

# SPRINT-1

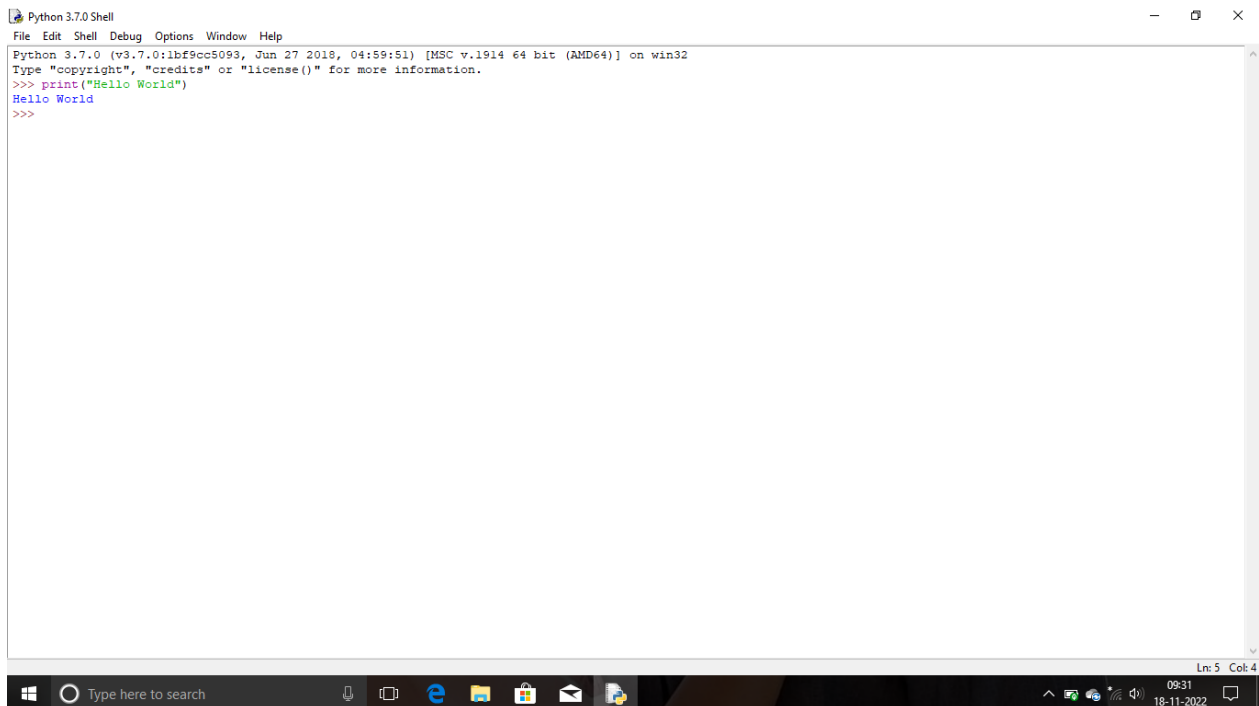
## PYTHON IDE INSTALLATION

TEAM ID	PNT2022TMID41422
PROJECT DOMAIN	INTERNET OF THINGS
PROJECT TITLE	IoT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE
DATE	29 OCTOBER 2022

Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis. Python is a general-purpose language, meaning it can be used to create a variety of different programs and isn't specialized for any specific problems.

### STEP 1:

- Python is installed successfully

A screenshot of a Windows desktop environment. In the foreground, a 'Python 3.7.0 Shell' window is open. The window's title bar includes standard Windows window controls (minimize, maximize, close) and a menu bar with 'File', 'Edit', 'Shell', 'Debug', 'Options', 'Window', and 'Help'. The main area of the shell displays the following text: 'Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32', 'Type "copyright", "credits" or "license()" for more information.', a prompt '>>>' followed by the command 'print("Hello World")', and the output 'Hello World'. Below the shell window, the Windows taskbar is visible, showing the Start button, a search bar with the text 'Type here to search', and several pinned application icons including File Explorer, Microsoft Edge, and the Task View button. The system tray on the right shows the date and time as '09:31 18-11-2022'.

