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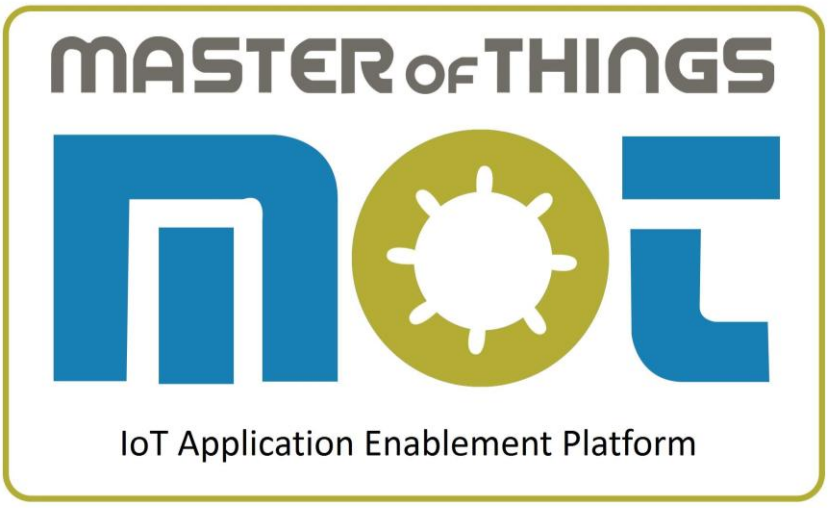
S1 Temperature and Humidity Beacon Integration



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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:

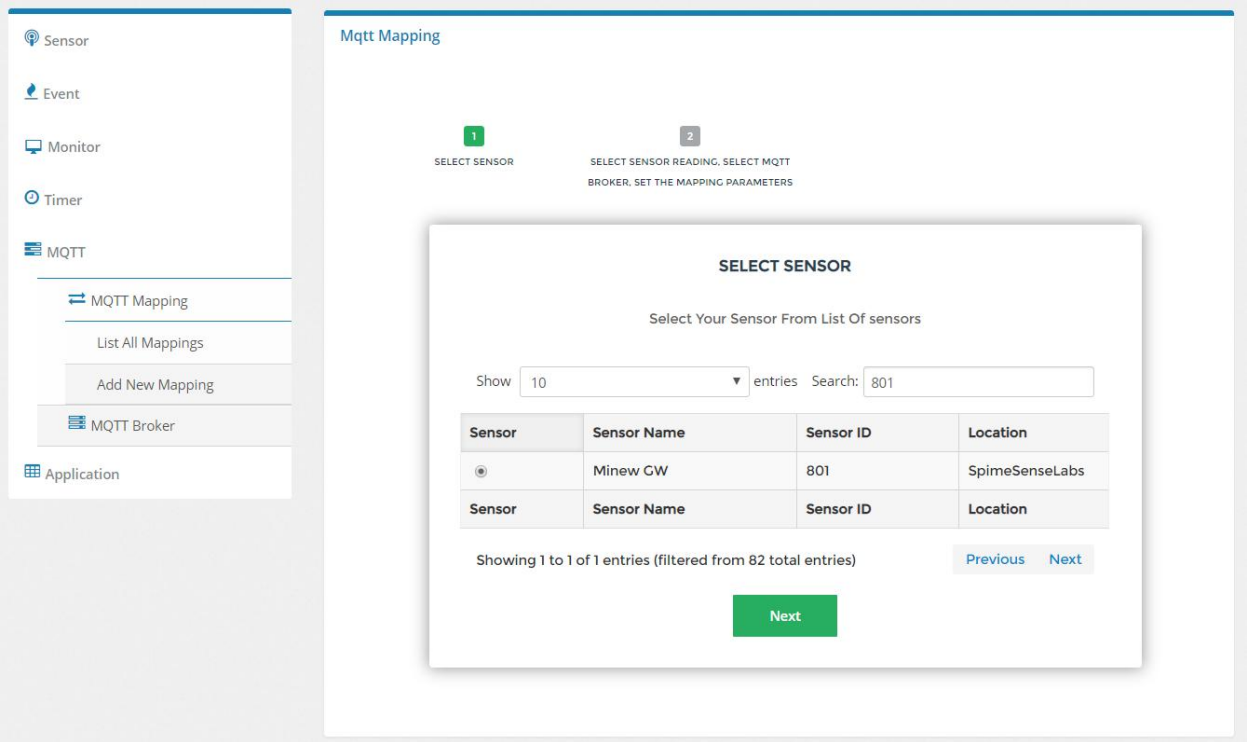
Sensor No. **801**

Sensor Name: **Minew GW**

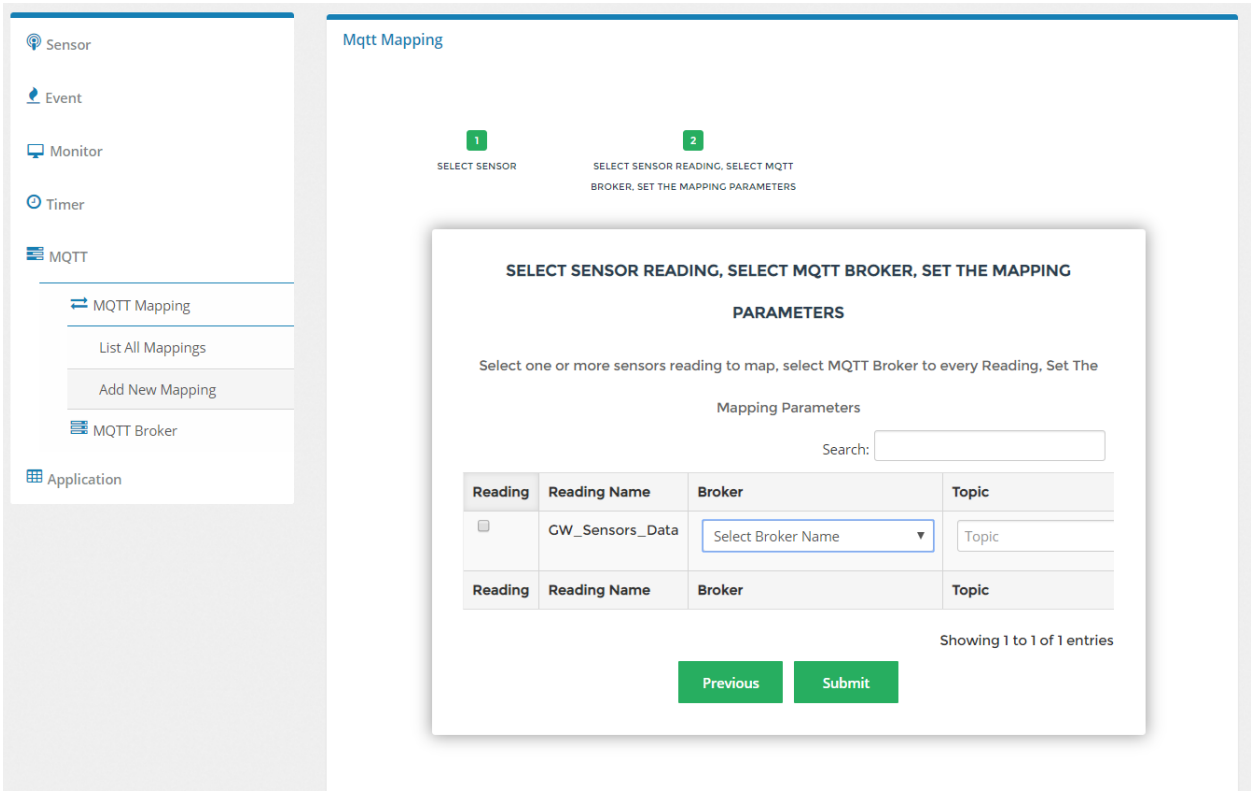
Reading: GW_Sensors_Data

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

