

S1 Temperature and Humidity Beacon Integration

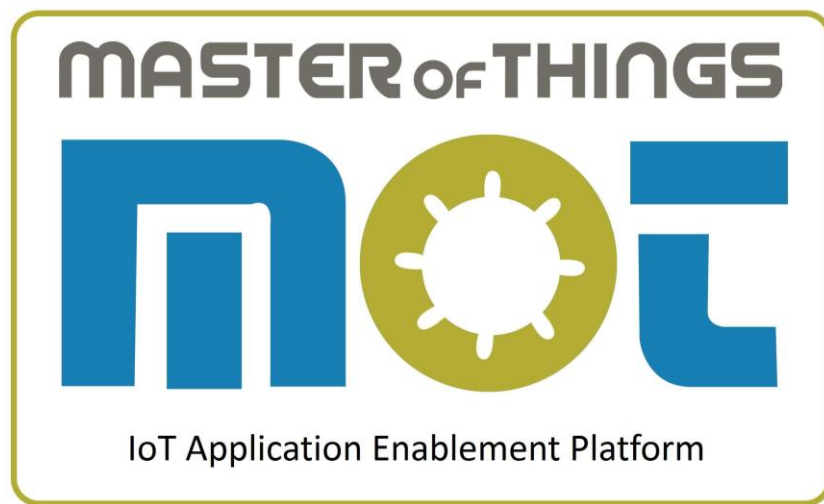




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G1 BLE Gateway Configuration

Configuration

G1 BLE Gateway can be configured through a simple WEB configuration interface. For detailed gateway and network configuration please refer to “**G1_Configuration Guide**” document.

Data Interface

After the G1 gateway is started, BLE broadcast data will be continuously collected by gateway. If the network is available, the data will be sent to the MoT platform by default once every 1 second.

The G1 gateway currently supports the use of MQTT or HTTP network protocols to communicate with cloud servers, and recommend the use of MQTT protocols.

When using MQTT access, the G1 gateway supports the timing of uploading BLE data and remote command control functions, and data formats for G1 gateway uploading to server is the Json array data format.

For detailed MQTT access configuration please refer to “**G1 Data Interface Instruction**” document.

The following settings are the required values in the MQTT access configuration:

- MQTT broker URL: **learning.masterofthings.com**
- Port: **1883**
- User name: **minew_gateway**
- Password: **minew_password**
- Whether to Upload Unknow: **Yes**

MQTT Mapping

Create sensor to receive published data over MQTT from Gateway

Add new sensor with one reading to save Json array that G1 gateway uploads

Example:

Sensor No. **801**

Sensor Name: **Minew GW**

Reading: **GW_Sensors_Data**

Minew G1 Gateway should publish its data over MQTT to this sensor.

Add New Mapping

Sensor

Event

Monitor

Timer

MQTT

MQTT Mapping

List All Mappings

Add New Mapping

MQTT Broker

Application

MQTT Mapping

1

SELECT SENSOR

2

SELECT SENSOR READING, SELECT MQTT BROKER, SET THE MAPPING PARAMETERS

SELECT SENSOR

Select Your Sensor From List Of sensors

Show

10

entries

Search:

801

Sensor	Sensor Name	Sensor ID	Location
	Minew GW	801	SpimeSenseLabs

Showing 1 to 1 of 1 entries (filtered from 82 total entries)

[Previous](#)
[Next](#)

Next

- 1- In SMI, Select MQTT Mapping from left menu
- 2- Select Add New Mapping
- 3- Find sensor 801
- 4- Click Next

Sensor

Event

Monitor

Timer

MQTT

MQTT Mapping

List All Mappings

Add New Mapping

MQTT Broker

Application

Mqtt Mapping

1

SELECT SENSOR

2

SELECT SENSOR READING, SELECT MQTT BROKER, SET THE MAPPING PARAMETERS

SELECT SENSOR READING, SELECT MQTT BROKER, SET THE MAPPING PARAMETERS

PARAMETERS

Select one or more sensors reading to map, select MQTT Broker to every Reading, Set The

Mapping Parameters

Search:

Reading	Reading Name	Broker	Topic
<input type="checkbox"/>	GW_Sensors_Data	Select Broker Name	Topic
Reading	Reading Name	Broker	Topic

Showing 1 to 1 of 1 entries

Previous

Submit

5- Select reading “ex: **GW_Sensor_Data**”

6- Select Broker

7- Type the topic used by gateway to publish BLE data

Default value: **/gw/\${gatewayMac}/status** where \${gatewayMAC} is for the gateway's Mac in the hexadecimal lowercase character form, such as **/gw/aabbccddeeff/status**.