### STEP 2:

- The required python libraries are installed.
- Watson IoT Python SDK to connect to IBM Watson IoT Platform using python code is installed

- pip install wiotp-sdk

```

C:\Users\swast>pip --version
pip 20.1.1 from c:\users\swast\appdata\local\programs\python\python38\lib\site-packages\pip (python 3.8)

C:\Users\swast>pip install wiotp-sdk
Collecting wiotp-sdk
  Downloading wiotp-sdk-0.11.0.tar.gz (96 kB)
    |#####| 96 kB 130 kB/s
Collecting iso8601<=0.1.12
  Downloading iso8601-1.1.0-py3-none-any.whl (9.9 kB)
Requirement already satisfied: pytz>=2018.9 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from wiotp-sdk) (2020.1)
Collecting pyyaml>=3.13
  Downloading PyYAML-6.0-cp38-cp38-win_amd64.whl (155 kB)
    |#####| 155 kB 126 kB/s
Collecting paho-mqtt>=1.5.0
  Downloading paho-mqtt-1.6.1.tar.gz (99 kB)
    |#####| 99 kB 172 kB/s
Collecting requests>=2.21.0
  Downloading requests-2.28.1-py3-none-any.whl (62 kB)
    |#####| 62 kB 155 kB/s
Collecting requests-toolbelt>=0.8.0
  Downloading requests-toolbelt-0.10.1-py2.py3-none-any.whl (54 kB)
    |#####| 54 kB 281 kB/s
Collecting charset-normalizer<3,>=2
  Downloading charset-normalizer-2.1.1-py3-none-any.whl (39 kB)
Collecting idna<=2.5
  Downloading idna-3.4-py3-none-any.whl (61 kB)
    |#####| 61 kB 40 kB/s
Collecting certifi>=2017.4.17
  Downloading certifi-2022.9.24-py3-none-any.whl (161 kB)
    |#####| 161 kB 261 kB/s
Collecting urllib3<1.27,>=1.21.1
  Downloading urllib3-1.26.12-py2.py3-none-any.whl (140 kB)
    |#####| 140 kB 177 kB/s
Building wheels for collected packages: wiotp-sdk, paho-mqtt
  Building wheel for wiotp-sdk (setup.py) ... done
  Created wheel for wiotp-sdk: filename=wiotp_sdk-0.11.0-py3-none-any.whl size=97110 sha256=2f759feae916d84ba4c5368d6c81c3938d6a7416cbd933cc52423a13021b571
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\46\al\69\352862eb129b1d46c4d32ec9d3835d3b5248ef4432cdcfa3d9
  Building wheel for paho-mqtt (setup.py) ... done
  Created wheel for paho-mqtt: filename=paho_mqtt-1.6.1-py3-none-any.whl size=65428 sha256=6d15dbdc8481fc2e1de91265a2ffba6322395188013f91a32c25e225b108646
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\6a\48\01\c895c027e9b9367ec5470bf371ee56e795a49ac6a19a4c9f
Successfully built wiotp-sdk paho-mqtt
Installing collected packages: iso8601, pyyaml, paho-mqtt, charset-normalizer, idna, certifi, urllib3, requests, requests-toolbelt, wiotp-sdk
Successfully installed certifi-2022.9.24 charset-normalizer-2.1.1 idna-3.4 iso8601-1.1.0 paho-mqtt-1.6.1 pyyaml-6.0 requests-2.28.1 requests-toolbelt-0.10.1 urllib3-1.26.12 wiotp-sdk-0.11.0
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>

```

- Python client library for IBM Text to Speech is installed
- pip install --upgrade "ibm-watson">=5.0.0

```

C:\Users\swast>pip install --upgrade "ibm-watson">=5.0.0
Collecting ibm-watson>=5.0.0
  Downloading ibm-watson-6.1.0.tar.gz (373 kB)
    |#####| 373 kB 142 kB/s
Installing build dependencies ... done
Getting requirements to build wheel ... done
Preparing wheel metadata ... done
Collecting ibm-cloud-sdk-core==3.*>=3.3.6
  Downloading ibm-cloud-sdk-core-3.16.0-py3-none-any.whl (83 kB)
    |#####| 83 kB 152 kB/s
Requirement already satisfied, skipping upgrade: requests<3.0,>=2.0 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-watson>=5.0.0) (2.28.1)
Collecting websocket-client<=1.1.0
  Downloading websocket-client-1.1.0-py2.py3-none-any.whl (68 kB)
    |#####| 68 kB 195 kB/s
Requirement already satisfied, skipping upgrade: python-dateutil<=2.5.3 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-watson>=5.0.0) (2.8.1)
Collecting PyJWT<3.0.0,>=2.4.0
  Downloading PyJWT-2.6.0-py3-none-any.whl (20 kB)
Requirement already satisfied, skipping upgrade: certifi>=2017.4.17 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.0->ibm-watson>=5.0.0) (2022.9.24)
Requirement already satisfied, skipping upgrade: idna<=2.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.0->ibm-watson>=5.0.0) (3.4)
Requirement already satisfied, skipping upgrade: charset-normalizer<3,>=2 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.0->ibm-watson>=5.0.0) (2.1.1)
Requirement already satisfied, skipping upgrade: six>=1.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from python-dateutil<=2.5.3->ibm-watson>=5.0.0) (1.15.0)
Building wheels for collected packages: ibm-watson
  Building wheel for ibm-watson (PEP 517) ... done
  Created wheel for ibm-watson: filename=ibm_watson-6.1.0-py3-none-any.whl size=378748 sha256=58648b1c154ae0ba2ae5cc521f68536cbb77a9cf975f9cc5f975bdf9ba6956
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\34\b4\c0\829a351c802b7a578115fe7ddaef62b29eae84e90882c7e2
Successfully built ibm-watson
Installing collected packages: PyJWT, ibm-cloud-sdk-core, websocket-client, ibm-watson
Successfully installed PyJWT-2.6.0 ibm-cloud-sdk-core-3.16.0 ibm-watson-6.1.0 websocket-client-1.1.0
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>

