

Sprint - 2

Date	04 November 2022
Team ID	PNT2022TMID50096
Project Name	Project - Industry-specific intelligent fire management system
Maximum Marks	20 marks

Sprint-2	US-1	Configure the connection security and create API keys that are used in the Node-RED service for accessing the IBM IoT Platform.	10	High	Sneha K, Thanalakshmi M
Sprint-2	US-2	Create a Node-RED service.	10	High	Ramya R, Santhiya V

US-1 Configure the connection security and create API keys that are used in the Node-RED service for accessing the IBM IoT Platform.

US-2 Create a Node-RED service.

US-1 Configure the connection security and create API keys that are used in the Node-RED service for accessing the IBM IoT Platform.

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-4aqwut-gahbbnkql5 

Authentication Token dtAhr+HB3E-xIpbAgZ 



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.

API Key Information

Description -

Role Standard Application

Expires Never

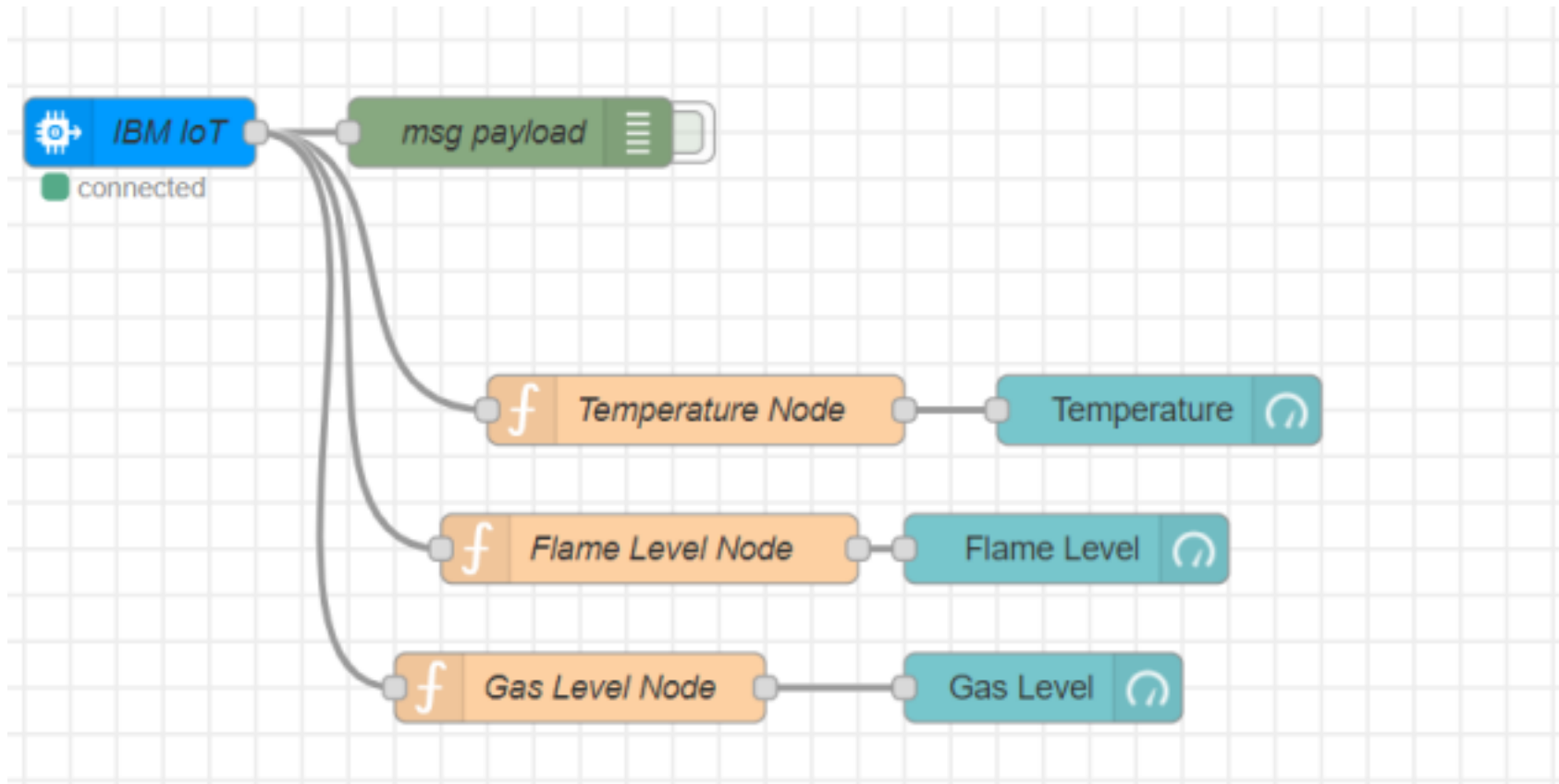


fig1 - Monitoring the sensor values - Temperature, Flame Level, Gas Level. These values are randomly generated by IBM WATSON IOT PLATFORM.

```
11/3/2022, 9:04:47 AM  node: msg payload
iot-2/type/B11M3EDeviceType/id/B11M3EDeviceID/evt/event_1/fmt/json : msg.payload : Object
  ▶ { Temperature: 1, Flame_Level: 62, Gas_Level: 38 }

