

SPRINT 1

DATE	18 November 2022
TEAM ID	PNT2022TMID24852
PROJECT	IOT BASED CROP PROTECTION SYSTEM

SPRINT 1 includes,

- 1) Create an account in Clarifai.
- 2) Cloud account Creation
- 3) Python IDE installation

CREATE AN ACCOUNT IN CLARIFAI

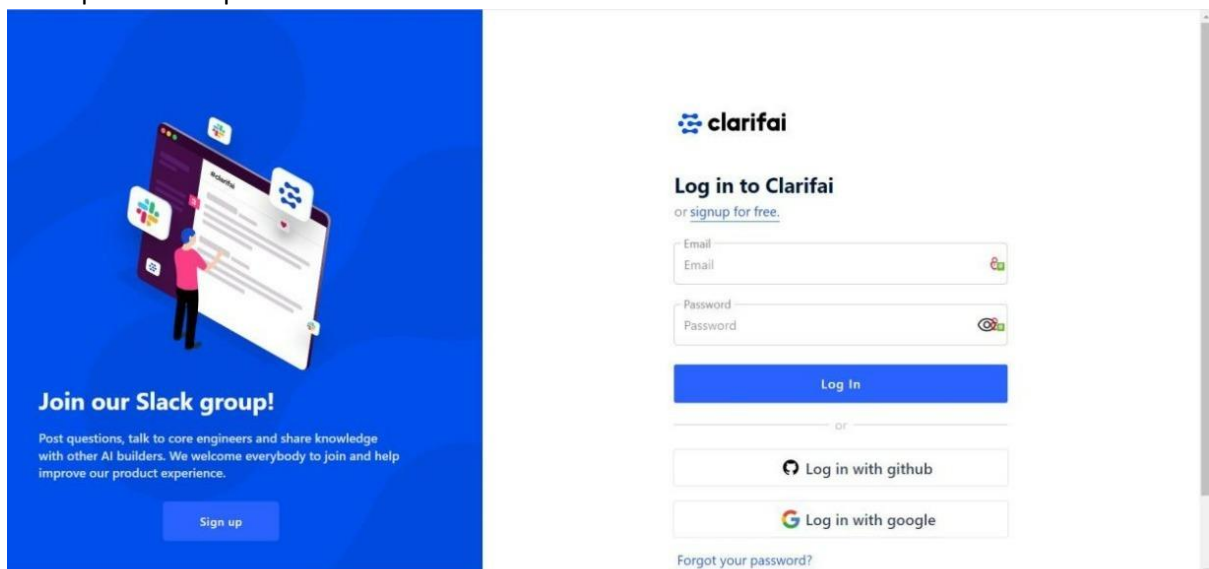
To detect the animals and birds we are using an open-source platform Clarifai. To use this service in the project we need to sign up for this.

CLARIFAI

Clarifai provides an end-to-end platform with the easiest to use UI and API in the market. Clarifai Inc. is an artificial intelligence (AI) company that specializes in computer vision and uses machine learning and deep neural networks to identify and analyse images and videos. The company offers its solution via API, mobile SDK, and on-premise solutions.

