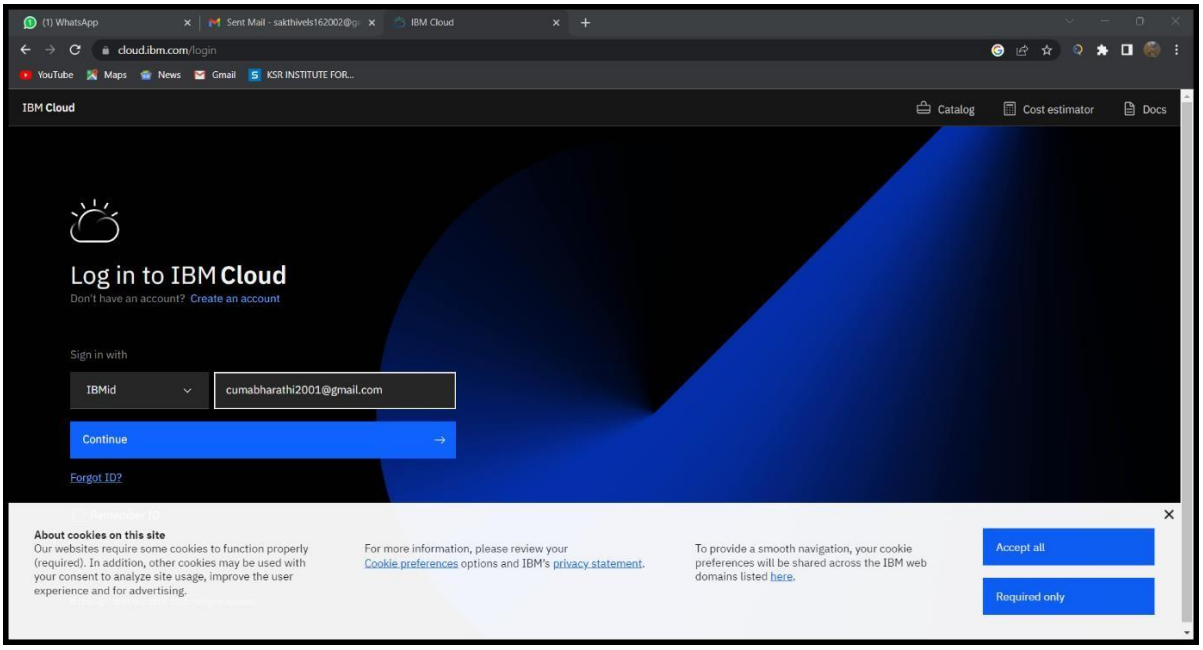
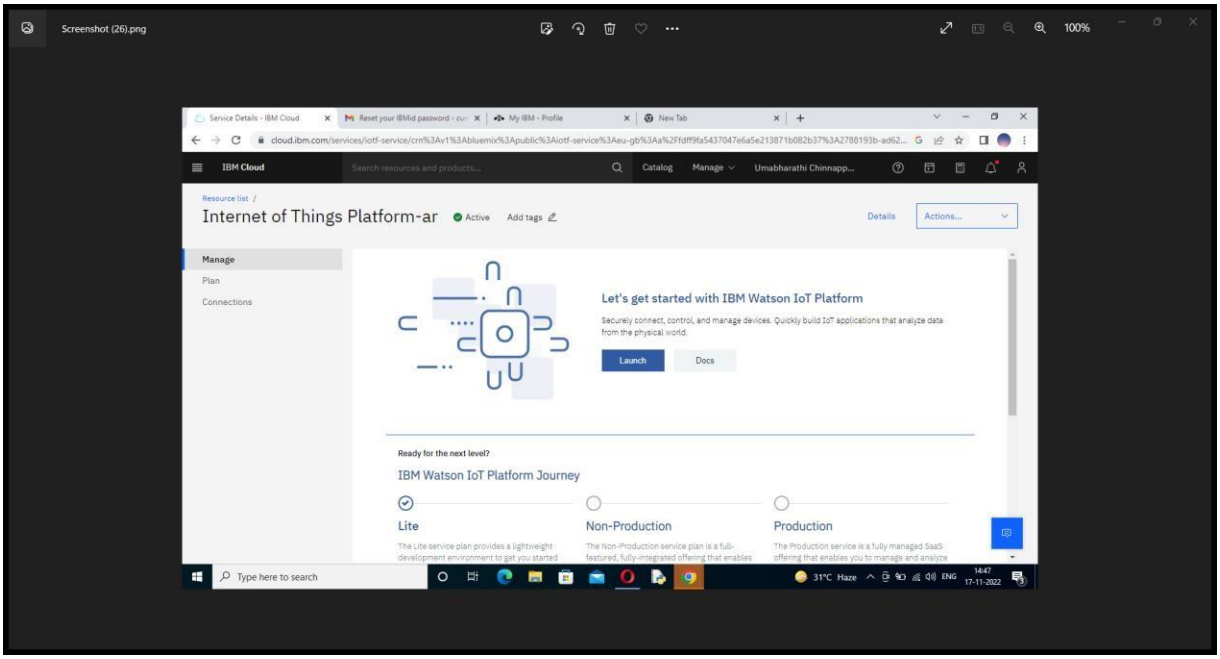
DEVELOP THE PYTHON SCRIPT

