

PYTHON SCRIPT

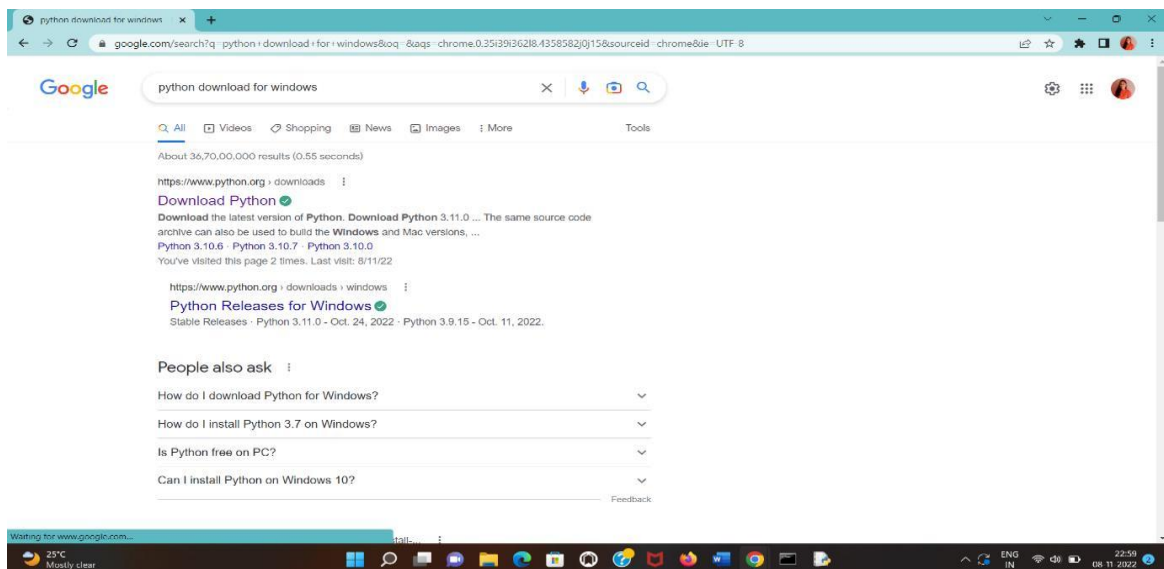
Assignment Date	10 November 2022
Team ID	PNT2022TMID52392
Project Name	Gas Leakage Monitoring and Alerting System

AIM:

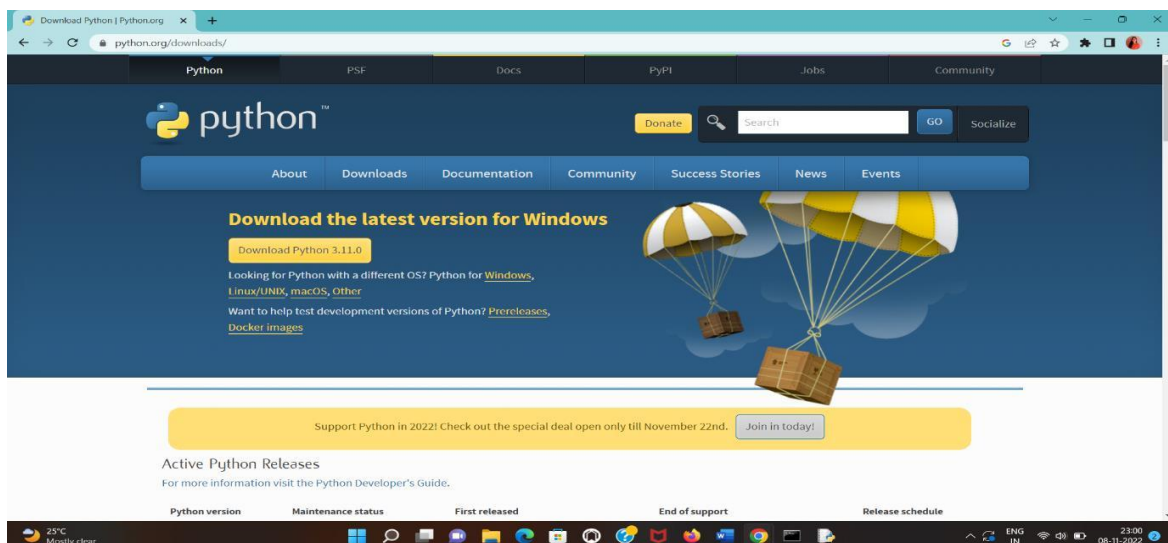
To install python version 3.9.6 and IBM Watson IoT platform packages in python.