8- Click submit

9- Click List All Mappings in SMI left menu to check created mapping

Sensor

Event

Monitor

Timer

MQTT

MQTT Mapping

List All Mappings

Add New Mapping

MQTT Broker

List Mqtt Mapping

Show entries

Search:

SensorId	Topic	Reading Name	BrokerName	Action
801	/gw/ac233fc016e3/status	GW_Sensors_Data	Beta	
801	/gw/ac233fc0375a/status	GW_Sensors_Data	Beta	
SensorId	Topic	Reading Name	BrokerName	Action

Showing 1 to 2 of 2 entries

Previous

Next



Sample of Data Received from G1 BLE Gateway

All Minew Gateway received data as one reading: Sensorid 801

Show 10 entries

#	TimeStamp	GW_Sensors_Data
1	27/11/2019, 10:49:57 am	[{"timestamp":"2019-11-23T17:07:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.17}, {"timestamp":"2019-11-23T17:07:19Z","type":"
2	27/11/2019, 10:48:55 am	[{"timestamp":"2019-11-23T17:06:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.17}, {"timestamp":"2019-11-23T17:06:19Z","type":"
3	27/11/2019, 10:47:56 am	[{"timestamp":"2019-11-23T17:05:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.16}, {"timestamp":"2019-11-23T17:05:19Z","type":"
4	27/11/2019, 10:46:57 am	[{"timestamp":"2019-11-23T17:04:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.15}, {"timestamp":"2019-11-23T17:04:19Z","type":"
5	27/11/2019, 10:45:56 am	[{"timestamp":"2019-11-23T17:03:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.14}, {"timestamp":"2019-11-23T17:03:19Z","type":"
6	27/11/2019, 10:44:56 am	[{"timestamp":"2019-11-23T17:02:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.14}, {"timestamp":"2019-11-23T17:02:19Z","type":"
7	27/11/2019, 10:43:55 am	[{"timestamp":"2019-11-23T17:01:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.14}, {"timestamp":"2019-11-23T17:01:19Z","type":"
8	27/11/2019, 10:42:54 am	[{"timestamp":"2019-11-23T17:00:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.14}, {"timestamp":"2019-11-23T17:00:19Z","type":"
9	27/11/2019, 10:41:54 am	[{"timestamp":"2019-11-23T16:59:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.14}, {"timestamp":"2019-11-23T16:59:19Z","type":"
10	27/11/2019, 10:40:54 am	[{"timestamp":"2019-11-23T16:58:19Z","type":"Gateway","mac":"AC233FC0375A","gatewayFree":87,"gatewayLoad":1.15}, {"timestamp":"2019-11-23T16:58:19Z","type":"

Showing 1 to 10 of 1,000 entries

```
[{"timestamp":"2019-07-28T16:15:51Z","type":"Gateway","mac":"AC233FC016E3","gatewayFree":97,"gatewayLoad":0.57},{
"timestamp":"2019-07-28T16:15:52Z","type":"Unknown","mac":"75461F810AF6","bleName":"","rssi":-82,"rawData":"1EFF060001092002318A0C750C26EC0F152E6C987A0437280FB479956FC8EA"},{"timestamp":"2019-07-28T16:15:52Z","type":"Unknown","mac":"AC233F264A2B","bleName":"","rssi":-28,"rawData":"0201060303AAFE1516AAFE00E800112233445566778899ABCDEFAC0328"},{"timestamp":"2019-07-28T16:15:52Z","type":"Unknown","mac":"AC233F267E51","bleName":"","rssi":-25,"rawData":"0201060303AAFE1016AAFE10E8006D696E65777465636800"},{"timestamp":"2019-07-28T16:15:52Z","type":"Unknown","mac":"AC233FA08F09","bleName":"","rssi":-44,"rawData":""}, {"timestamp":"2019-07-28T16:15:52Z","type":"Unknown","mac":"AC233FA09058","bleName":"","rssi":-36,"rawData":"0201060303E1FF0D16E1FFA10264015890A03F23AC"}, {"timestamp":"2019-07-28T16:15:51Z","type":"Unknown","mac":"AC233FA0914E","bleName":"","rssi":-42,"rawData":"0201060303E1FF0D16E1FFA10264004E91A03F23AC"}]
```