11/3/2022, 9:04:50 AM  node: msg payload
iot-2/type/B11M3EDeviceType/id/B11M3EDeviceID/evt/event_1/fmt/json : msg.payload : Object
  ▶ { Temperature: 1, Flame_Level: 78, Gas_Level: 11 }

11/3/2022, 9:04:53 AM  node: msg payload
iot-2/type/B11M3EDeviceType/id/B11M3EDeviceID/evt/event_1/fmt/json : msg.payload : Object
  ▶ { Temperature: 99, Flame_Level: 36, Gas_Level: 55 }

11/3/2022, 9:04:56 AM  node: msg payload
iot-2/type/B11M3EDeviceType/id/B11M3EDeviceID/evt/event_1/fmt/json : msg.payload : Object
  ▶ { Temperature: 71, Flame_Level: 24, Gas_Level: 46 }

11/3/2022, 9:05:00 AM  node: msg payload
iot-2/type/B11M3EDeviceType/id/B11M3EDeviceID/evt/event_1/fmt/json : msg.payload : Object
  ▶ { Temperature: 38, Flame_Level: 92, Gas_Level: 63 }

11/3/2022, 9:05:03 AM  node: msg payload
iot-2/type/B11M3EDeviceType/id/B11M3EDeviceID/evt/event_1/fmt/json : msg.payload : Object
  ▶ { Temperature: 74, Flame_Level: 98, Gas_Level: 84 }

11/3/2022, 9:05:06 AM  node: msg payload
iot-2/type/B11M3EDeviceType/id/B11M3EDeviceID/evt/event_1/fmt/json : msg.payload : Object
  ▶ { Temperature: 87, Flame_Level: 81, Gas_Level: 44 }
```

Fig 2 - Temperature, Flame_Level, Gas_Level values displayed in deploy tab in node-red

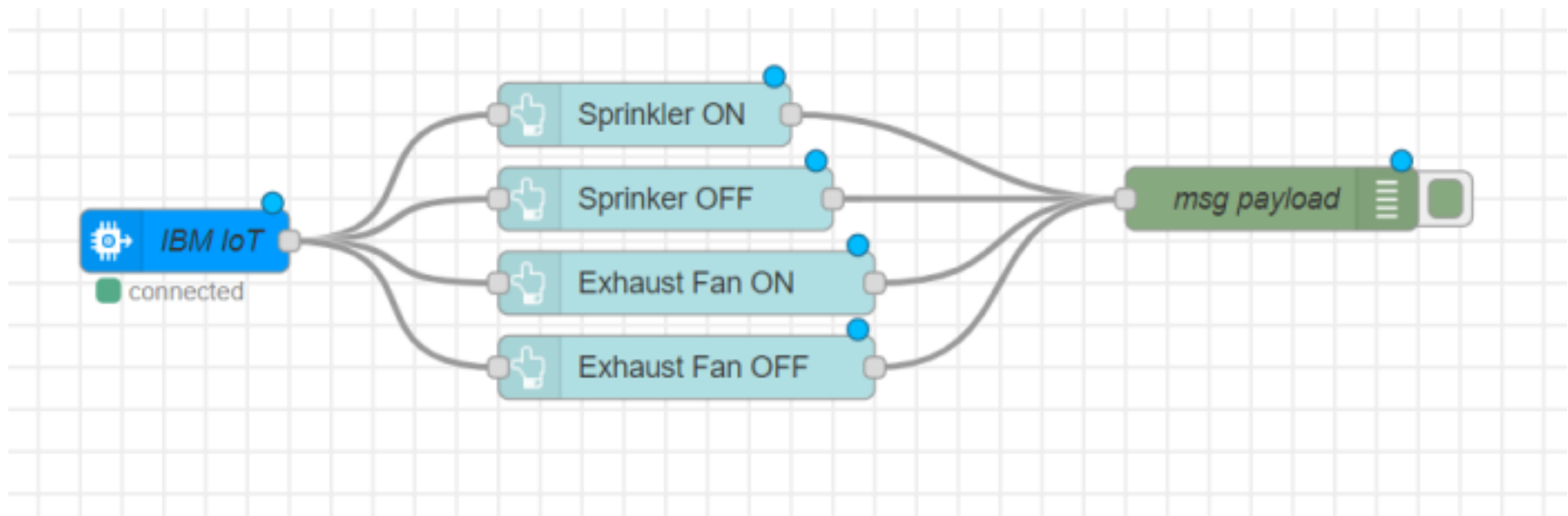


fig 3 - Control buttons (Sprinkler ON, Sprinkler OFF, Exhaust Fan ON, Exhaust Fan OFF)

