

# SMART HOME AUTOMATION-TASK-3 REPORT

## REAL TIME DEPLOYMENT OF IOT INFRASTRUCTURE USING IBM WATSON CLOUD PLATFORM

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The screenshot displays a Windows desktop environment. In the background, a web browser shows a course page from smartbridge.teachable.com. In the foreground, two application windows are open. The left window is an 'IDLE Shell 3.9.6' terminal window showing a REST API client for a device named 'VITDevice:1234'. It displays a series of REST calls and responses, each containing 'Water\_tank\_level' and 'Light\_intensity' data. The right window is a Python script named 'ibm1.py' running in a terminal. The script imports 'wiottp.sdk.device', 'time', and 'random'. It defines a 'myConfig' dictionary with 'orgid', 'typeId', 'deviceId', and 'token'. It then creates a 'DeviceClient' and connects it. A 'while True' loop generates random data for 'Water\_tank\_level' and 'Light\_intensity', publishes it as an event, and prints a success message. The taskbar at the bottom shows various system icons and the date/time as 20-07-2021, 00:19.

```
>>>
===== RESTART: C:\Users\Sharon\Desktop\SmartInternz-IoT\ibm1.py =====
2021-07-20 00:18:10,157 wiottp.sdk.device.client.DeviceClient INFO Connecte
d successfully: d:ea3az:VITDevice:1234
Published data Successfully: %s {'Water_tank_level': 25, 'Light_intensity': 67}
Published data Successfully: %s {'Water_tank_level': 46, 'Light_intensity': 27}
Published data Successfully: %s {'Water_tank_level': 30, 'Light_intensity': 100}
Published data Successfully: %s {'Water_tank_level': 50, 'Light_intensity': 77}
Published data Successfully: %s {'Water_tank_level': 3, 'Light_intensity': 90}
Published data Successfully: %s {'Water_tank_level': 93, 'Light_intensity': 0}
Published data Successfully: %s {'Water_tank_level': 8, 'Light_intensity': 98}
Published data Successfully: %s {'Water_tank_level': 40, 'Light_intensity': 37}
Published data Successfully: %s {'Water_tank_level': 30, 'Light_intensity': 47}
Published data Successfully: %s {'Water_tank_level': 73, 'Light_intensity': 38}
Published data Successfully: %s {'Water_tank_level': 81, 'Light_intensity': 83}
Published data Successfully: %s {'Water_tank_level': 95, 'Light_intensity': 73}
Published data Successfully: %s {'Water_tank_level': 40, 'Light_intensity': 31}
Published data Successfully: %s {'Water_tank_level': 62, 'Light_intensity': 67}
Published data Successfully: %s {'Water_tank_level': 52, 'Light_intensity': 3}
Published data Successfully: %s {'Water_tank_level': 62, 'Light_intensity': 57}
Published data Successfully: %s {'Water_tank_level': 76, 'Light_intensity': 33}
Published data Successfully: %s {'Water_tank_level': 69, 'Light_intensity': 39}
Published data Successfully: %s {'Water_tank_level': 28, 'Light_intensity': 10}
Published data Successfully: %s {'Water_tank_level': 9, 'Light_intensity': 90}
Published data Successfully: %s {'Water_tank_level': 81, 'Light_intensity': 80}
Published data Successfully: %s {'Water_tank_level': 72, 'Light_intensity': 89}
Published data Successfully: %s {'Water_tank_level': 53, 'Light_intensity': 19}
Published data Successfully: %s {'Water_tank_level': 8, 'Light_intensity': 54}
Published data Successfully: %s {'Water_tank_level': 30, 'Light_intensity': 83}
Published data Successfully: %s {'Water_tank_level': 43, 'Light_intensity': 99}
Published data Successfully: %s {'Water_tank_level': 70, 'Light_intensity': 45}
Published data Successfully: %s {'Water_tank_level': 99, 'Light_intensity': 58}
Published data Successfully: %s {'Water_tank_level': 28, 'Light_intensity': 83}
Published data Successfully: %s {'Water_tank_level': 79, 'Light_intensity': 69}
Published data Successfully: %s {'Water_tank_level': 36, 'Light_intensity': 41}
Published data Successfully: %s {'Water_tank_level': 23, 'Light_intensity': 9}
Published data Successfully: %s {'Water_tank_level': 59, 'Light_intensity': 5}
Published data Successfully: %s {'Water_tank_level': 29, 'Light_intensity': 40}
Published data Successfully: %s {'Water_tank_level': 60, 'Light_intensity': 52}
```

```
ibm1.py - C:\Users\Sharon\Desktop\SmartInternz-IoT\ibm1.py (3.9.6)
File Edit Format Run Options Window Help
import wiottp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgid": "ea3az",
        "typeId": "VITDevice",
        "deviceId": "1234"
    },
    "auth": {
        "token": "12345678"
    }
}

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

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

while True:
    Water_tank_level=random.randint(0,100)
    Light_intensity=random.randint(0,100)
    myData={'Water_tank_level':Water_tank_level, 'Light_intensity':Light_intensi
client.publishEvent(eventId="staBus", msgFormat="json", data=myData, qos=0,
print("Published data Successfully: %s", myData)
client.commandCallback = myCommandCallback
time.sleep(2)
client.disconnect()
#{ "mode": "Full", "isActive": false}
```

