

Project Milestone and Tasks

Develop A Python Script

Date	24 October 2022
Team ID	PNT2022TMID41539
Project Name	Project-Signs with Smart Connectivity for Better Road Safety
Maximum marks	4 Marks

Send the extracted data to the cloud by running the code

The image shows a screenshot of a Windows desktop with two windows open. The left window is a text editor titled 'Python code.py - C:\Users\Oomsithan\Desktop\PROJECT\Python code.py (3.7.0)'. It contains a Python script that generates random data for temperature, speed, sign, and visibility, and publishes it to a cloud service. The right window is a 'Python 3.7.0 Shell' showing the output of the script. The output includes a restart message and several lines of published data, each containing temperature, message, sign, and visibility information.

```

Python code.py - C:\Users\Oomsithan\Desktop\PROJECT\Python code.py (3.7.0)
File Edit Format Run Options Window Help
message="MESSAGE: SLOW DOWN, HOSPITAL NEARBY"
elif msg==5:
    message="NEED HELP, POLICE STATION NEARBY"
else:
    message=""

#Speed part
speed=random.randint(0,150)
if speed>100:
    speedMsg="SPEED MESSAGE: SLOW DOWN, speed Limit Exceeded"
elif speed>=60 and speed<100:
    speedMsg="SPEED MESSAGE: Moderate"
else:
    speedMsg="SPEED MESSAGE: Slow"

#Sign part
sign=random.randint(0,5)
if sign==1:
    signMsg="SIGN: Right Diversion"
elif sign==3:
    signMsg="SIGN: Left Diversion"
elif sign==5:
    signMsg="SIGN: U Turn"
else:
    signMsg=""

#Visibility
if temperature < 50:
    visibility="VISIBILITY: Fog Ahead, Drive Slow"
else:
    visibility="VISIBILITY: Clear Weather"

else:
    print("Error in the HTTP request")
myData={'Temperature':temperature, 'Message':message, 'Sign':signMsg, 'Speed':speedMsg}
client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0)
#PUBLISHING TO IOT WATSON
print("Published data Successfully: %s", myData)
client.commandCallback = myCommandCallback
time.sleep(5)
client.disconnect()

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Oomsithan\Desktop\PROJECT\Python code.py =====
2022-11-19 00:05:09,279 wiotp.sdk.device.client.DeviceClient INFO Connecte
d successfully: d:74k16v:Board:20082001
Published data Successfully: %s {'Temperature': 298.14, 'Message': 'MESSAGE: SLO
W DOWN, HOSPITAL NEARBY', 'Sign': '', 'Speed': 'SPEED MESSAGE: SLOW DOWN, speed
Limit Exceeded', 'Visibility': 'VISIBILITY: Clear Weather'}
Published data Successfully: %s {'Temperature': 298.14, 'Message': '', 'Sign': '
SIGN: Right Diversion', 'Speed': 'SPEED MESSAGE: Moderate', 'Visibility': 'VISIB
ILITY: Clear Weather'}
Published data Successfully: %s {'Temperature': 298.14, 'Message': 'MESSAGE: SLO
W DOWN, HOSPITAL NEARBY', 'Sign': '', 'Speed': 'SPEED MESSAGE: SLOW DOWN, speed
Limit Exceeded', 'Visibility': 'VISIBILITY: Clear Weather'}
Published data Successfully: %s {'Temperature': 298.14, 'Message': '', 'Sign': '
SIGN: Left Diversion', 'Speed': 'SPEED MESSAGE: Slow', 'Visibility': 'VISIBILITY
: Clear Weather'}
Published data Successfully: %s {'Temperature': 298.14, 'Message': 'MESSAGE: SLO
W DOWN, HOSPITAL NEARBY', 'Sign': 'SIGN: Left Diversion', 'Speed': 'SPEED MESSAG
E: Slow', 'Visibility': 'VISIBILITY: Clear Weather'}
Ln: 5 Col: 0
  