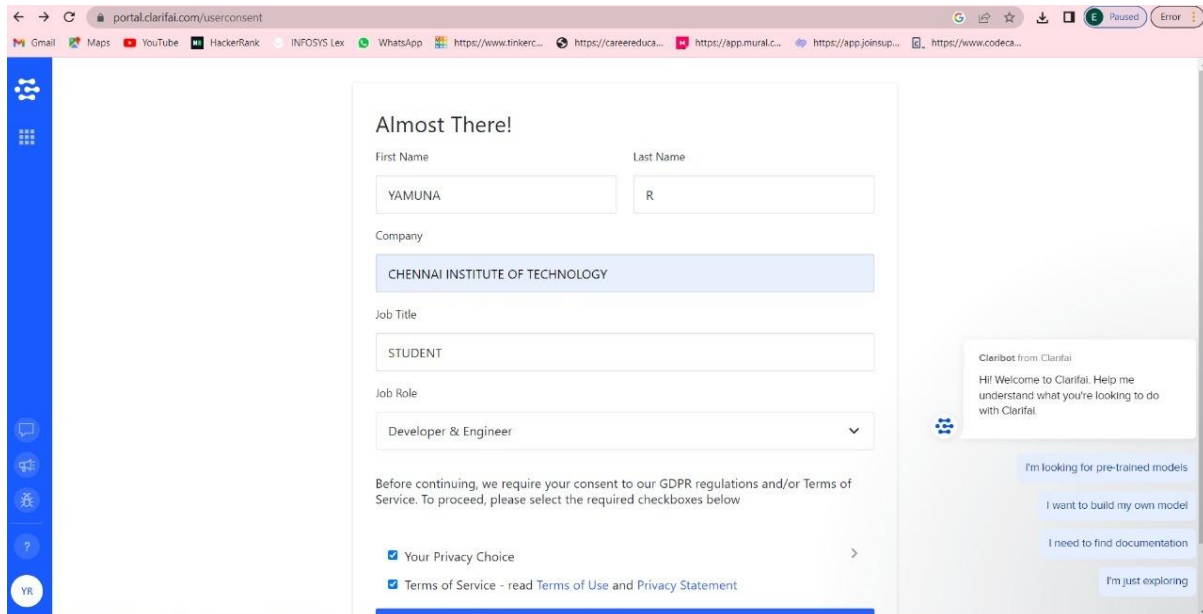
STEP 1:

- Open Clarifai portal in web browser



STEP 2:

- Signup using the required user mail and password.



The screenshot shows the Clarifai user consent form titled "Almost There!". The form is located at portal.clarifai.com/userconsent. It contains the following fields and options:

- First Name:** YAMUNA
- Last Name:** R
- Company:** CHENNAI INSTITUTE OF TECHNOLOGY
- Job Title:** STUDENT
- Job Role:** Developer & Engineer (selected from a dropdown menu)

Below the form fields, there is a section for consent:

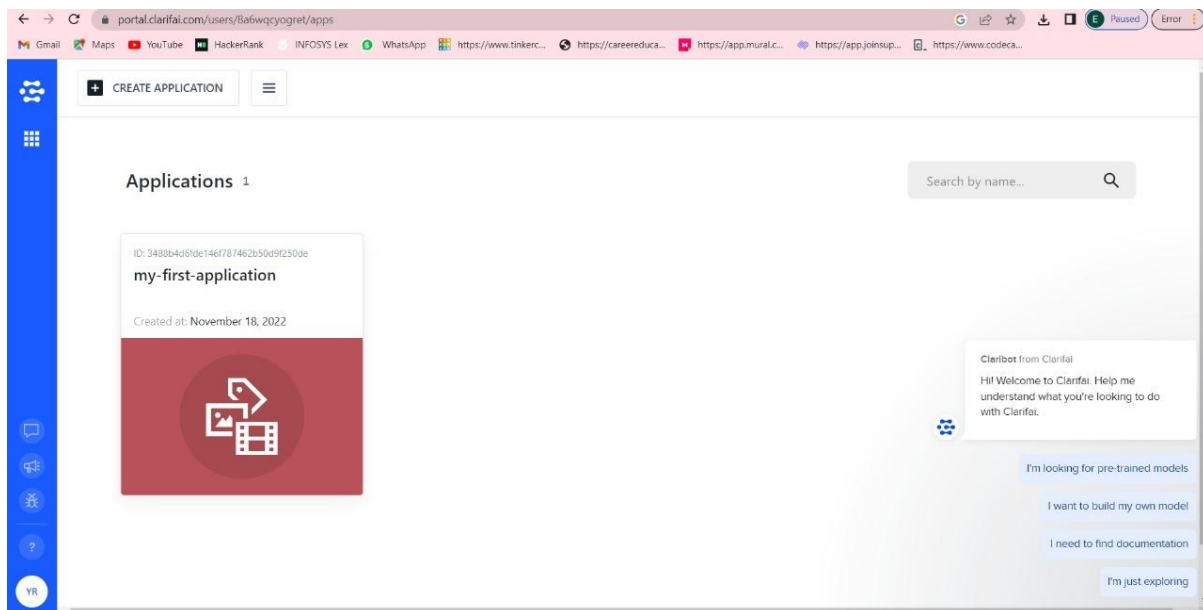
Before continuing, we require your consent to our GDPR regulations and/or Terms of Service. To proceed, please select the required checkboxes below

