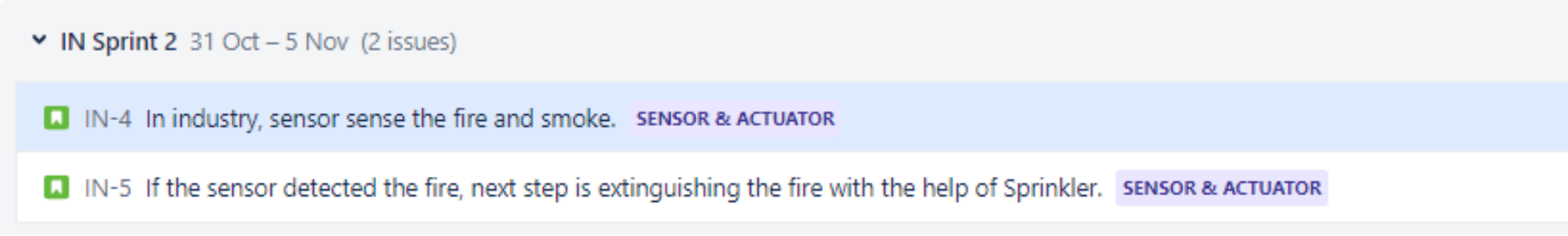
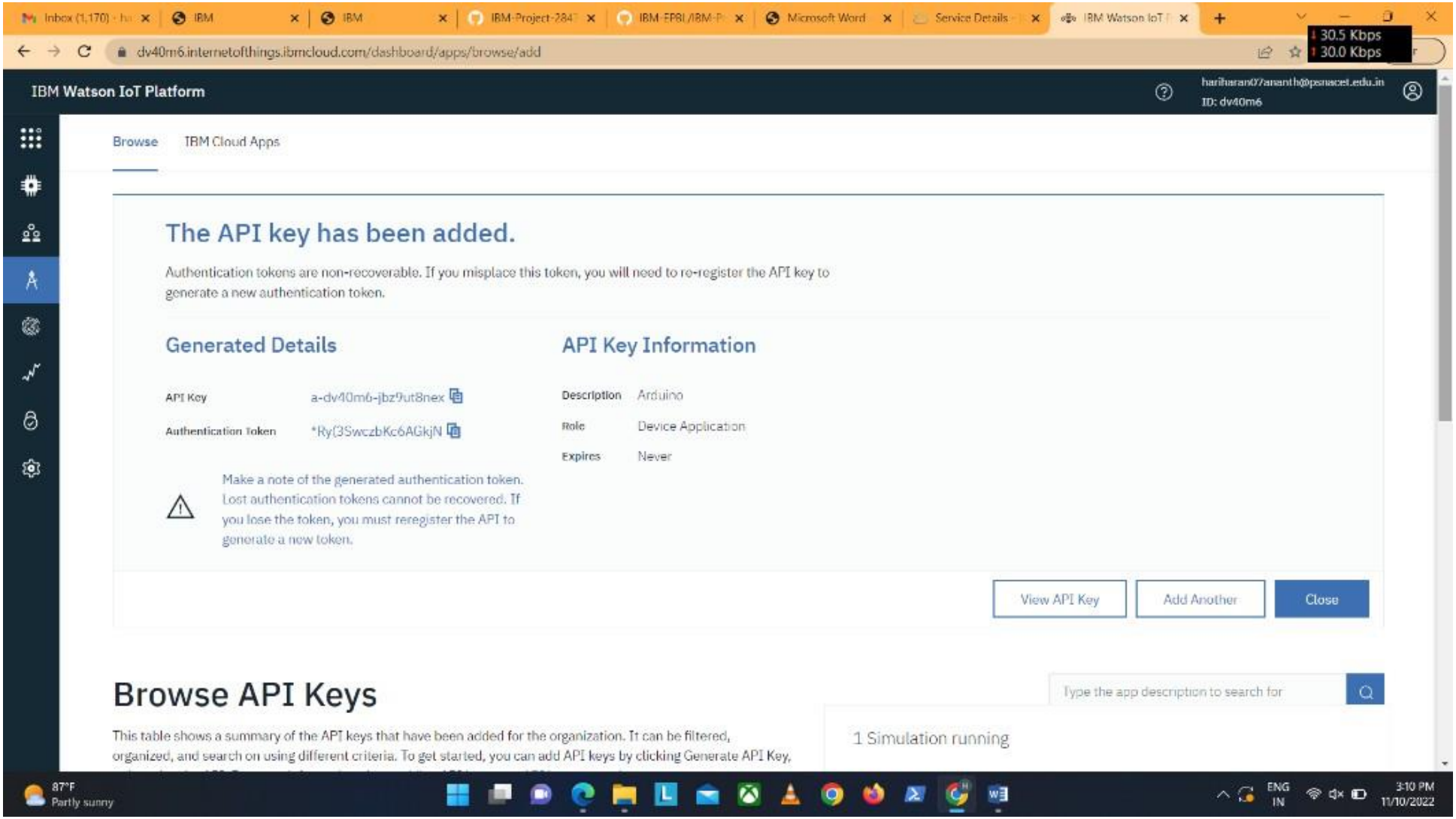
Project development phase

Sprint - 2

Date	13 November 2022
Team ID	PNT2022TMID33506
Project Name	Project - Industry-specific intelligent fire management system
Maximum Marks	20 marks



⇨ Configure the connection security and create API keys that are used in the Node-RED service for accessing the IBM IoT Platform.


IBM Watson IoT Platform
dv40m6.internetofthings.ibmcloud.com/dashboard/apps/browse/add
30.5 Kbps
30.0 Kbps
ID: dv40m6
Browse
IBM Cloud Apps
The API key has been added.
Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the API key to generate a new authentication token.
Generated Details
API Key
a-dv40m6-jbz9ut8nex
Authentication Token
*Ry(3SwczbKc6AGkjN
API Key Information
Description
Arduino
Role
Device Application
Expires
Never
Make a note of the generated authentication token. Lost authentication tokens cannot be recovered. If you lose the token, you must reregister the API to generate a new token.
View API Key
Add Another
Close
Browse API Keys
This table shows a summary of the API keys that have been added for the organization. It can be filtered, organized, and search on using different criteria. To get started, you can add API keys by clicking Generate API Key.
Type the app description to search for
1 Simulation running
87°F
Partly sunny
ENG
IN
3:10 PM
11/10/2022

US-2 Create a Node-RED service

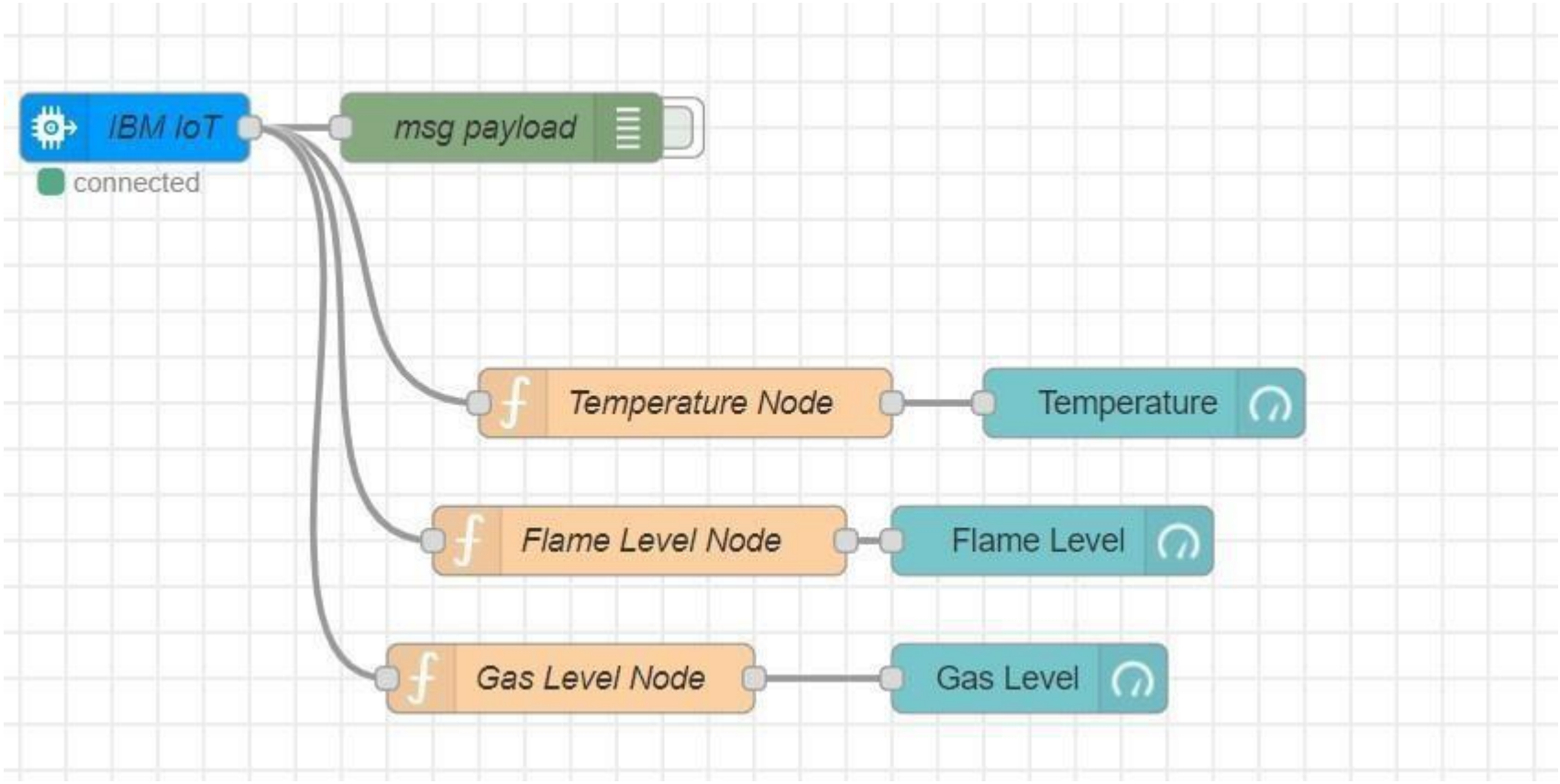


Fig1 - Monitoring the sensor values - Temperature, Flame Level, Gas Level. These values are randomly generated by IBM WATSON IOTPLATFORM.