TEAM ID	**PNT2022TMID20272**
PROJECT NAME	**IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE**

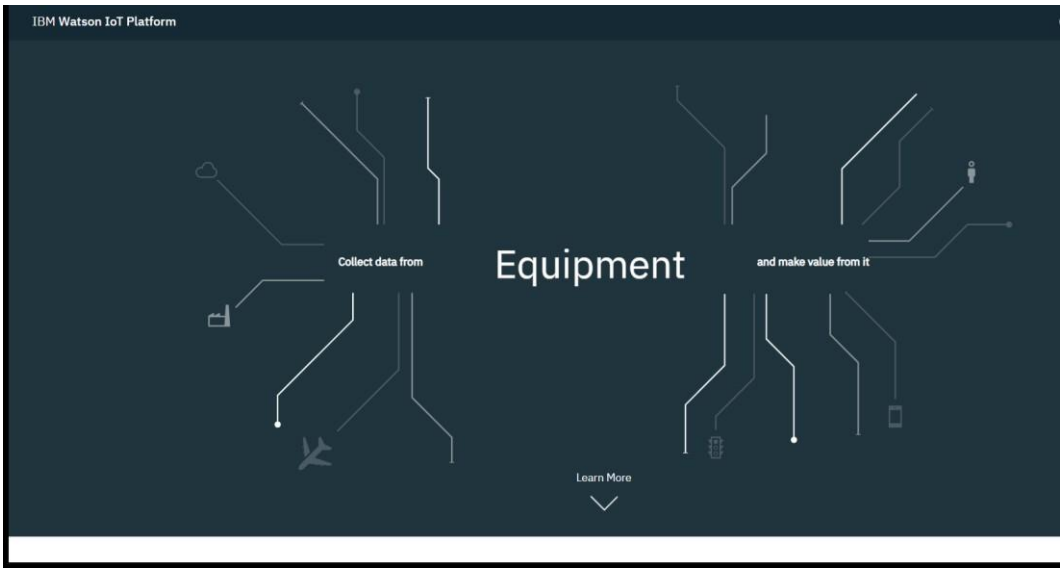
STEP 1: First login your IBM cloud account



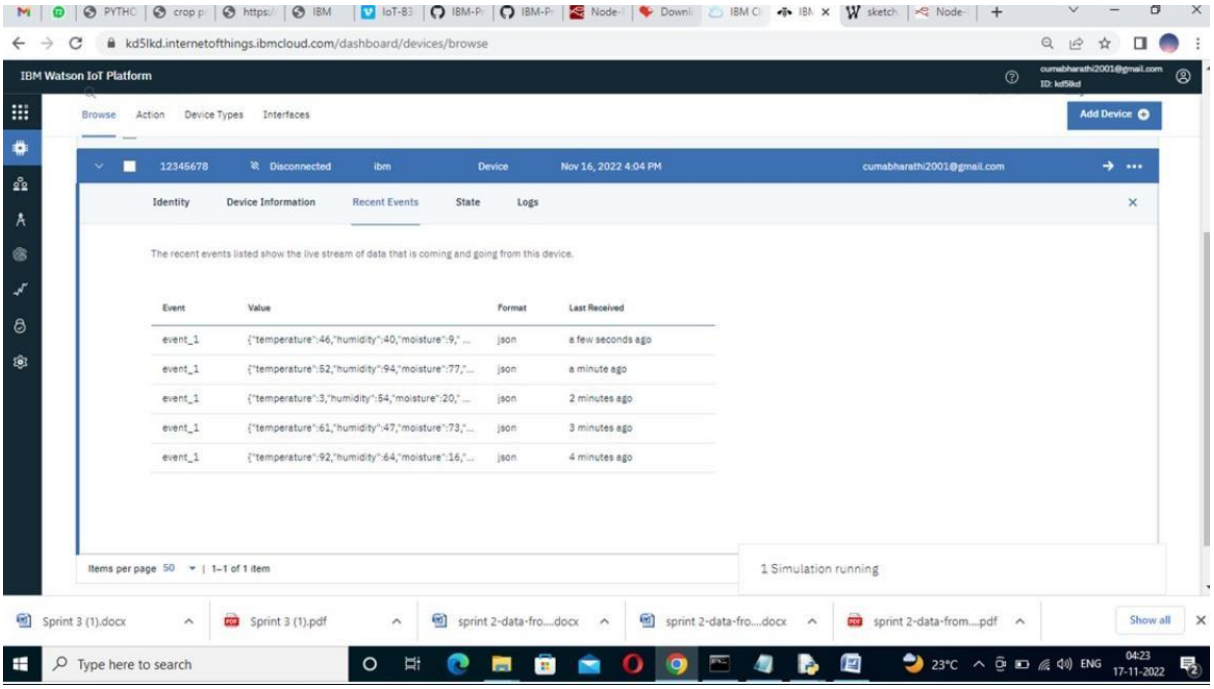
STEP 2: Internet of things platform smart crop protection will be created, where there are different options like manage, plan, and connection.



