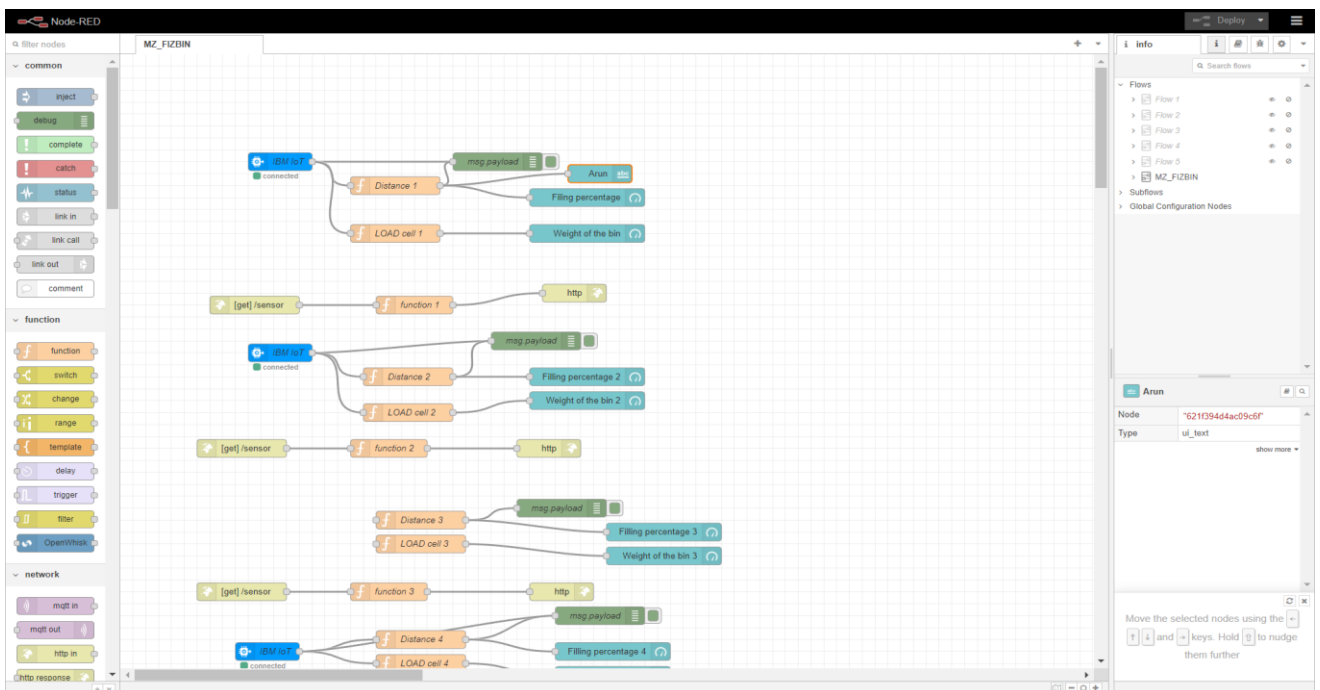
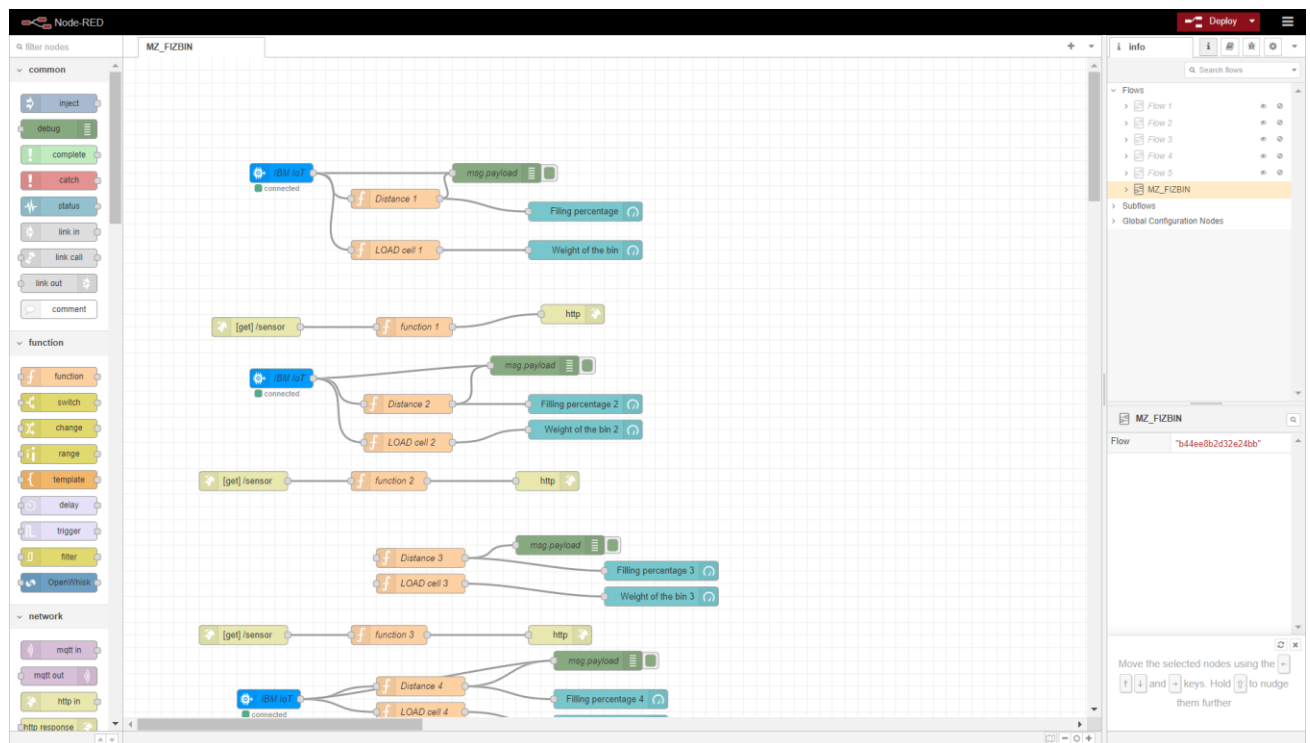


