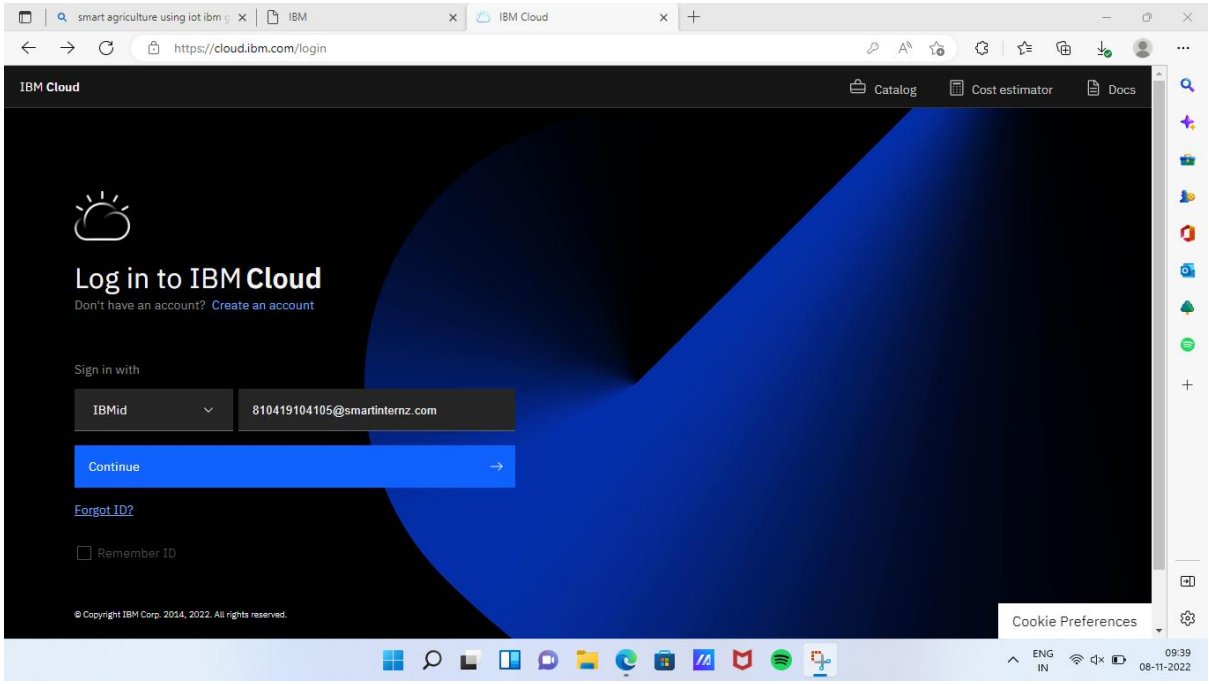
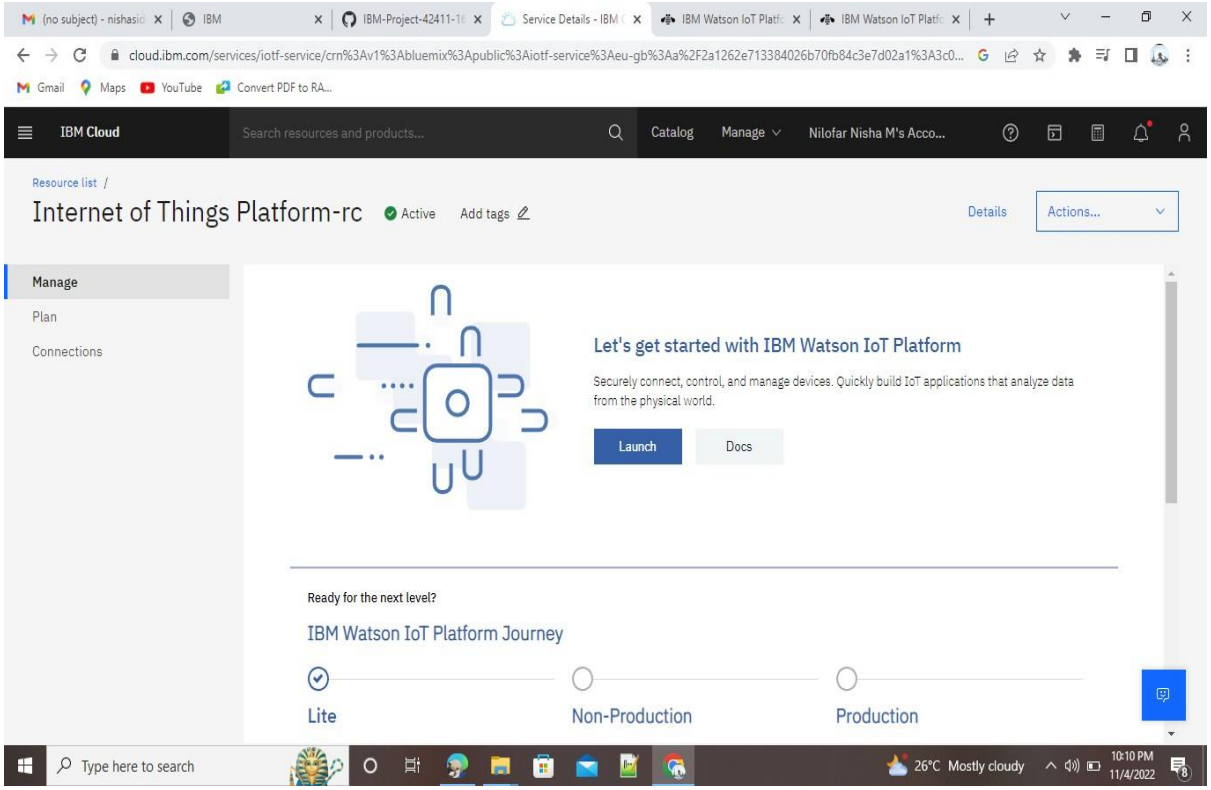
DEVELOP THE PYTHON SCRIPT