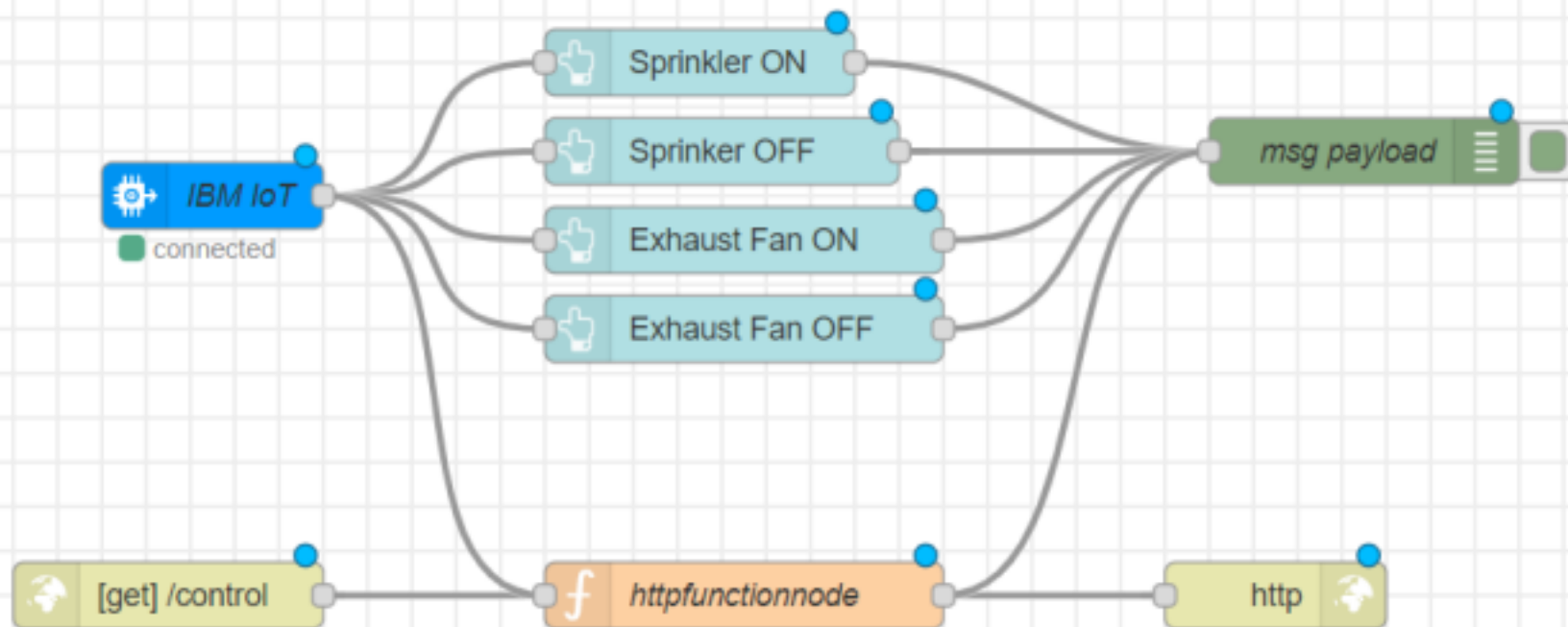


Fig 4 - Using HTTP in and HTTP response in network option, <http://127.0.0.1:1880/#flow/f74f1b96473dc208/control> will display the control options



Fig 5 - Using HTTP in and HTTP response in network option, <http://127.0.0.1:1880/#flow/f74f1b96473dc208/firesensor> will display the sensor values

like Temperature, Gas_Level and Flame_Level from the IBM WATSON IOT PLATFORM.