Delivery of Sprint – 3

Node Red Connection to IBM Cloudant

Date	9 November 2022
Team ID	PNT2022TMID47771
Project Name	Smart Waste Management for Metropolitan Cities - IOT

1. Node-RED Connection setup for data transmission from IBM Watson IOT platform to Node-RED dashboard.



2.Screenshots for simulation to transmit data to IBM Watson IOT platform andthen to Node Red dashboard.

```
C:\Program Files\WindowsAp  +  -
File "C:\Program Files\WindowsApps\PythonSoftwareFoundation.Python.3.7_3.7.2544.0_x64__qbz5n2kfra8p0\lib\threading.py", line 870, in run
self._target(*self._args, **self._kwargs)
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\pah
o\mqtt\client.py", line 3591, in _thread_main
self.loop_forever(retry_first_connection=True)
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\pah
o\mqtt\client.py", line 1756, in loop_forever
rc = self.loop(timeout)
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\pah
o\mqtt\client.py", line 1164, in _loop
rc = self.loop_read()
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\pah
o\mqtt\client.py", line 1556, in loop_read
rc = self._packet_read()
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\pah
o\mqtt\client.py", line 2039, in _packet_read
rc = self._packet_handle()
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\pah
o\mqtt\client.py", line 3839, in _packet_handle
return self._handle_connack()
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\pah
o\mqtt\client.py", line 3139, in _handle_connack
self, self._userdata, flags_dict, result)
File "C:\Users\Abdul Nitro 5\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages\ibm
iot\device.py", line 240, in _onConnect
self.logger.info("Connected successfully: %s" % (self.clientId))
Message: 'Connected successfully: d:lqvr56:MZ:SMARTBINZID1'
Arguments: ()
2022-11-23 22:31:00,086 ibmiotf.device.Client INFO Connected successfully: d:lqvr56:MZ:SMARTBINZID1

published distance = 39 loadcell:5 lon = 1 lat = 1
0 %
Risk warning:dumpster is above 60%
alert :PUSHED SUCCESSFULLY IBM

published distance = 39 loadcell:5 lon = 1 lat = 1
0 %
Risk warning:dumpster is above 60%
alert :PUSHED SUCCESSFULLY IBM
```

```
C:\Program Files\WindowsAp  +  -
Risk warning:40 %
alert :PUSHED SUCCESSFULLY IBM
Mz Car Main Gate
published distance = 45 loadcell:9 lon = 78.763668 lat = 10.294847
0 %
Risk warning:40 %
alert :PUSHED SUCCESSFULLY IBM
Mz Car Main Gate
published distance = 60 loadcell:9 lon = 78.763668 lat = 10.294847
0 %
Risk warning:17 %
alert :PUSHED SUCCESSFULLY IBM
Mz Car Main Gate