TEAM ID	**PNT2022TMID08369**
PROJECT NAME	**IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE**

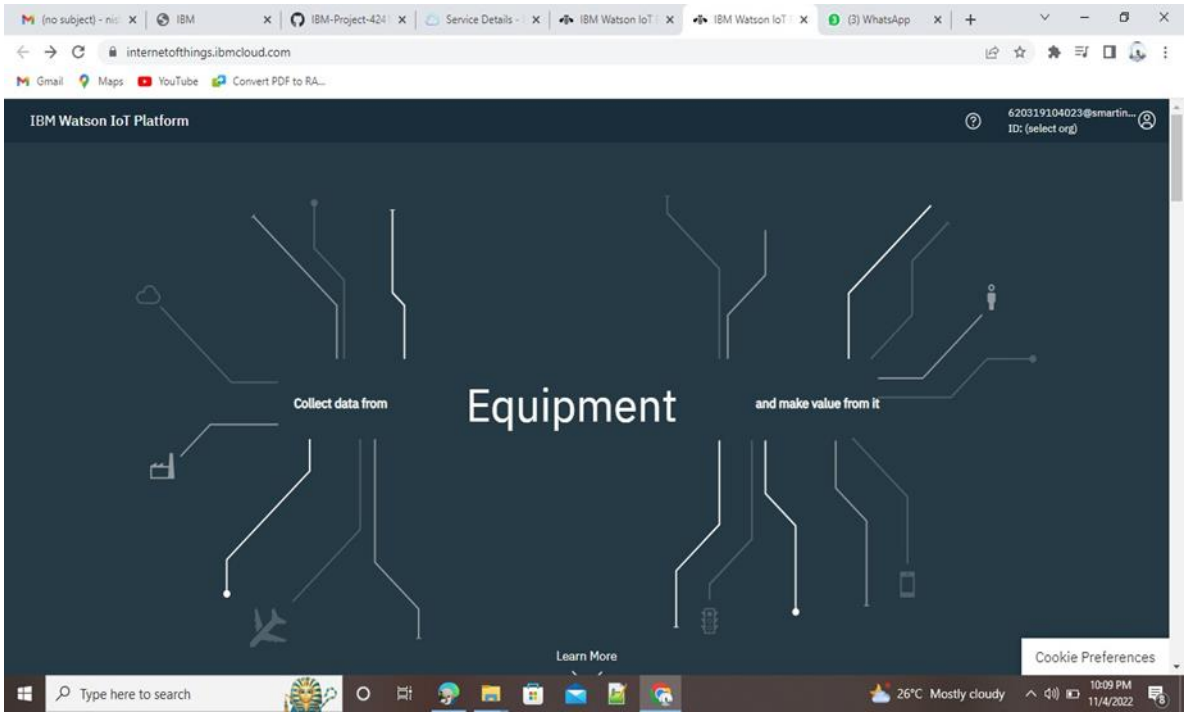
STEP 1: First login your IBM cloud account



