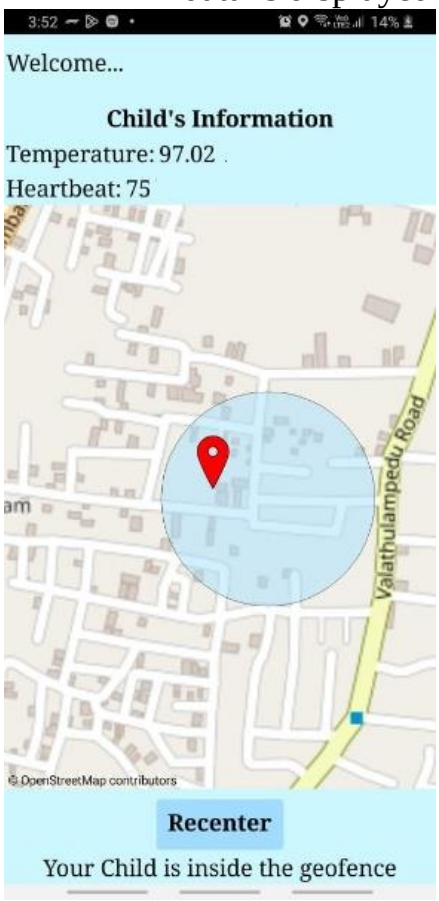
Project Development Phase
Sprint - 3

Team ID	PNT2022TMID27948
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Team Members	Sruthi.S, Swetha.A, Sam Philemon.S, Vishnu J.S