Create Monitor to Enrich Generic Sensor

Create Generic Sensor

Add New Sensor with the following readings:

- gatewayLoad
- gatewayFree
- rawData
- humidity
- temperature
- battery
- rssi
- bleName
- mac
- type
- ibeaconUuid

Add New Monitor

SELECT SENSOR

Select Your Sensor From List Of sensors

Show 10 entries Search: 801

Sensor	Sensor Id	Sensor Name	Sensor Code	Location
Ⓢ	801	Minew CW	123	SpimeSenseLabs

Showing 1 to 1 of 1 entries (filtered from 82 total entries)

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[Next](#)

- 1- In SMI, Select Add New Monitor
- 2- Select **Minew GW** Sensor
- 3- Click Next

Sensor

Event

Monitor

Timer

MQTT

Application

Add Monitor

1

SELECT SENSOR

2

SELECT SENSOR READING

3

SELECT EVENT

4

SET VALUE

List All Monitors

Add New Monitor

Replay Events

Showing 1 to 1 of 1 entries

Previous

Next

SENSOR READING

Select sensors reading to monitor

Search:

Reading	Reading Name
<input checked="" type="radio"/>	CW_Sensors_Data

Showing 1 to 1 of 1 entries

Previous

Next

4- Select sensor reading to monitor

5- Select Event Enrich from JSON

Add New Monitor

Replay Events

Timer

MQTT

Application

SELECT EVENT

Search:

Event	Event Name	Event Type
<input type="radio"/>	Data Missing Alarm	Alarm
<input type="radio"/>	Technical Alarm	Alarm
<input type="radio"/>	Email	Email
<input type="radio"/>	Mqtt Publish	Mqtt Publish
<input type="radio"/>	Reset Timer	Reset Timer
<input type="radio"/>	Forward Sensor Data	Forward Sensor Data
<input type="radio"/>	MOT Enrichment	MOT Enrichment
<input type="radio"/>	Call Web Service	Call Web Service
<input checked="" type="radio"/>	Enrich From JSON	Enrich From JSON
<input type="radio"/>	Forward To App	Forward To App
<input type="radio"/>	New MQTT Publish	Mqtt Publish
<input type="radio"/>	Call Navori Service	Call Navori Service

Showing 1 to 12 of 12 entries

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Next

- 6- Type monitor name
- 7- Select *any value* in Condition
- 8- Type the reading of Minew GW sensor in SourceReading
- 9- Type the destination Generic Sensor id in SensorIdsGiven
- 10- ExtraParameter for mapping destination sensor readings to Json Keys is:
"type,type,mac,mac,bleName,bleName,rsi,rsi,battery,battery,temperature,temperature,humidity,humidity,rawData,rawData,gatewayFree,gatewayFree,gatewayLoad,gatewayLoad,i beaconUuid,i beaconUuid"

Monitor to Enrich Minew Generic Sensor

Condition

any value

Value

Value

sourceReading

GW_Sensors_Data

SensorIdsGiven

no

SensorId

802

SensorIdField

ExtraParameter

type,type,mac,mac,bleName,bleName,rsi,rsi,battery,battery,temperature,temperature,i

Host

Port

DriverManagerId

1

DriverManagerPassword

123

Submit



Sample of Generic Sensor Data

Minew Generic: Sensord 002. It contains a reading "type" that identifies the sensor type. If reading "type" contains S1 then it is a temperature sensor and it can be captured by a monitored event to enrich another sensor for temperature and humidity