Add New Mapping



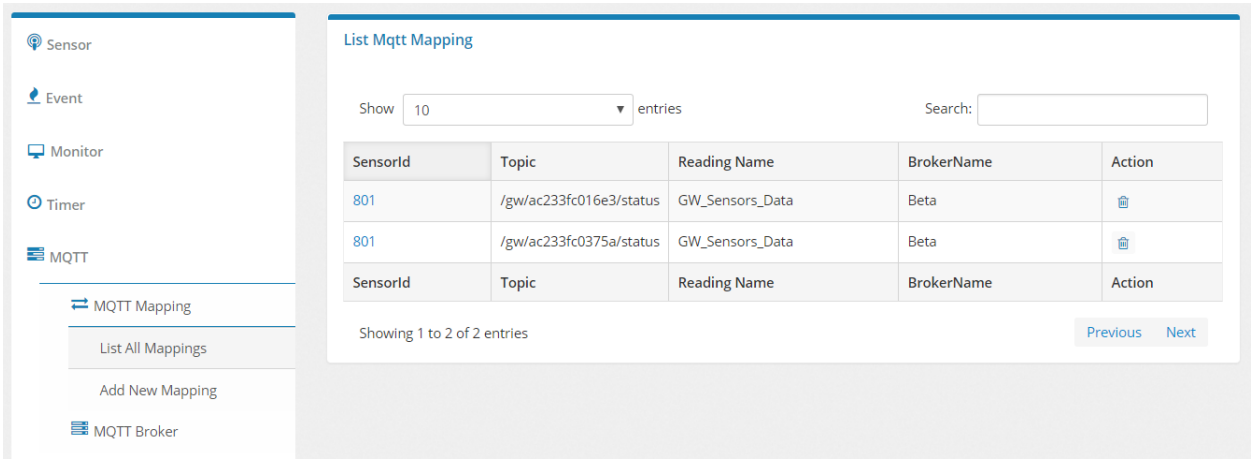
1- In SMI, Select MQTT Mapping from left menu
2- Select Add New Mapping
3- Find sensor 801
4- Click Next



