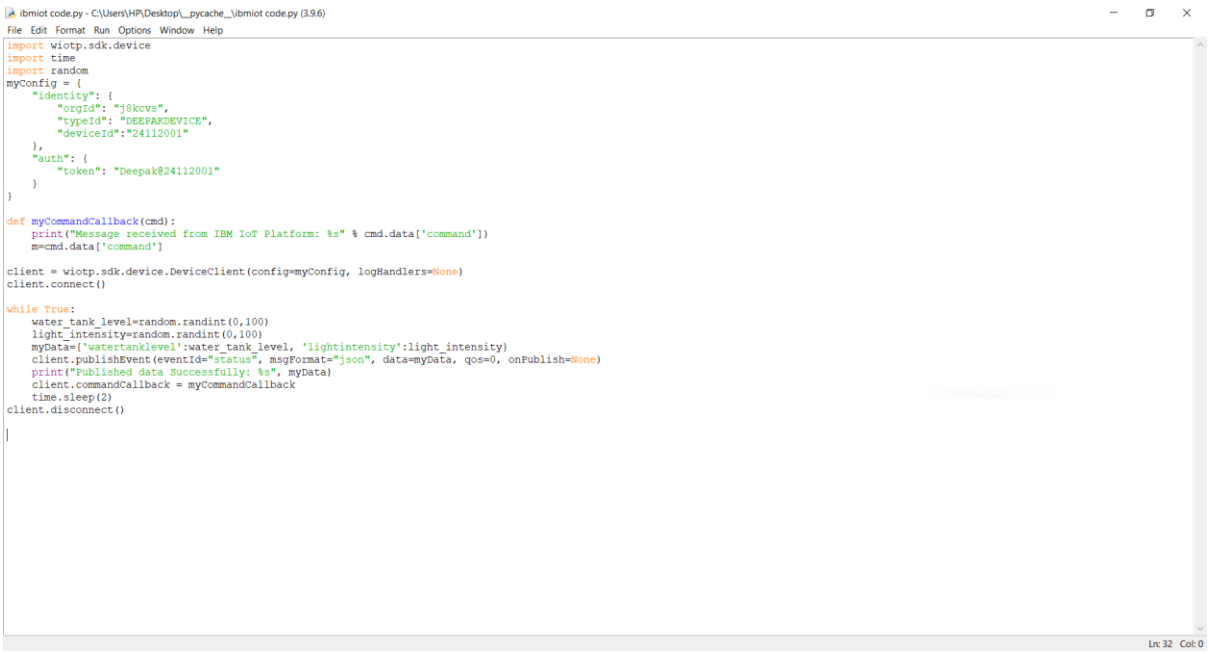
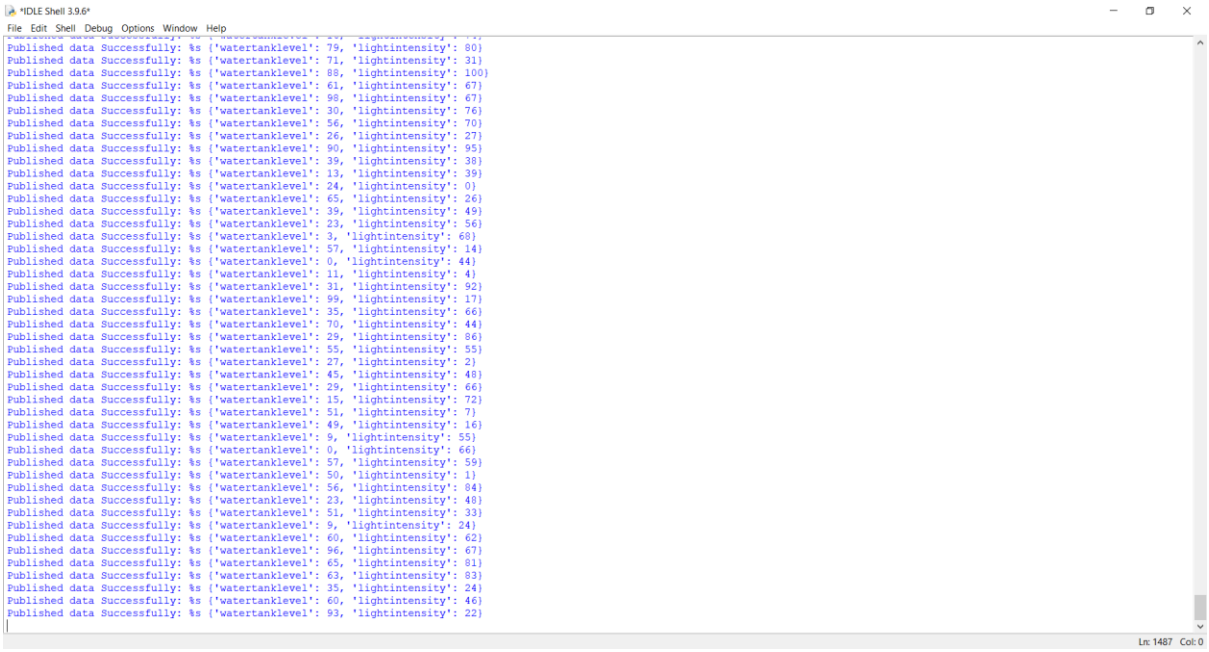
iii)Assignment