Fig 2 - Temperature, Flame Level, Gas Level values displayed in deploy tab in node-red

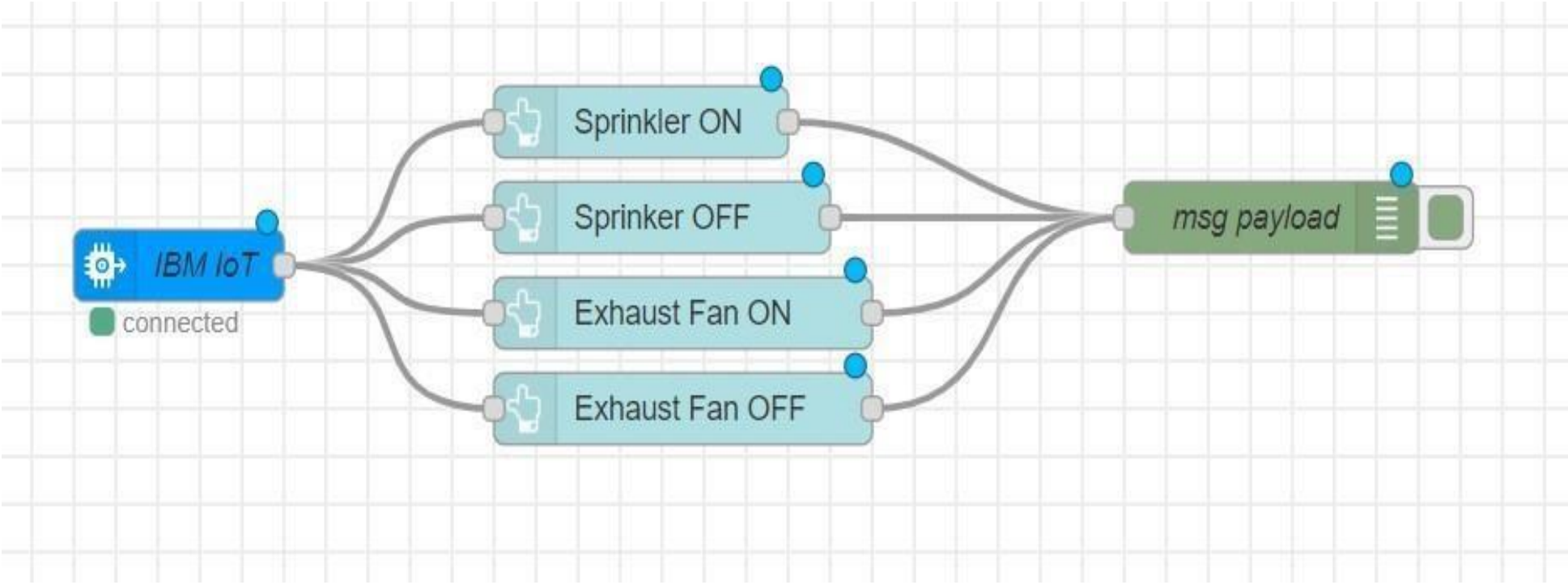


Fig 3 - Control buttons (Sprinkler ON, Sprinkler OFF, Exhaust Fan ON, Exhaust Fan OFF)

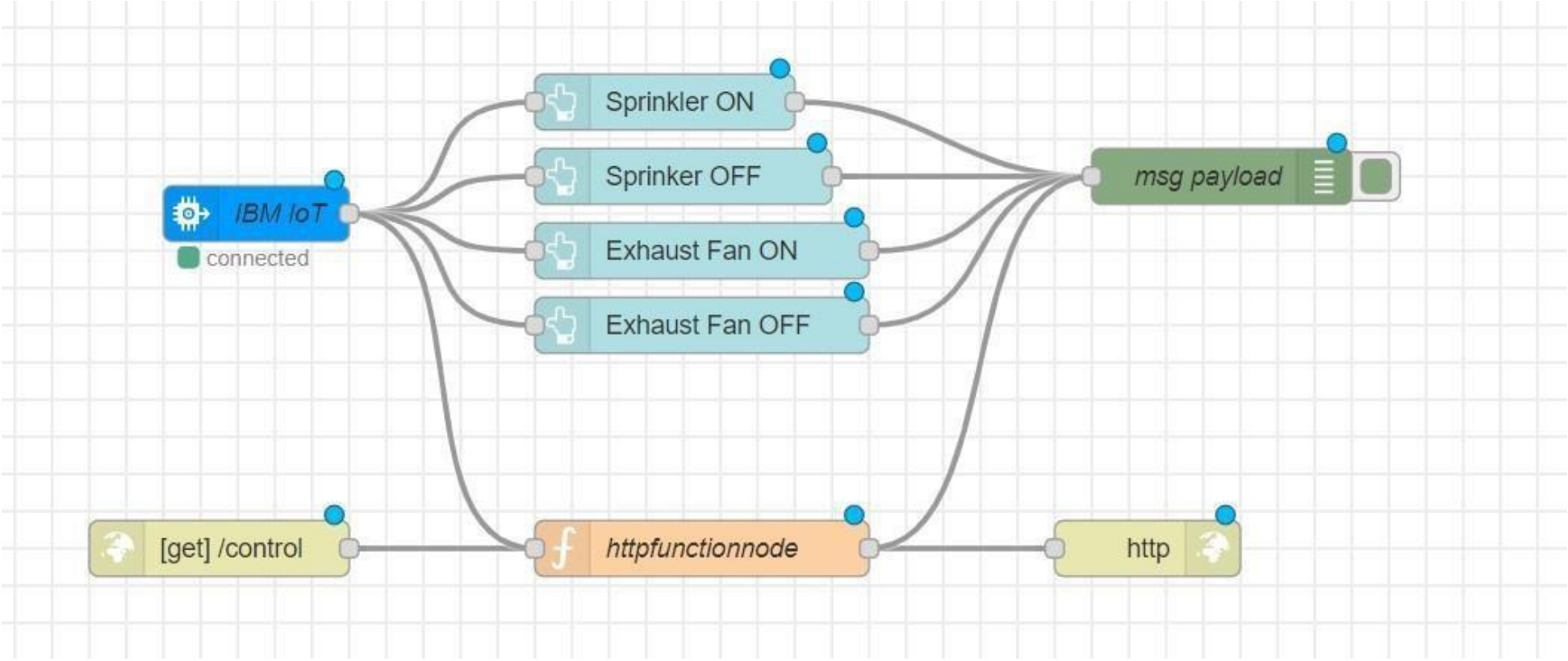


Fig 4 - Using HTTP in and HTTP response in network option, http://127.0.0.1:1880/#flow/f74f1b96473dc208/control will display the control options

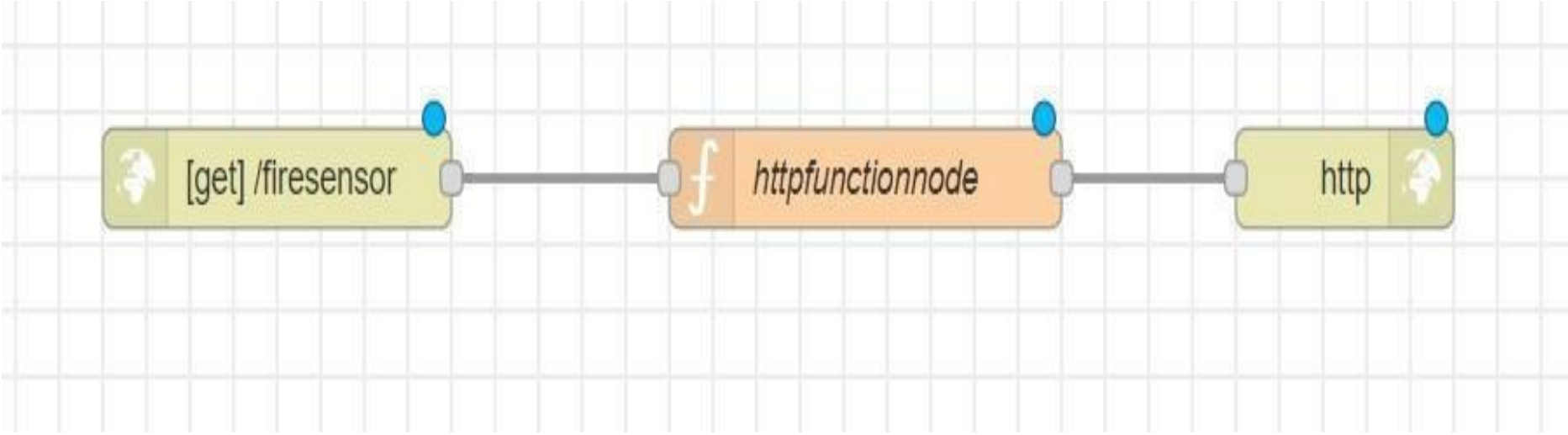


Fig 5 - Using HTTP in and HTTP response in network option, http://127.0.0.1:1880/#flow/f74f1b96473dc208/firesensor will display the sensor valueslike Temperature, Gas Level and Flame Level from the IBM WATSON IOT PLATFORM.

