**PROJECT DEVELOPMENT PHASE**

**SPRINT 1**

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| --- | --- |
| Date | 04 November 2022 |
| Team ID | PNT2022TMID22872 |
| Project name | Real –time river water quality monitoring and control system |
| Maximum marks | 2 marks |

**ANALYZE THE PREREQUISITES**

Needed prerequisites for real time river water quality monitoring and control system using Internet Of Things (IoT) were

* IBM Watson IoT Platform
* Node-RED Service
* Cloudant DB

**Python code:**

#IBM Watson IOT Platform

#pip install wiotp-sdk

import wiotp.sdk.device

import time

import random

myConfig = {

    "identity": {

        "orgId": "3q2j4g",

        "typeId": "NodeMCU",

        "deviceId":"12345"

    },

    "auth":{

        "token": "12345678"

    }

}

def myCommandCallback(cmd):

    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])

    m=cmd.data['command']

    if(m=="LIGHT ON"):

        print("\*\*\*\*\*///LIGHTS ARE ON/////\*\*\*\*\*")

    elif(m=="LIGHT OFF"):

        print("\*\*\*\*\*///LIGHTS ARE OFF/////\*\*\*\*\*")

    else:

        print("\*\*\*\*\*///WRONG COMMAND/////\*\*\*\*\*")

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)

client.connect()

while True:

    temp=random.randint(0,50)

    hum=random.randint(0,100)

    ph=random.randint(0,14)

    myData={'temperature':temp, 'humidity':hum, 'PH':ph}

    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)

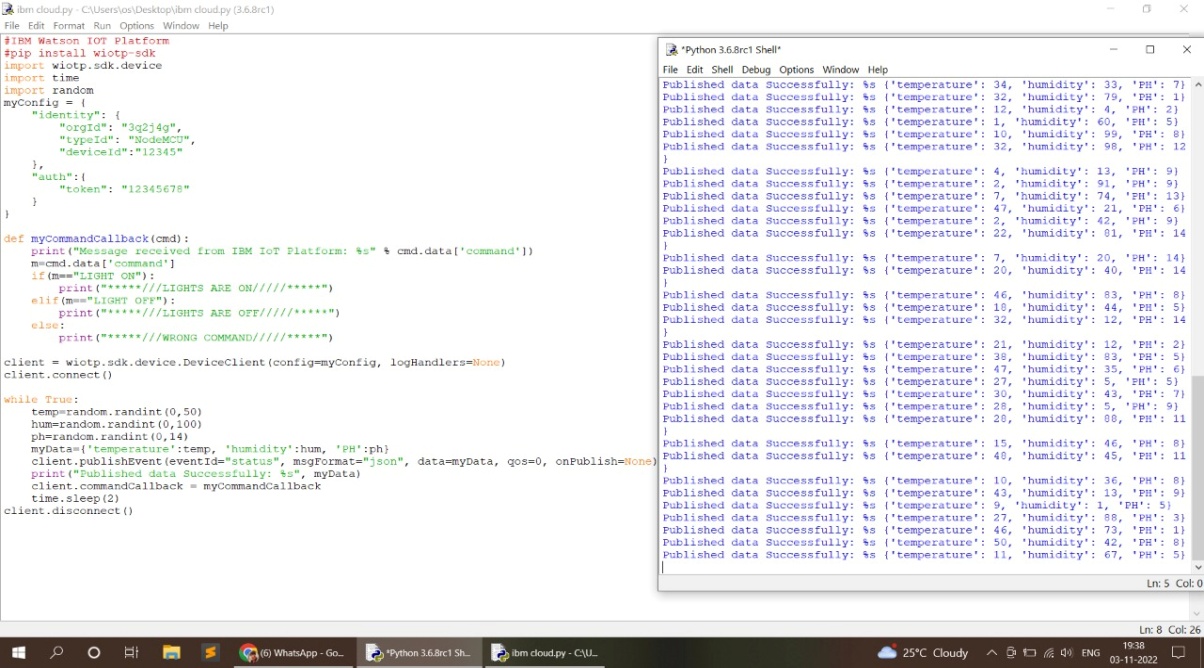
    print("Published data Successfully: %s", myData)

    client.commandCallback = myCommandCallback

    time.sleep(2)