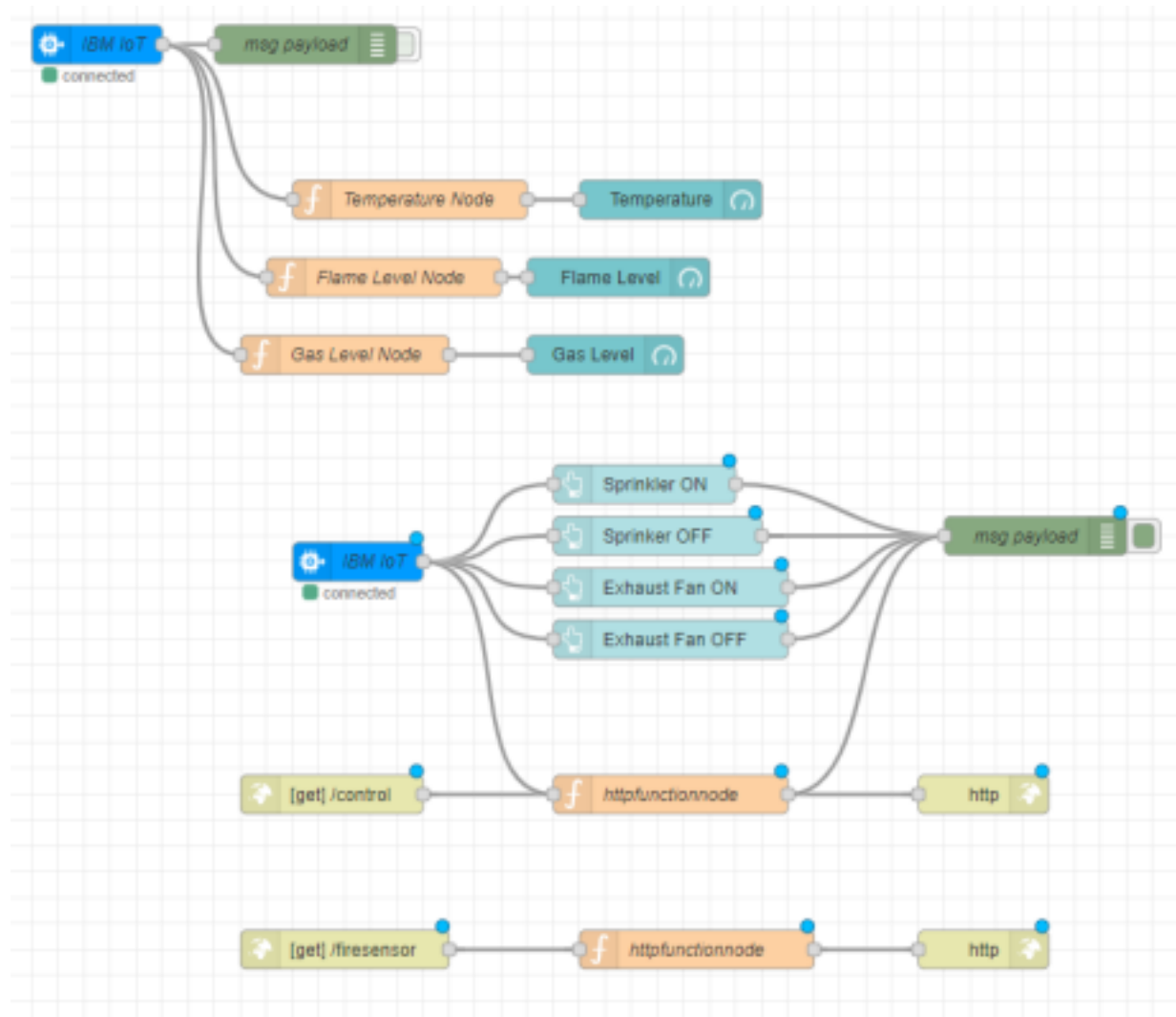


Fig 6 - Entire Node-Red connection for our project

Edit ibmiot in node

Delete Cancel Done

Properties

Authentication API Key

API Key a6cb71b59d73b36b

Input Type Device Event

Device Type ☐ All or B11M3EDeviceType

Device Id ☐ All or B11M3EDeviceID

Event ☒ All or +

Format ☐ All or json

QoS 0

Name IBM IoT

Service registered

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

Edit function node

Delete Cancel Done

⚙️ **Properties** ⚙️ 📄 🖨️

🖱️ Name Temperature Node 📄 ▼

⚙️ Setup On Start **On Message** On Stop

```
1 msg.payload = msg.payload.Temperature
2 global.set('t',msg.payload)
3 return msg;
```