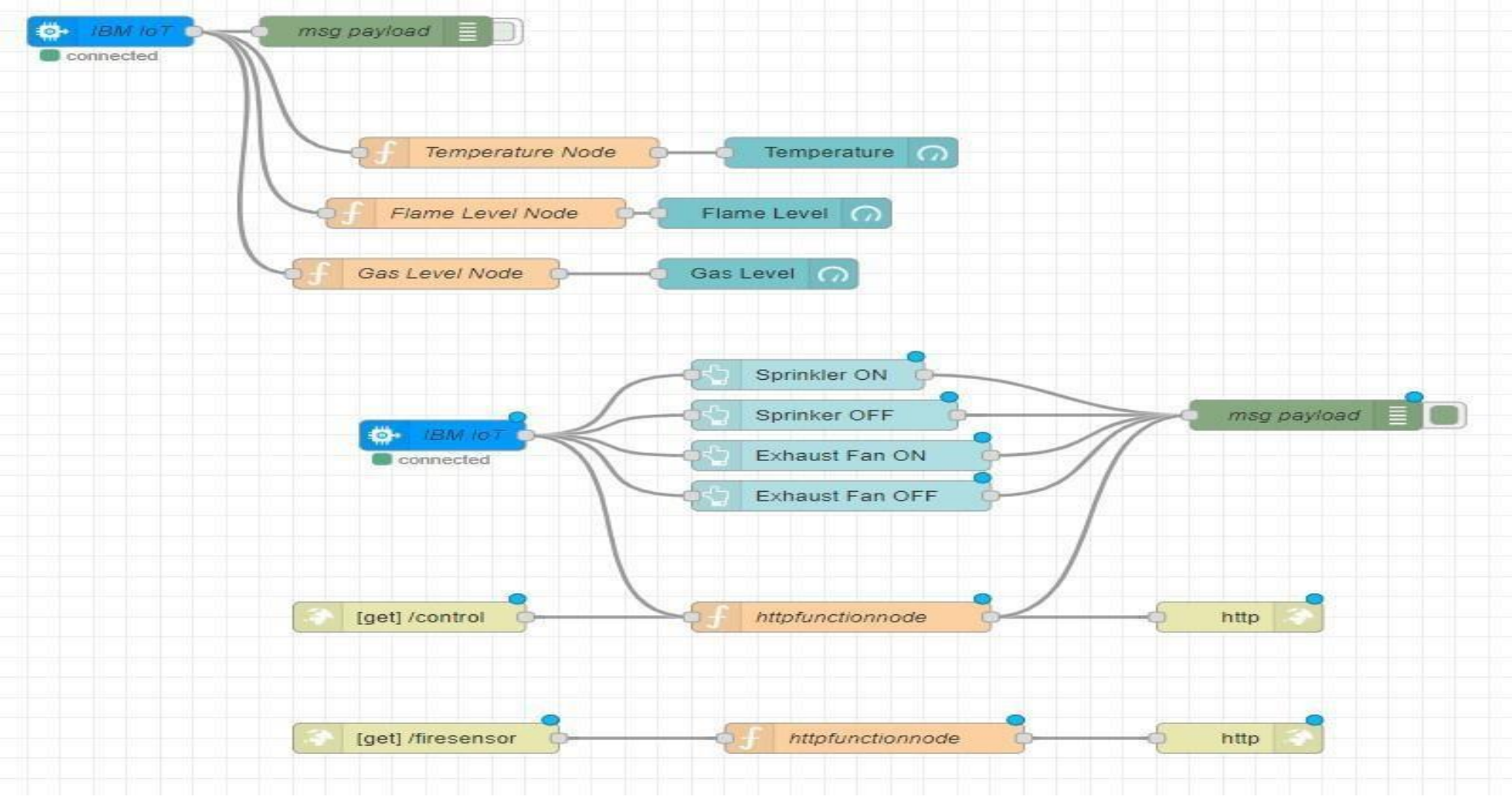


Fig 6 - Entire Node-Red connection for our project

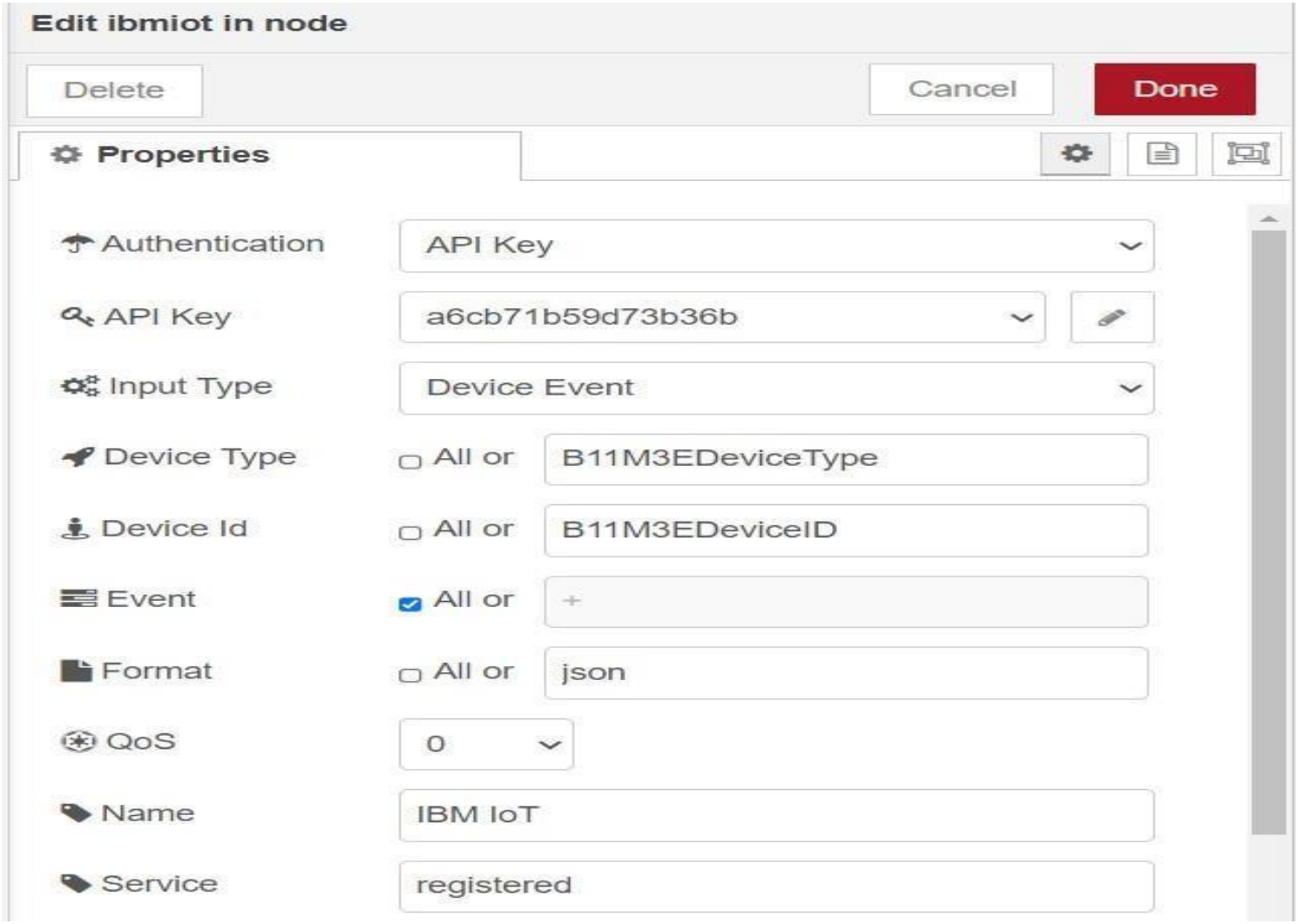
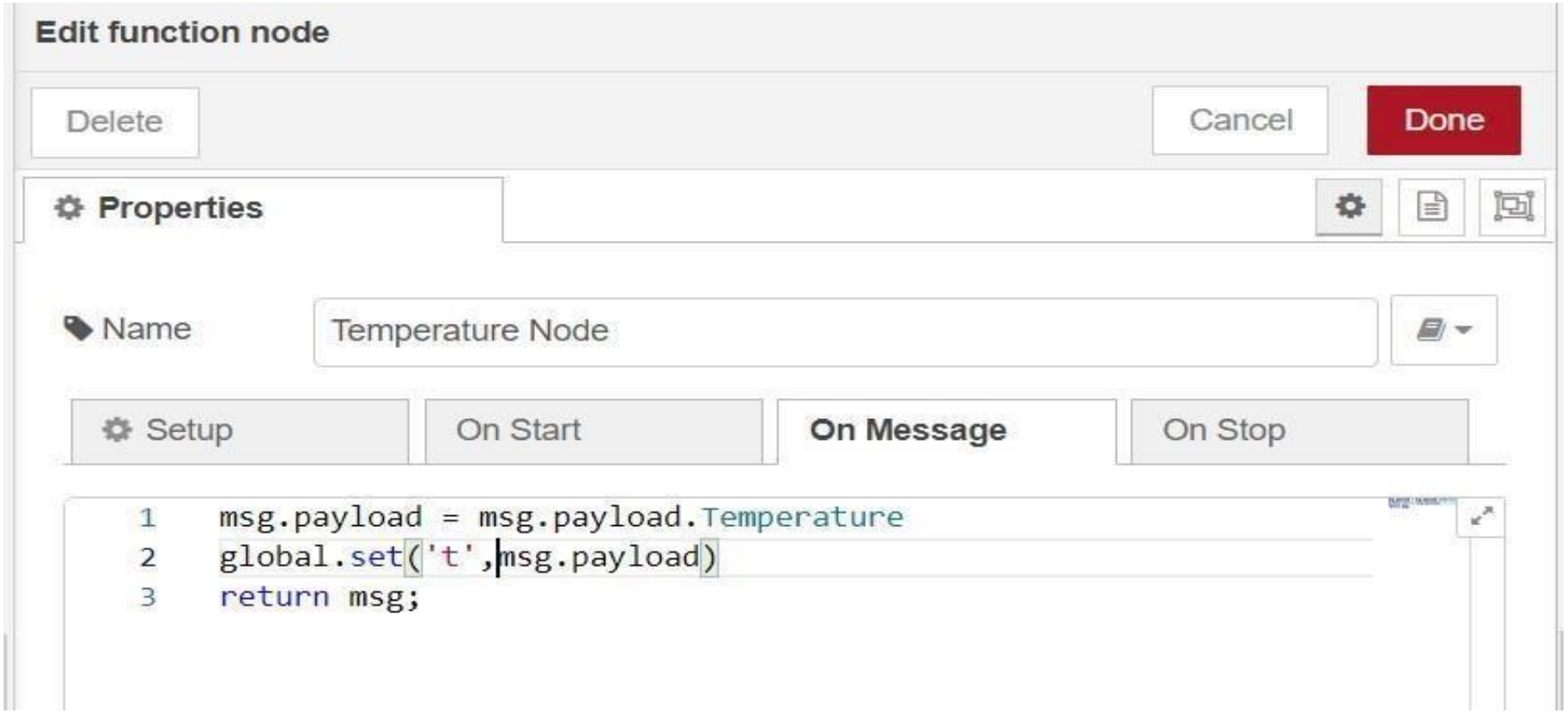


