

SPRINT - 4
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TRANSMITTING THE DATABASE FROM THE CLOUDANT TO THE NODE RED WEB APP UI

```
CODE: import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "owxp6u" deviceType =
"Smartbin" deviceId = "Bin1" authMethod =
"token" authToken= "12345678910"
# Initialize GPIO def myCommandCallback(cmd):
print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    else : print ("led is
        off")
try: deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":
authMethod, "auth-token": authToken} deviceCli
    = ibmiotf.device.Client(deviceOptions)
#.....
except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()

# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type
"greeting" 10 times
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11
    time.sleep(5)
    ultrasensor=random.randint(0,80)
    capacity=random.randint(0,100)
    lat=round(random.uniform(12.03,13.05),6)
    lon=round(random.uniform(80.80,85.90),6)
    data = { 'ultrasonicsensor' : ultrasensor, 'capacity': capacity,'lat':lat,'lon':lon}
    #print data def
    myOnPublishCallback():
        print ("Published ultrasonicsensor = %s Cm" % ultrasensor, "capacity= %s kg" %
capacity,"lat:%s"%lat,"lon:%s"%lon)

    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback) if not success:
        print("Not connected to IoT")
```

```
time.sleep(1) deviceCli.commandCallback =
```

```
myCommandCallback
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# Disconnect the device and application from the cloud
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deviceCli.disconnect()
```

PYTHON OUTPUT:

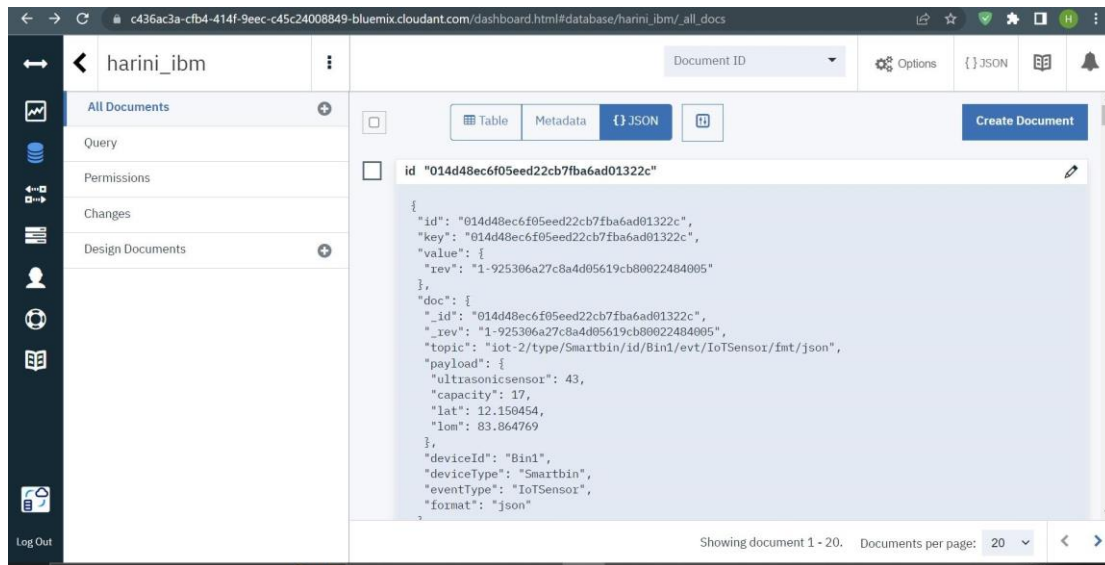
```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\senth\AppData\Local\Programs\Python\Python37\ibmiotpublishsubscribe.py
2022-11-16 19:19:15,836 ibmiotf.device.Client INFO Connected successfully: d:owxp6u:Smart
bin:Bin1
Published ultrasonicsensor = 40 Cm capacity= 23 kg lat:12.610228 lon:81.56987
Published ultrasonicsensor = 69 Cm capacity= 24 kg lat:12.393958 lon:82.869649
Published ultrasonicsensor = 15 Cm capacity= 66 kg lat:12.657194 lon:83.691184
Published ultrasonicsensor = 63 Cm capacity= 50 kg lat:12.739014 lon:84.899586
Published ultrasonicsensor = 9 Cm capacity= 99 kg lat:12.316724 lon:85.601792
Published ultrasonicsensor = 60 Cm capacity= 17 kg lat:12.213293 lon:82.890856
Published ultrasonicsensor = 70 Cm capacity= 76 kg lat:12.863203 lon:81.322346
Published ultrasonicsensor = 72 Cm capacity= 9 kg lat:12.679009 lon:83.959883
Published ultrasonicsensor = 28 Cm capacity= 82 kg lat:12.915193 lon:82.125455
Published ultrasonicsensor = 11 Cm capacity= 16 kg lat:13.005646 lon:85.396263
Published ultrasonicsensor = 24 Cm capacity= 64 kg lat:12.282416 lon:83.144915
Published ultrasonicsensor = 41 Cm capacity= 2 kg lat:12.098037 lon:83.9634
Published ultrasonicsensor = 15 Cm capacity= 11 kg lat:12.655447 lon:84.466328
Published ultrasonicsensor = 57 Cm capacity= 89 kg lat:12.840414 lon:81.376711
Published ultrasonicsensor = 16 Cm capacity= 76 kg lat:12.469298 lon:84.480634
Published ultrasonicsensor = 48 Cm capacity= 17 kg lat:12.629949 lon:82.306184
Published ultrasonicsensor = 76 Cm capacity= 51 kg lat:12.15338 lon:85.604701
```