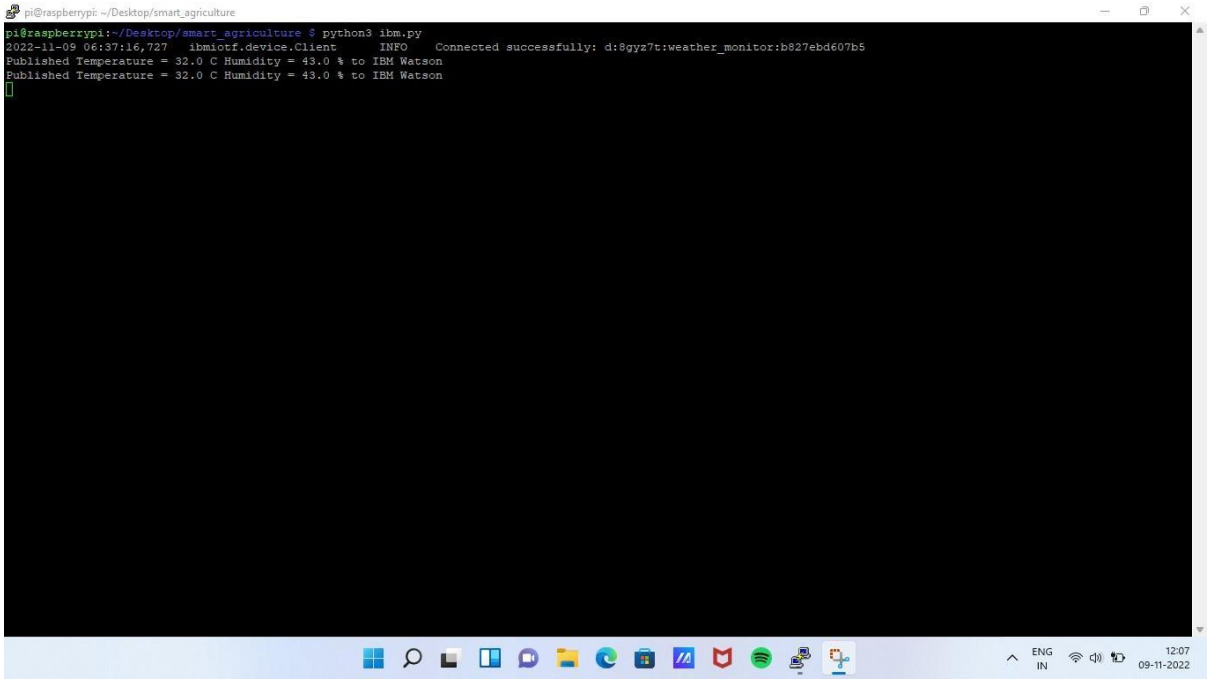
STEP 3: Clicking on the launch button in the manage tab, it will open to this.



STEP 4: while running python code temperature and humidity value are published in IBM IoT Watson platform.



STEP 4: This is the python program output which is published in IBM IoT Watson platform.



PYTHON CODE:

```
import time import sys
import ibmiotf.application
import ibmiotf.device
import Adafruit_DHT



#Provide your IBM Watson Device
Credentials organization = "kd5lkd"
deviceType = "smartcropprotection"
deviceId = "87654321"
authMethod = "use-token-auth"
authToken = "12345678"

# Initialize GPIO and DHT11 sensor
= Adafruit_DHT.DHT11 pin=4

def myCommandCallback(cmd):
 print("Command received: %s" % cmd.data['command'])
status = cmd.data['command']


try:
      deviceOptions = {"org": organization, "type": deviceType, "id": deviceId,
"auth-method": authMethod, "auth-token": authToken}
deviceCli = ibmiotf.device.Client(deviceOptions) except
Exception as e:
```

```
        print("Caught exception connecting device: %s" % str(e))
sys.exit()



deviceCli.connect()


while True:
        #Get Sensor Data from DHT11
        Humidity, Temperature = Adafruit_DHT.read_retry(sensor, pin)
data = {"d":{'Temperature' :Temperature, 'Humidity': Humidity}}
        #print data         def
myOnPublishCallback():
            print ("Published Temperature = %s C" % Temperature, "Humidity = %s
%%" % Humidity, "to IBM Watson")


        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)         if not success:
print("Not connected to IoTF")         time.sleep(1)


        deviceCli.commandCallback = myCommandCallback


# Disconnect the device and application from the cloud deviceCli.disconnect()
```