Fig 7 - Properties of IBM IOT are shown. The API key, Device Type, Device ID are taken from IBM IOT WATSON PLATFORM.




Edit function node
Delete
Cancel
Done
Properties
Name
Flame Level Node
Setup
On Start
On Message
On Stop
1 msg.payload = msg.payload.Flame_Level
2 global.set("f",msg.payload)
3 return msg;

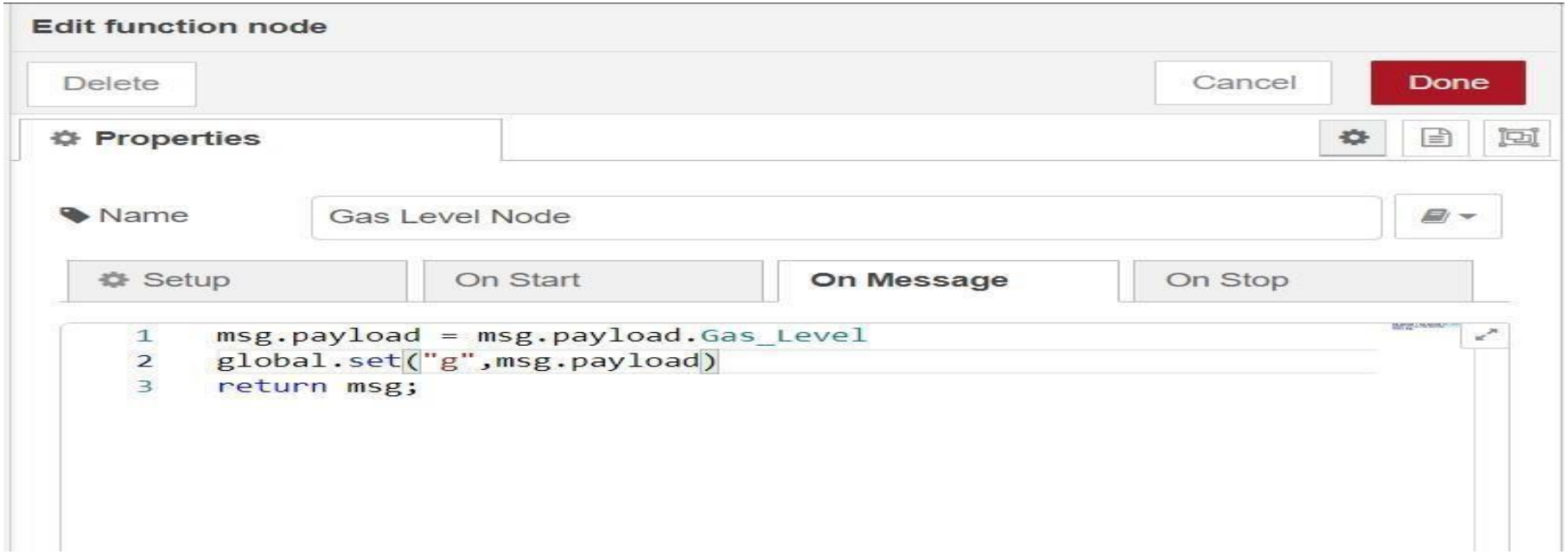

Edit function node
Delete
Cancel
Done
Properties
Name
Gas Level Node
Setup
On Start
On Message
On Stop
1 msg.payload = msg.payload.Gas_Level
2 global.set("g",msg.payload)
3 return msg;

Fig 8 - Properties of Function Node -Temperature Node, Flame Level Node, Gas Level Node.

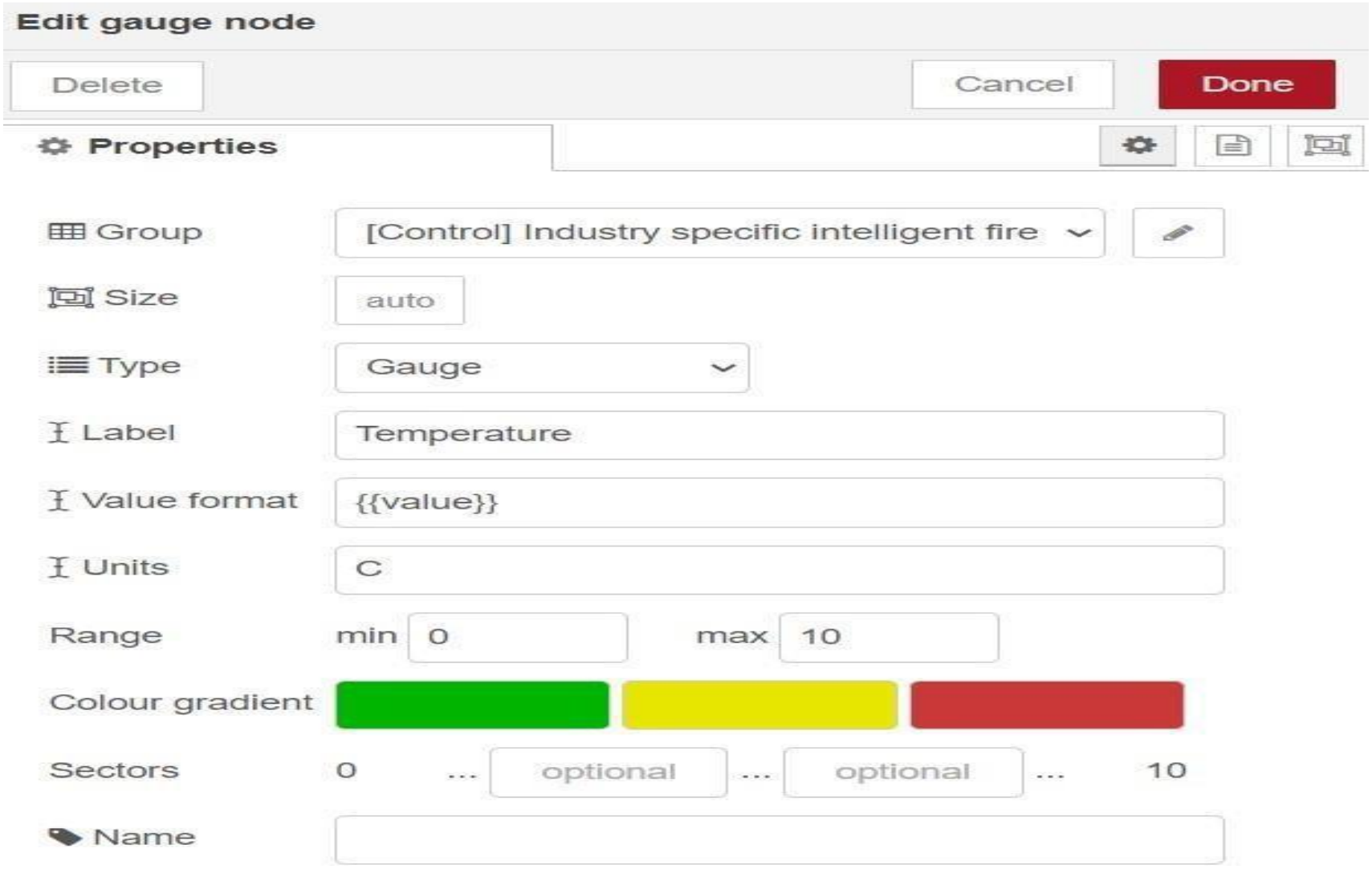


Fig 9 - Properties of Temperature Gauge.

