

Data Ingestion



Data Ingestion Step

- **HOW TO Create an IOT Device**
Model: <https://www.snap4city.org/591>
- **HOW TO: Create an IOT Device Instance:**
<https://www.snap4city.org/590>
[Entity/IoT Directory tool - lotAPP]
- **HOW TO Develop an IOT Application for Data Ingestion** <https://www.snap4city.org/593>
- **HOW TO Managing Notifications on IOT Application** <https://www.snap4city.org/142>

HOW TO Create an IOT Device Model

Edit Model - SirSensors

General Info | IoT Broker | Static Attributes | Values

General Info

SirSensors

Name: Ok

Description: model for Sir Sensors data

weather

Device Type: Ok

SIR

Producer: 900

Refresh Rate: 300

Healthiness Criteria: Healthiness Value

Automatically generated: Ok

Key Generation: Edge-Gateway Type

Save as | Cancel | Confirm

Edit Model - SirSensors

General Info | IoT Broker | Static Attributes | Values

Static Attributes

Device in Mobility

Subnature: Weather Sensor (Environment)

Add Attribute

Save as

Static Attributes

Edit Model - SirSensors

Value Name	Value Type	Value Unit	Data Type
dateObserved	Timestamp (timestamp)	timestamp in millisecond	string
Refresh rate	900		Remove Value
Healthiness Criteria	Healthiness Value		
temperature	Temperature (temperat	Celsius (°C)	float
Refresh rate	900	<input type="checkbox"/> Real Time	Remove Value
Healthiness Criteria	Healthiness Value		
rainDelta15	Rain (rain)	Millimeter (mm)	float
Refresh rate	900	<input type="checkbox"/> Real Time	Remove Value
Healthiness Criteria	Healthiness Value		

Values

Edit Model - SirSensors

General Info | IoT Broker | Static Attributes | Values

Broker

orionUNIFI

ContextBroker: ngsi

Format: json

Service/Tenant: only ngsi w/ MultiService supports Service/Tenant selection

ServicePath: only ngsi w/ MultiService supports ServicePath

Save as | Cancel | Confirm

HOW TO Create an IOT Device instance

iotdirectory-new-device-from-model

Edit device - SIRSensor_TOS30355400

Info	IoT Broker	Position	Static Attributes	Values	Status
SIRSensor_TOS30355400					
Device Identifier			Model		
weather			Mac Address		
Device Type Ok			Edge-Gateway URI		
Edge-Gateway Type			MyOwnPublic		
SIR			Ownership		
Producer			Service URI		
900			http://www.disit.org/km4city/resource/iot/orionUNIFI/DISIT		
Frequency			031b1802-0fbc-4341-b52c-a932ba6afef2		
KEY1					
6ab2b7c1-00a8-4977-938c-11e994518163					

Save as Cancel Confirm

Edit device - SIRSensor_TOS30355400

Info	IoT Broker	Position	Static Attributes	Values	Status
44.171			10.2081		
Latitude Ok			Longitude Ok		

Edit device - SIRSensor_TOS30355400

Info	IoT Broker	Position	Static Attributes	Values	Status
			Weather Sensor (Environment)		
Locality			Minuicciano	Value	Remove
Region			LU	Value	Remove
Is in road			http://www.disit.org/km4city/resou	Value	Remove
Altitude			666	Value	Remove
River name			Bagnone	Value	Remove

Add Attribute Save as Cancel Confirm

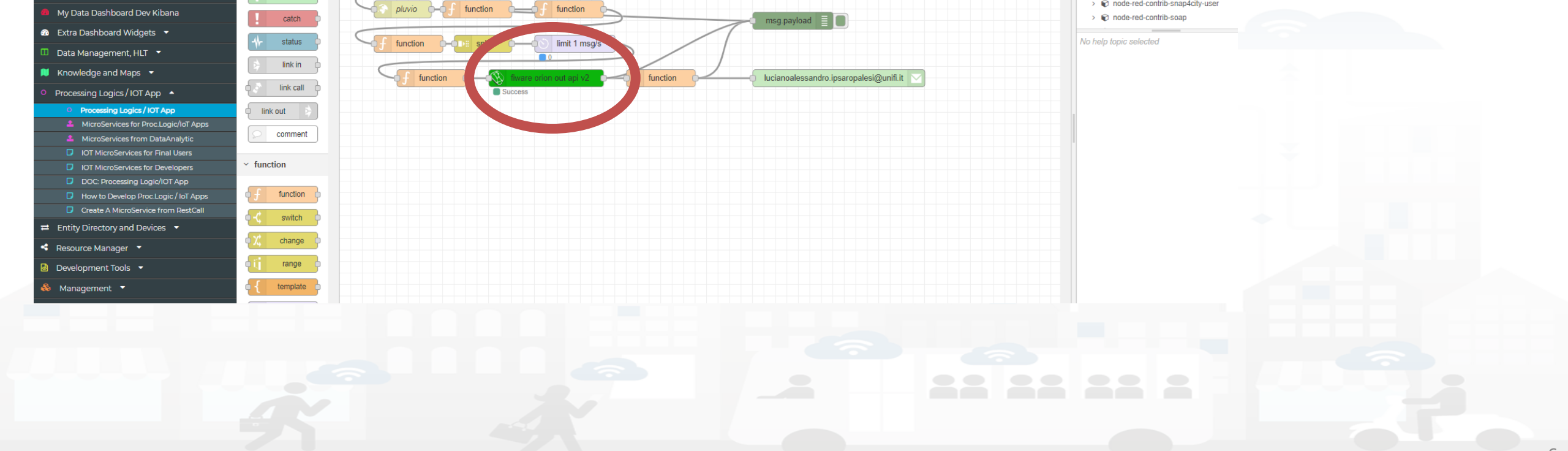
HOW TO Create an IOT Device instance

The screenshot displays the Node-RED web interface. On the left, a sidebar shows the user profile for 'envdatacollection' and a navigation menu with 'Processing Logics / IOT App' selected. The main workspace contains a flow with the following nodes: a 'Tutti timestamp' trigger, followed by a series of function nodes for 'anemo', 'termo', 'igro', and 'pluvio'. These are connected to a 'split' node, then a 'limit 1 msg/20s' rate limiter, and another function node. The flow then branches into two paths: one leading to an 'http request' node, a 'json' parser, and a function node; the other leading to an 'http request' node, a 'json' parser, and a function node. Both paths converge at a 'msg payload' node. The right sidebar shows the Node-RED v2.2.2 help menu.