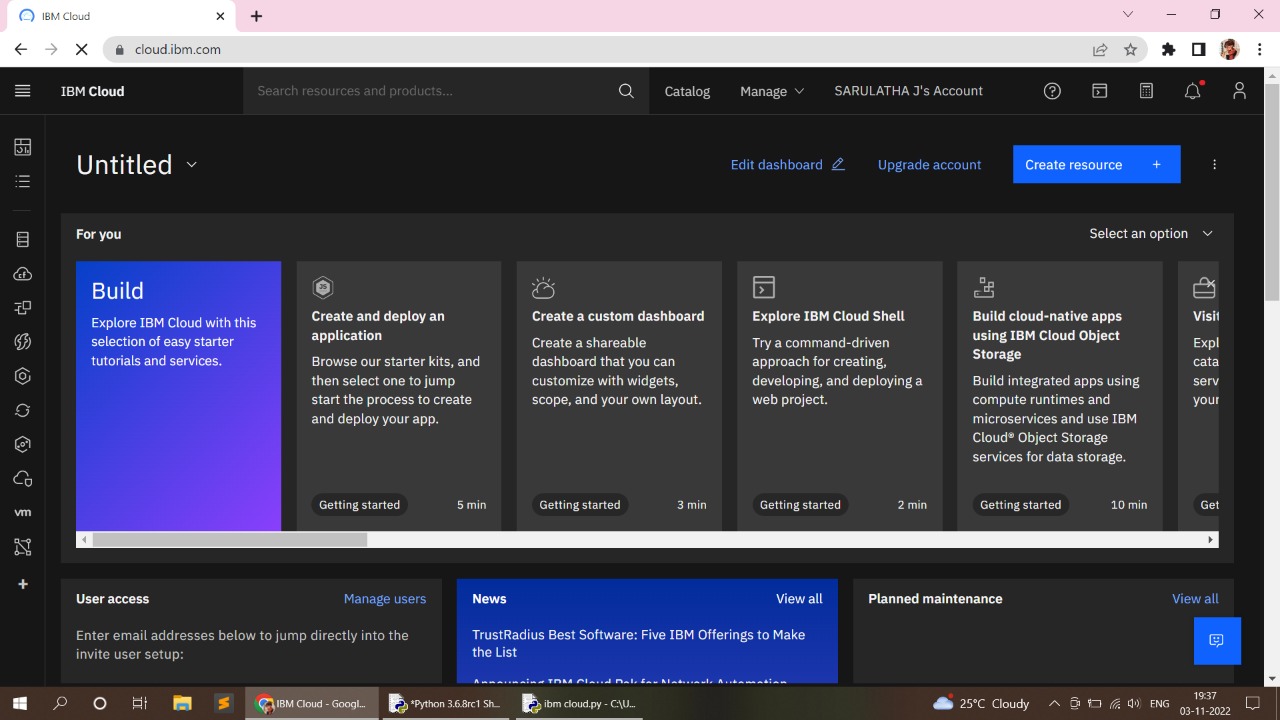
client.disconnect()