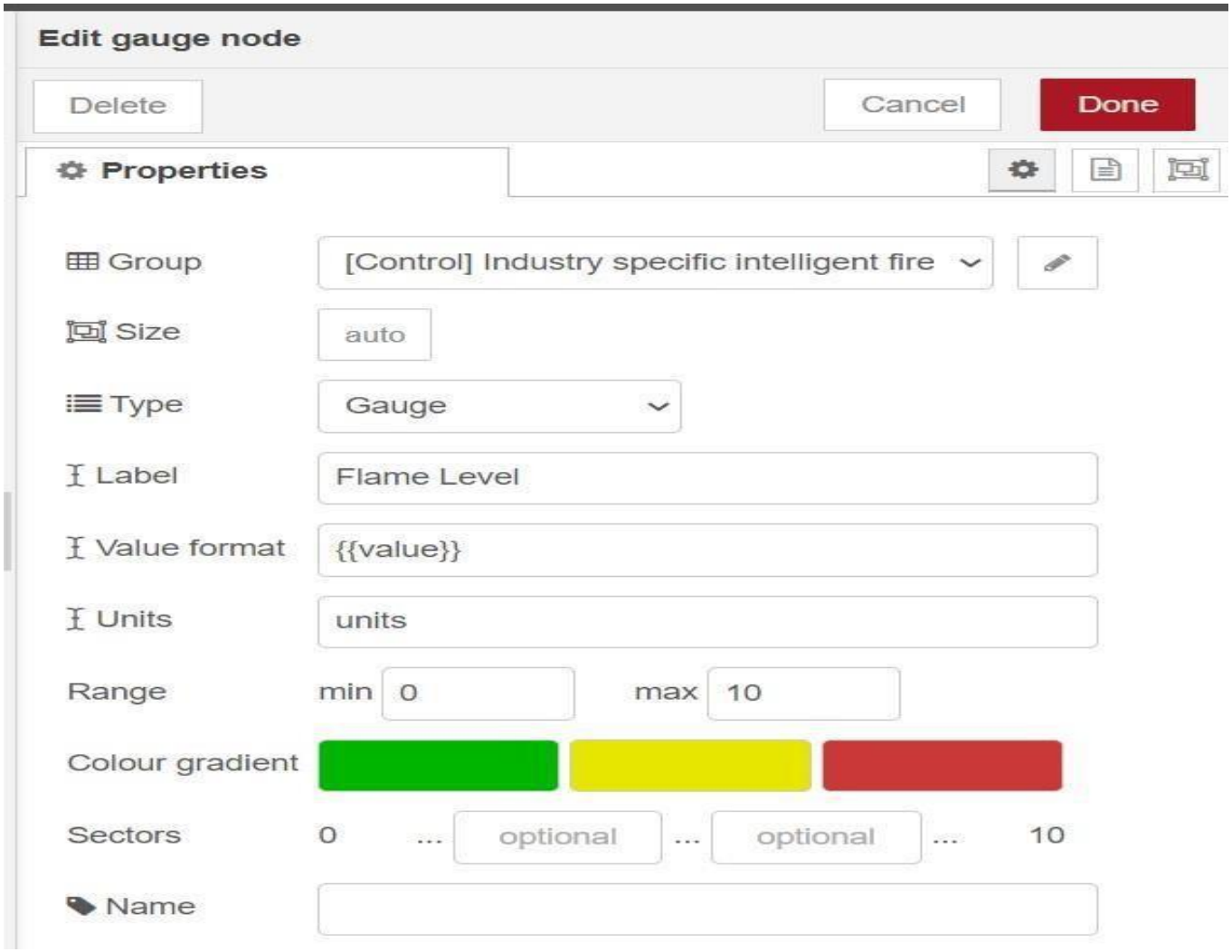


Fig 9 - Properties of Flame Level Gauge.

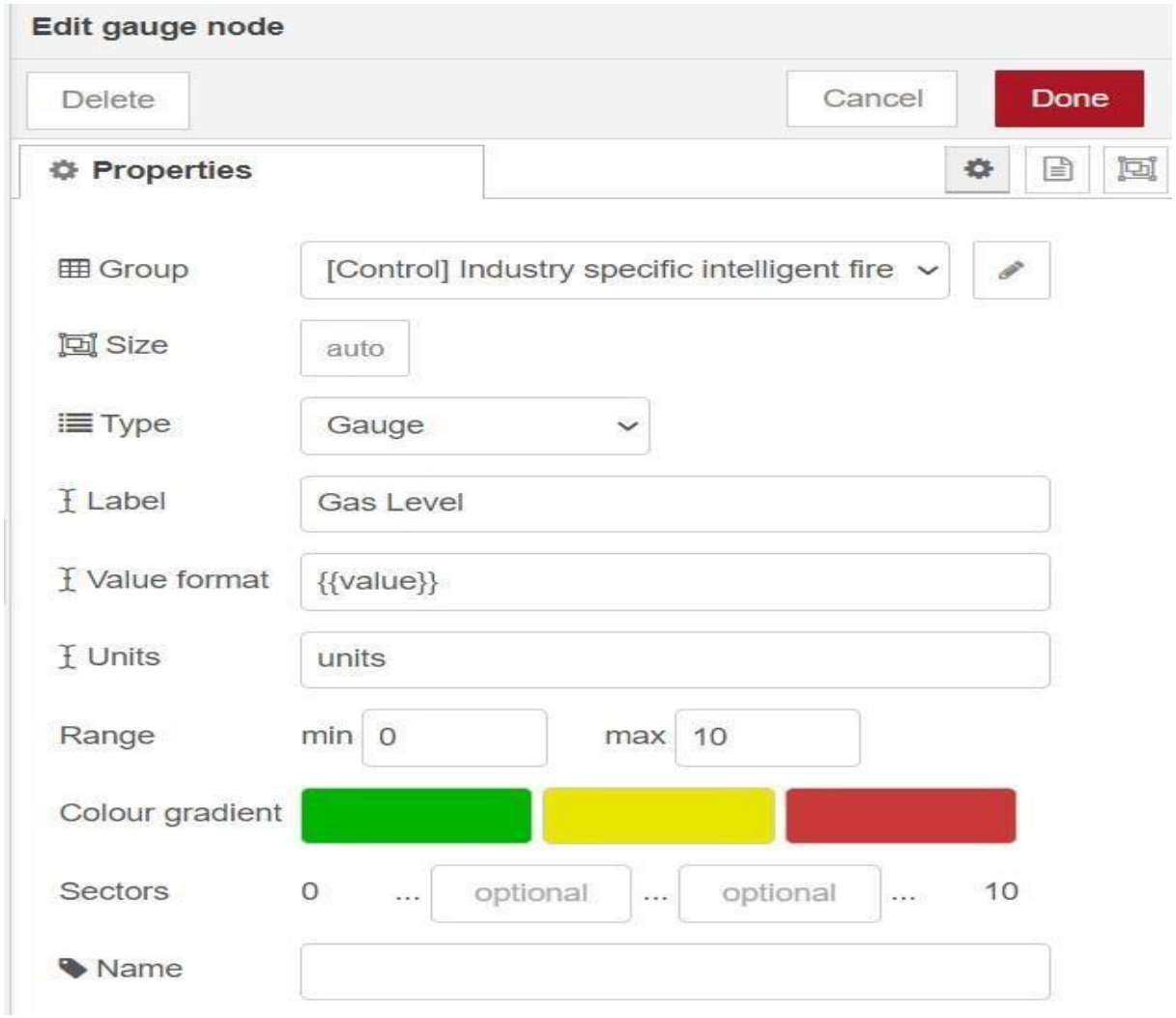


Fig 9 - Properties of Gas Level Gauge.