STEPS:

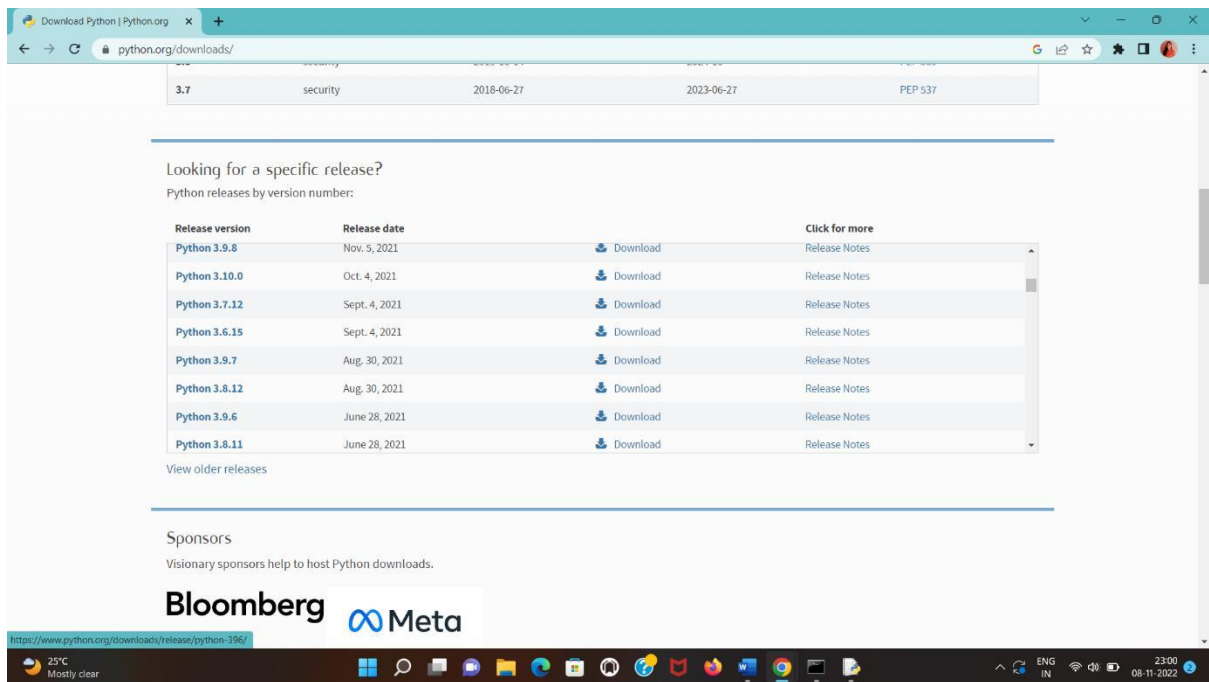
1. Search for python for windows in Google search engine.



2. Click the First link..



3. Search for python 3.9.6 version which is suitable for IBM Watson platform.

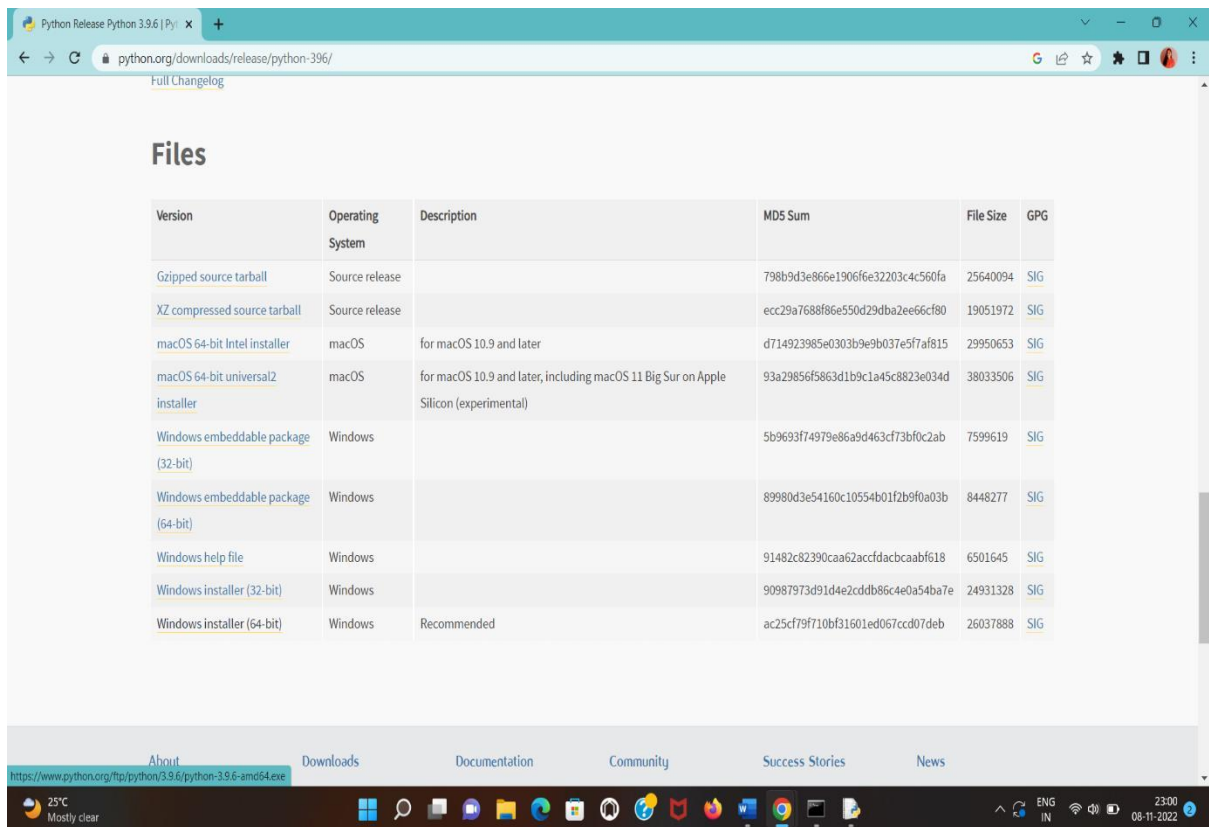


The screenshot shows the Python.org download page. At the top, there's a navigation bar with links for 3.7, security, 2018-06-27, 2023-06-27, and PEP 537. Below this, a section titled "Looking for a specific release?" lists Python releases by version number. The table below contains the following data:

Release version	Release date	Download	Click for more
Python 3.9.8	Nov. 5, 2021	Download	Release Notes
Python 3.10.0	Oct. 4, 2021	Download	Release Notes
Python 3.7.12	Sept. 4, 2021	Download	Release Notes
Python 3.6.15	Sept. 4, 2021	Download	Release Notes
Python 3.9.7	Aug. 30, 2021	Download	Release Notes
Python 3.8.12	Aug. 30, 2021	Download	Release Notes
Python 3.9.6	June 28, 2021	Download	Release Notes
Python 3.8.11	June 28, 2021	Download	Release Notes

Below the table, there is a link "View older releases". At the bottom, there is a "Sponsors" section with logos for Bloomberg and Meta.

4. Click the python version 3.9.6 and download.

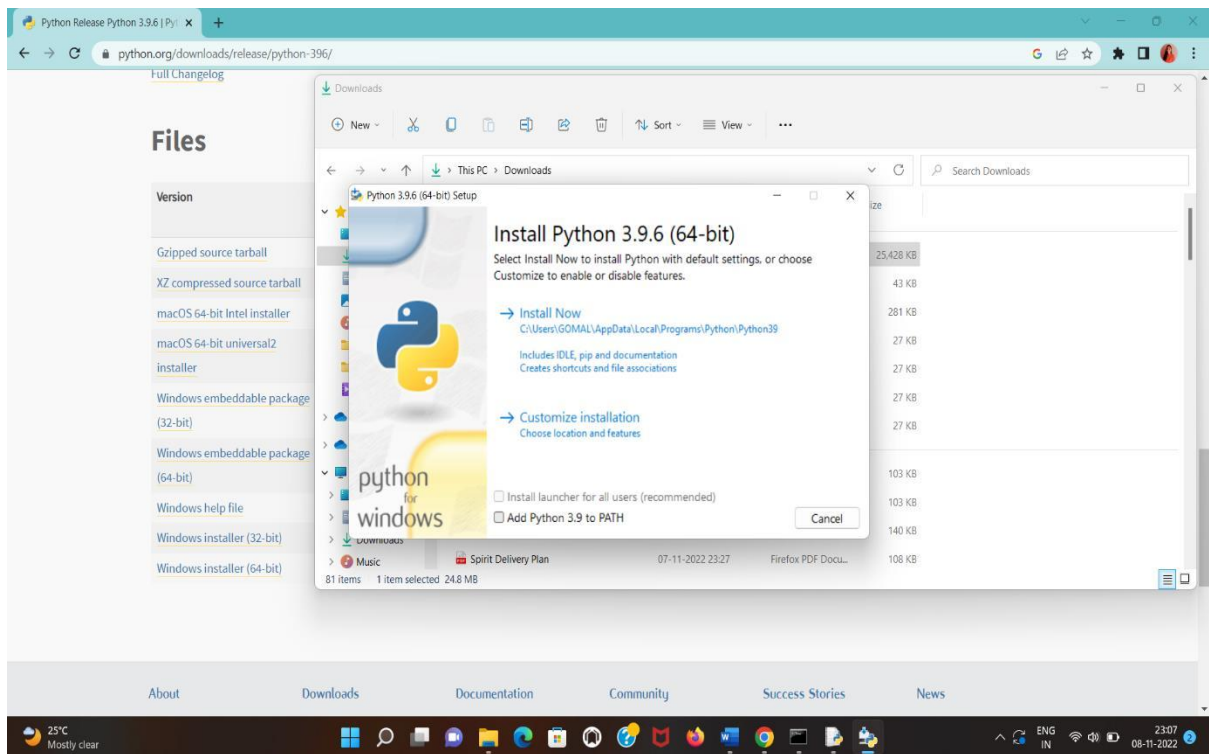


The screenshot shows the Python.org download page for Python 3.9.6. The page title is "Python Release Python 3.9.6 | Python.org". Below the title, there is a link to the "Full Changelog". The main section is titled "Files" and contains a table with the following data:

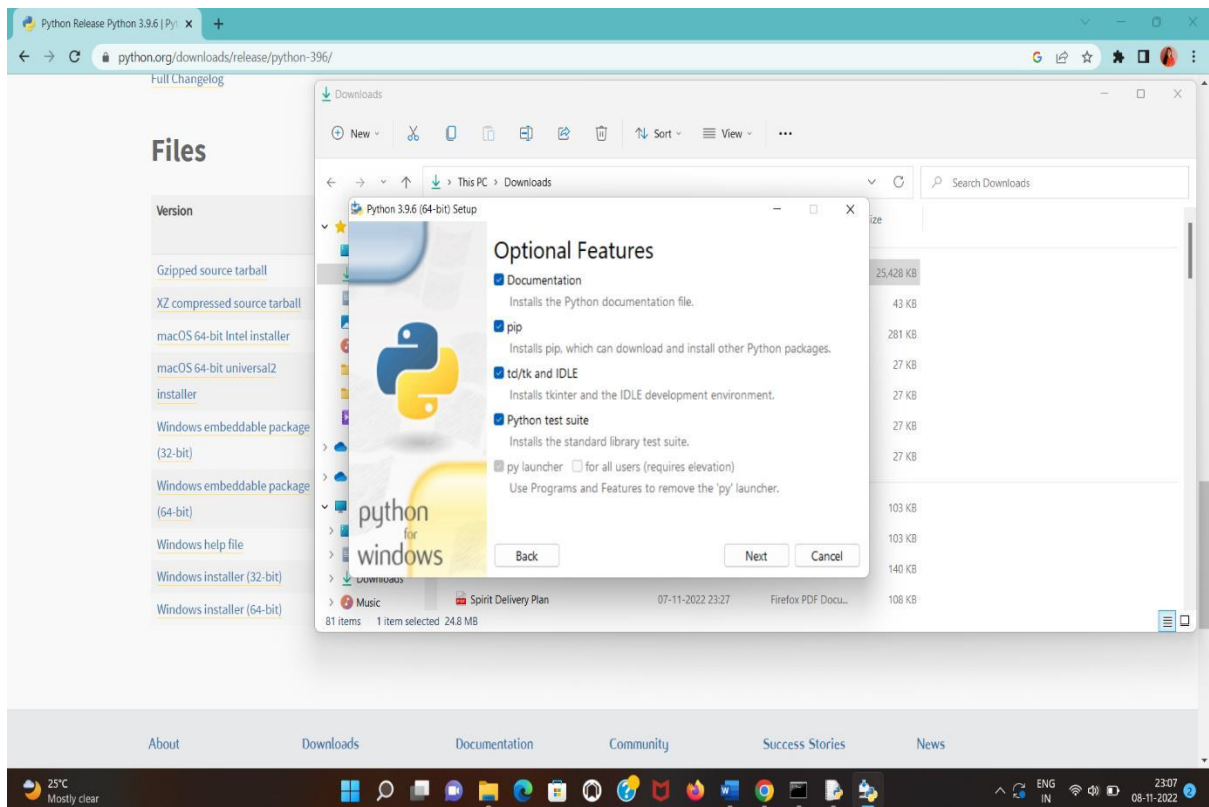
Version	Operating System	Description	MD5 Sum	File Size	GPG
Gzipped source tarball	Source release		798b9d3e866e1906f6e32203c4c560fa	25640094	SIG
XZ compressed source tarball	Source release		ecc29a7688f86e550d29dba2ee66cf80	19051972	SIG
macOS 64-bit Intel installer	macOS	for macOS 10.9 and later	d714923985e0303b9e9b037e5f7af815	29950633	SIG
macOS 64-bit universal2 installer	macOS	for macOS 10.9 and later, including macOS 11 Big Sur on Apple Silicon (experimental)	93a29856f5863d1b9c1a45c8823e034d	38033506	SIG
Windows embeddable package (32-bit)	Windows		5b9693f74979e86a9d463cf73bf0c2ab	7599619	SIG
Windows embeddable package (64-bit)	Windows		89980d3e54160c10554b01f2b9f0a03b	8448277	SIG
Windows help file	Windows		91482c82390caa62acfdacbaabf618	6501645	SIG
Windows installer (32-bit)	Windows		90987973d91d4e2cddb86c4e0a54ba7e	24931328	SIG
Windows installer (64-bit)	Windows	Recommended	ac25cf79f710bf31601ed067ccd07deb	26037888	SIG

At the bottom of the page, there is a navigation bar with links for About, Downloads, Documentation, Community, Success Stories, and News. The "Downloads" link is highlighted.

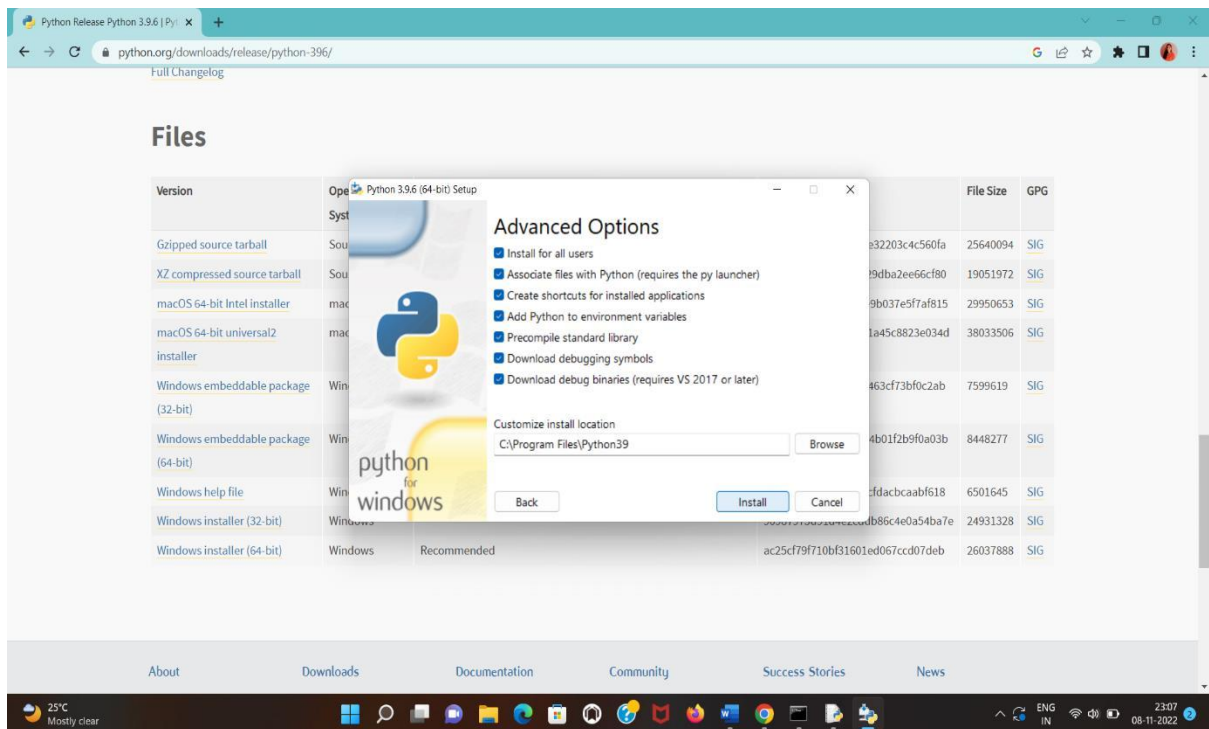
5. Install python 3.9.6 (64-bit) then click customize.