HOW TO Create an IOT Application for Data Ingestion

The screenshot shows the Snap4City Node-RED interface. On the left is a sidebar with navigation options like 'Processing Logics / IOT App'. The main workspace displays a flow with several nodes: 'timestamp', multiple 'function' nodes, sensor nodes for 'anemo', 'termo', 'igro', and 'pluvio', a 'limit 1 msg/s' rate limiter node (circled in red), and an outgoing API call node 'livare orion out api v2' (also circled in red). The flow ends with a 'msg.payload' node and an email notification node for 'lucianoalessandro.ipsaropalesi@unifi.it'. The top right of the interface shows a 'Deploy' button and a user profile icon.



HOW TO Create an IOT Application for Data Ingestion

Snap4City

Switch To New Layout (Beta)

User: envdatacollection, Org: DISIT
Role: AreaManager, Level: 0

LOGOUT

- My S...
- Tour Again
- www.snap4solutions.org
- Dashboards (Public)
- Dashboards of My Organization
- My Dashboards in My Organization
- My Data Dashboard Dev Kibana
- Extra Dashboard Widgets
- Data Management, HLT
- Knowledge and Maps
- Processing Logics / IOT App
- Entity Directory and Devices
 - My IOT Sensors and Actuators
 - IOT Sensors and Actuators
 - Entity Instances, IoT Devices**
 - IOT Brokers
 - FIWARE Smart Data Models
 - Entity Models/IOT Devices
 - IOT Devices Bulk Registration
 - Doc: IOT Directory and Devices
 - Create an IOT Device Instance
 - Create an IOT Device Model
 - Add an IOT Device into Snap4City
- Resource Manager
- Development Tools
- Management
- Decision Support Systems
- Deploy and Installation
- Help and Contacts

Entity Instances, IoT Devices

Import New Device

Search:

Location	View
	VIEW
	VIEW
	VIEW
	VIEW
	VIEW
	VIEW
	VIEW

```
{"id":"SIRSensor_TOS30355400",  
  "type":"weather",  
  "dateObserved":{"type":"string","value":"2024-05-30T07:45:00.000Z"},  
  "humidity":{"type":"float","value":""},  
  "rainDelta15":{"type":"float","value":0},  
  "temperature":{"type":"float","value":""},  
  "windDirection":{"type":"float","value":""},  
  "windGust":{"type":"float","value":""},  
  "windSpeed":{"type":"float","value":""}}
```

Model: SIRSensor
Longitude: 10.2081
Device Uri: http://www.disit.org/km4city/resource/iot/orionUNIFI/DISIT/SIRSensor_TOS30355400
Organization: DISIT
Owner: undefined
K1: 6ab2b7c1-00a8-4977-938c-11e994518163
Created on: 2022-10-28 11:47:02

Producer: SIR
Latitude: 44.171

[PAYLOAD NGSI v1](#) [PAYLOAD NGSI v2](#) [VIEW IN SERVICE MAP](#) [NEW DATA IN SIRSensor_TOS30355400](#) [EXPORT JSON](#)

+	TestArpat	orionUNIFI	air_quality	ArpatSensor	MYOWNPRIVATE	active	EDIT	DELETE		VIEW
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Showing 461 to 467 of 467 entries

Previous 1 ... 43 44 45 46 47 Next

FORMATO ISO - GMT

[PAYLOAD NGSI v2](#)

HOW TO Managing Notifications on IOT Application

if(msg.payload.status.statusCode!=200){
msg.topic="Check Acquisition SirSensor Sensor»
msg.payload="Problem with"+JSON.stringify(msg.payload)
return msg;
}
return null;

IoTApp

The screenshot displays the Snap4City Node-RED interface. The left sidebar shows the user profile (envdatacollection, Org: DISIT) and a navigation menu with 'Processing Logics / IOT App' selected. The main workspace shows a flow with nodes for 'timestamp', 'function', 'anemo', 'termo', 'igro', 'pluvio', 'msg payload', 'split', 'limit 1 msg/s', 'fiware orion out api v2', and 'delegate-my-device'. A red circle highlights the 'Deploy' button in the top right. A blue box highlights the 'delegate-my-device' node in the right-hand help panel, which provides details on its inputs and outputs.

delegate-my-device
It allows to delegate a device.

Inputs
A JSON with these parameters:

- id** (string): the nome of the kpi device (you MUST have the ownership of the device)
- kind** (string): Kind of delegation. You can choose between READ_ACCESS, READ_WRITE and MODIFY.
- usernameDelegated** (string): Username of the person to be delegated to view the device
- groupDelegated** (string): Group to be delegated to view the device

An example of the JSON array filled with correct data:

```
{  
  "id": "nameDevice",  
  "usernameDelegated": "username",  
  "kind": "READ_ACCESS"  
}
```

Outputs
Returns an object containing the delegation

Details
The node can receive a JSON with the parameters described in the Inputs section and with them generate the output JSON. If the values are not present in the input JSON, these are read by those in the configuration. If they are not