TEAM ID:PNT2022TMID25909

SMART SOLUTIONS FOR RAILWAYS

GPS TRACKING CODE:

ChennaiExpress.py

```
import wiotp.sdk.device
import random
import time
myConfig =
{ "identity" :{
"orgId":"50flc2",
"typeId":"Train1",
"deviceId":"13579" },
"auth":{
"token":"uamQOww30eBju!LE)F"
}
}
def myCommandCallback(cmd):
print("Message received fromIBM 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, onPublish=None)
print("Published data Successfully: %s",myData)
while True:
myData = {'name':'Chennai Express','lat':13.344279,'lon':80.214367}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':13.515254,'lon':80.093518}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':13.728799,'lon':80.005627}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':13.910160,'lon':79.906750}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':14.102035,'lon':79.851819}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':14.261807,'lon':79.862805}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':14.623537,'lon':79.950695}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':15.111987,'lon':79.994641}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':15.313413,'lon':80.005627}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':15.567568,'lon':80.104504}
```

```
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':15.747405,'lon':80.269299 }
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':15.821409,'lon':80.302258}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':15.927082,'lon':80.445080}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':16.022141,'lon':80.554943}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':17.033801,'lon':80.295512}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':18.383088,'lon':18.383088}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':19.074762,'lon':79.487698}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':20.179065,'lon':79.001439}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':21.306421,'lon':78.789356}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':22.518024,'lon':77.829404}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':23.264139,'lon':77.429333}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':24.509723,'lon':78.330212}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':25.668840,'lon':78.451062}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':26.177704,'lon':78.170910}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':27.505914,'lon':77.676526}
pub(myData)
time.sleep(3)
myData = {'name':'Chennai Express','lat':28.302041,'lon':77.308484}
pub(myData)
time.sleep(3)
client.commandCallback = myCommandCallback client.disconnect()
```

MumbaiExpress.py

```
import wiotp.sdk.device
import time import
random myConfig = {
"identity":{
"orgId":"50flc2",
```

```
"typeId":"Train3",
"deviceId":"123456789"
},
"auth":{
"token":"*WwvodeD_Zhc&-!&aB"
}
}
def myCommandCallback(cmd):
print("Message received fromIBM 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, onPublish=None)
print("Published data Successfully: %s",myData)
while True:
myData = {'name':'Mumbai SF Express','lat':11.024938,'lon':76.982315}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':11.220325,'lon':77.570083}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':11.564960,'lon':77.993057}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':11.780142,'lon':78.037002}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.134824,'lon':78.130386}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.226105,'lon':78.091934}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.344187,'lon':78.037002}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.489034,'lon':78.009536}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.655239,'lon':77.866714}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.735622,'lon':77.756851}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.907020,'lon':77.696426}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.987323,'lon':77.646988}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.955205,'lon':77.509659}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.665958,'lon':77.136123
}
pub(myData)
time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.548022,'lon':76.921890}
pub(myData)
time.sleep(3)
myData = {'name':'Mumbai SF Express','lat':12.336809,'lon':76.644485}
pub(myData)
time.sleep(3)
client.commandCallback = myCommandCallback client.disconnect()
```

BangaloreExpress.py

```
import wiotp.sdk.device
import time import
random myConfig
= {
"identity" :{
"orgId":"50flc2",
"typeId":"Train2",
"deviceId":"02468"
},
"auth":{
"token":"NfVlk+XD?APWdBWucS"
}
}
def myCommandCallback(cmd):
print("Message received fromIBM 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, onPublish=None)
print("Published data Successfully: %s",myData)
while True:
myData = {'name':'Bangalore Express','lat':11.688572, 'lon':78.098877}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':11.711433, 'lon':78.076905}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':11.978226, 'lon':78.116730}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':12.085676, 'lon': 78.119477}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':12.402400, 'lon':78.023347}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':12.884795, 'lon':77.707490}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':13.018630,'lon':77.614106}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':13.334194, 'lon':77.086762}
pub(myData)
time.sleep(3)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':13.299448, 'lon':76.858796}
pub(myData)
```

```
myData = {'name':'Bangalore Express','lat':13.344884,'lon': 76.205109}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':13.619985, 'lon':75.966157}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':13.974739, 'lon':76.119965}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':14.423398, 'lon':75.949677}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':14.922914, 'lon':75.389374}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':15.119216, 'lon':75.389374}
pub(myData)
time.sleep(3)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':15.449980, 'lon':74.406230}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':15.352006,'lon':74.307353}
pub(myData)
myData = {'name':'Bangalore Express','lat':15.314922, 'lon':74.218089}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':15.283131, 'lon':74.146678}
pub(myData)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':15.276839, 'lon':74.129855}
pub(myData)
time.sleep(3)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':15.282800, 'lon':74.125392}
pub(myData)
time.sleep(3)
time.sleep(3)
myData = {'name':'Bangalore Express','lat':15.296378,'lon':74.135692}
pub(myData)
time.sleep(3)
client.commandCallback = myCommandCallback client.disconnect()
time.sleep(3)
```

QR CODE GENERATION CODE

```
import cv2
import numpy as np
import time
import pyzbar.pyzbar as pyzbar
from ibmcloudant.cloudant_v1 import CloudantV1
from ibmcloudant import CouchDbSessionAuthenticator
from ibm_cloud_sdk_core.authenticators import BasicAuthenticator
authenticator = BasicAuthenticator ('apikey-v2-
2stdiumhdpvimevtz15mlesexkro758a3adfu6gzbd2i',
'cf64a065320a016ee67039aa90958562')
service=CloudantV1 (authenticator=authenticator)
```

```
service.set_service_url('https://apikey-v2-
2stdiumhdpvimevtz15mlesexkro758a3adfu6gzbd2i:cf64a065320a01
6ee67039aa90958562@03b99f47-5466-4bdd-b1d7-0c89004e3180-
bluemix.cloudantnosqldb.appdomain.cloud')
cap = cv2.VideoCapture (0)
font = cv2.FONT_HERSHEY_PLAIN
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("Valid Ticket")
#print (a)
try:
response = service.get_document (db='bookings',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 ()
```