#	Time Stamp	type	mac	bleName	rssi	battery	temperature	humidity	rawData	gatewayFree	gatewayLoad	ibeaconUuid
1	27/11/2019, 10:50:43 am	iBeacon	AC233FA05B9E		-70	0	0	0	0201060303AAFE1016AAFE10E3006D696E5777465636800	0	0	E2C56DB5DFFB48D2B06D0F5A71098E0
2	27/11/2019, 10:50:43 am	Unknown	AC233FA05BD6		-44	0	0	0	0201060303E1FF1216E1FFA103640100FF100009E5BA03F23AC	0	0	
3	27/11/2019, 10:50:43 am	iBeacon	AC233FA05BD6		-44	0	0	0	0201060303AAFE1516AAFE00E80011233445566778899ABCDEFB01AB	0	0	
4	27/11/2019, 10:50:43 am	Unknown	AC233FA05B9E		-71	0	0	0	0201060303E1FF1216E1FFA103640100FF100009E5BA03F23AC	0	0	
5	27/11/2019, 10:50:43 am	S1	AC233FA05B99		-60	100	22.48	36.95		0	0	
6	27/11/2019, 10:50:43 am	Unknown	AC233FA05BD6		-44	0	0	0	0201060303E1FF1216E1FFA103640100FF100009E5BA03F23AC	0	0	
7	27/11/2019, 10:50:43 am	S1	AC233FA05BD6		-59	100	23.04	38.1		0	0	
8	27/11/2019, 10:50:43 am	Unknown	AC233FA05B99		-58	0	0	0	0201060303AAFE1516AAFE00E80011233445566778899ABCDEFB01AB	0	0	
9	27/11/2019, 10:50:42 am	iBeacon	AC233FA05B9E		-70	0	0	0		0	0	E2C56DB5DFFB48D2B06D0F5A71098E0
10	27/11/2019, 10:50:42 am	Unknown	AC233FA05B99		-57	0	0	0	0201060303E1FF1216E1FFA103640100FF100009E5BA03F23AC	0	0	

Showing 1 to 10 of 1,000 entries

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For more details about Enrich from Json Event in MoT, please refer to “**Master of Things Events and Monitors User Manual**” document

Create Forward Sensor Data Monitor

The following four data types are available in the format of the Json array that G1 gateway uploads:

iBeacon, S1, Unknown, Gateway

To forward data from Generic Sensor to different types sensors:

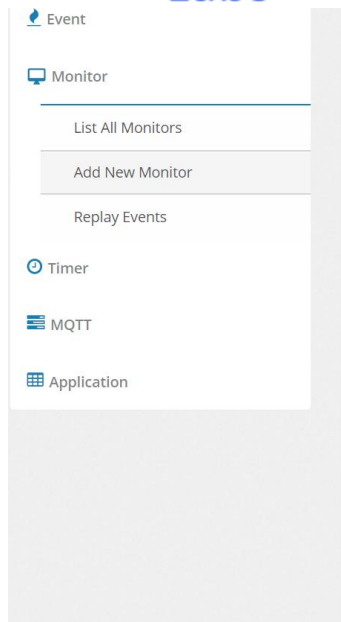
- 1- Create new sensor for each sensor type
- 2- Create different monitors to forward data from Generic Sensor to new sensors according to its type

Only S1 beacon type is defined so we can use “type” reading as monitor condition. For all other sensor beacons the type is Unknown so we will use MAC address of the beacon as monitor condition.

For more details about creating a monitor in MoT, please refer to “**Master of Things Events and Monitors User Manual**” document

S1 Temperature and Humidity Sensor Beacon

- 1- Create new sensor with same readings of Generic Sensor
- 2- Create new monitor



- 1 SELECT SENSOR
- 2 SELECT SENSOR READING
- 3 SELECT EVENT
- 4 SET VALUE

SELECT SENSOR

Select Your Sensor From List Of sensors

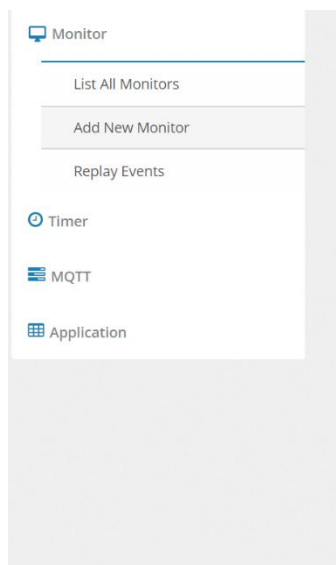
Show 10 entries Search: 802

Sensor	Sensor Id	Sensor Name	Sensor Code	Location
<input checked="" type="radio"/>	802	Minew Generic	1	null

Showing 1 to 1 of 1 entries (filtered from 82 total entries) [Previous](#) [Next](#)

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- 3- Select Generic Sensor
- 4- Select sensor reading to monitor