published distance = 60 loadcell:9 lon = 78.763668 lat = 10.294847
0 %
Risk warning:17 %
alert :PUSHED SUCCESSFULLY IBM

C:\Program Files\WindowsAp  +  -
on.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages
\ibmiotf\device.py", line 240, in _onConnect
self.logger.info("Connected successfully: %s" % (self.clientId))
Message: 'Connected successfully: d:lqvr56:MZ:SMARTBINID2'
Arguments: ()
2022-11-24 14:06:50,486 ibmiotf.device.Client INFO Connected succe
ssfully: d:lqvr56:MZ2:SAMRTBINID2
Mz Car Main Gate
published distance = 43 loadcell:8 lon = 78.763668 lat = 10.294847
0 %
Risk warning:40 %
alert :No need to collect right now
Mz Car Main Gate
published distance = 43 loadcell:8 lon = 78.763668 lat = 10.294847
0 %
Risk warning:40 %
alert :No need to collect right now

C:\Program Files\WindowsAp  +  -
on.Python.3.7_qbz5n2kfra8p0\LocalCache\local-packages\Python37\site-packages
\ibmiotf\device.py", line 240, in _onConnect
self.logger.info("Connected successfully: %s" % (self.clientId))
Message: 'Connected successfully: d:lqvr56:MZ:SMARTBINZID3'
Arguments: ()
2022-11-24 14:07:01,301 ibmiotf.device.Client INFO Connected succe
ssfully: d:lqvr56:MZ:SMARTBINZID3
Mz Canteen
published distance = 43 loadcell:7 lon = 78.763668 lat = 10.294847
0 %
Risk warning:40 %
alert :No need to collect right now
Mz Canteen
published distance = 43 loadcell:7 lon = 78.763668 lat = 10.294847
0 %
Risk warning:40 %
alert :No need to collect right now

C:\Program Files\WindowsAp  +  -
Risk warning:40 %
alert :PUSHED SUCCESSFULLY IBM
published distance = 54 loadcell:8 lon = 1 lat = 1
0 %
Risk warning:40 %
alert :PUSHED SUCCESSFULLY IBM
published distance = 13 loadcell:11 lon = 1 lat = 1
0 %
Risk warning:Mz Smart Bin poundage getting high, Time to collect :) 90 %
alert :PUSHED SUCCESSFULLY IBM
published distance = 13 loadcell:11 lon = 1 lat = 1
0 %
Risk warning:Mz Smart Bin poundage getting high, Time to collect :) 90 %
alert :PUSHED SUCCESSFULLY IBM
```

3.Data transfer to Watson IOT platform.

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various platform functions. The main content area shows a list of devices. One device, 'SAMRTBINID2', is selected, and its details are shown in a modal window. The details include the device ID, type, date added, user who added it, and connection status.

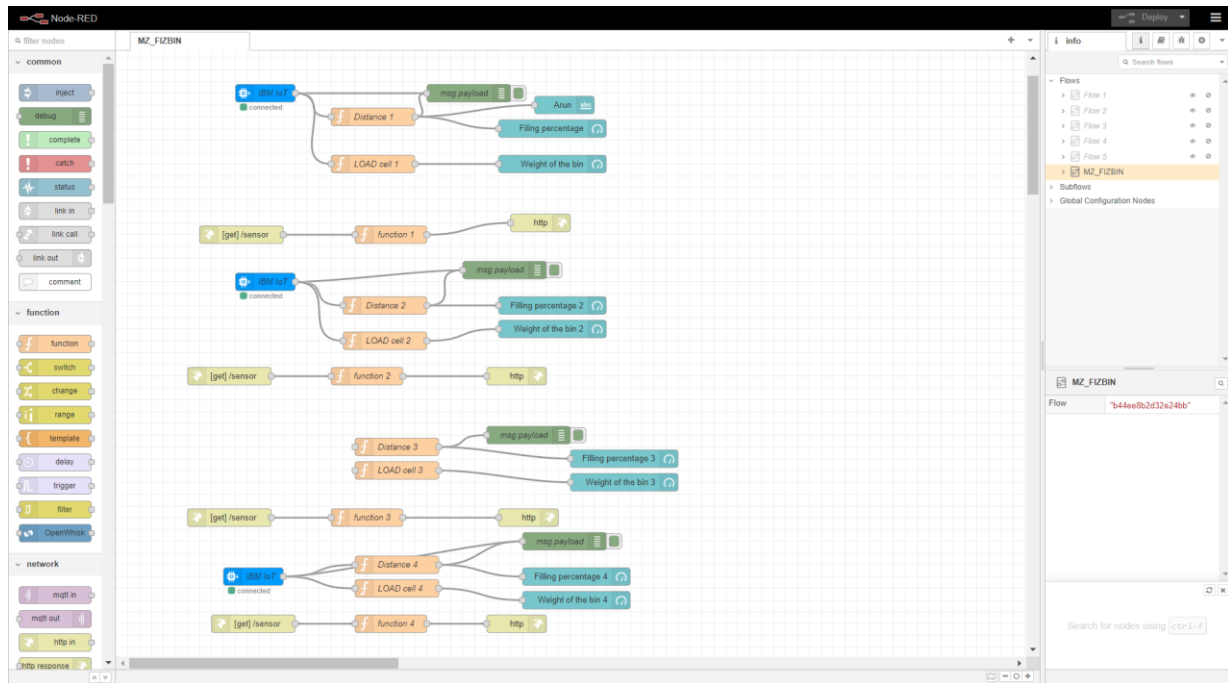
Device ID	Device Type	Date Added	Added By	Connection Status
SAMRTBINID2	MZ2	Nov 22, 2022 9:47 PM	911719104009@smartinternz.com	Connected Connection Time: Nov 24, 2022 2:54 PM Client Address: 103.207.1.94 SecureToken