- ☒ Your Privacy Choice
- ☒ Terms of Service - read Terms of Use and Privacy Statement

On the right side of the form, there is a chatbot interface with the text: "Clarifai from Clarifai. Hi! Welcome to Clarifai. Help me understand what you're looking to do with Clarifai." Below this, there are four buttons: "I'm looking for pre-trained models", "I want to build my own model", "I need to find documentation", and "I'm just exploring".

STEP 3:

- Finally, Created an account.



The screenshot shows the Clarifai Applications page. The URL is portal.clarifai.com/users/Ba6wqcyogret/apps. The page has a "CREATE APPLICATION" button in the top left corner. The main heading is "Applications 1". There is a search bar on the right that says "Search by name...". Below the heading, there is a card for an application named "my-first-application". The card displays the ID "ID: 3483b4d68de146f78/462b50d9f250de" and the creation date "Created at: November 18, 2022". The card also features a red square icon with a white camera and film strip symbol. On the right side of the page, there is a chatbot interface with the text: "Clarifai from Clarifai. Hi! Welcome to Clarifai. Help me understand what you're looking to do with Clarifai." Below this, there are four buttons: "I'm looking for pre-trained models", "I want to build my own model", "I need to find documentation", and "I'm just exploring".

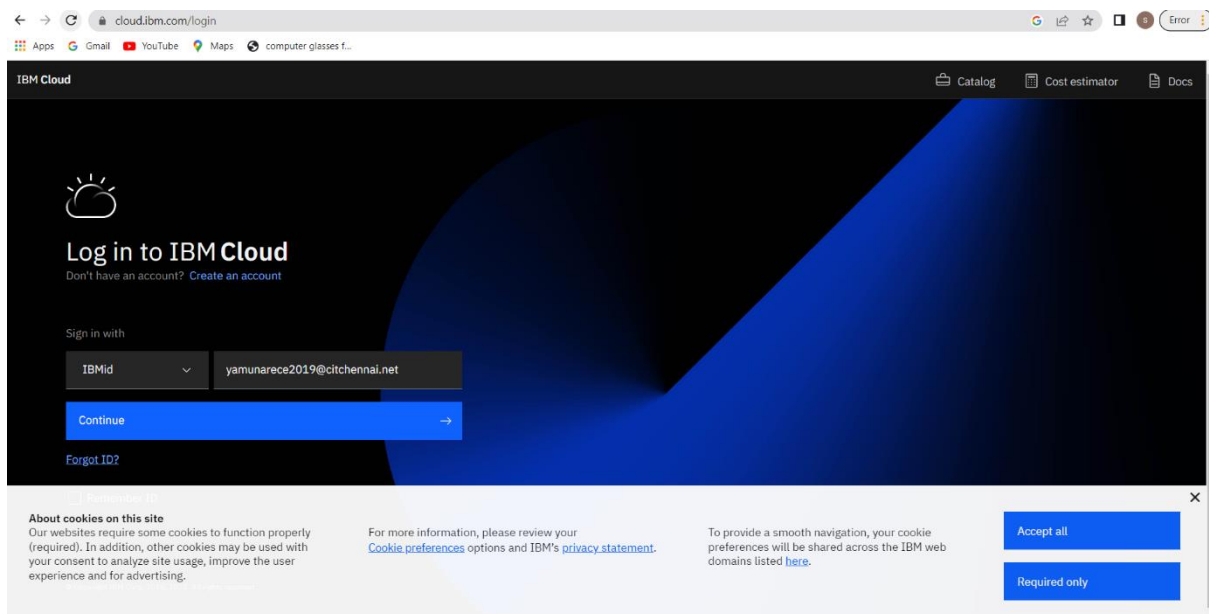
CLOUD ACCOUNT CREATION

We need to have basic knowledge of the following cloud services:

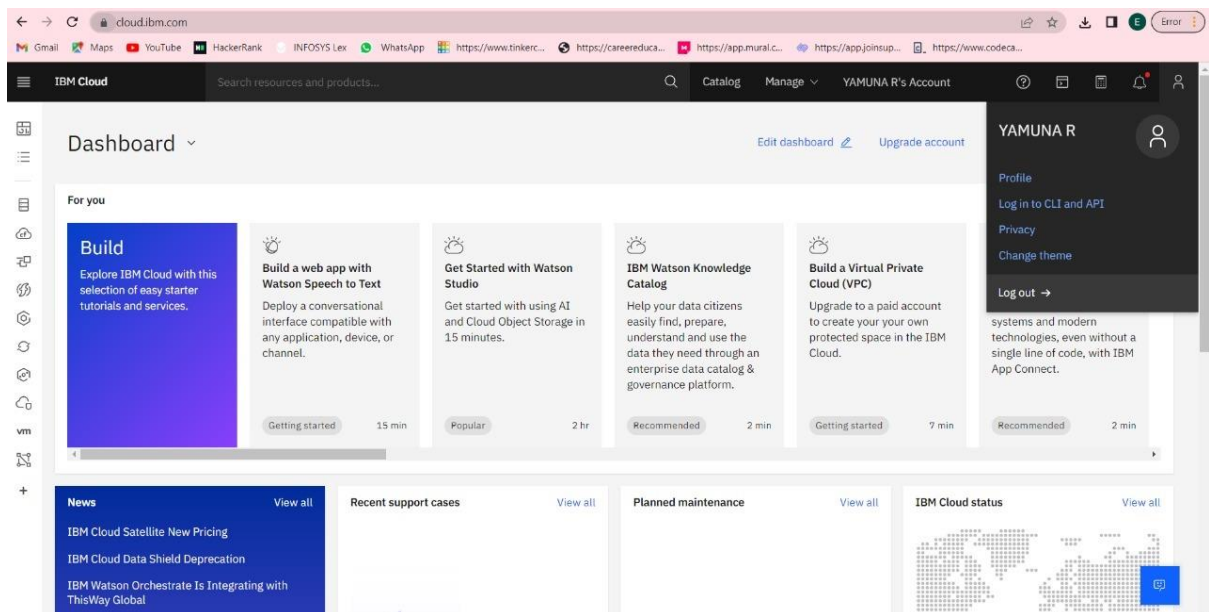
- IBM Watson IoT Platform
- Node-RED Service
- Cloudbant DB

We need to create an IBM Cloud Account to complete this project.