1. Application

The child's data is displayed on the dashboard

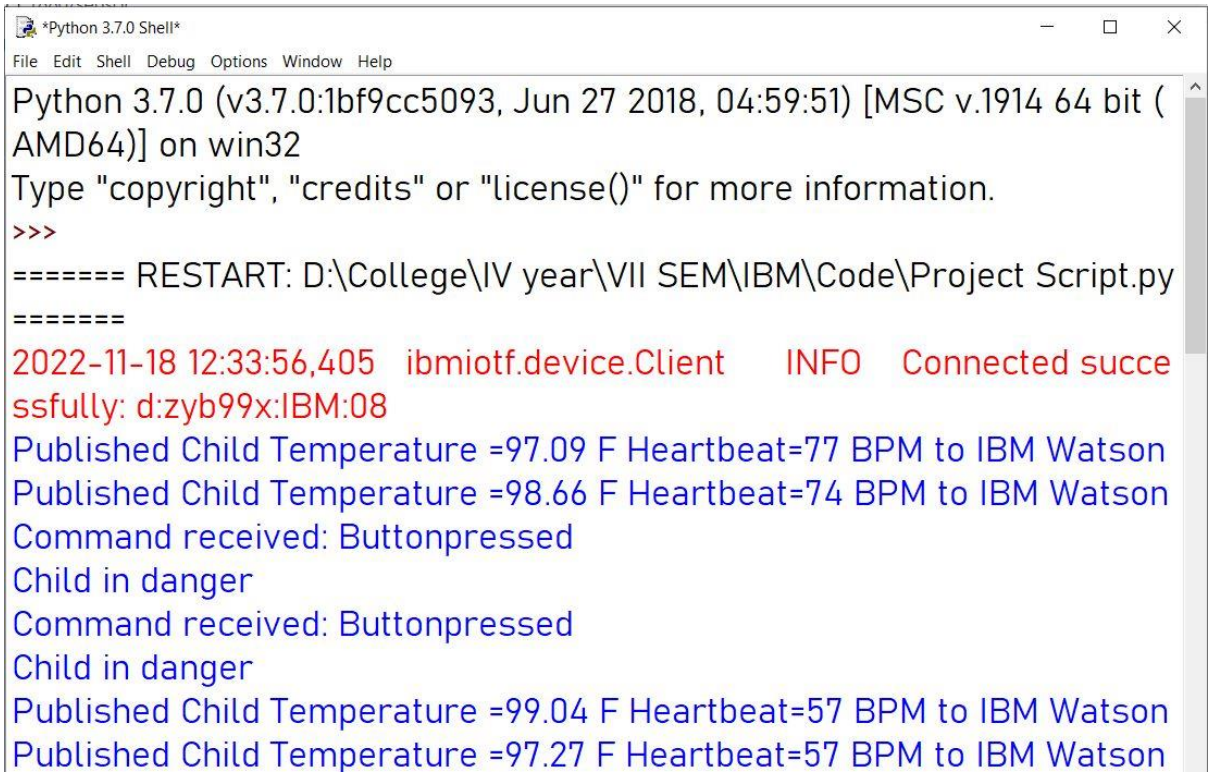


2. IoT Device – Watson Communication

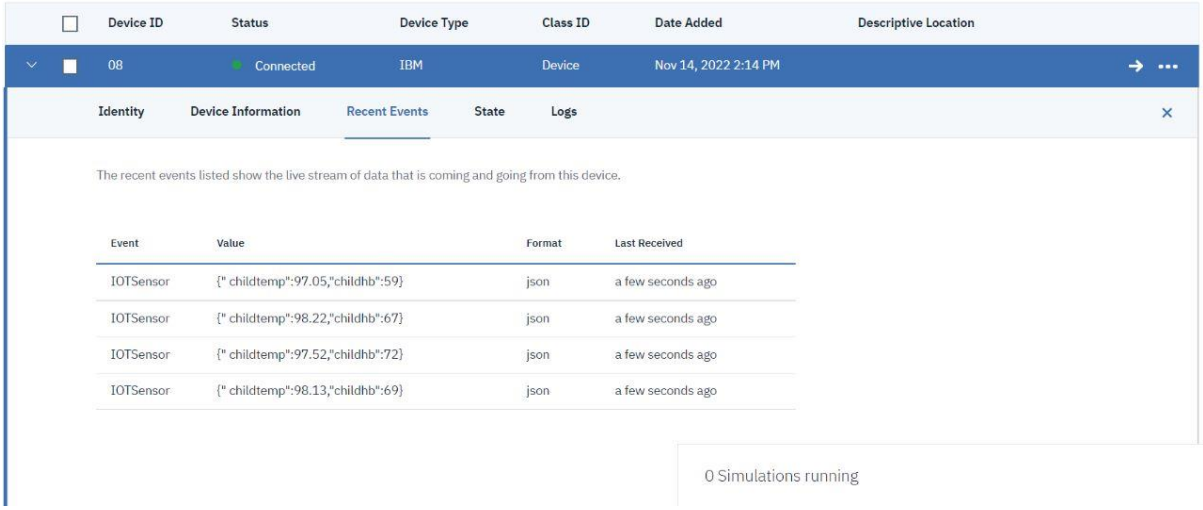
Python code:

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

#Provide your IBM Watson Device Credentials
organization = "zyb99x"
deviceType = "IBM"
```