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



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Sample of Data Received from G1 BLE Gateway

All Minew Gatway received data as one reading: Sensorld 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"}]

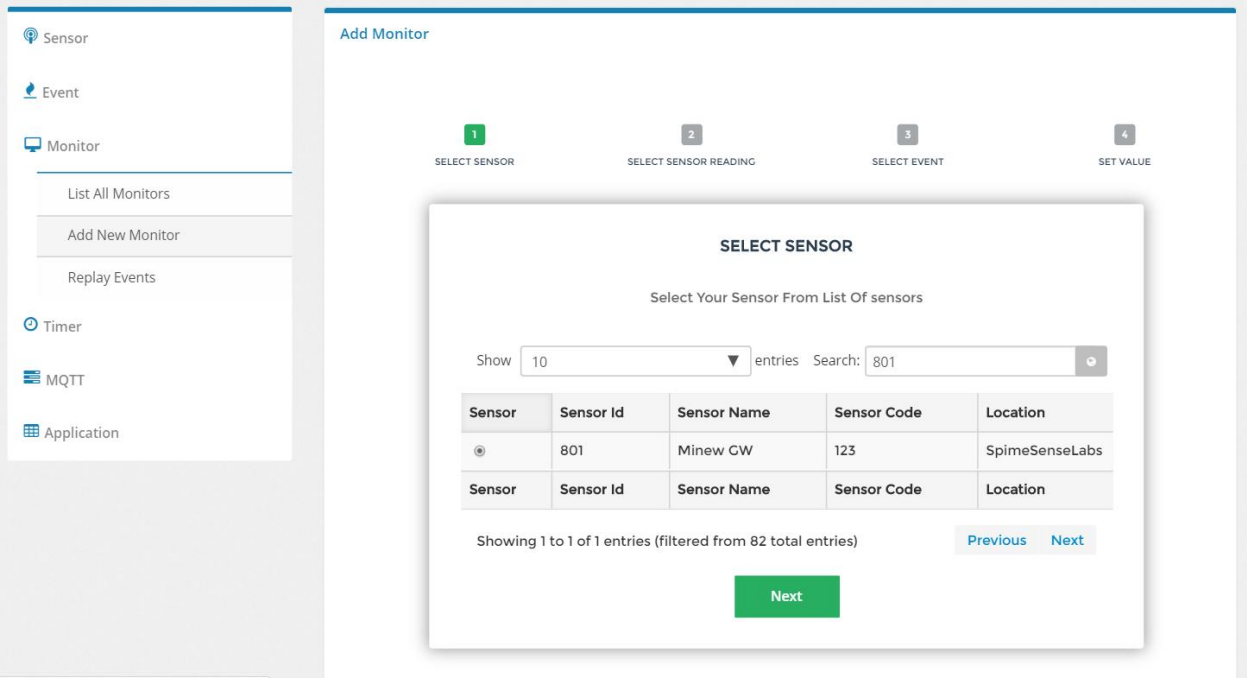
Create Monitor to Enrich Generic Sensor

Create Generic Sensor

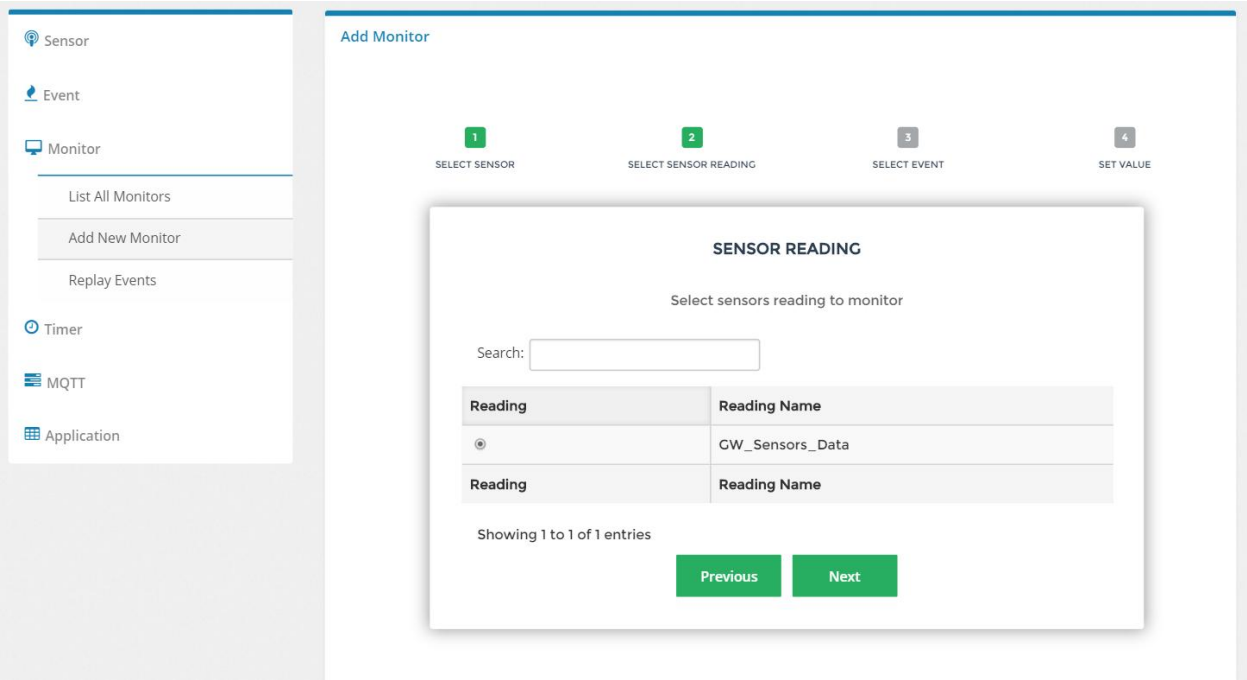
Add New Sensor with the following readings:

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

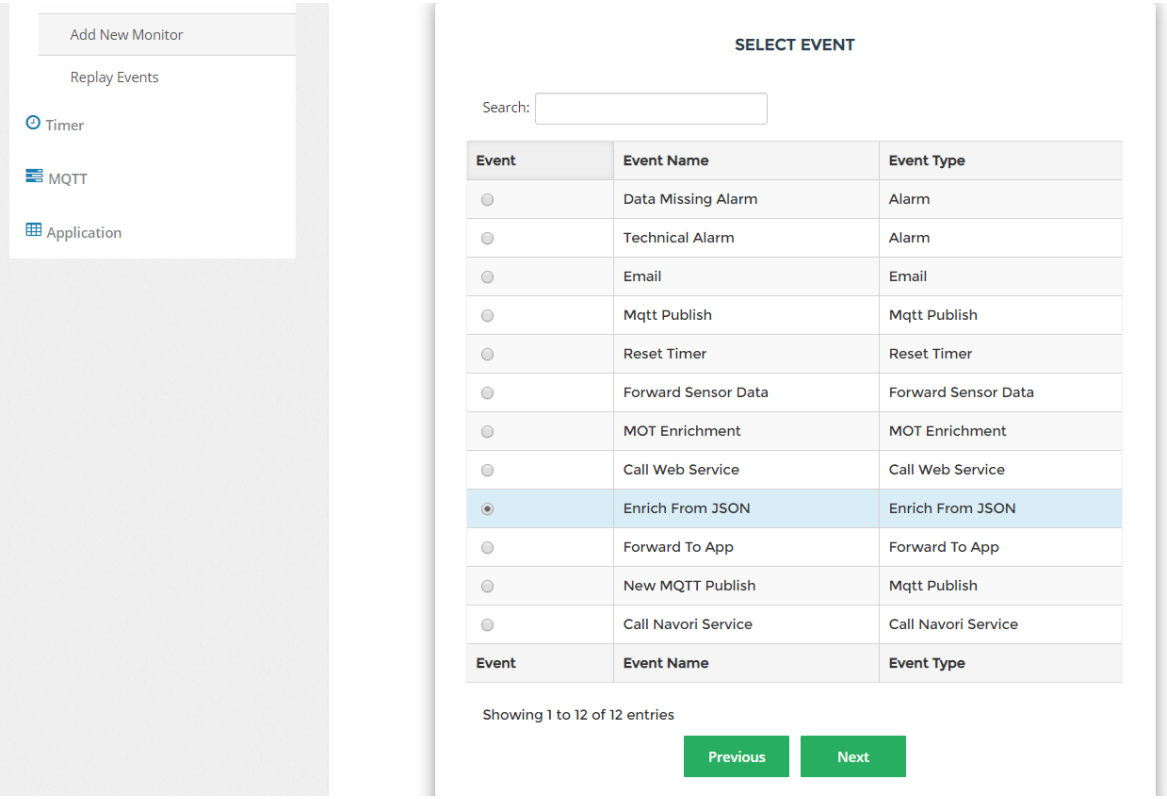
Add New Monitor



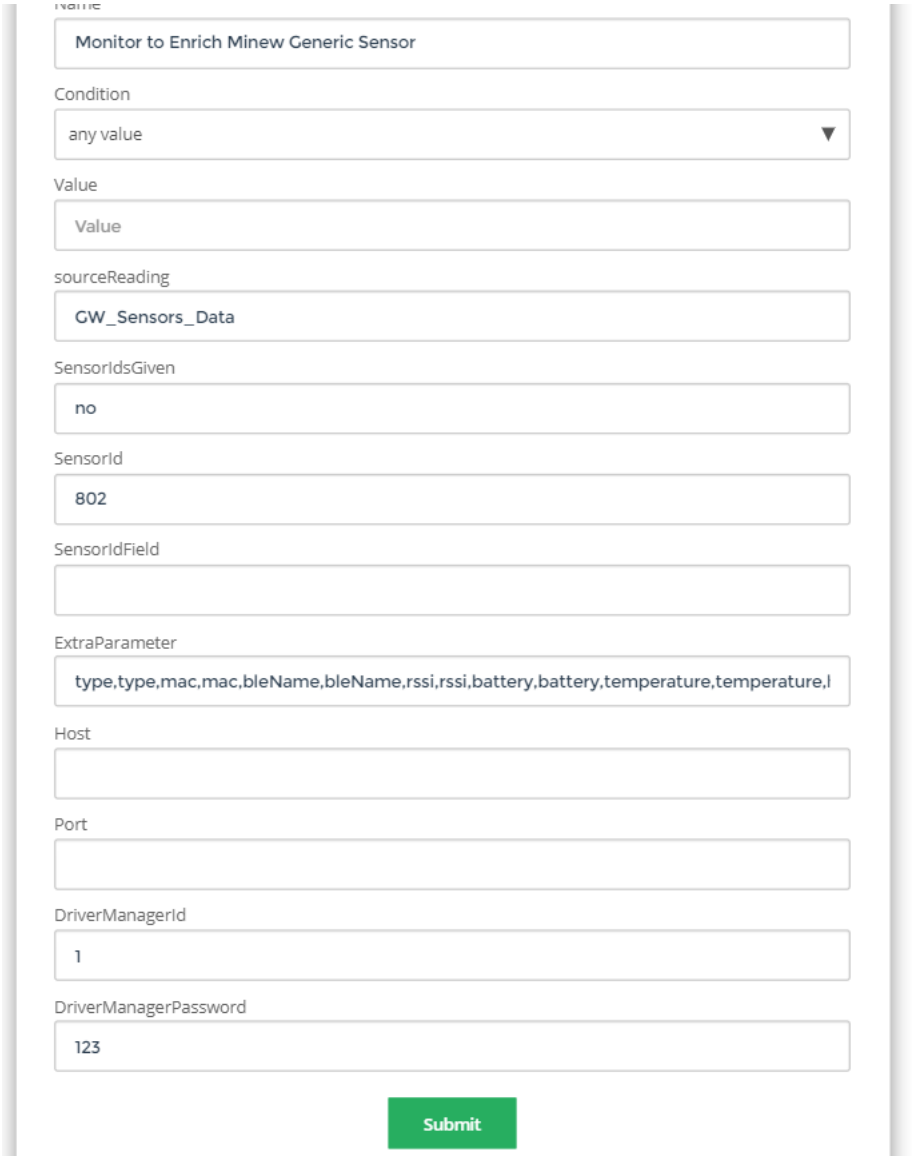
1- In SMI, Select Add New Monitor
2- Select **Minew GW** Sensor
3- Click Next