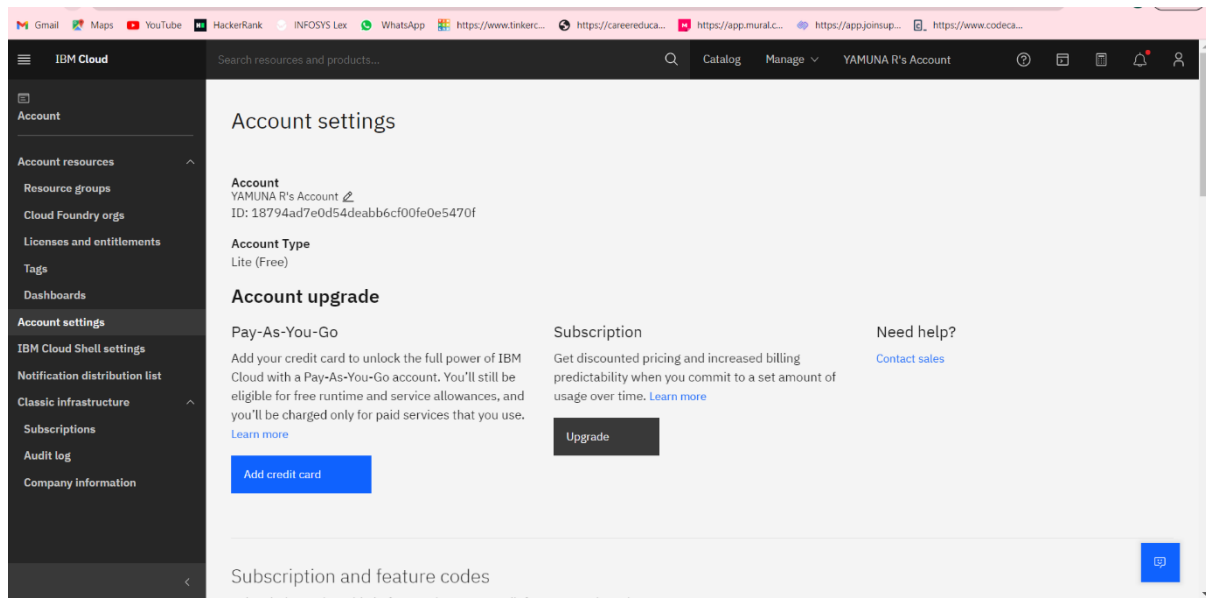
LOGIN:



DASHBOARD



ACCOUNT SETTINGS:

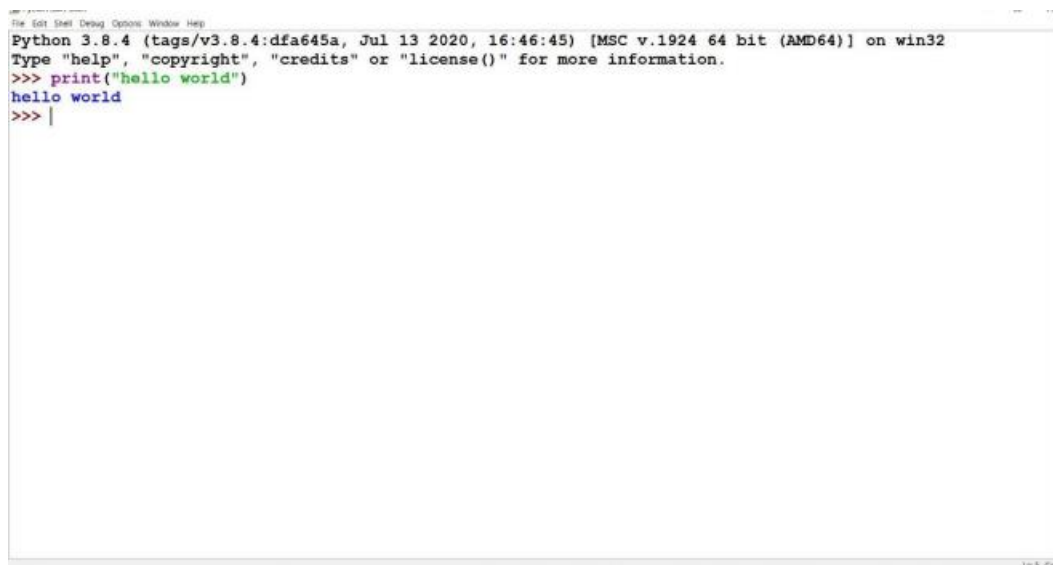


PYTHON IDE INSTALLATION

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



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

```
for quit() or Ctrl-C plus Return to exit
>>> quit()

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 (90 kB)
    |#####| 90 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<5.4
  Downloading pyyaml-5.4-cp38-cp38-win_msvcrt.whl (155 kB)
    |#####| 155 kB 126 kB/s
Collecting paho-mqtt<1.6
  Downloading paho-mqtt-1.6.1.tar.gz (99 kB)
    |#####| 99 kB 172 kB/s
Collecting requests<2.26
  Downloading requests-2.26.1-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 201 kB/s
Collecting charset-normalizer<3.0
  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 49 kB/s
Collecting certifi<=2017.4.17
  Downloading certifi-2022.9.24-py3-none-any.whl (182 kB)
    |#####| 181 kB 261 kB/s
Collecting urllib3<1.27,=>1.21.1
  Downloading urllib3-1.26.12-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=2770ffaeef1a6b9baef51803c81e1918baa4318c4f31c5243a18210571
Stored in directory: C:\Users\swast\AppData\Local\pip\Cache\wheels\5b\af\10\7120c2ab12954d6c6d2e6c385d5d9124fe6432c4c43d9
Building wheel for paho-mqtt (setup.py) ... done
Created wheel for paho-mqtt: filename=paho_mqtt-1.6.1-py3-none-any.whl size=63428 sha256=6d13bdc64016c1a1c3125c62f4a632239518801391a12c25e227638846
Stored in directory: C:\Users\swast\AppData\Local\pip\Cache\wheels\5b\af\10\7120c2ab12954d6c6d2e6c385d5d9124fe6432c4c43d9
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-5.4 requests-2.26.1 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 22.1 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-5.1.0.tar.gz (172 kB)
    |#####| 172 kB 162 kB/s
Installing build dependencies ... done
Getting requirements to build wheel ... done
Preparing wheel metadata ... done
Collecting ibm-cloud-sdk-core<1.0,=>1.0
  Downloading ibm-cloud-sdk-core-1.0.0-py3-none-any.whl (83 kB)
    |#####| 83 kB 152 kB/s
Requirement already satisfied, skipping upgrade: requests<3.0,=>2.8 in C:\Users\swast\AppData\Local\Programs\Python\Python38\lib\site-packages (from ibm-watson>=5.0.0) (2.26.1)
Collecting websocket-client<1.0
  Downloading websocket-client-1.4.0-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-2.4.0-py3-none-any.whl (20 kB)
    |#####| 20 kB 100 kB/s
Requirement already satisfied, skipping upgrade: urllib3<0.9,=>1.26.0 in C:\Users\swast\AppData\Local\Programs\Python\Python38\lib\site-packages (from ibm-cloud-sdk-core<1.0,=>1.0) (1.26.0)
Requirement already satisfied, skipping upgrade: idna<=2.5 in C:\Users\swast\AppData\Local\Programs\Python\Python38\lib\site-packages (from requests<3.0,=>2.8->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,=>2.8->ibm-watson>=5.0.0) (2.1.1)
Requirement already satisfied, skipping upgrade: iso-639-1 in C:\Users\swast\AppData\Local\Programs\Python\Python38\lib\site-packages (from python-dateutil<2.5.3->ibm-watson>=5.0.0) (1.1.0)
Building wheels for collected packages: ibm-watson
Building wheel for ibm-watson (PEP 517) ... done
Created wheel for ibm-watson: filename=ibm_watson-5.1.0-py3-none-any.whl size=138740 sha256=56680c1c5400b1d4c5c32144536c374b49754cc549796d4f84d096
Stored in directory: C:\Users\swast\AppData\Local\pip\Cache\wheels\5b\af\10\7120c2ab12954d6c6d2e6c385d5d9124fe6432c4c43d9
Successfully built ibm-watson
Installing collected packages: PyJWT, ibm-cloud-sdk-core, websocket-client, ibm-watson
Successfully installed PyJWT-2.4.0 ibm-cloud-sdk-core-1.0.0 ibm-watson-5.1.0 websocket-client-1.4.0
WARNING: You are using pip version 20.1.1; however, version 22.1 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