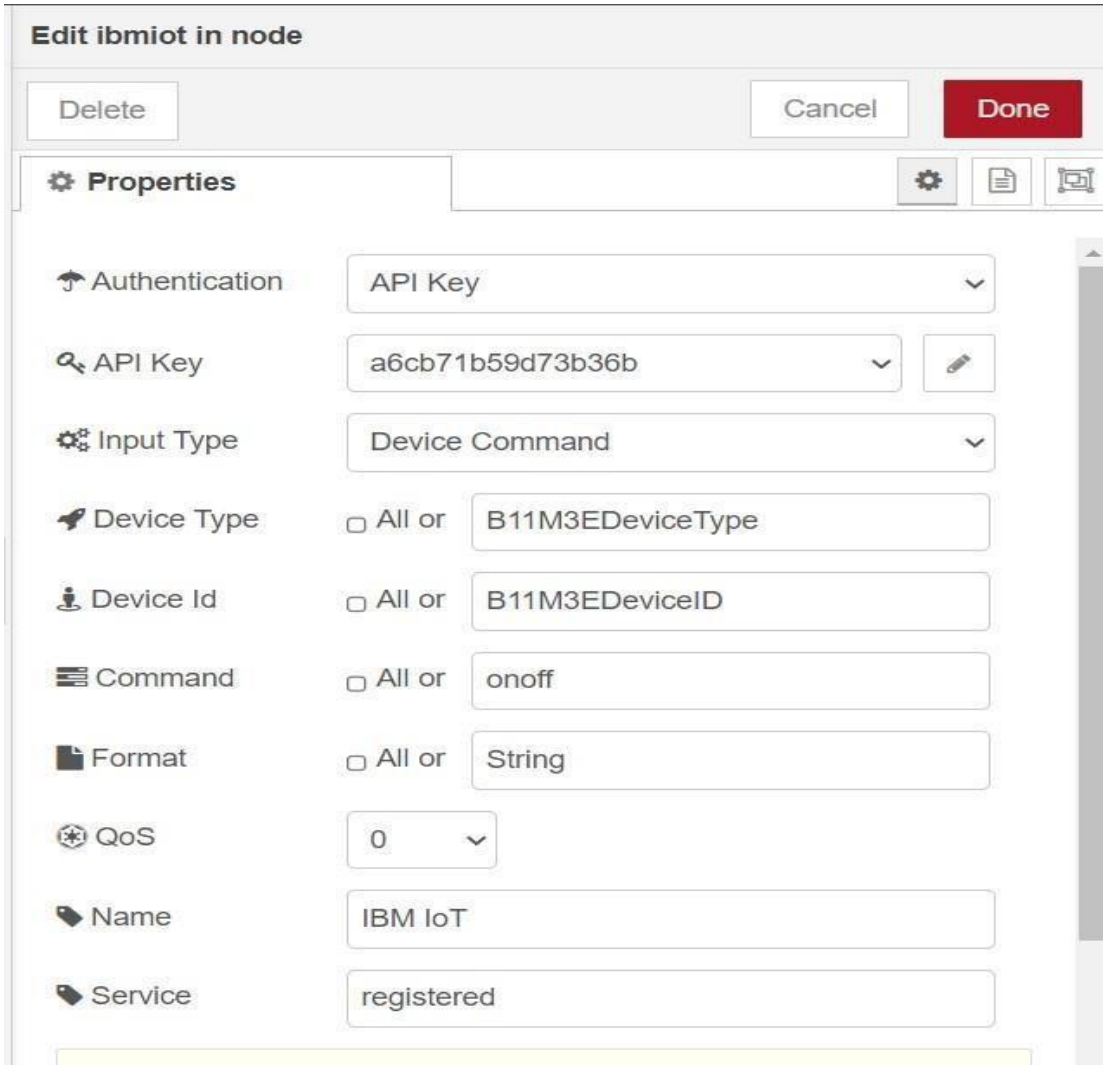


Fig 9 - Properties of IBM IOT Node.

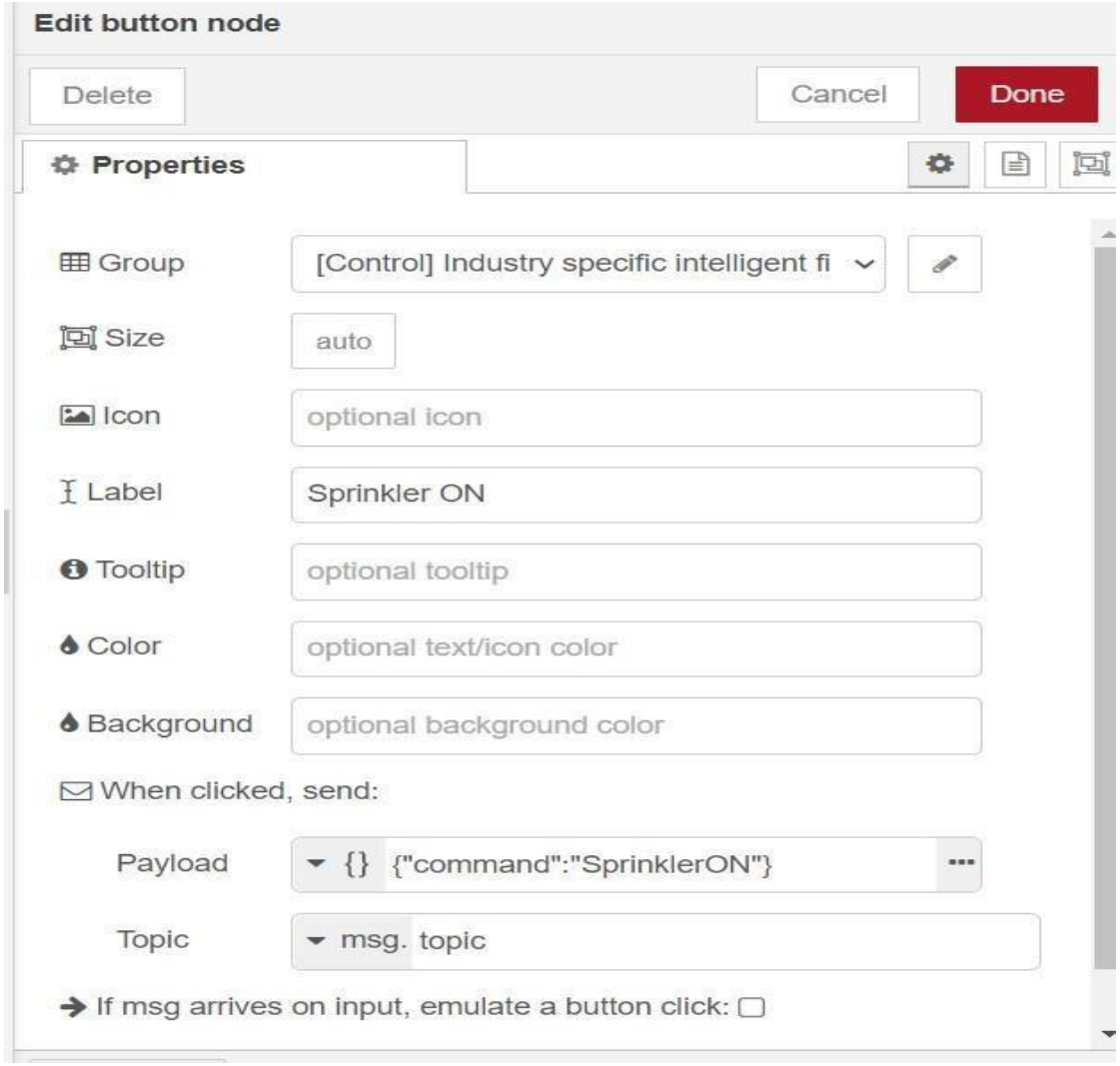


Fig 10 - Properties of Sprinkler ON button node.