3) Develop a code to upload the water tank level and light intensity values to the IBM IoT platform and visualize them in the web application.

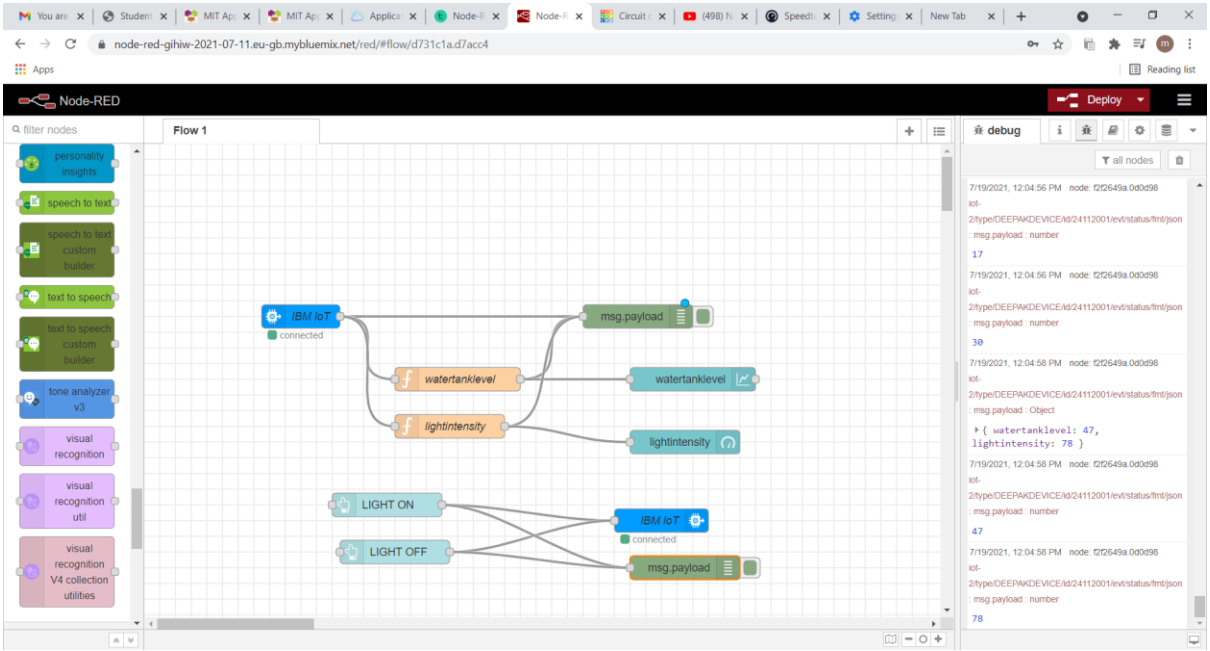
Python code:

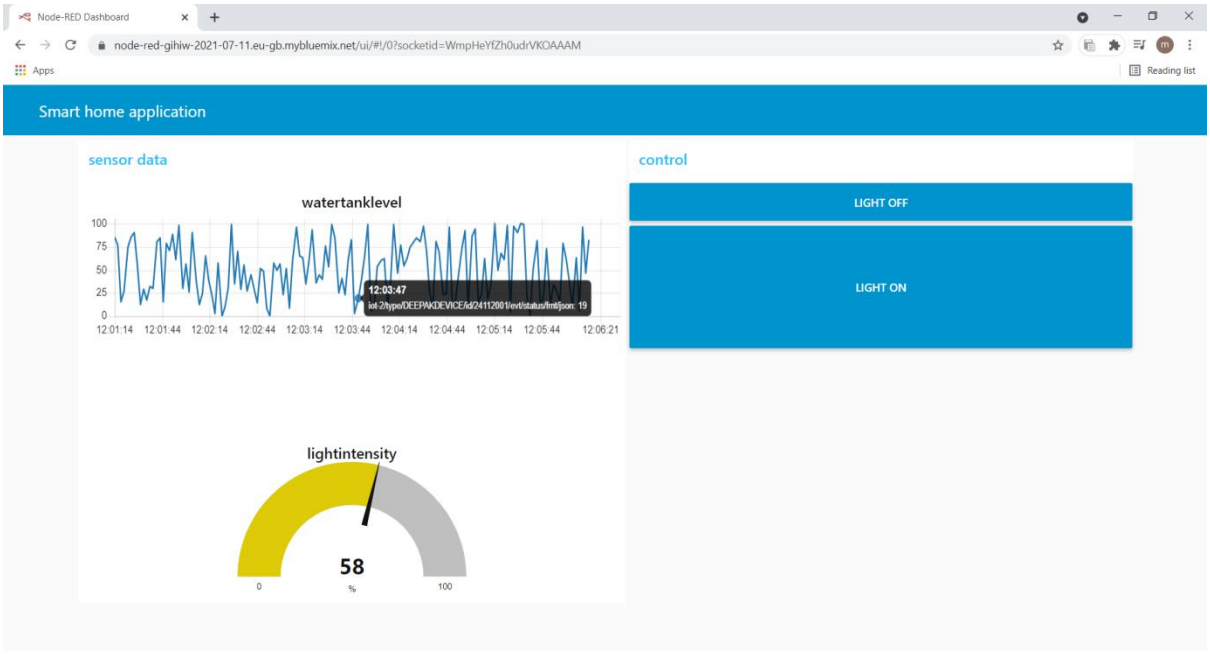


Program output


IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help
Published data Successfully: %s {'watertanklevel': 79, 'lightintensity': 80}
Published data Successfully: %s {'watertanklevel': 71, 'lightintensity': 31}
Published data Successfully: %s {'watertanklevel': 88, 'lightintensity': 100}
Published data Successfully: %s {'watertanklevel': 61, 'lightintensity': 67}
Published data Successfully: %s {'watertanklevel': 98, 'lightintensity': 67}
Published data Successfully: %s {'watertanklevel': 30, 'lightintensity': 76}
Published data Successfully: %s {'watertanklevel': 56, 'lightintensity': 70}
Published data Successfully: %s {'watertanklevel': 26, 'lightintensity': 27}
Published data Successfully: %s {'watertanklevel': 90, 'lightintensity': 95}
Published data Successfully: %s {'watertanklevel': 39, 'lightintensity': 38}
Published data Successfully: %s {'watertanklevel': 13, 'lightintensity': 39}
Published data Successfully: %s {'watertanklevel': 24, 'lightintensity': 0}
Published data Successfully: %s {'watertanklevel': 65, 'lightintensity': 26}
Published data Successfully: %s {'watertanklevel': 39, 'lightintensity': 49}
Published data Successfully: %s {'watertanklevel': 23, 'lightintensity': 56}
Published data Successfully: %s {'watertanklevel': 3, 'lightintensity': 68}
Published data Successfully: %s {'watertanklevel': 57, 'lightintensity': 14}
Published data Successfully: %s {'watertanklevel': 0, 'lightintensity': 44}
Published data Successfully: %s {'watertanklevel': 11, 'lightintensity': 4}
Published data Successfully: %s {'watertanklevel': 31, 'lightintensity': 92}
Published data Successfully: %s {'watertanklevel': 99, 'lightintensity': 17}
Published data Successfully: %s {'watertanklevel': 35, 'lightintensity': 66}
Published data Successfully: %s {'watertanklevel': 70, 'lightintensity': 44}
Published data Successfully: %s {'watertanklevel': 29, 'lightintensity': 86}
Published data Successfully: %s {'watertanklevel': 55, 'lightintensity': 55}
Published data Successfully: %s {'watertanklevel': 27, 'lightintensity': 2}
Published data Successfully: %s {'watertanklevel': 45, 'lightintensity': 48}
Published data Successfully: %s {'watertanklevel': 29, 'lightintensity': 66}
Published data Successfully: %s {'watertanklevel': 15, 'lightintensity': 72}
Published data Successfully: %s {'watertanklevel': 51, 'lightintensity': 7}
Published data Successfully: %s {'watertanklevel': 49, 'lightintensity': 16}
Published data Successfully: %s {'watertanklevel': 9, 'lightintensity': 55}