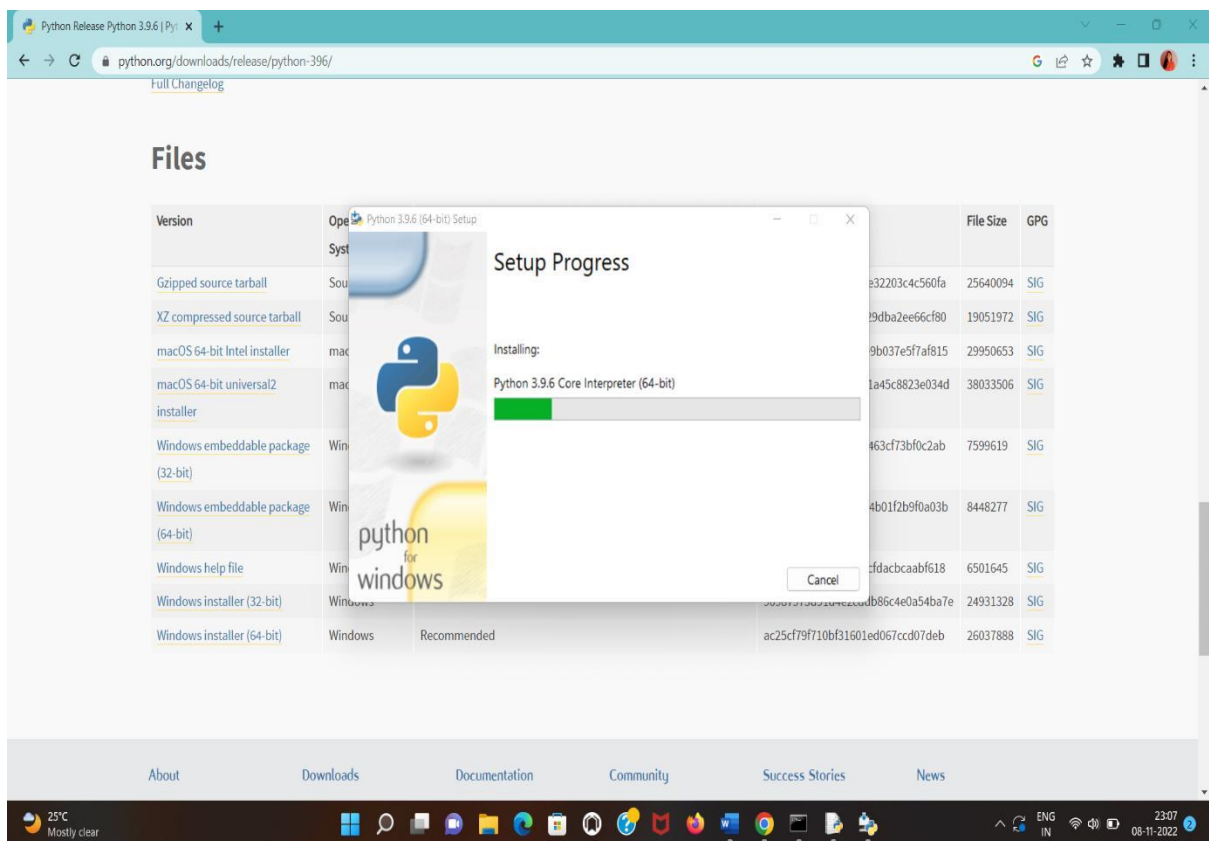
6. Click the next option.



