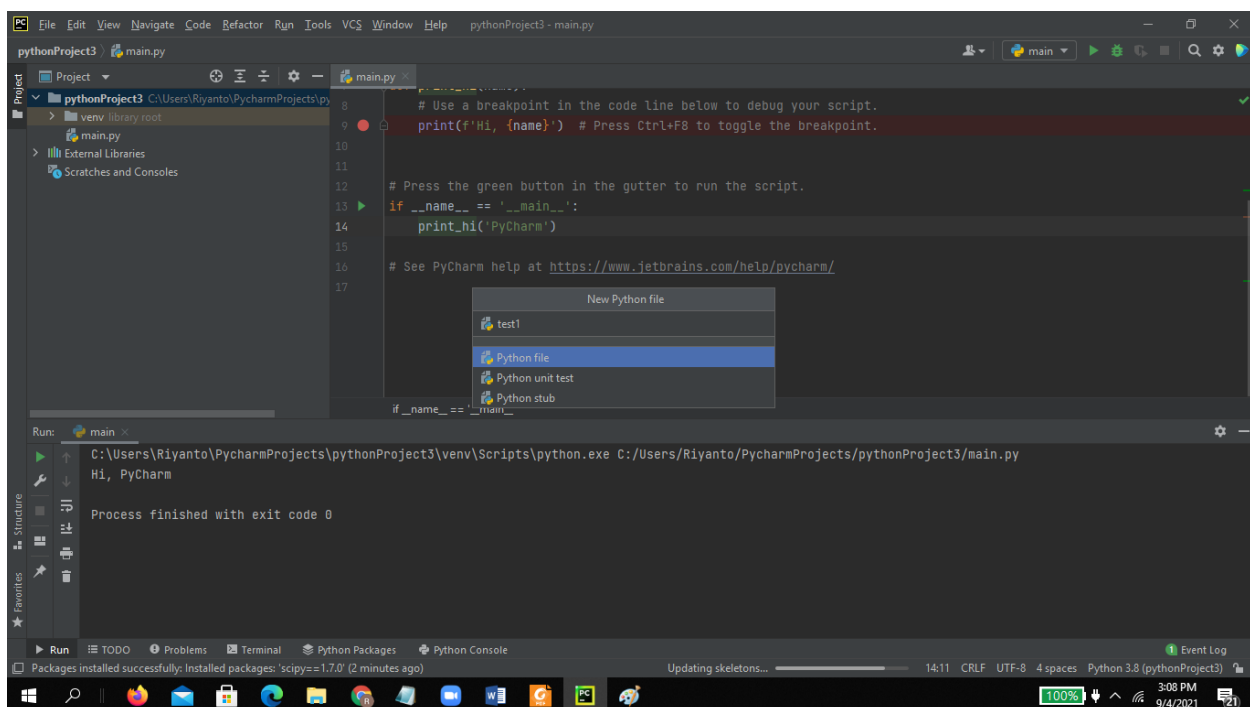


Install sukses

Run program Python



Pilih New -- Python File



Isi test1

Contoh program : simple_regression.py

```
1 import tensorflow as tf
2 import numpy as np
3 import matplotlib.pyplot as plt
4
5 from tensorflow import keras
6
7
8 def plot_data(x_data, y_data):
9     fig, ax = plt.subplots()
10
11     ax.plot(x_data, y_data, 'ro')
12
13     plt.pause(1)
14
15     return None
16
17
18 if __name__ == "__main__":
19     # Define and compile the neural networks
20     model = tf.keras.Sequential(
21         [keras.layers.Dense(units=1, input_shape=[1])]
22     )
23     model.compile(optimizer="sgd", loss="mean_squared_error")
24
25     # Providing the data
26     xs = np.array([-1.0, 0.0, 1.0, 2.0, 3.0, 4.0])
27     ys = np.array([-3.0, -1.0, 1.0, 3.0, 5.0, 7.0]) # y = 2x - 1
28
29     # Plotting data will help us to understand faster
30     # visually about the data
31     plot_data(xs, ys)
32
33     # Train the neural network
34     model.fit(xs, ys, epochs=500)
35
36     # Predict using the model
37     print(model.predict([10.0])) # this result should be close to 19.
```