|  |  |
| --- | --- |
|  |  |

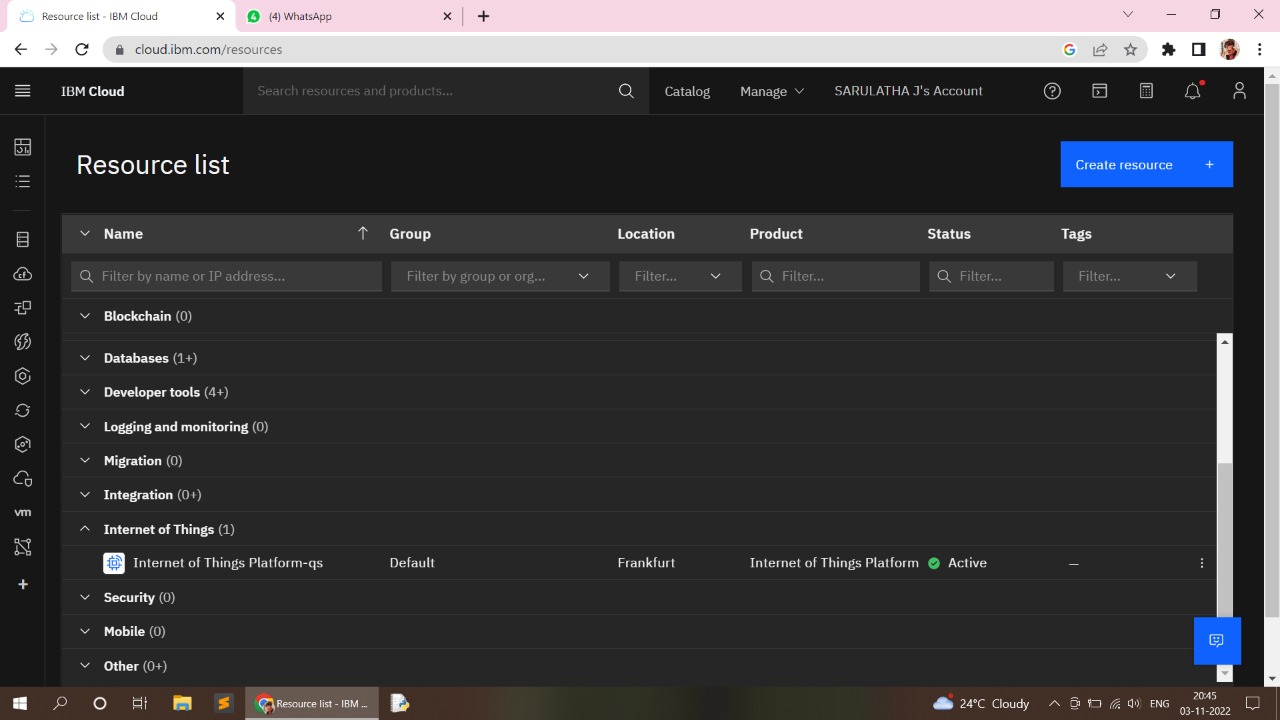


Code runs successfully and random output values are generated

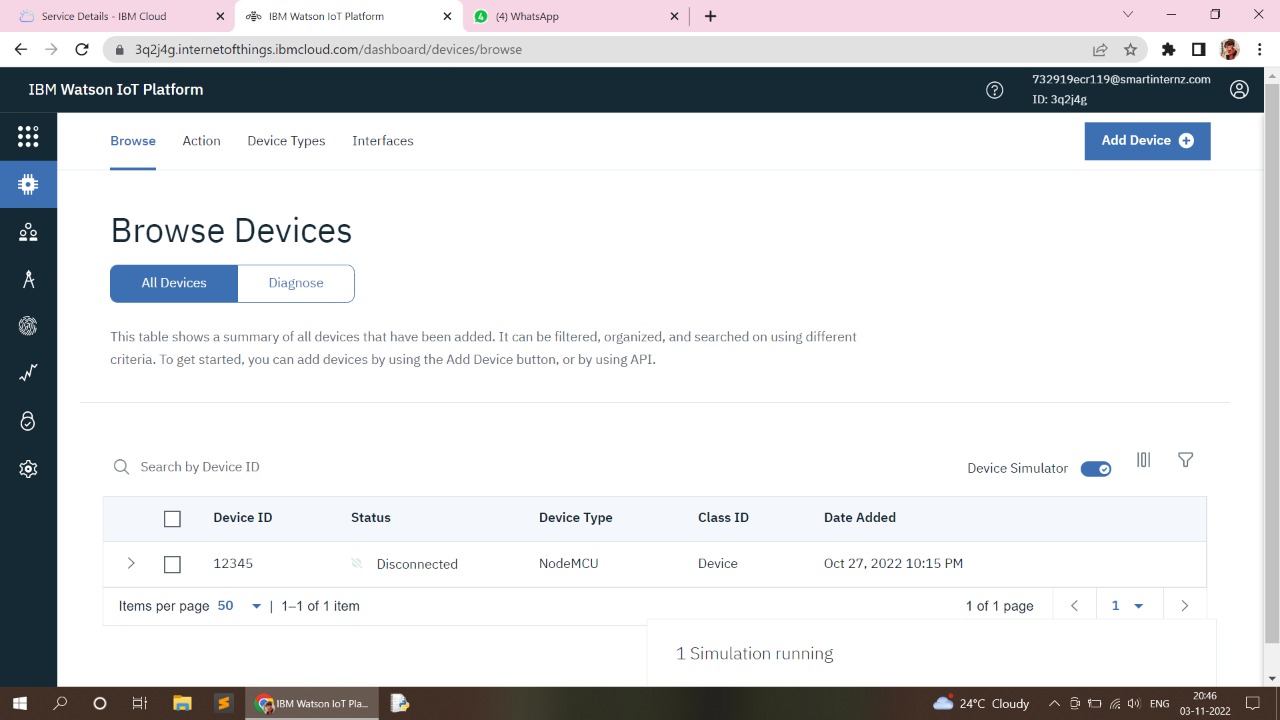