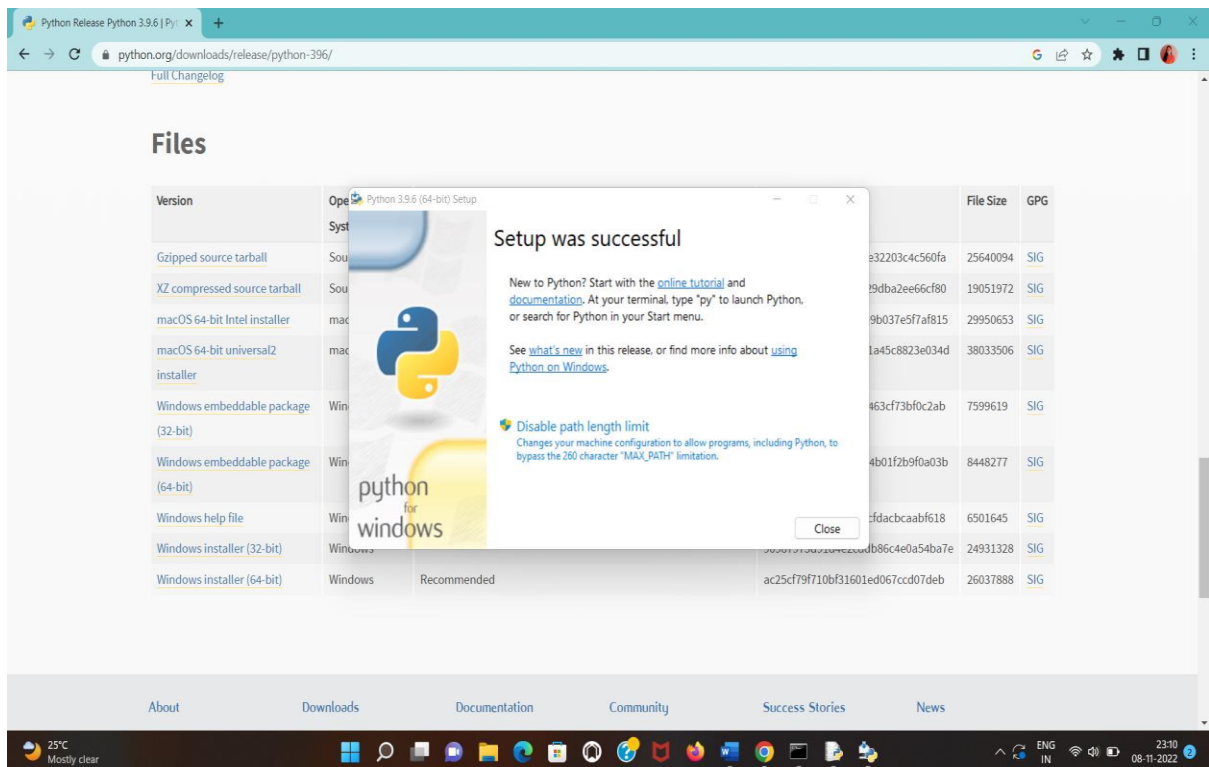
7. Select all the options and install the app.



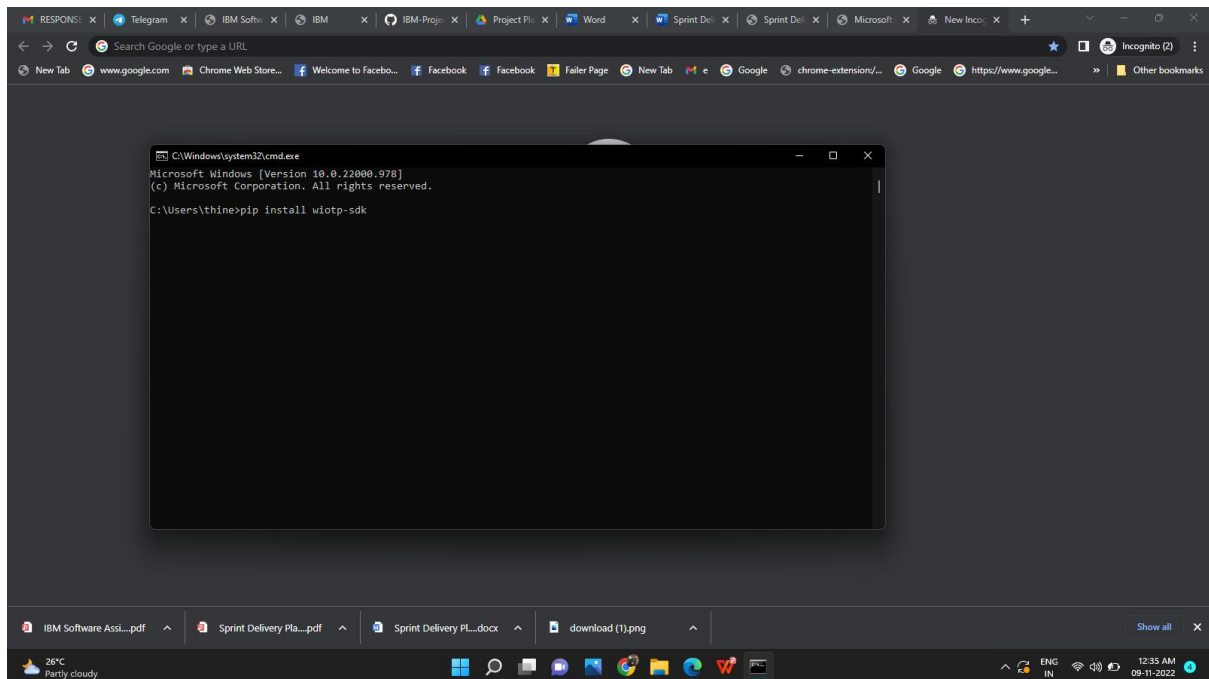
8. Set up process will begin after you give install.