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;
```

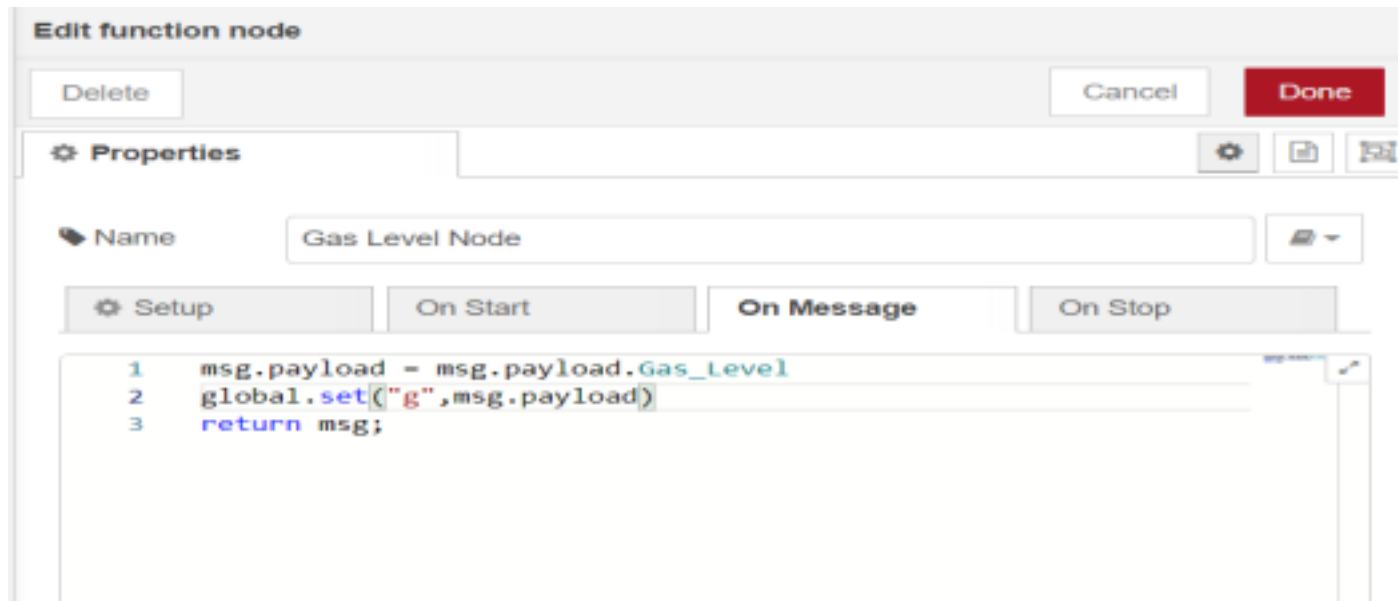


Fig 8 - Properties of Function Node -Temperature Node, Flame_Level Node, Gas_Level Node.

Edit gauge node

Delete

Cancel

Done

⚙ Properties

⚙

📄

🖼

📊 Group

[Control] Industry specific intelligent fire

✎

📏 Size

auto

☰ Type

Gauge

▼

🏷 Label

Temperature

🏷 Value format

{{value}}

🏷 Units

C

Range

min

0

max

10

Colour gradient

Sectors

0

...

optional

...

optional

...

10

🏷 Name

Fig 9 - Properties of Temperature Gauge.

