

SPRINT-1

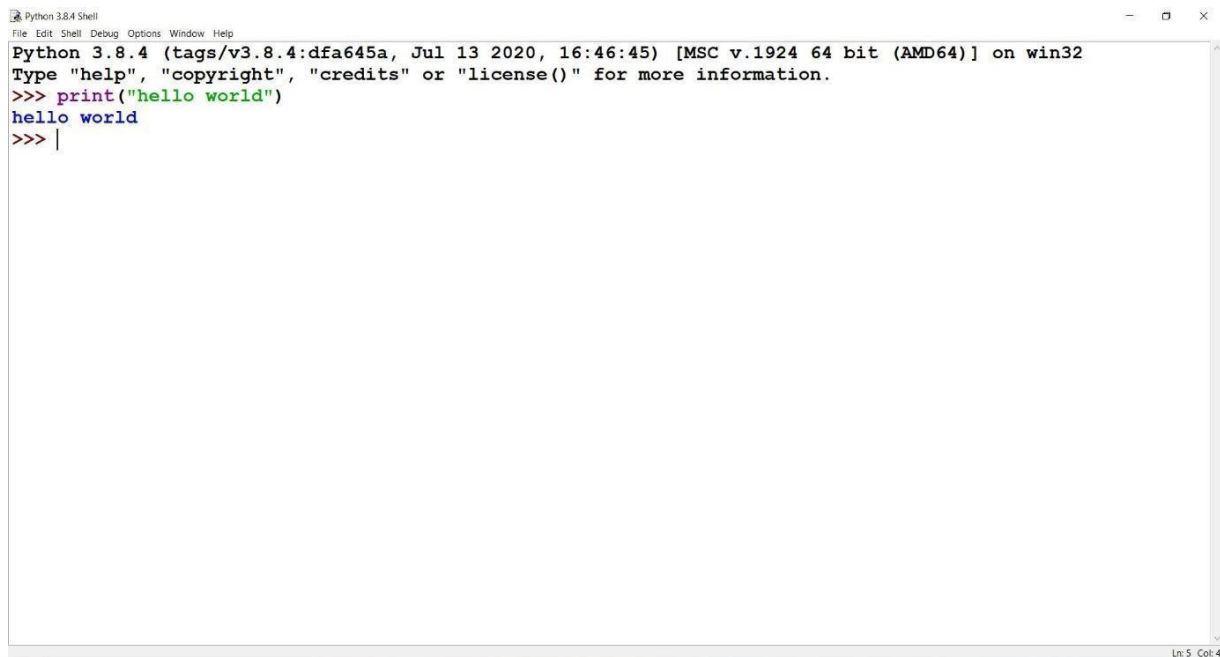
PYTHON IDE INSTALLATION

TEAM ID	PNT2022TMID32056
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



```
Python 3.8.4 Shell
File Edit Shell Debug Options Window Help
Python 3.8.4 (tags/v3.8.4:dfa645a, Jul 13 2020, 16:46:45) [MSC v.1924 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> print("hello world")
hello world
>>> |
```

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 (151 kB)
    |#####| 151 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=2f759feae916d84ba4c5368d6c81c3938d6a7416cbd533cc52423a13021b571
  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=6d15bdc8481fc2e1de91265a2ffba6322395188013f91a32c25e225b108646
  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=58648bc1c54ae0ba2ae5cc521f68536cbb77a9cf975fccc5f975bddf9ba6956
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\34\b4\cd\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=a6f65ca073d669209c285c7f8a195c5bf4721a71f535188f94c734e01cd36e
  Stored in directory: c:\users\swast\appdata\local\pip\cache\wheels\21\5f\fa\6a04fb45a0d71bc8c30083d368f9d39ef7c4fd1869d224d
  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=67c5983a4abd5be13db07bcb1d35d7216ebef83fec9c5f0275d9fe8e51ceb777
  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 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>
```