CLOUDANT METADATA:

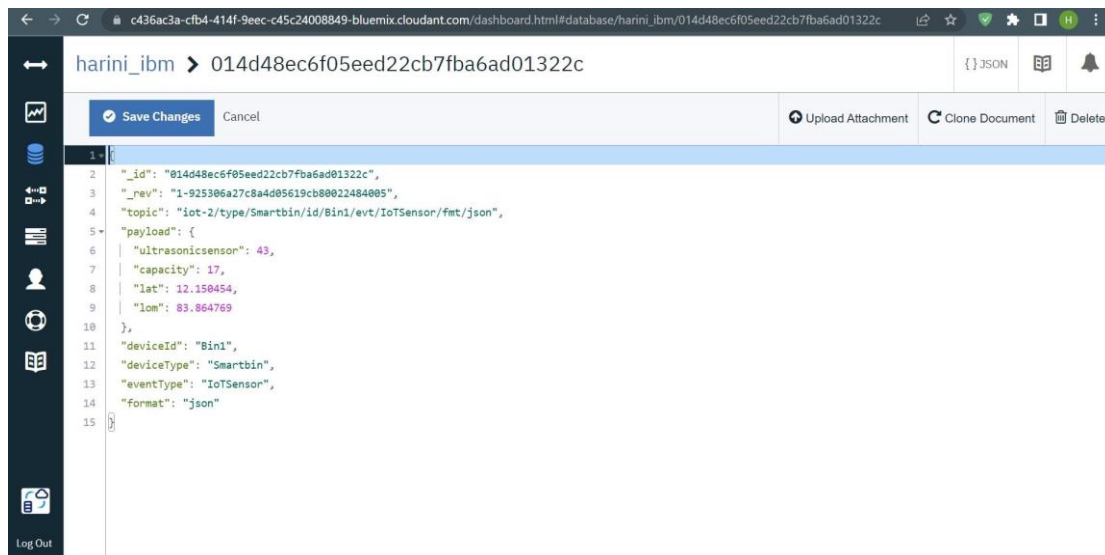
The screenshot shows the Cloudant dashboard interface. On the left is a sidebar with navigation icons. The main area displays the 'harini_ibm' document. At the top, there are tabs for 'Table', 'Metadata', and 'JSON'. The 'Metadata' tab is selected, showing a table with columns 'id', 'key', and 'value'. The table contains 12 rows of metadata entries, each with a unique ID, a key, and a value. At the bottom right, there is a pagination control showing 'Showing document 1 - 20.' and 'Documents per page: 20'.

id	key	value
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-925306a27c8a4d056..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-aa76de3ce04ce5d0a..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-21c017d36ded6a5cf..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-293eee93f7b279d2bf..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-356422d9baa0b7872..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-356422d9baa0b7872..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-5f2284098d9dbe20f..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-eb8b9b6b3b61872c4..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-3abbe8789c66736f0..." }
014d48ec6f05eed22cb7fba6ad...	014d48ec6f05eed22cb7fba6ad...	{ "rev": "1-f59acceeb64651c36d..." }

CLOUDANT METADATA INFO:



CLOUDANT DOCUMENT:



RESULT:

The node red web app ui was used to successfully create the cloudant database. The cloudant was able to correctly store the data.