Edit gauge node

Delete

Cancel

Done

Properties

Group

[Control] Industry specific intelligent fire

Size

auto

Type

Gauge

Label

Flame Level

Value format

{{value}}

Units

units

Range

min

0

max

10

Colour gradient

Sectors

0

...

optional

...

optional

...

10

Name

Fig 9 - Properties of Flame_Level Gauge.

Edit gauge node

Delete

Cancel

Done

⚙ Properties

⚙

📄

🔗

📁 Group

[Control] Industry specific Intelligent fire

✎

📏 Size

auto

☰ Type

Gauge

▼

🏷 Label

Gas Level

🏷 Value format

{{value}}

🏷 Units

units

Range

min

0

max

10

Colour gradient

Sectors

0

...

optional

...

optional

...

10

🏷 Name

Fig 9 - Properties of Gas_Level Gauge.

Edit ibmiot in node

Delete Cancel Done

Properties

Authentication API Key

API Key a6cb71b59d73b36b

Input Type Device Command

Device Type ☐ All or B11M3EDeviceType

Device Id ☐ All or B11M3EDeviceID

Command ☐ All or onoff

Format ☐ All or String

QoS 0

Name IBM IoT

Service registered

Fig 9 - Properties of IBM IOT Node.

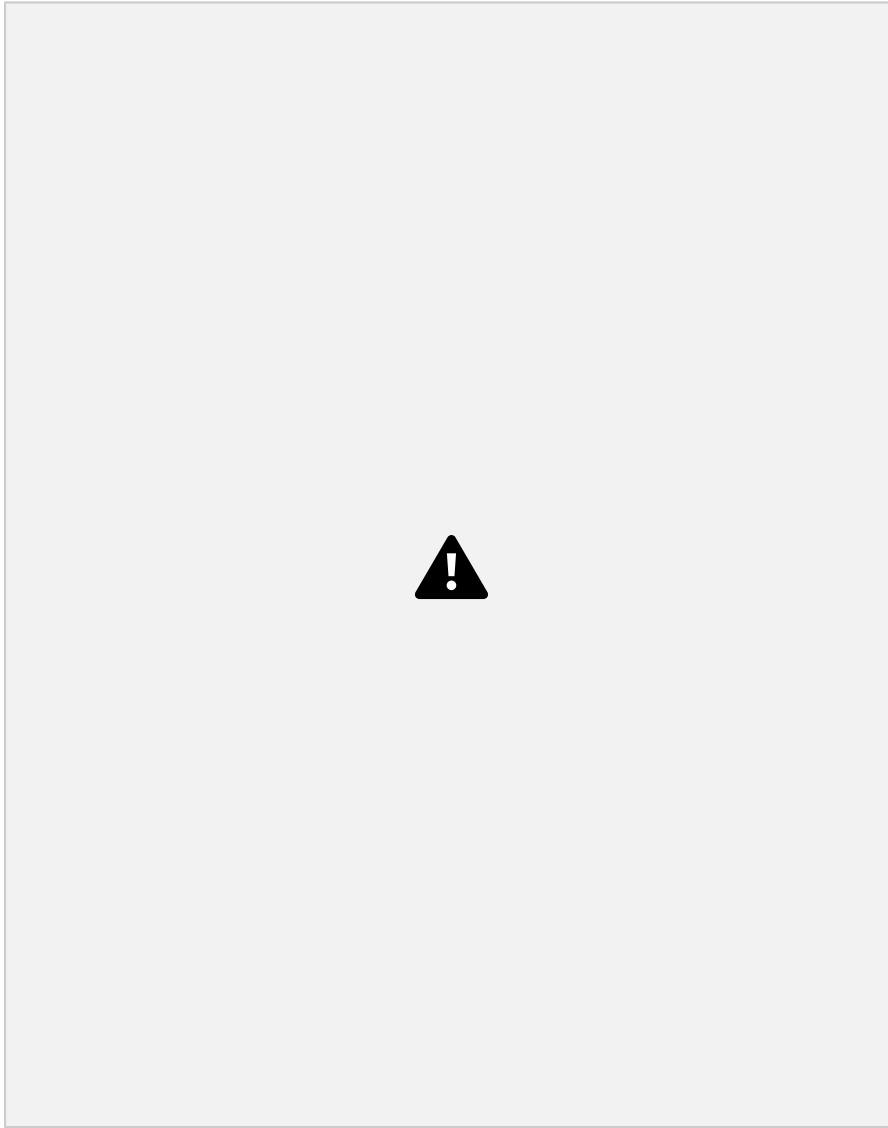


Fig 10 - Properties of Sprinkler ON button node.