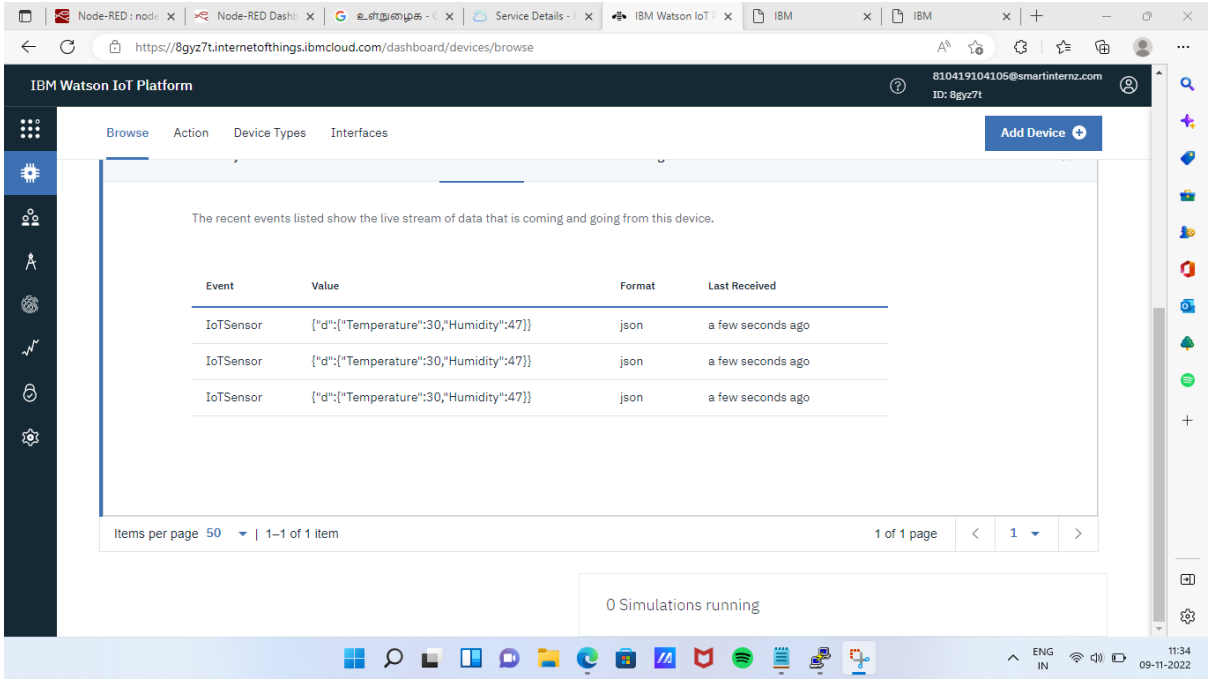
STEP 2: Internet of things platform smart crop protection will be created, where there are different options like manage, plan, and connection.



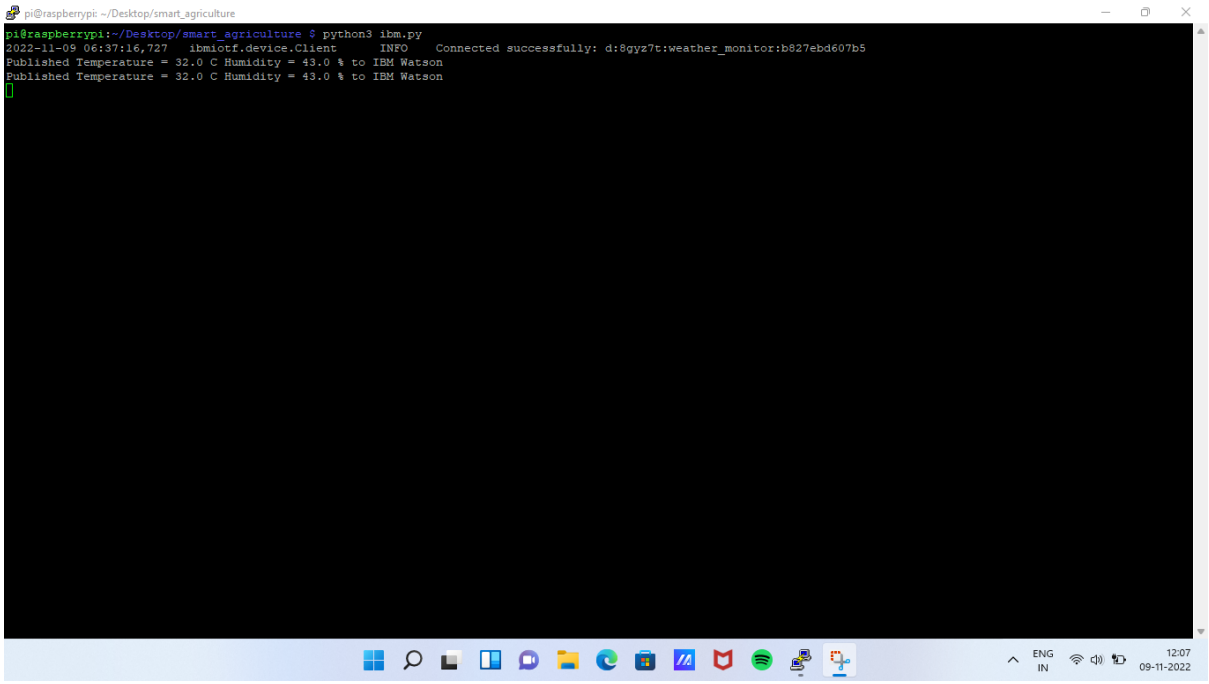
STEP 3: Clicking on the launch button in the manage tab, it will open to this.



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 = "8gyz7t"
deviceType = "weather_monitor"
deviceId = "b827ebd607b5"
authMethod = "token"
authToken = "LWVpQPaVQ166HWN48f"

# 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()
```