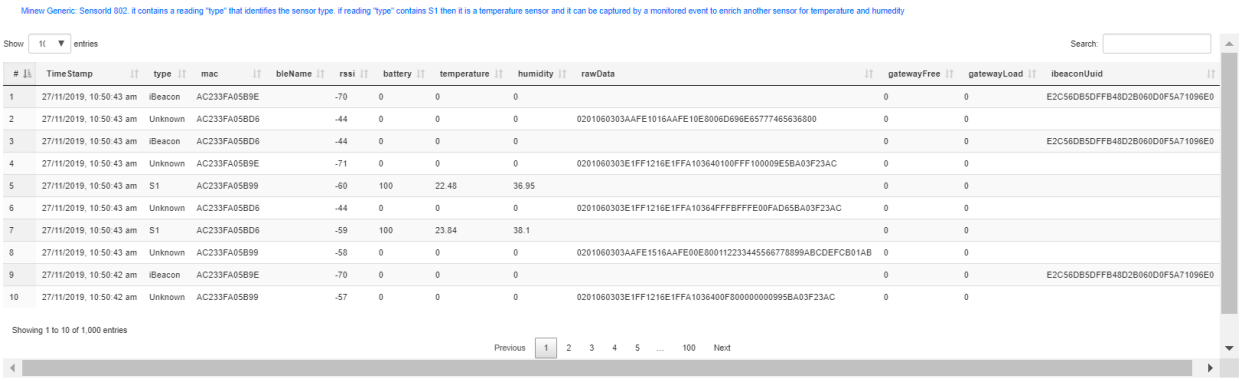
4- Select sensor reading to monitor
5- Select Event Enrich from JSON



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,rssi,rssi,battery,battery,temperature,temperature,humidity,humidity,rawData,rawData,gatewayFree,gatewayFree,gatewayLoad,gatewayLoad,ibeaconUuid,ibeaconUuid”



Sample of Generic Sensor Data



Minew Generic: Sensorld 802. 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 humedity

Show 10 entries Search:

#	TimeStamp	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		0	0	E2C56DB5DFFB48D2B060D0F5A71096E0
2	27/11/2019, 10:50:43 am	Unknown	AC233FA05BD6		-44	0	0	0	0201060303AAFE1016AAFE10E8006D696E65777465636800	0	0	
3	27/11/2019, 10:50:43 am	iBeacon	AC233FA05BD6		-44	0	0	0		0	0	E2C56DB5DFFB48D2B060D0F5A71096E0
4	27/11/2019, 10:50:43 am	Unknown	AC233FA05B9E		-71	0	0	0	0201060303E1FF1216E1FFA103640100FFF100009E5BA03F23AC	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	0201060303E1FF1216E1FFA10364FFFBFFFE00FAD65BA03F23AC	0	0	
7	27/11/2019, 10:50:43 am	S1	AC233FA05BD6		-59	100	23.84	38.1		0	0	
8	27/11/2019, 10:50:43 am	Unknown	AC233FA05B99		-58	0	0	0	0201060303AAFE1516AAFE00E800112233445566778899ABCDEFCB01AB	0	0	
9	27/11/2019, 10:50:42 am	iBeacon	AC233FA05B9E		-70	0	0	0		0	0	E2C56DB5DFFB48D2B060D0F5A71096E0
10	27/11/2019, 10:50:42 am	Unknown	AC233FA05B99		-57	0	0	0	0201060303E1FF1216E1FFA1036400F800000000995BA03F23AC	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, Unknow, Gateway

To forward data from Generic Sensor to different types sensors:

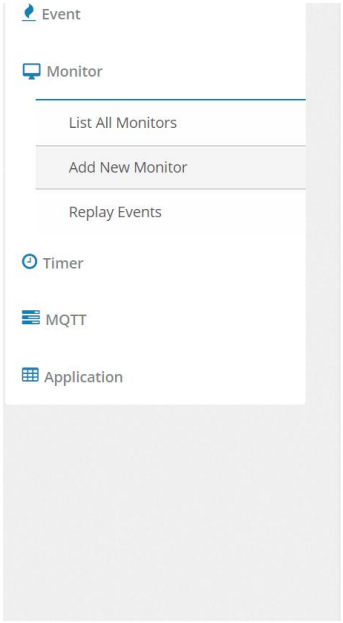
1- Create new sensor for each sensor type
2- Create different monitors to forward data from Generic Sensor to new sensors according to its type