```
C:\Users\tsantip> pip install ibm-cos-sdk
Collecting ibm-cos-sdk
  Downloading ibm-cos-sdk-2.12.0.tar.gz (335 kB)
    100% |#####| 51 kB 411 kB/s
Collecting ibm-cos-sdk-core==2.12.0
  Downloading ibm-cos-sdk-core-2.12.0.tar.gz (950 kB)
    100% |#####| 338 kB 251 kB/s
Collecting ibm-cos-sdk-s3transfer==2.12.0
  Downloading ibm-cos-sdk-s3transfer-2.12.0.tar.gz (315 kB)
    100% |#####| 135 kB 342 kB/s
Collecting jmespath<1.0.0,>=0.10.0
  Downloading jmespath-0.10.0-py2.py3-none-any.whl (24 kB)
Collecting python-datatool<1.0.0,>=0.2
  Downloading python-datatool-2.0.2-py3-none-any.whl (247 kB)
    100% |#####| 247 kB 261 kB/s
Requirement already satisfied: requests<3.0,>=2.27.1 in c:\users\tsantip\appdata\local\program\python\python38\lib\site-packages (from ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2.28.1)
Requirement already satisfied: urllib3<1.27,>=1.26.3 in c:\users\tsantip\appdata\local\program\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\tsantip\appdata\local\program\python\python38\lib\site-packages (from python-datatool<1.0.0,>=0.2->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (1.15.0)
Requirement already satisfied: certifi<2022/4.17 in c:\users\tsantip\appdata\local\program\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: charset-normalizer<4,>=2 in c:\users\tsantip\appdata\local\program\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: charset-normalizer<4,>=2 in c:\users\tsantip\appdata\local\program\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=77920 sha256=a0f0ca0f70009209c77e19c59fa4721a71f515188f94734e01c5fe
  Stored in directory: c:\users\tsantip\appdata\local\pip\cache\wheels\12\15\fd\6a04f5d4e5ad71edc83003143d0f9d39f7c0fd1816d226d
  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=c77a80e0ef7511600077308253371128713ba0f9b0a0a2d030a3f9547
  Stored in directory: c:\users\tsantip\appdata\local\pip\cache\wheels\1a\14\70\60c37e576a7780f3f4c3c1d4f46b2b3d8b3b4840660c7
  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=89789 sha256=67c3903a0d0d8e33d0f3dc1d05d723e0e8f1f3e0f027549f0e01c0d47f
  Stored in directory: c:\users\tsantip\appdata\local\pip\cache\wheels\1b\7a\37\1b51ca022a2040c0a07580a1c2ff38327926d0940b0e
Successfully built ibm-cos-sdk ibm-cos-sdk-core ibm-cos-sdk-s3transfer
Installing collected packages: jmespath, python-datatool, ibm-cos-sdk-core, ibm-cos-sdk-s3transfer, ibm-cos-sdk
  Attempting uninstall: python-datatool
    Found existing installation: python-datatool 2.0.1
    Uninstalling python-datatool-2.0.1:
      Successfully uninstalled python-datatool-2.0.1
  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-datatool-2.0.2
WARNING: You are using pip version 20.1.1; however, version 22.1 is available.
You should consider upgrading via the 'c:\users\tsantip\appdata\local\program\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\tsantip>
```

- pip install -U ibm-cos-sdk.