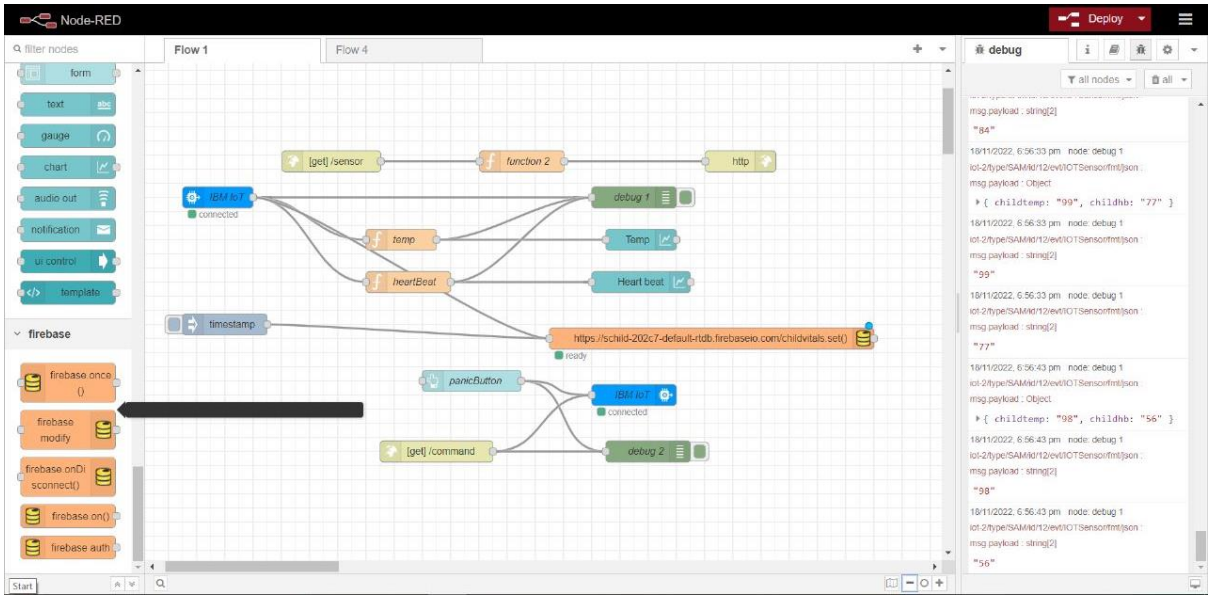
```
deviceId = "08"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO
def myCommandCallback(cmd):
   print("Command received: %s" % cmd.data['command'])
   status=cmd.data['command']
   if status=="Buttonpressed":
            print("Child in danger")
   else:
            print("please send proper command")