Below the modal, a table lists other devices:

Device ID	Device Type	Date Added	Added By	Connection Status
SAMRTBINID4	MZ4	Nov 22, 2022 9:48 PM		Connected
SMARTBINID1	MZ	Nov 22, 2022 9:47 PM		Connected
SMARTBINID3	MZ	Nov 22, 2022 9:49 PM		Connected




At the bottom, there is a pagination control showing 'Items per page 50' and '1 of 1 page'.

4.Data transfer from IBM Watson IOT platform and wokwi to Node red.



5.Storing database in IBM cloudant DB.

The screenshot shows the IBM Cloudant Dashboard interface. The top navigation bar includes the IBM logo, service details, and a search bar. The main content area is titled 'Databases' and shows a table of databases. The table has columns for Name, Size, # of Docs, Partitioned, and Actions. A single database named 'nodered' is listed with a size of 38.8 KB, 4 documents, and is not partitioned. The bottom of the dashboard shows a 'Log Out' button and a status bar indicating 'Showing 1-1 of 1 databases. Databases per page 20'.

Name	Size	# of Docs	Partitioned	Actions
nodered	38.8 KB	4	No	  

IBM Cloudant Dashboard - database/nodered/_all_docs

Document ID Options {} JSON

All Documents Query Permissions Changes Design Documents library

Table Metadata {} JSON Create Document

	id	key	value
<input type="checkbox"/>	_design/library	_design/library	{ "rev": "1-c93136490a0976308f8b3e889877..." }
<input type="checkbox"/>	nodered/credential	nodered/credential	{ "rev": "5-5d250ae4710c678190f5abdd62cc4..." }
<input type="checkbox"/>	nodered/flow	nodered/flow	{ "rev": "25-4a40d8a0887034bb4ce99886b46..." }
<input type="checkbox"/>	nodered/settings	nodered/settings	{ "rev": "12-6485ee19215d9e903126f50d7b2..." }

Showing document 1 - 4. Documents per page: 20

2022-11-24 (13).png 2022-11-24 (12).png 2022-11-24 (8).png 2022-11-24 (18).png 2022-11-24 (17).png 2022-11-24 (16).png Show all

6.Data is stored in JSON format

IBM Cloudant Dashboard - database/nodered/_design/library

Save Changes Cancel Upload Attachment Clone Document Delete

```
1 {
2   "_id": "_design/library",
3   "_rev": "1-c93136490a0976308f8b3e8898772779",
4   "views": {
5     "flow_entries_by_app_and_type": {
6       "map": "function (doc) {\n
7         var p = doc._id.split(\"/\");\n
8         if (p.length > 2 && p[2]
9       },
10    "lib_entries_by_app_and_type": {
11      "map": "function (doc) {\n
12        var p = doc._id.split(\"/\");\n
13        if (p.length > 2) {\n
```

2022-11-24 (13).png 2022-11-24 (12).png 2022-11-24 (8).png 2022-11-24 (18).png 2022-11-24 (17).png 2022-11-24 (16).png Show all