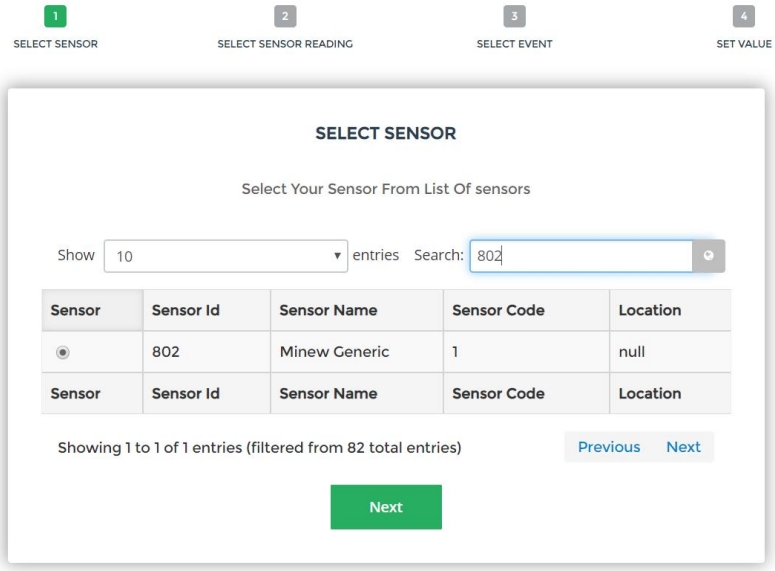
Only S1 beacon type is defined so we can use "type" reading as monitor condition. For all other sensor beacons the type is Unknown so we will use MAC address of the beacon as monitor condition.

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

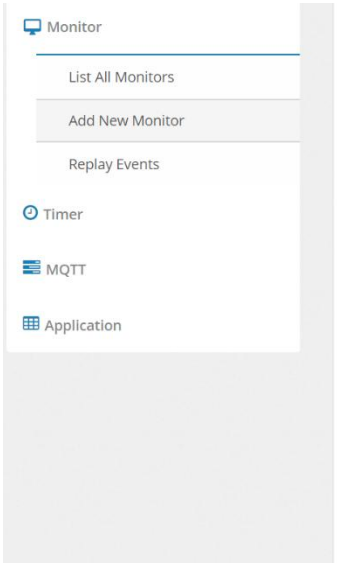
S1 Temperature and Humidity Sensor Beacon

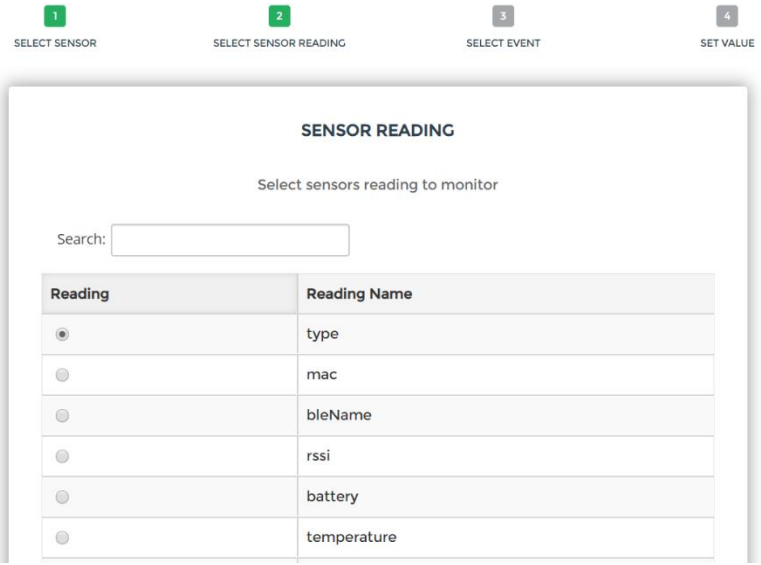
1- Create new sensor with same readings of Generic Sensor
2- Create new monitor