```

- Required libraries for Cloud object storage is installed.

- pip install ibm-cos-sdk

```
Command Prompt
C:\Users\swast>pip install ibm-cos-sdk
Collecting ibm-cos-sdk
  Downloading ibm-cos-sdk-2.12.0.tar.gz (95 kB)
    Collecting ibm-cos-sdk-core==2.12.0
      Downloading ibm-cos-sdk-core-2.12.0.tar.gz (956 kB)
    Collecting ibm-cos-sdk-s3transfer==2.12.0
      Downloading ibm-cos-sdk-s3transfer-2.12.0.tar.gz (135 kB)
Collecting jmespath<1.0.0,>=0.10.0
  Downloading jmespath-0.10.0-py2.py3-none-any.whl (24 kB)
Collecting python-dateutil<3.0.0,>=2.8.2
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
Requirement already satisfied: requests<3.0,>=2.27.1 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk==2.12.0->ibm-cos-sdk) (2.28.1)
Requirement already satisfied: urllib3<1.27,>=1.26.9 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (1.26.12)
Requirement already satisfied: six>=1.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from python-dateutil<3.0.0,>=2.8.2->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (1.15.0)
Requirement already satisfied: certifi<=2017.4.17 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.27.1->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2022.9.24)
Requirement already satisfied: idna<4,>=2.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.27.1->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (3.4)
Requirement already satisfied: charset-normalizer<3,>=2 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.27.1->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2.1.1)
Building wheels for collected packages: ibm-cos-sdk, ibm-cos-sdk-core, ibm-cos-sdk-s3transfer
  Building wheel for ibm-cos-sdk (setup.py) ... done
  Created wheel for ibm-cos-sdk: filename=ibm_cos_sdk-2.12.0-py3-none-any.whl size=77926 sha256=a6f65ca073d66209e285e7f8a185c5bf4721a71f535188f94c734e01cd36e
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\21\5f\fa\6a04fb45a671bc8c30083d368f9d39ef7c4fd1869d224d
  Building wheel for ibm-cos-sdk-core (setup.py) ... done
  Created wheel for ibm-cos-sdk-core: filename=ibm_cos_sdk_core-2.12.0-py3-none-any.whl size=562952 sha256=c7f8e89deef7511d484073c5082533731d8715bd59fb3deda4ad0c38a3f99d7
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\ca\3d\78\48c5e974477098f3fac8c1df402b1de0a8cbf8c69d660ee7
  Building wheel for ibm-cos-sdk-s3transfer (setup.py) ... done
  Created wheel for ibm-cos-sdk-s3transfer: filename=ibm_cos_sdk_s3transfer-2.12.0-py3-none-any.whl size=89769 sha256=67c5983a4abd5be13db07bcb1d35d721eebef83fec9e5f0275d9f8e51ceb777
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\c0\7a\37\1b53ca7d27a29a10c2a47c58baa1c2ff3832795b698c0db46
Successfully built ibm-cos-sdk ibm-cos-sdk-core ibm-cos-sdk-s3transfer
Installing collected packages: jmespath, python-dateutil, ibm-cos-sdk-core, ibm-cos-sdk-s3transfer, ibm-cos-sdk
  Attempting to uninstall: python-dateutil
    Found existing installation: python-dateutil 2.8.1
    Uninstalling python-dateutil-2.8.1:
      Successfully uninstalled python-dateutil-2.8.1
Successfully installed ibm-cos-sdk-2.12.0 ibm-cos-sdk-core-2.12.0 ibm-cos-sdk-s3transfer-2.12.0 jmespath-0.10.0 python-dateutil-2.8.2
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>
```