Published data Successfully: %s {'watertanklevel': 0, 'lightintensity': 66}
Published data Successfully: %s {'watertanklevel': 57, 'lightintensity': 59}
Published data Successfully: %s {'watertanklevel': 50, 'lightintensity': 1}
Published data Successfully: %s {'watertanklevel': 56, 'lightintensity': 84}
Published data Successfully: %s {'watertanklevel': 23, 'lightintensity': 48}
Published data Successfully: %s {'watertanklevel': 51, 'lightintensity': 33}
Published data Successfully: %s {'watertanklevel': 9, 'lightintensity': 24}
Published data Successfully: %s {'watertanklevel': 60, 'lightintensity': 62}
Published data Successfully: %s {'watertanklevel': 96, 'lightintensity': 67}
Published data Successfully: %s {'watertanklevel': 65, 'lightintensity': 81}
Published data Successfully: %s {'watertanklevel': 63, 'lightintensity': 83}
Published data Successfully: %s {'watertanklevel': 35, 'lightintensity': 24}
Published data Successfully: %s {'watertanklevel': 60, 'lightintensity': 46}
Published data Successfully: %s {'watertanklevel': 93, 'lightintensity': 22}
Ln: 1487 Col: 0

Node red


node-red-gihiw-2021-07-11.eu-gb.mybluemix.net/red/#flow/d731c1a.d7acc4
Node-RED
Deploy
Flow 1
debug
personality insights
speech to text
speech to text custom builder
text to speech
text to speech custom builder
tone analyzer v3
visual recognition
visual recognition util
visual recognition V4 collection utilities
IBM IoT
connected
msg.payload
watertanklevel
watertanklevel
lightintensity
lightintensity
LIGHT ON
LIGHT OFF
IBM IoT
connected
msg.payload
7/19/2021, 12:04:56 PM node: f2f2649a.0d0d98
iot-2/type/DEEPAKDEVICE/id/24112001/evt/status/fmt/json : msg.payload : number
17
7/19/2021, 12:04:56 PM node: f2f2649a.0d0d98
iot-2/type/DEEPAKDEVICE/id/24112001/evt/status/fmt/json : msg.payload : number
30
7/19/2021, 12:04:58 PM node: f2f2649a.0d0d98
iot-2/type/DEEPAKDEVICE/id/24112001/evt/status/fmt/json : msg.payload : Object
{ watertanklevel: 47, lightintensity: 78 }
7/19/2021, 12:04:58 PM node: f2f2649a.0d0d98
iot-2/type/DEEPAKDEVICE/id/24112001/evt/status/fmt/json : msg.payload : number
47
7/19/2021, 12:04:58 PM node: f2f2649a.0d0d98
iot-2/type/DEEPAKDEVICE/id/24112001/evt/status/fmt/json : msg.payload : number
78


Node-RED Dashboard
node-red-gihiw-2021-07-11.eu-gb.mybluemix.net/ui/#!/0?socketid=WmpHeYfZh0udrVKOAAAM
Apps
Reading list
Smart home application
sensor data
watertanklevel
100
75
50
25
0
12:01:14
12:01:44
12:02:14
12:02:44
12:03:14
12:03:44
12:04:14
12:04:44
12:05:14
12:05:44
12:06:21
12:03:47
iot-2/type/DEEPAKDEVICE/id/24112001/evt/status/fmt/json: 19
lightintensity
58
%
0
100
control
LIGHT OFF
LIGHT ON