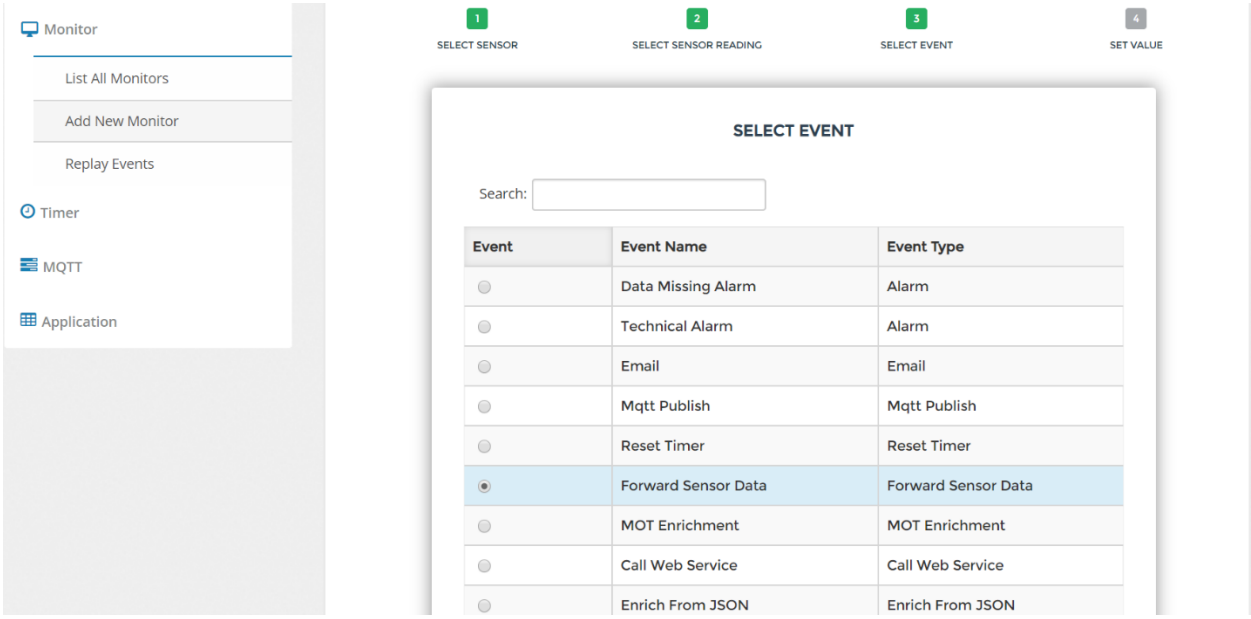


3- Select Generic Sensor
4- Select sensor reading to monitor

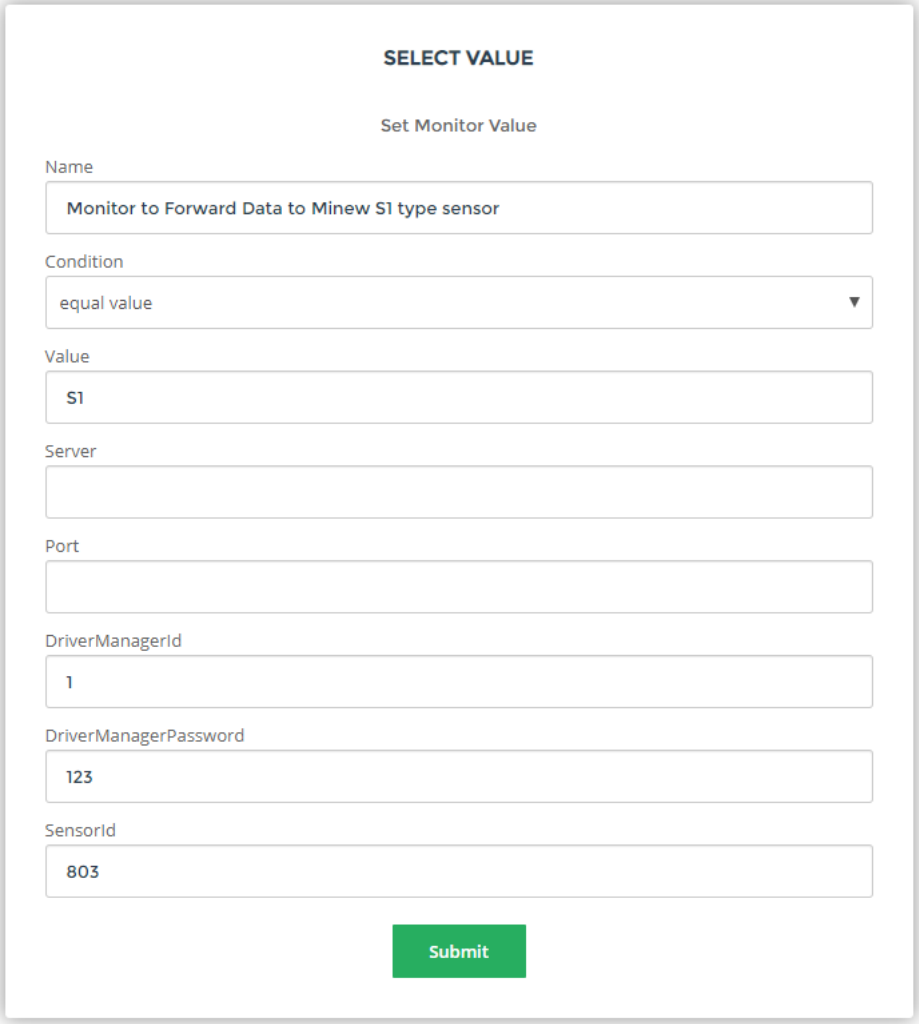




5- In case of S1 select “type”
6- Select Event Forward Sensor Data



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



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

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Sample of S1 sensor data

Minew S1: SensorId 803

Show 10 entries Search:

#	TimeStamp	type	mac	bleName	rssi	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

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