Topic:

Smart Solution for Railways

Team ID:

PNT2022TMID18625

SPRINT – 4

PROCEDURE:

Step 1: Develop a PYTHON script to scan the QR code.

Step 2: Connect the python code to IBM Cloudant using the credentials.

Step 3: Run the program.

PYTHON CODE FOR GPS:

```python
import  cv2  import
numpy as np import
time
import pyzbar.pyzbar as pyzbar

from     pyzbar.pyzbar     import     decode     from
ibmcloudant.cloudant_v1   import   CloudantV1   from
ibmcloudant import CouchDbSessionAuthenticator
from ibm_cloud_sdk_core.authenticators import BasicAuthenticator

authenticator = BasicAuthenticator ('apikey-v2-125rwcp4ifi6zz2ly1cq0kakyjn98du2
            ysgc72h53lzi', 'af693938842290ecc254461754447b5')

service = CloudantV1 (authenticator = authenticator)

service.set_service_url ('https: //apikey-v2-125rwcp4ifi6zz2ly1cq0kakyjn98du2ysg
c72hl53zi:af693938842290ec2c254461754447b45@82d87499-4395-4f46-a190-6
a186bee5051 – bluemix.cloudantnosqldb.appdomain.cloud')

cap = cv2.VideoCapture(0)
```

```python
    while True:

        _, frame = cap.read()  decodedObjects =
        pyzbar.decode(frame)
    for obj in
    decodedObjects:

        #print ("Data", obj.data)

        a = obj.data.decode('UTF-8')

        cv2.putText(frame, "Ticket", (50,50), font, 2, (255,0,0), 3)

        #print (a)

    try:

        response = service .get_document(db = 'booking', doc_id = a).get_result

        print (response)

        time.sleep(5)
    except Exception as
    e:

        print ("NOT A VALID TICKET!")

        time.sleep(5)

    cv2.imshow("Frame", frame)
    if cv2.waitKey(1) & 0xFF ==
    ord('q'):

        break

    cap.release()
```

```
cv2.destroyAllWindows()

client.disconnect()
```