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
                childtemp=random.uniform(96.70,99.30)
                childtemp=round(childtemp,2)

                childhb=random.randint(55,85)
                data={' childtemp': childtemp, 'childhb': childhb}
                #print data
                def myOnPublishCallback():
                   print ("Published Child Temperature =%s F" % childtemp, "Heartbeat=%s BPM"
%childhb,"to IBM Watson")

                success=deviceCli.publishEvent("IOTSensor","json",data, qos=0,
on_publish=myOnPublishCallback)
                if not success:
                   print("Not connected to IOTF")
                time.sleep(10)

                deviceCli.commandCallback=myCommandCallback

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

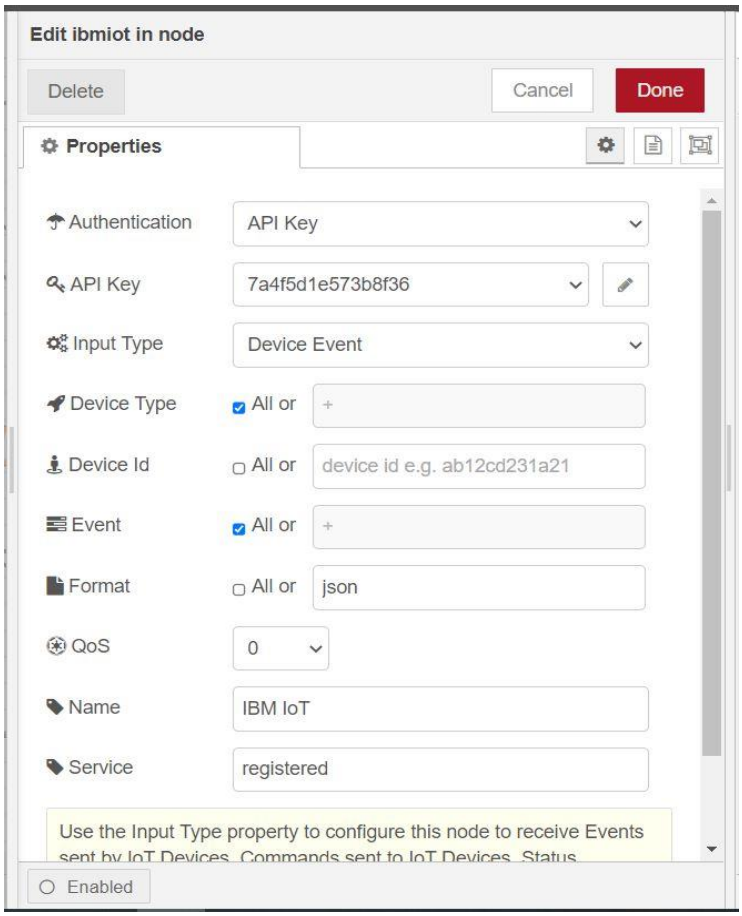

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
======= RESTART: D:\College\IV year\VII SEM\IBM\Code\Project Script.py =======
2022-11-18 12:33:56,405 ibmiotf.device.Client INFO Connected succe ssfully: d:zyb99x:IBM:08
Published Child Temperature =97.09 F Heartbeat=77 BPM to IBM Watson
Published Child Temperature =98.66 F Heartbeat=74 BPM to IBM Watson
Command received: Buttonpressed
Child in danger
Command received: Buttonpressed
Child in danger
Published Child Temperature =99.04 F Heartbeat=57 BPM to IBM Watson
Published Child Temperature =97.27 F Heartbeat=57 BPM to IBM Watson

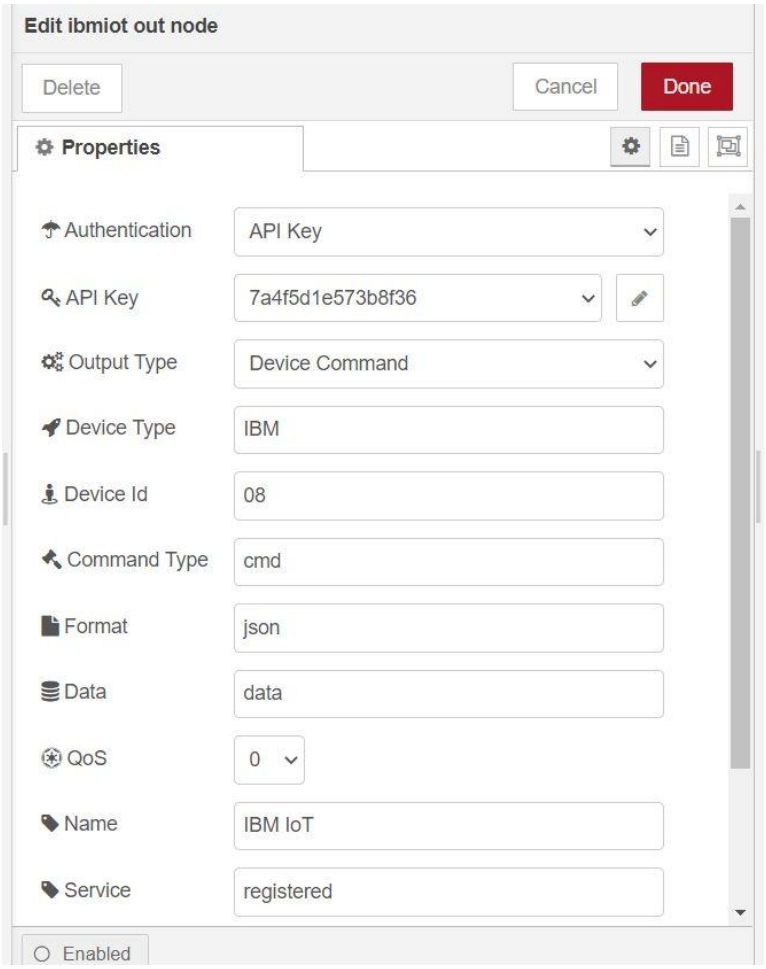
IBM Watson:

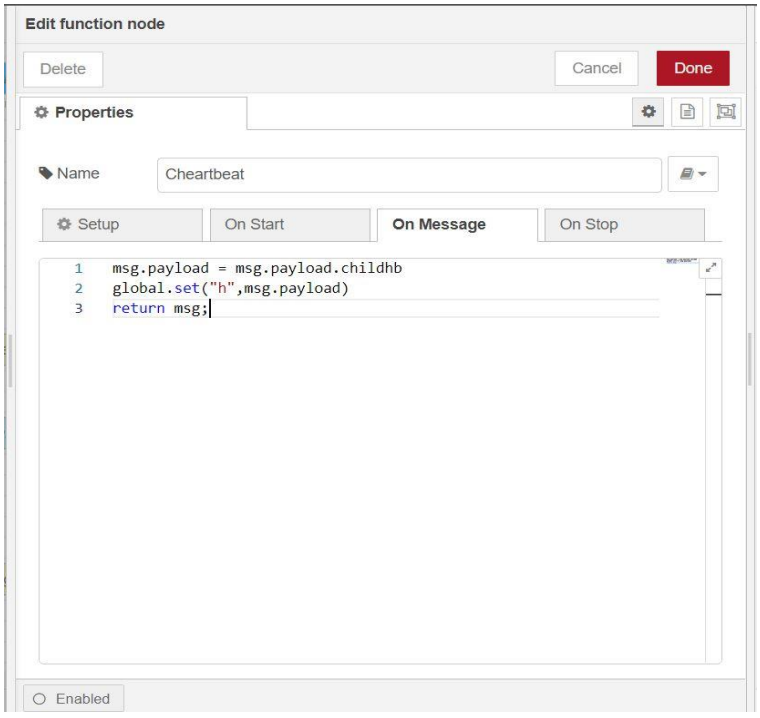

Device ID
Status
Device Type
Class ID
Date Added
Descriptive Location
08
Connected
IBM
Device
Nov 14, 2022 2:14 PM
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
IOTSensor
{" childtemp":97.05,"childhb":59}
json
a few seconds ago
IOTSensor
{" childtemp":98.22,"childhb":67}
json
a few seconds ago
IOTSensor
{" childtemp":97.52,"childhb":72}
json
a few seconds ago
IOTSensor
{" childtemp":98.13,"childhb":69}
json
a few seconds ago
0 Simulations running