```

IBM Watson IoT device connected

The screenshot displays the IBM Watson IoT Platform dashboard in a web browser. The browser's address bar shows the URL `74k16v.internetofthings.ibmcloud.com/dashboard/devices/browse`. The dashboard header includes the IBM Watson IoT Platform logo, a user profile icon, and the email `621119106017@smartinternz.com` with the device ID `ID: 74k16v`. The main navigation bar has tabs for **Browse**, **Action**, **Device Types**, and **Interfaces**, along with an **Add Device** button. Below the navigation bar, there are two buttons: **All Devices** and **Diagnose**. A text block explains that the table shows a summary of all devices and can be filtered, organized, and searched. A search bar labeled **Search by Device ID** is present. To the right, there is a **Device Simulator** toggle switch and a filter icon. The main table lists devices with columns for **Device ID**, **Status**, **Device Type**, **Class ID**, and **Date Added**. One device is listed with ID `20082001`, status `Connected`, type `Board`, class ID `Device`, and date `Oct 3, 2022 7:40 PM`. Below the table, there are tabs for **Identity**, **Device Information**, **Recent Events**, **State**, and **Logs**. The **Recent Events** tab is active, showing a message: "The recent events listed show the live stream of data that is coming and going from this device." At the bottom, there is a section for **Event** and **Value**, and a status box indicating **0 Simulations running**. The Windows taskbar at the bottom shows various application icons and the system clock displaying `00:06 19-11-2022`.

IBM Watson IoT Platform

621119106017@smartinternz.com
ID: 74k16v

Browse Action Device Types Interfaces

Add Device

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added
20082001	Connected	Board	Device	Oct 3, 2022 7:40 PM

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

0 Simulations running

Checking Recent events(datas received)

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes the IBM logo and a search icon. The main header shows the user's email (621119106017@smartinternz.com) and ID (74k16v). The left sidebar contains various icons for navigation. The main content area is titled "Browse" and shows a list of devices. The selected device is "20082001", which is "Connected". The "Recent Events" tab is active, showing a table of events. The table has columns for "Event", "Value", "Format", and "Last Received". The events are listed as "status" with JSON values containing temperature and message data. The "Last Received" column indicates "a few seconds ago" for each event. A status box at the bottom right shows "0 Simulations running".

IBM Watson IoT Platform

621119106017@smartinternz.com
ID: 74k16v

Browse Action Device Types Interfaces

Add Device +

20082001 Connected Board Device Oct 3, 2022 7:40 PM

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
status	{"Temperature":298.14,"Message":"","Sign":"SIG..."}	json	a few seconds ago
status	{"Temperature":298.14,"Message":"","Sign":"","S..."}	json	a few seconds ago
status	{"Temperature":298.14,"Message":"","Sign":"","S..."}	json	a few seconds ago
status	{"Temperature":298.14,"Message":"","Sign":"","S..."}	json	a few seconds ago
status	{"Temperature":298.14,"Message":"MESSAGE: S..."}	json	a few seconds ago

0 Simulations running

Datas in Event Payload

The screenshot displays the IBM Watson IoT Platform dashboard. A modal window titled "Event Payload" is open, showing details for an event. The event name is "status" and it was received on "Nov 19, 2022 12:07 AM". The payload is a JSON object with the following fields:

```
1 {  
2   "Temperature": 298.14,  
3   "Message": "",  
4   "Sign": "SIGN: Right Diversion",  
5   "Speed": "SPEED MESSAGE: SLOW DOWN, speed Limit Exceeded",  
6   "Visibility": "VISIBILITY: Clear Weather"  
7 }
```

The background dashboard shows a list of devices, with "20082001" selected. The "Identity" tab is active, and a table lists recent events. The table has columns "Event" and "Value". The events listed are:

Event	Value
status	{"T
status	{"T
status	{"T
status	{"T
status	{"T
status	{"T

The dashboard also includes a sidebar with navigation icons, a top navigation bar with "Browse", "Action", and "Device Types" tabs, and a bottom status bar indicating "0 Simulations running". The system clock shows "00:07 19-11-2022".