

1. Project Development phase

Date	14 November 2022
Team ID	PNT2022TMID41264
Project Name	Project – SMART SOLUTIONS FOR RAILWAYS
Maximum Marks	4 Marks

Delivering of Sprint-1

IBM Cloud Services:

Devices:

- To create IBM Watson IOT platform for creating a Device ☐
After add the device.
- Send the location to the node red map.

Python test code:(sending location to IBM watson)

```
import wiotp.sdk.device
import time
import random

myConfig = {
    "identity": {
        "orgId": "k2m20e",
        "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']

client = wiotp.sdk.device.DeviceClient (config=myConfig, logHandlers=None)
client.connect()
def pub (data):
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0)

    print("Published data Successfully: %s", myData)
while True:
    myData={'name': 'Train1', 'lat': 13.000988 , 'lon': 77.674746 }
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 13.104706 , 'lon': 77.591532 }
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 13.818805 , 'lon': 77.500015 }
    pub (myData)
    time.sleep (3)

    myData={'name': 'Train1', 'lat': 15.396830 , 'lon': 77.864205}
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 16.757347 , 'lon': 77.999011}
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 17.389526 , 'lon': 78.499394}
    pub (myData)
    time.sleep(3)
    client.commandCallback = myCommandCallback

client.disconnect()

```

Service Details - IBM Cloud x IBM Watson IoT Platform x +

k2m20e.internetofthings.ibmcloud.com/dashboard/devices/browse

613519106006@smartinternz.com
ID: k2m20e

IBM Watson IoT Platform

Browse Action Device Types Interfaces

Add Device +

Device ID	Status	Device Type	Class ID	Date Added
12345	Connected	NodeMCU	Device	Nov 4, 2022 12:24 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	{"name":"Train1","lat":13.000988,"lon":77.6747...	json	a few seconds ago
status	{"name":"Train1","lat":17.389526,"lon":78.4993...	json	a few seconds ago
status	{"name":"Train1","lat":16.757347,"lon":77.99901}	json	a few seconds ago
status	{"name":"Train1","lat":15.39683,"lon":77.864205}	json	a few seconds ago

28°C Mostly sunny

QR scanner (3) (1).py - C:/Users/PIRAI/OneDrive/Desktop/ibm/QR scanner (3) (1).py (3.7.4)

```
File Edit Format Run Options Window Help
device_id = 12345
},
"auth": {
  "token": "12345678"
}
}
def myCommandCallback(cmd):
    print ("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

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

def pub (data):
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0)
    print("Published data Successfully: %s", myData)

while True:
    myData={'name': 'Train1', 'lat': 13.000988 , 'lon': 77.674746 }
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 13.104706 , 'lon': 77.591532 }
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 13.818805 , 'lon': 77.500015 }
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 15.396830 , 'lon': 77.864205}
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 16.757347 , 'lon': 77.999011 }
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 17.389526 , 'lon': 78.499394 }
    pub (myData)
    time.sleep(3)

    myData={'name': 'Train1', 'lat': 17.389526 , 'lon': 78.499394 }
```

Python 3.7.4 Shell

```
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
== RESTART: C:/Users/PIRAI/OneDrive/Desktop/ibm/QR scanner (3) (1).py ==
2022-11-14 15:45:04.574 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:k2m20e:NodeMCU:12345
Published data Successfully: %s {'name': 'Train1', 'lat': 13.000988, 'lon': 77.674746}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.104706, 'lon': 77.591532}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.818805, 'lon': 77.500015}
Published data Successfully: %s {'name': 'Train1', 'lat': 15.39683, 'lon': 77.864205}
Published data Successfully: %s {'name': 'Train1', 'lat': 16.757347, 'lon': 77.999011}
Published data Successfully: %s {'name': 'Train1', 'lat': 17.389526, 'lon': 78.499394}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.000988, 'lon': 77.674746}
Ln: 5 Col: 0
```

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