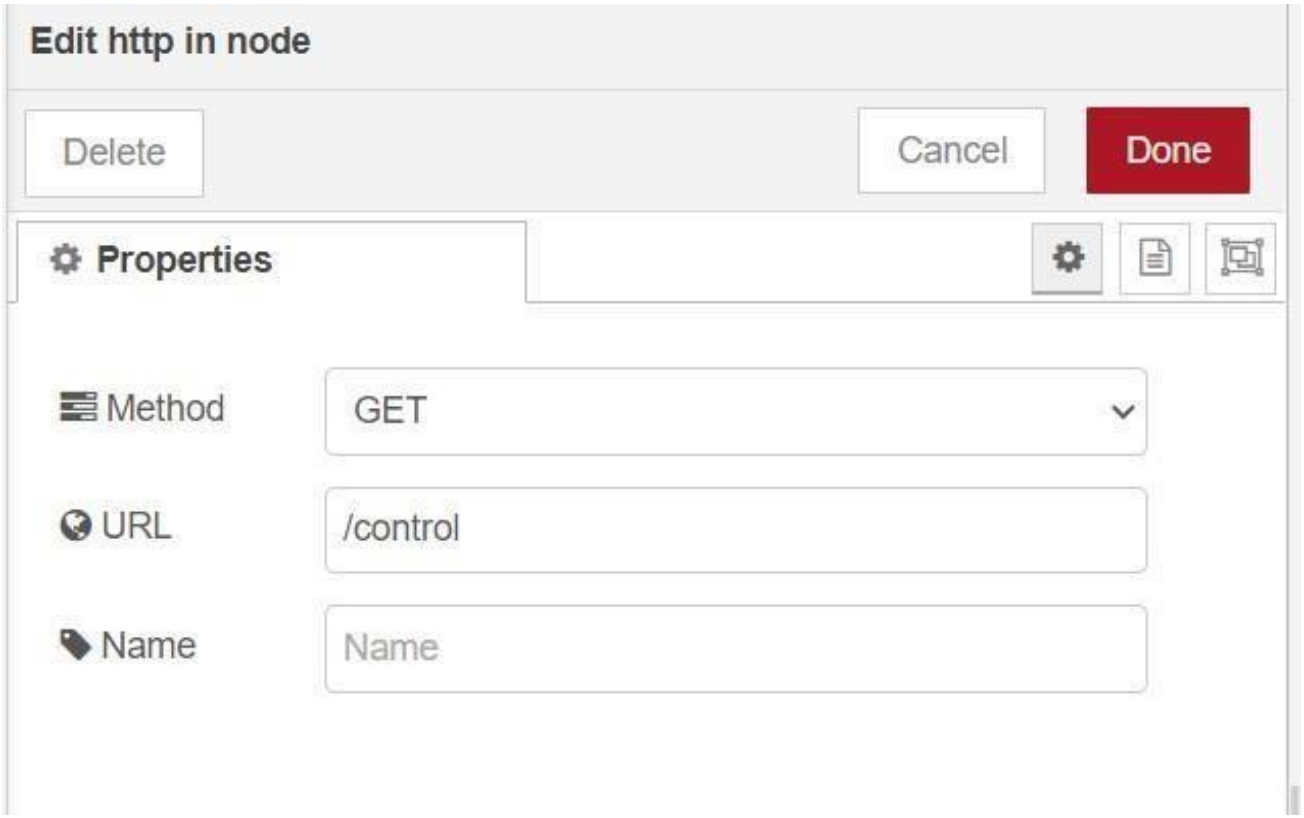


Fig 10 - Properties of HTTP Node with method GET and URL /control,

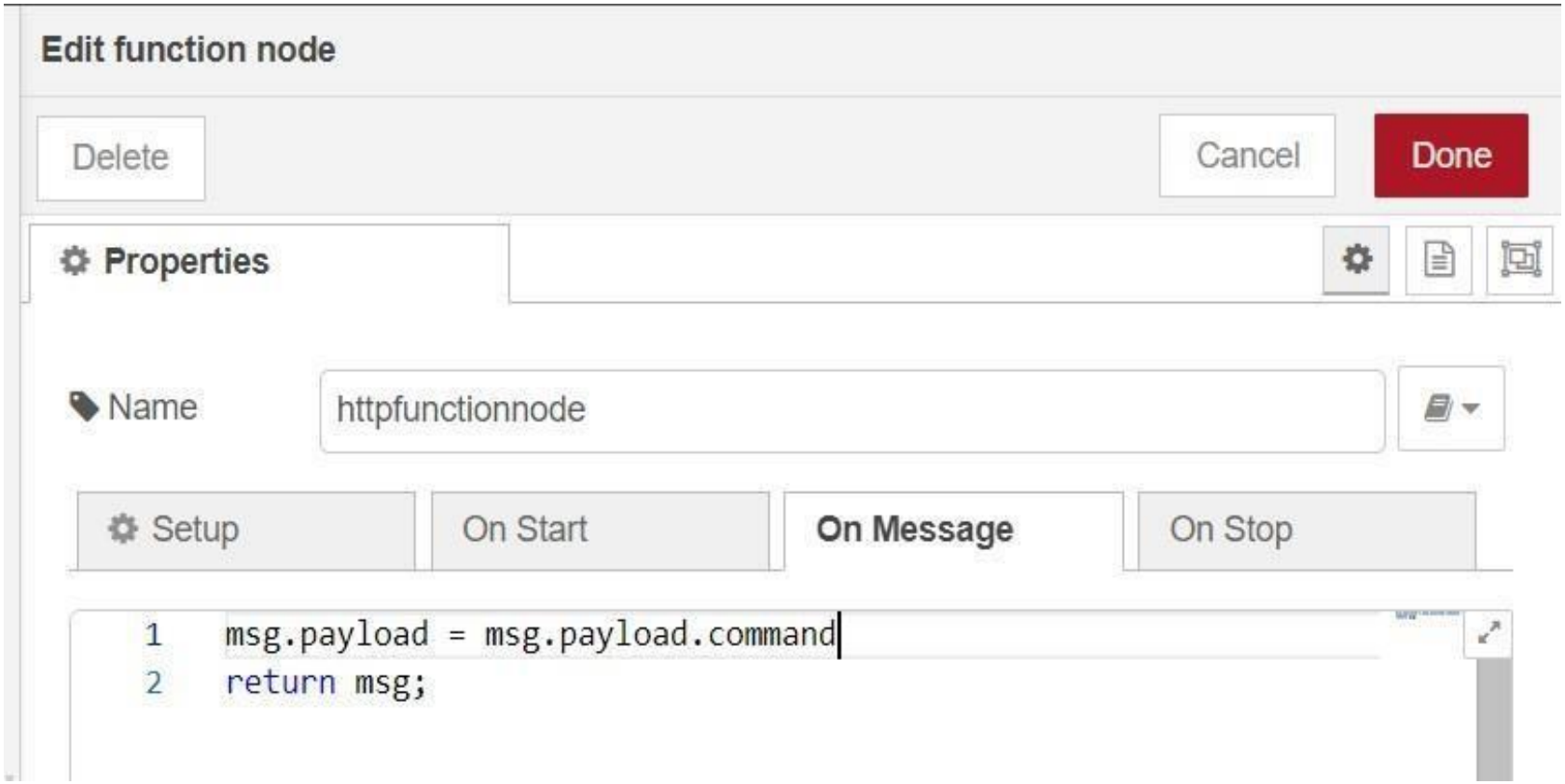
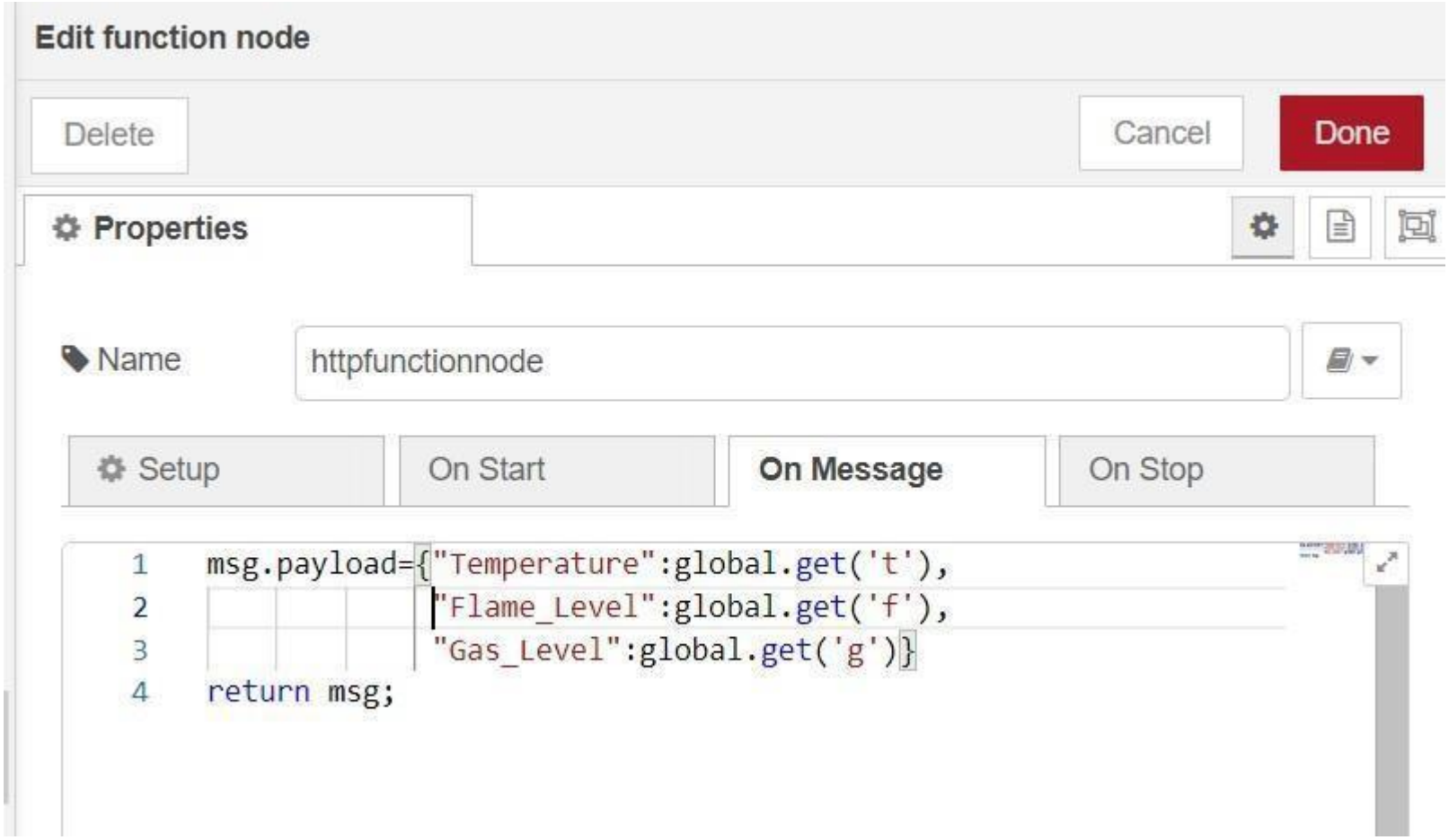
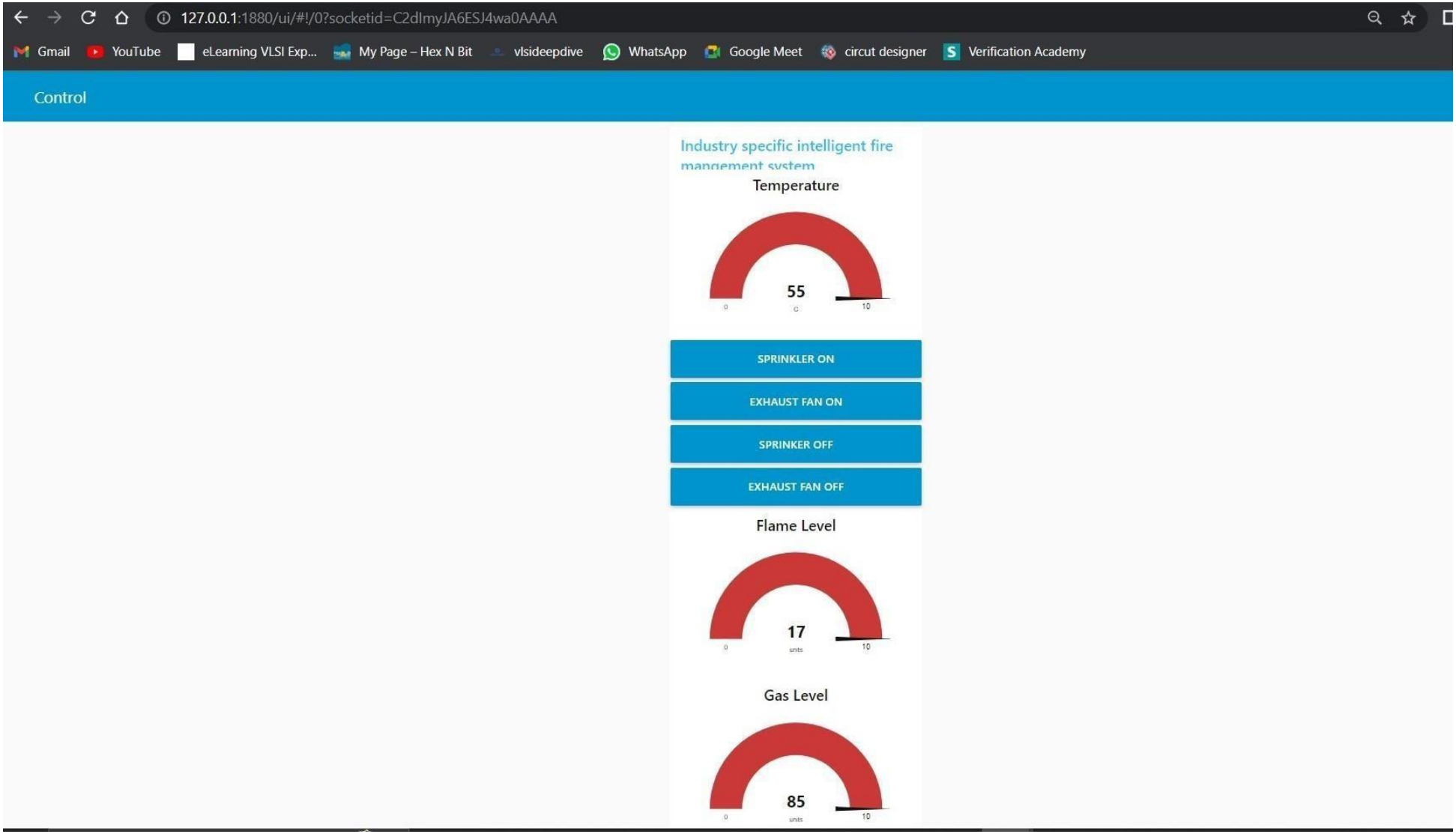


Fig 11 - Properties of Control HTTP Function Node.