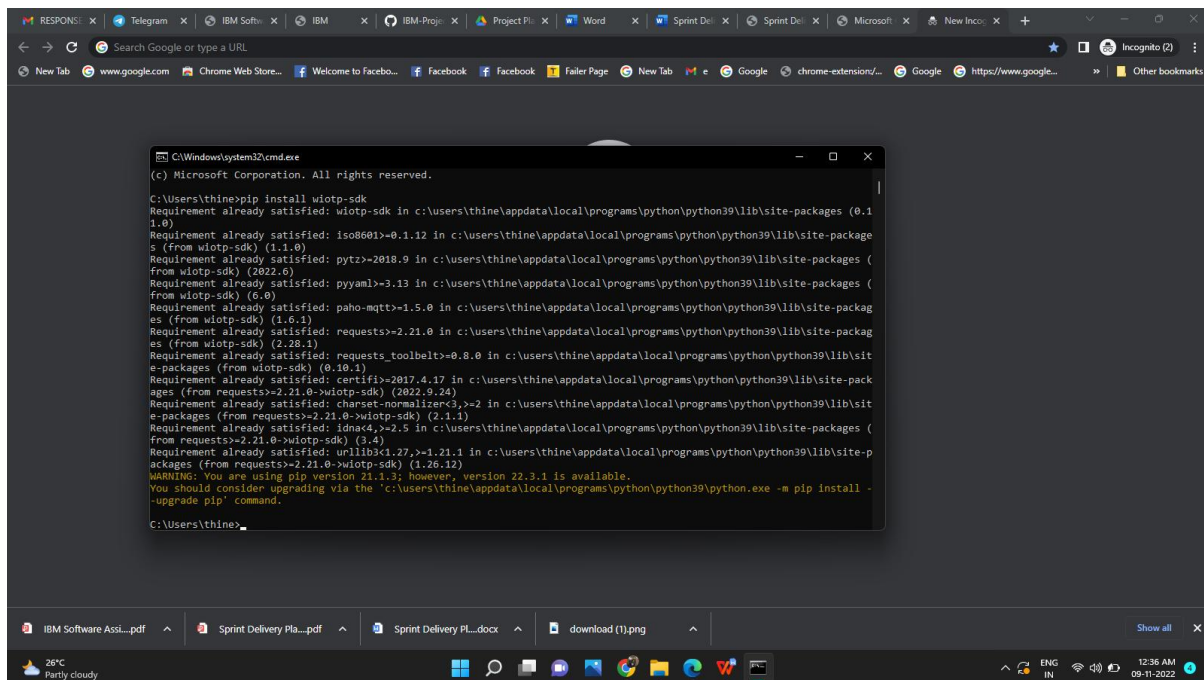
9. Python 3.9.6 version is installed successfully.



10. Now install the IBM Watson Platform package through command prompt.



11. The package will be installed.

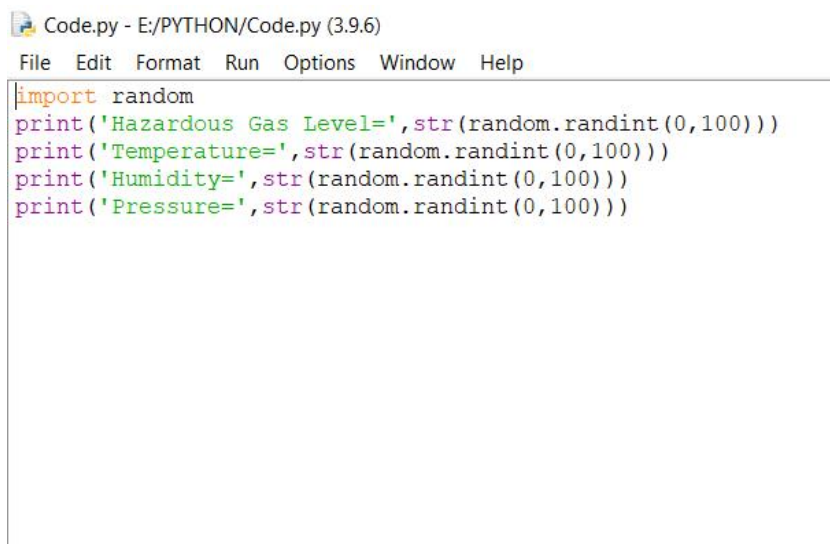


```
C:\Windows\system32\cmd.exe
(c) Microsoft Corporation. All rights reserved.

C:\Users\thine>pip install wiotp-sdk
Requirement already satisfied: wiotp-sdk in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (0.1.1.0)
Requirement already satisfied: iso8601>=0.1.12 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from wiotp-sdk) (1.1.0)
Requirement already satisfied: pytz>=2018.9 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from wiotp-sdk) (2022.6)
Requirement already satisfied: pyyaml>=3.13 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from wiotp-sdk) (6.0)
Requirement already satisfied: paho-mqtt>=1.5.0 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from wiotp-sdk) (1.6.1)
Requirement already satisfied: requests>=2.21.0 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from wiotp-sdk) (2.28.1)
Requirement already satisfied: requests-toolbelt>=0.8.0 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from wiotp-sdk) (0.10.1)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from requests>=2.21.0->wiotp-sdk) (2022.9.24)
Requirement already satisfied: charset-normalizer<3,>=2 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from requests>=2.21.0->wiotp-sdk) (2.1.1)
Requirement already satisfied: idna<4,>=2.5 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from requests>=2.21.0->wiotp-sdk) (3.4)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\thine\appdata\local\programs\python\python39\lib\site-packages (from requests>=2.21.0->wiotp-sdk) (1.26.12)
WARNING: You are using pip version 21.1.3; however, version 22.3.1 is available.
You should consider upgrading via the 'c:\users\thine\appdata\local\programs\python\python39\python.exe -m pip install --upgrade pip' command.

C:\Users\thine>
```