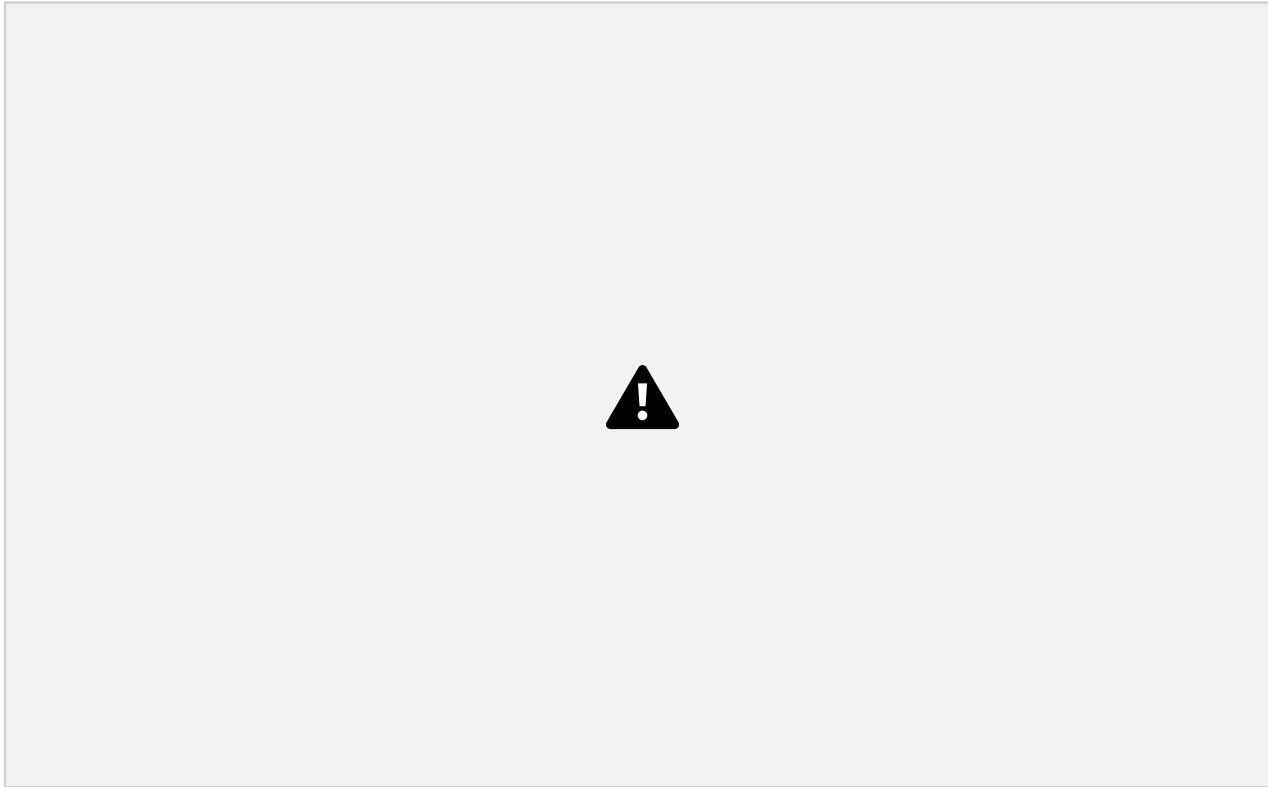


Fig 10 - Properties of HTTP Node with method GET and URL /control,

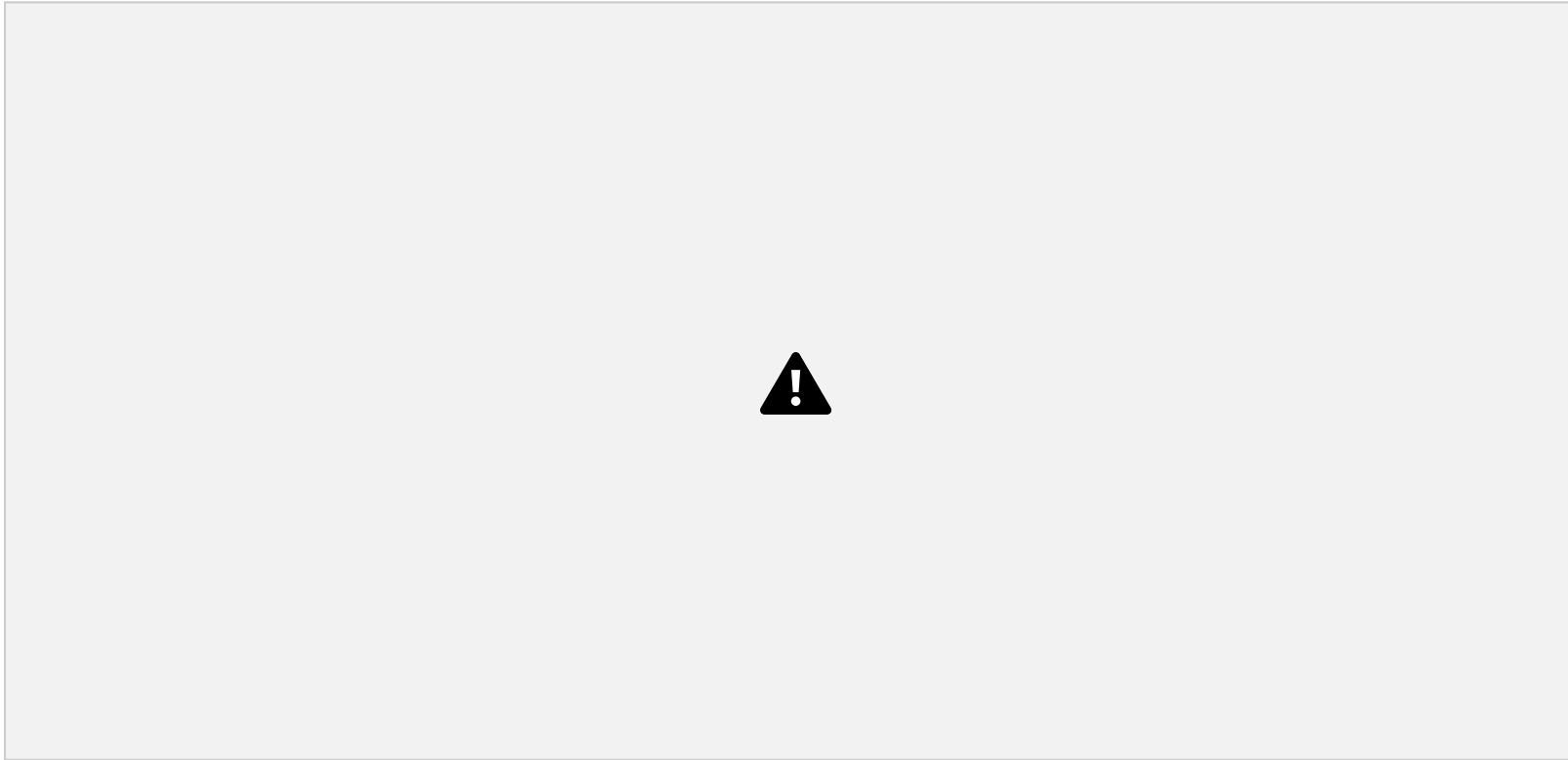


Fig 11 - Properties of Control HTTP Function Node.





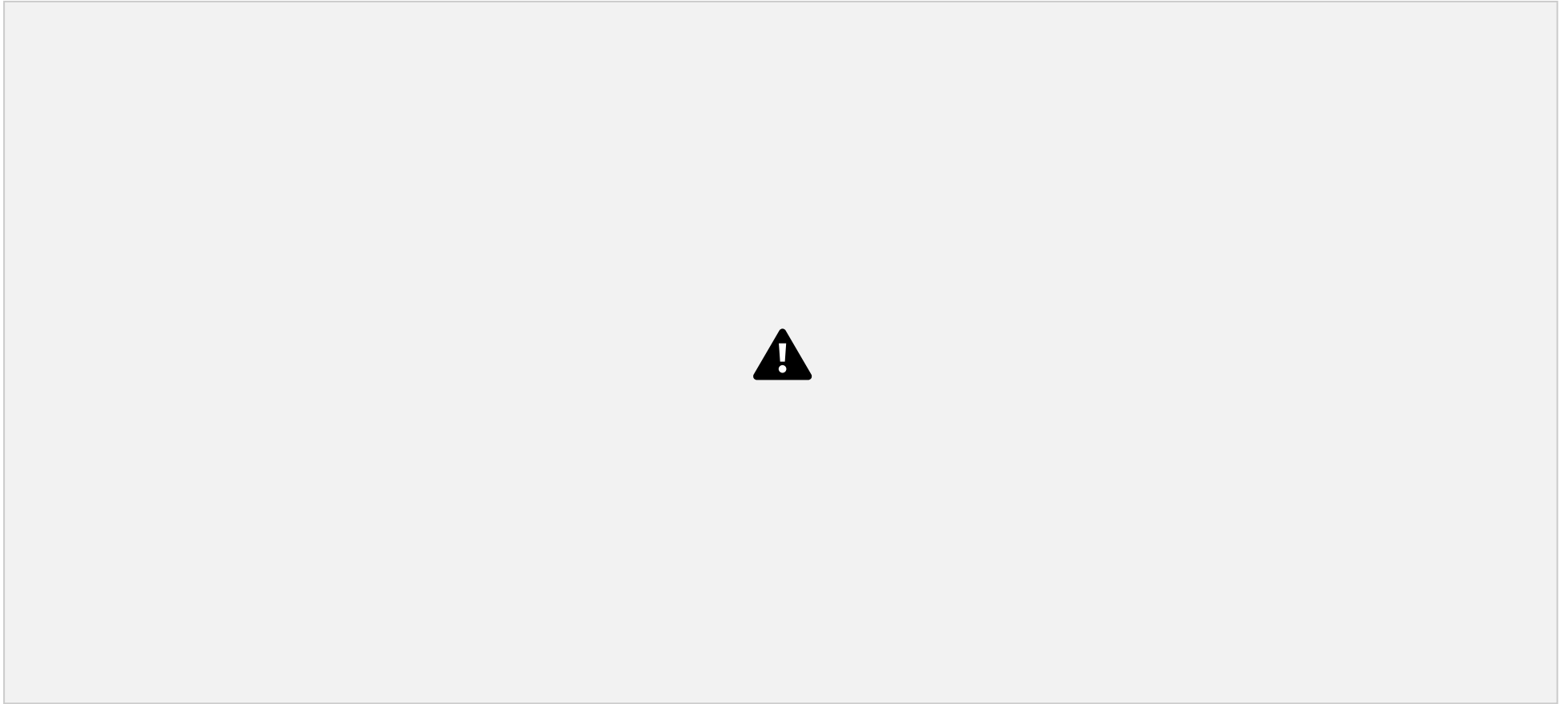


Fig 12 - Properties of Monitor HTTP Function Node

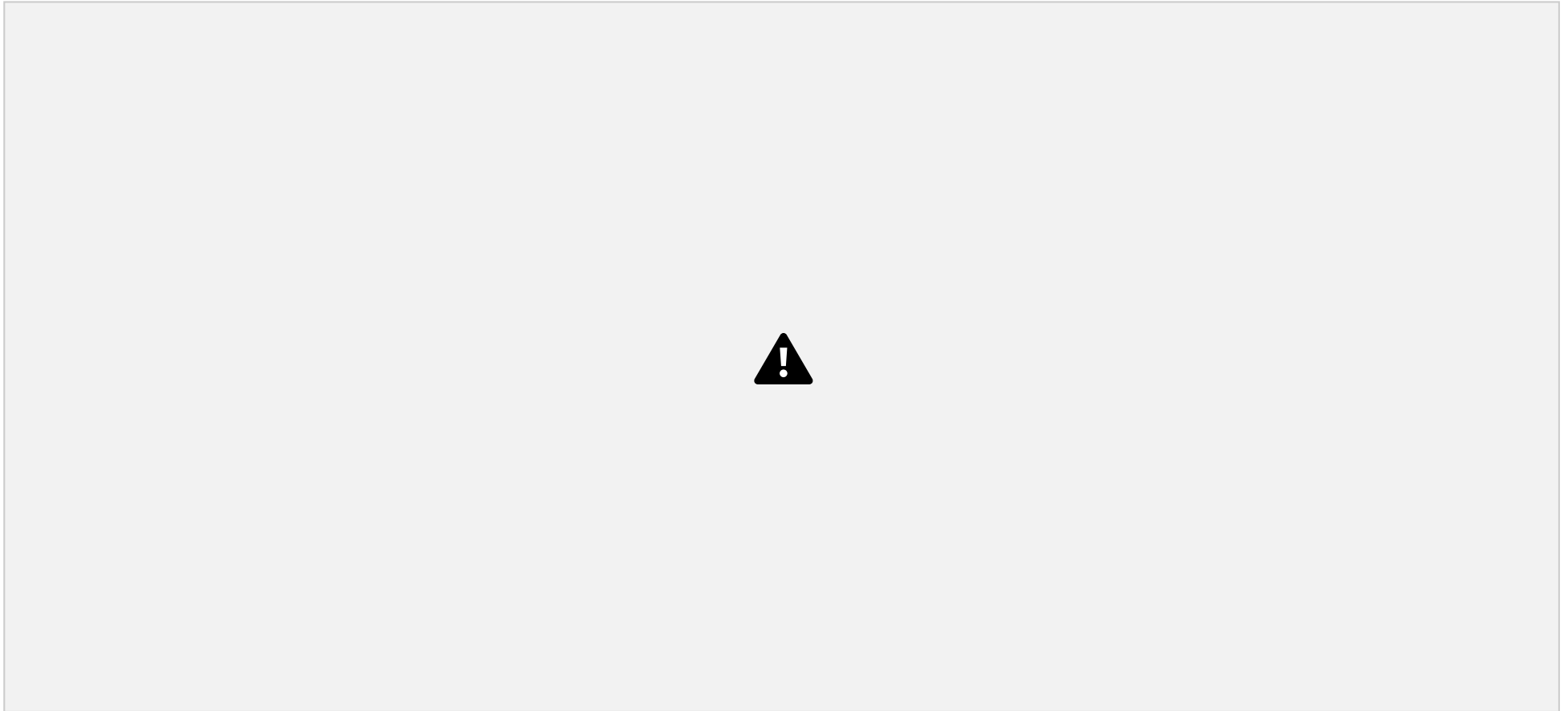


Fig 13 - Front-end APP for our project, to display the Temperature Level, Smoke Level and Flame Level with control buttons like Sprinkler ON and OFF and Exhaust Fan ON and OFF