**Creation of IBM cloud**

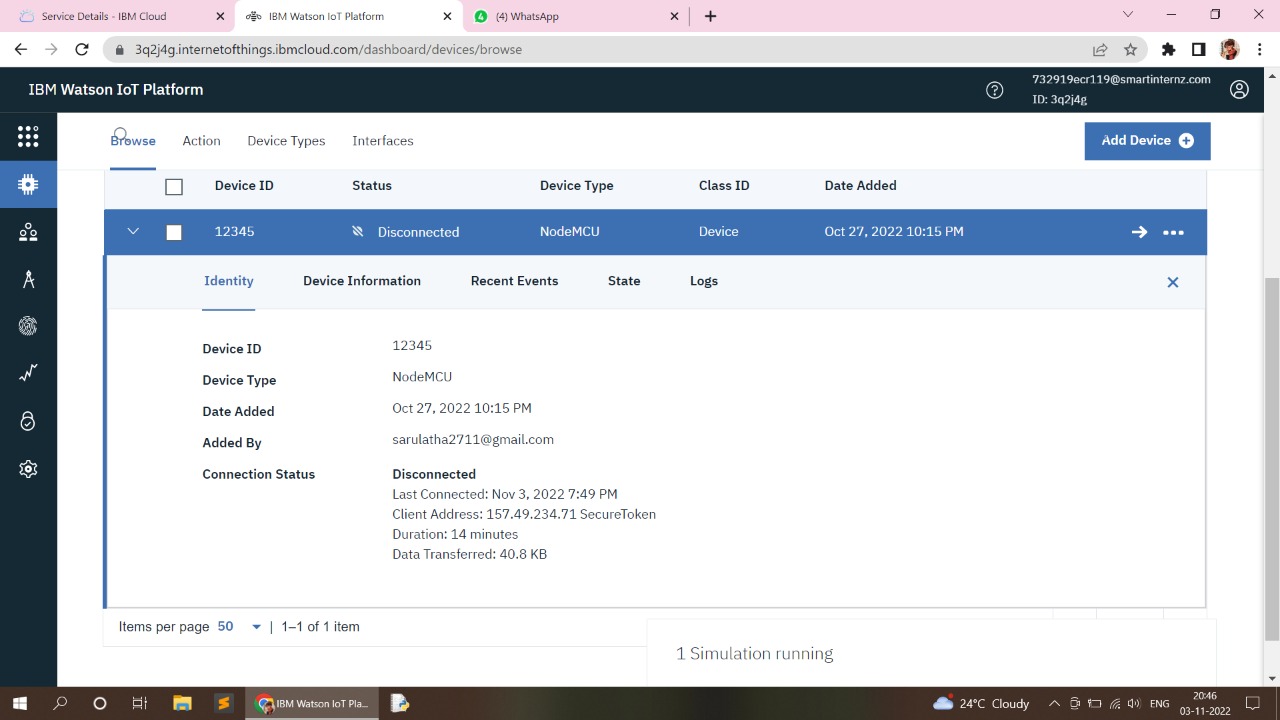


**Procedure for the creation of IBM IOT watson**



**Device creation**





**Generation of random values in IBM Watson**