127.0.0.1:1880/ui/#!/0?socketid=C2dImyJA6ESJ4wa0AAAA
Gmail
YouTube
eLearning VLSI Exp...
My Page – Hex N Bit
vlsideepdive
WhatsApp
Google Meet
circut designer
Verification Academy
Control
Industry specific intelligent fire
Temperature
55
0
10
SPRINKLER ON
EXHAUST FAN ON
SPRINKER OFF
EXHAUST FAN OFF
Flame Level
17
0
10
Gas Level
85
0
10

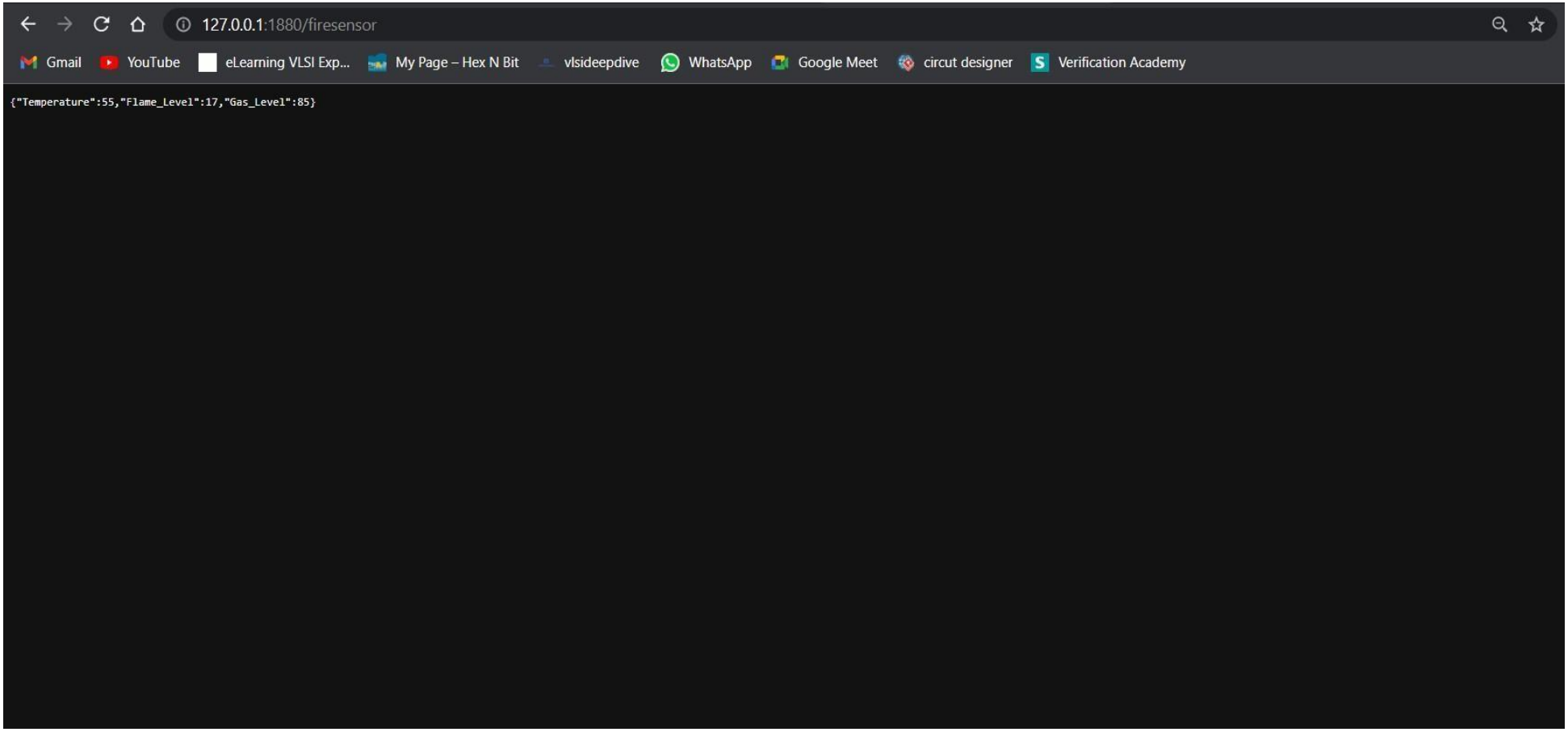

127.0.0.1:1880/firesensor
Gmail
YouTube
eLearning VLSI Exp...
My Page – Hex N Bit
vlsideepdive
WhatsApp
Google Meet
circut designer
Verification Academy
{"Temperature":55,"Flame_Level":17,"Gas_Level":85}

Fig 12 - Properties of Monitor HTTP Function Node

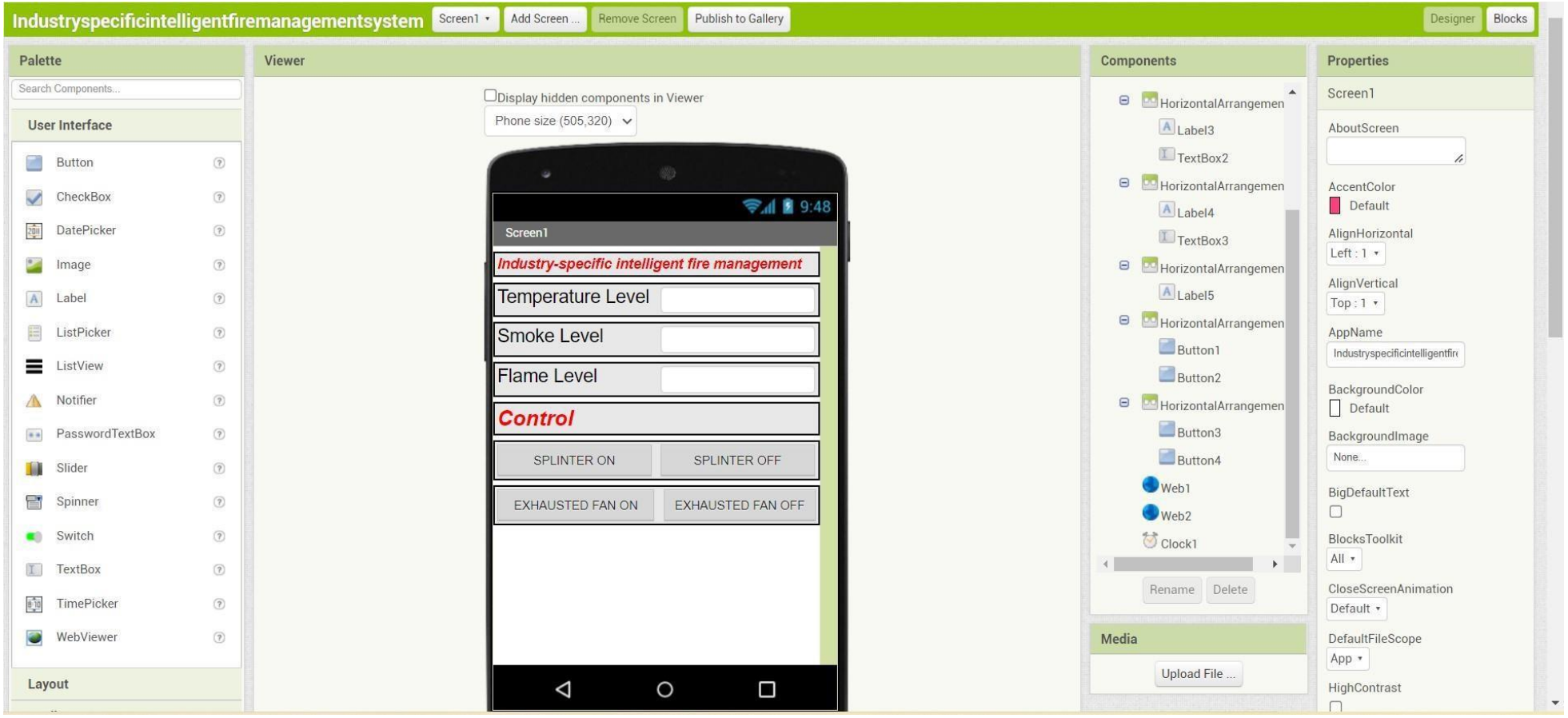


Fig 13 - Front-end APP for our project, to display the Temperature Level, Smoke Level and Flame Level with control buttons like Sprinkler ON and OFF and ExhaustFan ON and OFF