- 1 SELECT SENSOR
- 2 SELECT SENSOR READING
- 3 SELECT EVENT
- 4 SET VALUE

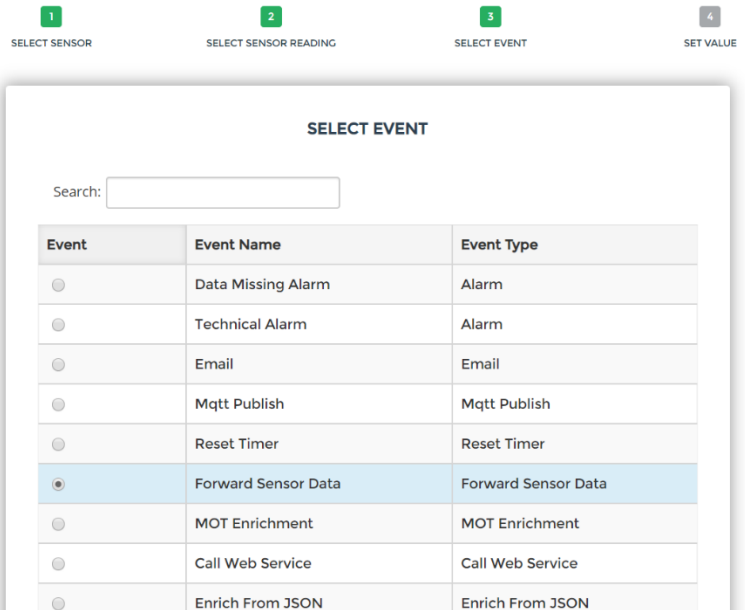
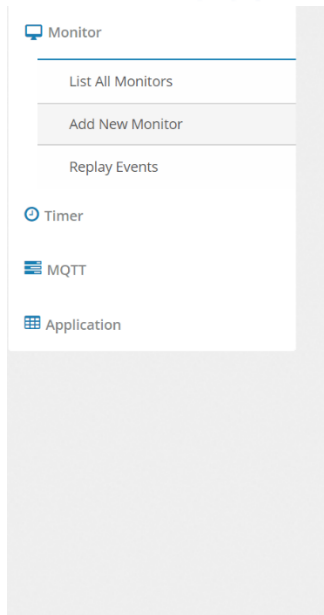
SENSOR READING

Select sensors reading to monitor

Search:

Reading	Reading Name
<input checked="" type="radio"/>	type
<input type="radio"/>	mac
<input type="radio"/>	bleName
<input type="radio"/>	rsi
<input type="radio"/>	battery
<input type="radio"/>	temperature

- 5- In case of S1 select "type"
- 6- Select Event Forward Sensor Data



- 7- Select "equal value" in Condition
- 8- Type S1 in Value
- 9- Type S1 Sensor id in Sensorid

SELECT VALUE

Set Monitor Value

Name

Monitor to Forward Data to Minew S1 type sensor

Condition

equal value ▼

Value

S1

Server

Port

DriverManagerId

1

DriverManagerPassword

123

SensorId

803

Submit

For detailed creating a monitor in MoT, please refer to “**Master of Things Events and Monitors User Manual**” document



Sample of S1 sensor data

Minew S1: SensorId 803

Show 10 entries

Search:

#	TimeStamp	type	mac	bleName	rsi	battery	temperature	humidity
1	27/11/2019, 10:57:57 am	S1	AC233FA05BD6		-59	100	23.73	38.03
2	27/11/2019, 10:57:57 am	S1	AC233FA05B9E		-72	100	24.73	33.7
3	27/11/2019, 10:57:56 am	S1	AC233FA05BD6		-48	100	23.73	38.03
4	27/11/2019, 10:57:56 am	S1	AC233FA05B9E		-69	100	24.73	33.7
5	27/11/2019, 10:57:56 am	S1	AC233FA05B99		-53	100	22.49	36.84
6	27/11/2019, 10:57:56 am	S1	AC233FA05BD6		-42	100	23.73	38.03
7	27/11/2019, 10:57:56 am	S1	AC233FA05B9E		-72	100	24.73	33.7
8	27/11/2019, 10:57:56 am	S1	AC233FA05B99		-58	100	22.49	36.84
9	27/11/2019, 10:57:55 am	S1	AC233FA05B93		-81	100	29.98	29.94
10	27/11/2019, 10:57:55 am	S1	AC233FA05B99		-55	100	22.49	36.84

Showing 1 to 10 of 1,000 entries

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