- pip install -U ibm-cos-sdk

```
Command Prompt
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>pip install -U ibm-cos-sdk
Requirement already up-to-date: ibm-cos-sdk in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (2.12.0)
Requirement already satisfied, skipping upgrade: ibm-cos-sdk-s3transfer==2.12.0 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk) (2.12.0)
Requirement already satisfied, skipping upgrade: ibm-cos-sdk-core==2.12.0 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk) (2.12.0)
Requirement already satisfied, skipping upgrade: jmespath<1.0.0,>=0.10.0 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk) (0.10.0)
Requirement already satisfied, skipping upgrade: requests<3.0,>=2.27.1 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2.28.1)
Requirement already satisfied, skipping upgrade: urllib3<1.27,>=1.26.9 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (1.26.12)
Requirement already satisfied, skipping upgrade: python-dateutil<3.0.0,>=2.8.2 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2.8.2)
Requirement already satisfied, skipping upgrade: charset-normalizer<3,>=2 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.27.1->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2.1.1)
Requirement already satisfied, skipping upgrade: idna<4,>=2.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.27.1->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (3.4)
Requirement already satisfied, skipping upgrade: certifi<=2017.4.17 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0,>=2.27.1->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2022.9.24)
Requirement already satisfied, skipping upgrade: six>=1.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from python-dateutil<3.0.0,>=2.8.2->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (1.15.0)
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>
```

- pip install boto3

```
Command Prompt
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>pip install boto3
Collecting boto3
  Downloading boto3-1.26.0-py3-none-any.whl (132 kB)
    |#####| 132 kB 148 kB/s
Collecting s3transfer<0.7.0,>=0.6.0
  Downloading s3transfer-0.6.0-py3-none-any.whl (79 kB)
    |#####| 79 kB 113 kB/s
Collecting botocore<1.30.0,>=1.29.0
  Downloading botocore-1.29.0-py3-none-any.whl (9.8 MB)
    |#####| 9.8 MB 2.2 MB/s
Requirement already satisfied: jmespath<2.0.0,>=0.7.1 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from boto3) (0.10.0)
Requirement already satisfied: urllib3<1.27,>=1.25.4 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from botocore<1.30.0,>=1.29.0->boto3) (1.26.12)
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from botocore<1.30.0,>=1.29.0->boto3) (2.8.2)
Requirement already satisfied: six>=1.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from python-dateutil<3.0.0,>=2.1->botocore<1.30.0,>=1.29.0->boto3) (1.15.0)
Installing collected packages: botocore, s3transfer, boto3
Successfully installed boto3-1.26.0 botocore-1.29.0 s3transfer-0.6.0
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>
```

- pip install resources

```
Command Prompt
C:\Users\swast>pip install resources
Collecting resources
  Downloading resources-0.0.1.tar.gz (3.7 kB)
Building wheels for collected packages: resources
  Building wheel for resources (setup.py) ... done
  Created wheel for resources: filename=resources-0.0.1-py3-none-any.whl size=4370 sha256=38113eb3ac96cbfb540f22381a08aee6aacac976211e26ae94f9b2441ec318e
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\1b\91\1d\00\45ae97c7b92d145a0963f711c6d22f9af5386c74c88f2f28fd
Successfully built resources
Installing collected packages: resources
Successfully installed resources-0.0.1
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>
```

- pip install cloudant

```
Command Prompt
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>pip install cloudant
Collecting cloudant
  Downloading cloudant-2.15.0-py3-none-any.whl (80 kB)
    |#####| 80 kB 305 kB/s
Requirement already satisfied: requests<3.0.0,>=2.7.0 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from cloudant) (2.28.1)
Requirement already satisfied: charset-normalizer<3,>=2 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0.0,>=2.7.0->cloudant) (2.1.1)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0.0,>=2.7.0->cloudant) (1.26.12)
Requirement already satisfied: certifi>=2017.4.27 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0.0,>=2.7.0->cloudant) (2022.9.24)
Requirement already satisfied: idna<4,>=2.5 in c:\users\swast\appdata\local\programs\python\python38\lib\site-packages (from requests<3.0.0,>=2.7.0->cloudant) (3.4)
Installing collected packages: cloudant
Successfully installed cloudant-2.15.0
WARNING: You are using pip version 20.1.1; however, version 22.3 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>
```