PYTHON CODE OUTPUT:

```
's': 49, 'trainlocation': 2, 'boardtime': 9, 'destinationtime': 58,
's': 92, 'trainlocation': 25, 'boardtime': 37, 'destinationtime': 9
's': 65, 'trainlocation': 49, 'boardtime': 48, 'destinationtime': 3
's': 24, 'trainlocation': 61, 'boardtime': 56, 'destinationtime': 5
's': 30, 'trainlocation': 78, 'boardtime': 72, 'destinationtime': 8
's': 43, 'trainlocation': 35, 'boardtime': 77, 'destinationtime': 4
's': 63, 'trainlocation': 75, 'boardtime': 24, 'destinationtime': 3
's': 6, 'trainlocation': 33, 'boardtime': 91, 'destinationtime': 9,
's': 71, 'trainlocation': 9, 'boardtime': 5, 'destinationtime': 61,
's': 86, 'trainlocation': 85, 'boardtime': 7, 'destinationtime': 2,
's': 55, 'trainlocation': 77, 'boardtime': 77, 'destinationtime': 9
's': 18, 'trainlocation': 85, 'boardtime': 71, 'destinationtime': 7
's': 64, 'trainlocation': 25, 'boardtime': 98, 'destinationtime': 4
Published data Successfully: %s {'gps': 37, 'trainlocation': 39, 'boardtime': 8, 'destinationtime': 18
, 'ticket': 14}
Published data Successfully: %s {'gps': 94, 'trainlocation': 68, 'boardtime': 53, 'destinationtime': 7
7, 'ticket': 47}
Published data Successfully: %s {'gps': 25, 'trainlocation': 4, 'boardtime': 67, 'destinationtime': 63
, 'ticket': 39}
Published data Successfully: %s {'gps': 61, 'trainlocation': 85, 'boardtime': 77, 'destinationtime': 9
2, 'ticket': 68}
Published data Successfully: %s {'gps': 91, 'trainlocation': 83, 'boardtime': 21, 'destinationtime': 9
1, 'ticket': 30}
Published data Successfully: %s {'gps': 62, 'trainlocation': 70, 'boardtime': 6, 'destinationtime': 95
```



```
#IBM Watson IOT Platform
#pip install wiotp-sdk
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
"orgId": "wpszfh",
"typeId": "NodeMCU",
"deviceId":"12345"
    },
    "auth": {
"token": "12345678910"
}
}
def myCommandCallback(cmd):
    print("Message received from IBM
    m=cmd.data['command']
client = wiotp.sdk.device.DeviceClie
client.connect()
while True:
    gps=random.randint(0,100)
    loc=random.randint(0,100)
    brtime=random.randint(0,100)
    destime=random.randint(0,100)
    ticket=random.randint(0,100)

    myData={
    'gps':gps,
    'trainlocation':loc,
    'boardtime':brtime,
    'destinationtime':destime,
    'ticket':ticket
    }
    client.publishEvent(eventId="sta
    onPublish=None)
    print("Published data Successful
    client.commandCallback = myComma
    time.sleep(2)
client.disconnect()
```

```
8, 'ticket': 99}
Published data Successfully: %s {'gps': 49, 'trainlocation': 2, 'boardtime': 9, 'destinationtime': 58,
 'ticket': 23}
Published data Successfully: %s {'gps': 92, 'trainlocation': 25, 'boardtime': 37, 'destinationtime': 9
1, 'ticket': 28}
Published data Successfully: %s {'gps': 65, 'trainlocation': 49, 'boardtime': 48, 'destinationtime': 3
4, 'ticket': 68}
Published data Successfully: %s {'gps': 24, 'trainlocation': 61, 'boardtime': 56, 'destinationtime': 5
1, 'ticket': 15}
Published data Successfully: %s {'gps': 30, 'trainlocation': 78, 'boardtime': 72, 'destinationtime': 8
6, 'ticket': 69}
Published data Successfully: %s {'gps': 43, 'trainlocation': 35, 'boardtime': 77, 'destinationtime': 4
0, 'ticket': 16}
Published data Successfully: %s {'gps': 63, 'trainlocation': 75, 'boardtime': 24, 'destinationtime': 3
4, 'ticket': 83}
Published data Successfully: %s {'gps': 6, 'trainlocation': 33, 'boardtime': 91, 'destinationtime': 9,
 'ticket': 20}
Published data Successfully: %s {'gps': 71, 'trainlocation': 9, 'boardtime': 5, 'destinationtime': 61,
 'ticket': 72}
Published data Successfully: %s {'gps': 86, 'trainlocation': 85, 'boardtime': 7, 'destinationtime': 2,
 'ticket': 63}
Published data Successfully: %s {'gps': 55, 'trainlocation': 77, 'boardtime': 77, 'destinationtime': 9
1, 'ticket': 29}
Published data Successfully: %s {'gps': 18, 'trainlocation': 85, 'boardtime': 71, 'destinationtime': 7
7, 'ticket': 34}
Published data Successfully: %s {'gps': 64, 'trainlocation': 25, 'boardtime': 98, 'destinationtime': 4
1, 'ticket': 70}
Published data Successfully: %s {'gps': 37, 'trainlocation': 39, 'boardtime': 8, 'destinationtime': 18
, 'ticket': 14}
Published data Successfully: %s {'gps': 94, 'trainlocation': 68, 'boardtime': 53, 'destinationtime': 7
7, 'ticket': 47}
Published data Successfully: %s {'gps': 25, 'trainlocation': 4, 'boardtime': 67, 'destinationtime': 63
, 'ticket': 39}
Published data Successfully: %s {'gps': 61, 'trainlocation': 85, 'boardtime': 77, 'destinationtime': 9
2, 'ticket': 68}
Published data Successfully: %s {'gps': 91, 'trainlocation': 83, 'boardtime': 21, 'destinationtime': 9
1, 'ticket': 30}
Published data Successfully: %s {'gps': 62, 'trainlocation': 70, 'boardtime': 6, 'destinationtime': 95
, 'ticket': 84}
```