12. Then type program and run in python.



```
Code.py - E:\PYTHON\Code.py (3.9.6)
File Edit Format Run Options Window Help

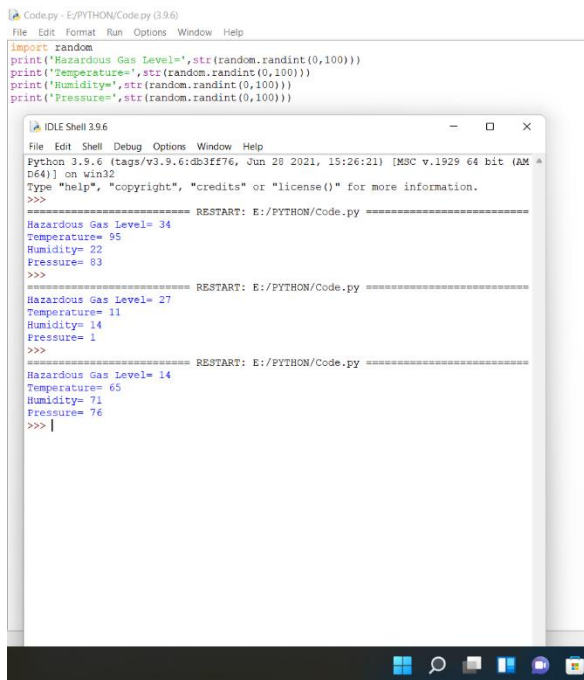
import random
print('Hazardous Gas Level=',str(random.randint(0,100)))
print('Temperature=',str(random.randint(0,100)))
print('Humidity=',str(random.randint(0,100)))
print('Pressure=',str(random.randint(0,100)))
```

RESULT:

The python version 3.9.6 and IBM Watson IoT platform package are installed successfully.

Python Code:

```
import random
print('Hazardous Gas Level=',str(random.randint(0,100)))
print('Temperature=',str(random.randint(0,100)))
print('Humidity=',str(random.randint(0,100)))
print('Pressure=',str(random.randint(0,100)))
```



The screenshot shows a Python IDE window titled 'Code.py - E:/PYTHON/Code.py (3.9.6)'. The code is the same as the one above. Below the code editor is an 'IDLE Shell 3.9.6' window. It shows the output of the code after three restarts. The output is as follows:

```
===== RESTART: E:/PYTHON/Code.py =====
Hazardous Gas Level= 34
Temperature= 95
Humidity= 22
Pressure= 83
>>>

===== RESTART: E:/PYTHON/Code.py =====
Hazardous Gas Level= 27
Temperature= 11
Humidity= 14
Pressure= 1
>>>

===== RESTART: E:/PYTHON/Code.py =====
Hazardous Gas Level= 14
Temperature= 65
Humidity= 71
Pressure= 76
>>>|
```



The screenshot shows a Python IDE window titled 'Code.py - E:/PYTHON/Code.py (3.9.6)'. The code is the same as the one above. The window is empty except for the code editor.

Watson Code:

```
{
    "Hazardous Gas": random(0,100),
    "Temperature": random(0,100),
    "Humidity": random(0,100),
    "Pressure": random(0,100)
}
```

IBM Watson IoT Platform

710019106014@smartinternz.com
ID: 0tus0f

Browse Action Device Types Interfaces

ESP32 01 Disconnected Nov 6, 2022 9:53 AM

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"Hazardous Gas":28,"Temperature":19,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":94,"Temperature":28,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":68,"Temperature":65,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":85,"Temperature":77,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":66,"Temperature":58,"Humidit...	json	a few seconds ago

Items per page 50 | 1-2 of 2 items

ESP32 01

Events 1

Event type name event_1 Frequency 20 x Every Minute Send

Payload

You can override field values in the event payload that is sent by this device. Specify the override values in the editor window.

```
{
  1: "Hazardous Gas": random(0,100)
  2: "Temperature": random(0,100)
  3: "Humidity": random(0,100)
  4: "Pressure": random(0,100)
}
```

What functions can I apply?

Cancel Save

1 of 1 page

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ID: 0tus0f

Browse Action Device Types Interfaces

ESP32 01 Disconnected Nov 6, 2022 9:53 AM 710019106014@smartinternz.com

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"Hazardous Gas":85,"Temperature":77,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":66,"Temperature":58,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":43,"Temperature":19,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":26,"Temperature":13,"Humidit...	json	a few seconds ago
event_1	{"Hazardous Gas":26,"Temperature":37,"Humidit...	json	a few seconds ago

Items per page 50 | 1-2 of 2 items

ESP32 01 Disconnected Nov 6, 2022 12:43 AM 710019106014@smartinternz.com

1 Simulation running