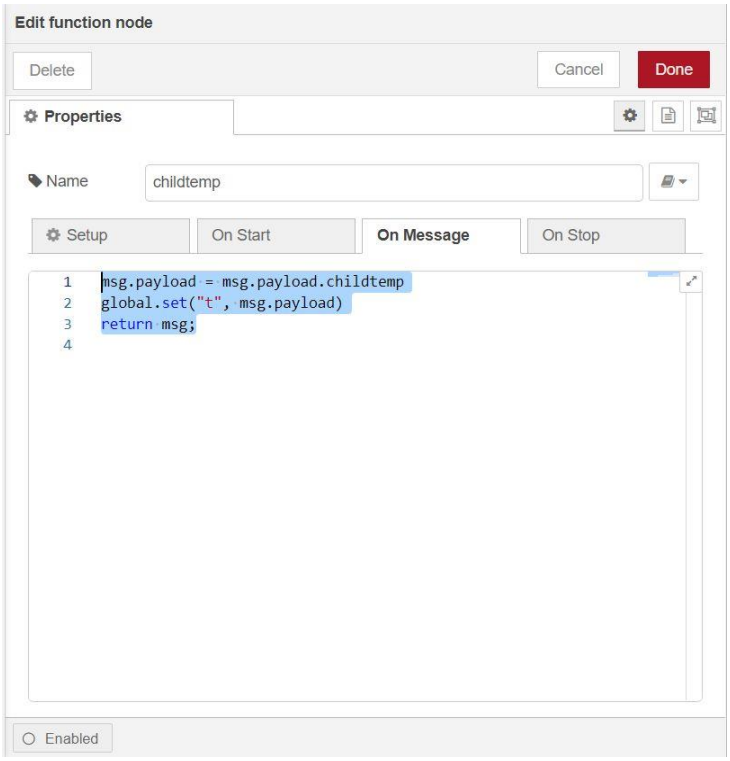
3. Watson – Node RED Communication



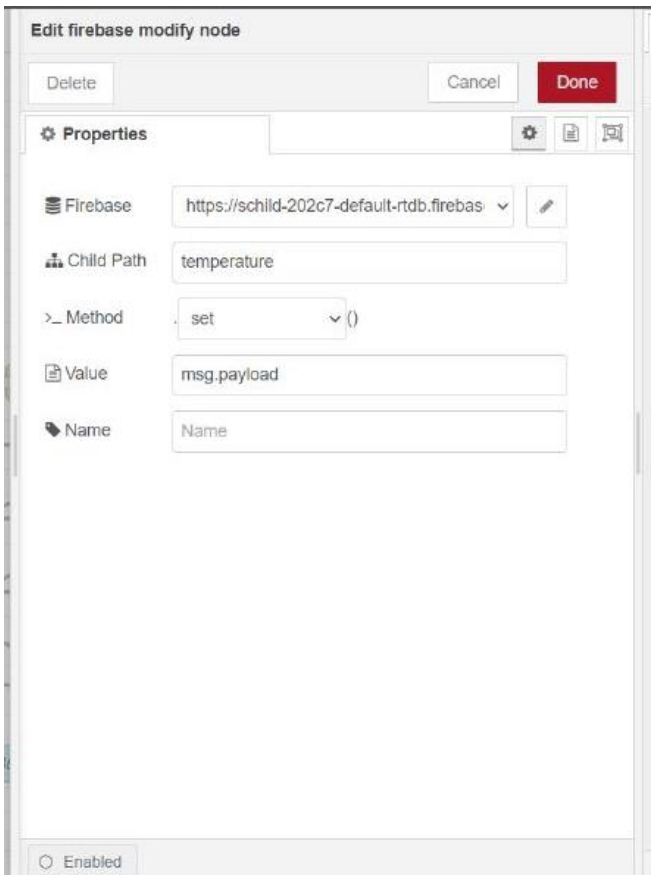


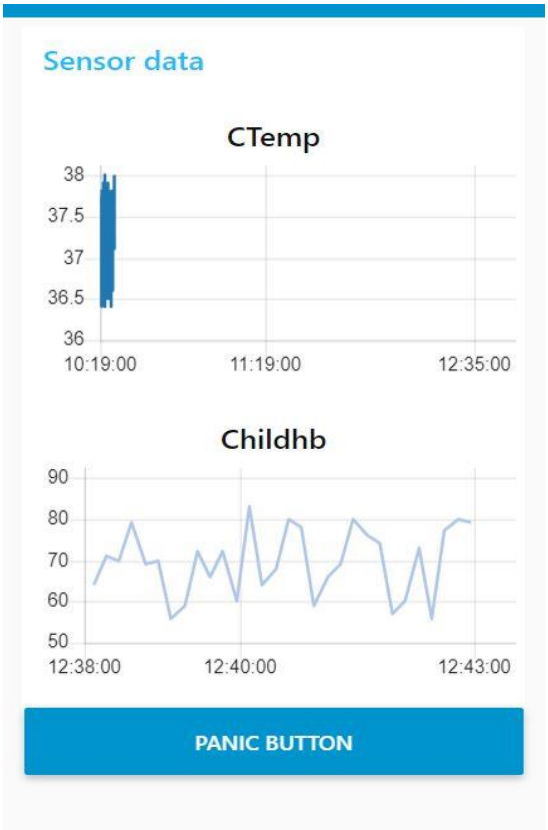

Edit ibmiot out node
Delete
Cancel
Done
Properties
Authentication
API Key
API Key
7a4f5d1e573b8f36
Output Type
Device Command
Device Type
IBM
Device Id
08
Command Type
cmd
Format
json
Data
data
QoS
0
Name
IBM IoT
Service
registered
Enabled


Edit function node
Delete
Cancel
Done
Properties
Name
Cheartbeat
Setup
On Start
On Message
On Stop
1 msg.payload = msg.payload.childhb
2 global.set("h",msg.payload)
3 return msg;
Enabled


Edit function node
Delete
Cancel
Done
Properties
Name
childtemp
Setup
On Start
On Message
On Stop
msg.payload = msg.payload.childtemp
global.set("t", msg.payload)
return msg;
Enabled


Edit function node > JavaScript editor
Cancel
Done
msg.payload = {"childtemp":global.get("t"),"childhb":global.get("h")}
return msg;


Edit firebase modify node
Delete
Cancel
Done
Properties
Firebase
https://schild-202c7-default-rtdb.firebas
Child Path
temperature
Method
set
()
Value
msg.payload
Name
Name
Enabled



4. Node RED - Database