node-red-ylrgl-2021-07-19.eu-gb.mybluemix.net/red/#flow/1f882dea.513e32

Node-RED

Flow 1

debug

all nodes

7/20/2021, 12:12:30 PM node: 1c998796.49d178  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : Object  
    Water\_tank\_level: 47,  
    Light\_intensity: 2 }

7/20/2021, 12:12:32 PM node: 1c998796.49d178  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : Object  
    Water\_tank\_level: 11,  
    Light\_intensity: 85 }

7/20/2021, 12:12:34 PM node: 1c998796.49d178  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : Object  
    Water\_tank\_level: 42,  
    Light\_intensity: 88 }

7/20/2021, 12:12:36 PM node: 1c998796.49d178  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : Object  
    Water\_tank\_level: 26,  
    Light\_intensity: 24 }

7/20/2021, 12:12:38 PM node: 1c998796.49d178  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : Object  
    Water\_tank\_level: 37,  
    Light\_intensity: 51 }

Git-2.32.0.2-64-bit.exe python-3.9.6-amd64.exe

Type here to search

33°C ENG 12:12 20-07-2021

https://node-red-ylrgl-2021-07-19.eu-gb.mybluemix.net/red/#flow/1f882dea.513e32

Node-RED

Flow 1

debug

all nodes

7/20/2021, 3:17:25 PM node: 9eabc0ec.d3259  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : Object  
    Water\_tank\_level: 75,  
    Light\_intensity: 48 }

7/20/2021, 3:17:25 PM node: 9eabc0ec.d3259  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : number  
75

7/20/2021, 3:17:25 PM node: 9eabc0ec.d3259  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : number  
48

7/20/2021, 3:17:25 PM node: 9eabc0ec.d3259  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : Object  
    Water\_tank\_level: 40,  
    Light\_intensity: 68 }

7/20/2021, 3:17:25 PM node: 9eabc0ec.d3259  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : number  
40

7/20/2021, 3:17:25 PM node: 9eabc0ec.d3259  
iot-2/type/VITDeviceId/1234/ev/status/rmt/json :  
msg.payload : number  
68

Git-2.32.0.2-64-bit.exe python-3.9.6-amd64.exe

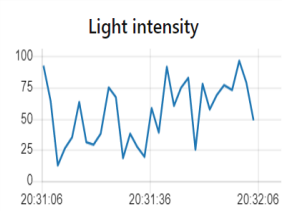
Type here to search

35°C ENG 15:17 20-07-2021

node-red-ylrgl-2021-07-19.eu-gb.mybluemix.net/ui/#/0?socketid=qN7UKGibH6INaZzeAAAY

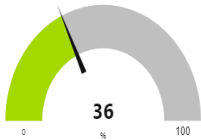
Smart Home Application

Light intensity



Time	Light Intensity
20:31:06	90
20:31:10	25
20:31:15	60
20:31:20	40
20:31:25	75
20:31:30	30
20:31:35	50
20:31:40	90
20:31:45	30
20:31:50	70
20:31:55	80
20:32:00	50
20:32:06	60

Water tank level




Water Tank Level (%)
36

Git-2.32.0.2-64-bit.exe

python-3.9.6-amd64.exe

Show all

Type here to search



32°C

ENG

20:32

20-07-2021