```
WARNING: You are using pip version 20.1.1; however, version 22.1 is available.
You should consider upgrading via the 'c:\users\tsantip\appdata\local\program\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\tsantip> pip install -U ibm-cos-sdk
Requirement already up-to-date: ibm-cos-sdk in c:\users\tsantip\appdata\local\program\python\python38\lib\site-packages (2.12.0)
Requirement already satisfied: s3transfer<2.12.0 in c:\users\tsantip\appdata\local\program\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\tsantip\appdata\local\program\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\tsantip\appdata\local\program\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\tsantip\appdata\local\program\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,>=1.26.3 in c:\users\tsantip\appdata\local\program\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-datatool<1.0.0,>=0.2 in c:\users\tsantip\appdata\local\program\python\python38\lib\site-packages (from ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (2.0.2)
Requirement already satisfied, skipping upgrade: charset-normalizer<4,>=2 in c:\users\tsantip\appdata\local\program\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<3,>=2.5 in c:\users\tsantip\appdata\local\program\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\tsantip\appdata\local\program\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\tsantip\appdata\local\program\python\python38\lib\site-packages (from python-datatool<1.0.0,>=0.2->ibm-cos-sdk-core==2.12.0->ibm-cos-sdk) (1.15.0)
WARNING: You are using pip version 20.1.1; however, version 22.1 is available.
You should consider upgrading via the 'c:\users\tsantip\appdata\local\program\python\python38\python.exe -m pip install --upgrade pip' command.

C:\Users\tsantip>
```

- pip install boto3

```
WARNING: You are using pip version 20.1.1; however, version 21.1 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python3\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>pip install boto3
Collecting boto3
  Downloading boto3-1.20.0-py3-none-any.whl (132 kB)
    |#####| 112 kB 168 kB/s
Collecting s3transfer<0.7.0,>=0.5.0
  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 (9.9 MB)
    |#####| 9.9 MB 2.2 MB/s
Requirement already satisfied: urllib3<1.27,>=1.25.4 in c:\users\swast\appdata\local\programs\python\python3\lib\site-packages (from boto3) (0.16.0)
Requirement already satisfied: python-dateutil<1.0.0,>=1.1 in c:\users\swast\appdata\local\programs\python\python3\lib\site-packages (from botocore<1.30.0,>=1.29.0->boto3) (1.26.12)
Requirement already satisfied: six<1.5 in c:\users\swast\appdata\local\programs\python\python3\lib\site-packages (from python-dateutil<1.0.0,>=1.1->botocore<1.30.0,>=1.29.0->boto3) (1.15.0)
Installing collected packages: botocore, s3transfer, boto3
Successfully installed boto3-1.20.0 botocore-1.29.0 s3transfer-0.6.0
WARNING: You are using pip version 20.1.1; however, version 21.1 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python3\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>
```

- pip install resources

```
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: file(resources-0.0.1-py3-none-any.whl size=4170 sha256=8115b3ac86cb76d7f223616b0eefdeacc87121e23ae44f9b2d41c11b
  Stored in directory: c:\users\swast\appdata\local\pip\Cache\wheels\43\1f\00\55ac57c7802d4142a86b7711c62249af5386c78c81f2128fd
Successfully built resources
Installing collected packages: resources
Successfully installed resources-0.0.1
WARNING: You are using pip version 20.1.1; however, version 21.1 is available.
You should consider upgrading via the 'c:\users\swast\appdata\local\programs\python\python3\python.exe -m pip install --upgrade pip' command.

C:\Users\swast>
```

- pip install cloudant

```

You should consider upgrading via the 'c:\users\user\AppData\Local\Programs\Python\Python38\python.exe -m pip install --upgrade pip' command.

Users\user>pip install cloudant
Collecting cloudant
  Downloading cloudant-2.15.0-py3-none-any.whl (80 kB)
    80 kB 105 kB/s
Requirement already satisfied: requests<3.0.0,>=2.7.0 in c:\users\user\AppData\Local\Programs\Python\Python38\lib\site-packages (from cloudant) (2.28.1)
Requirement already satisfied: charset-normalizer<3,>=2 in c:\users\user\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\user\AppData\Local\Programs\Python\Python38\lib\site-packages (from requests<3.0.0,>=2.7.0->cloudant) (1.26.12)
Requirement already satisfied: certifi<2017.4.17 in c:\users\user\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\user\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 22.1 is available.
You should consider upgrading via the 'c:\users\user\AppData\Local\Programs\Python\Python38\python.exe -m pip install --upgrade pip' command.

Users\user>
```