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Open Cloud Connectivity

The HTTP Client Driver

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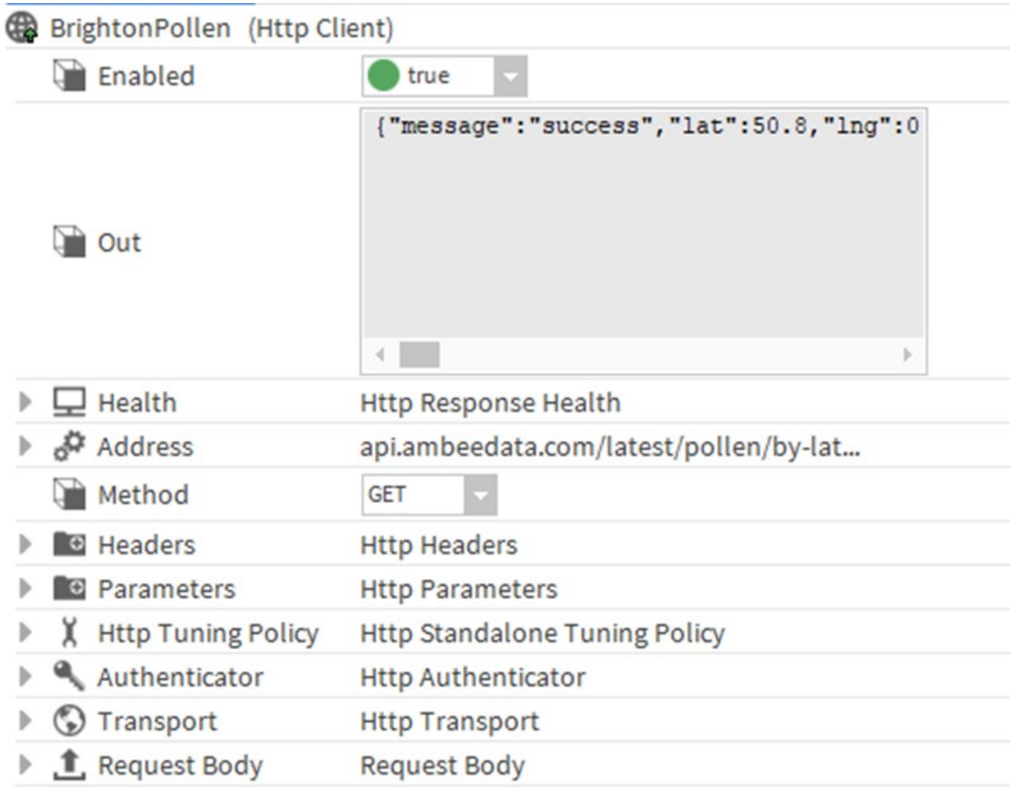
The HTTP Client

- The Niagara HTTP Client module allows Niagara Stations to interact with HTTP web services and APIs

- This allows data to be exchanged both in and out of a Niagara station



BrightonPollen (Http Client)

Enabled	● true
Out	{"message":"success","lat":50.8,"lng":0
Health	Http Response Health
Address	api.ambeedata.com/latest/pollen/by-lat...
Method	GET
Headers	Http Headers
Parameters	Http Parameters
Http Tuning Policy	Http Standalone Tuning Policy
Authenticator	Http Authenticator
Transport	Http Transport
Request Body	Request Body

What do we mean by HTTP?

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Terminology

- Web Services are online services which allow systems to exchange data, often in JSON or XML format, using HTTP as the protocol

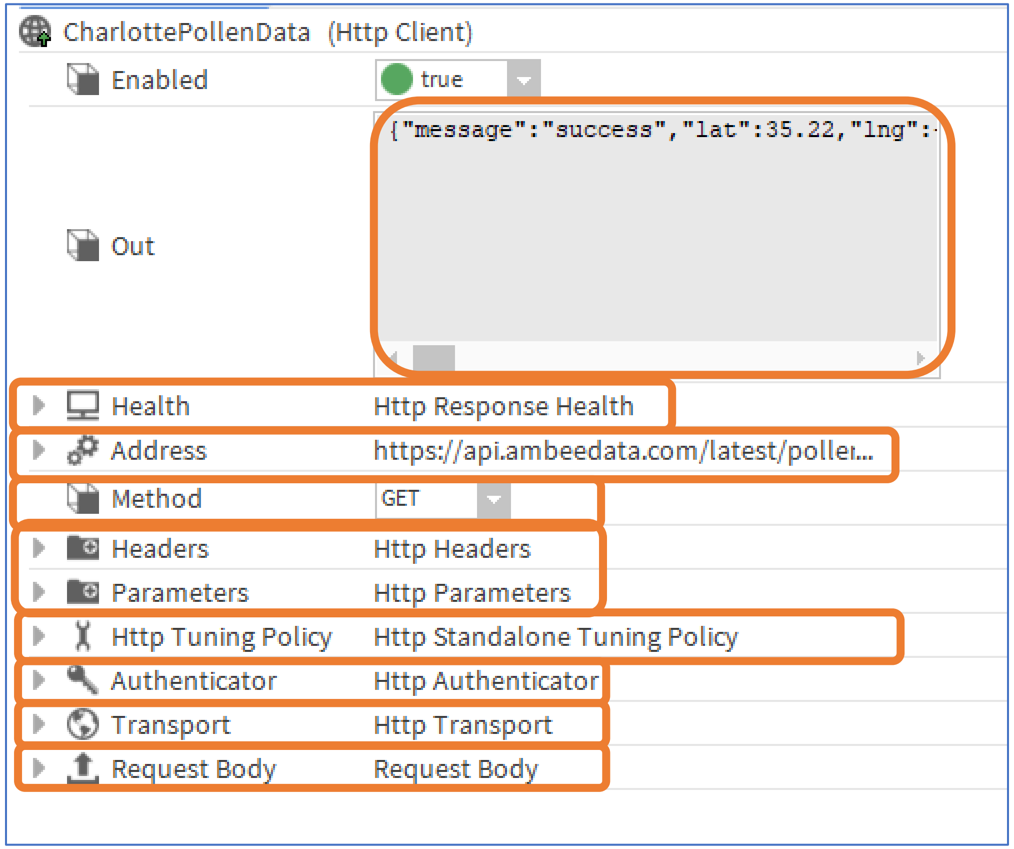
- HTTP is also the protocol by which web pages are retrieved in web browsers. This allows data to be exchanged both in and out of a Niagara station

Terminology

- APIs are the interface contract between the client and server of the web service, defining;
  - which operations are available
  - the data format for exchange
  - the parameters which can be used

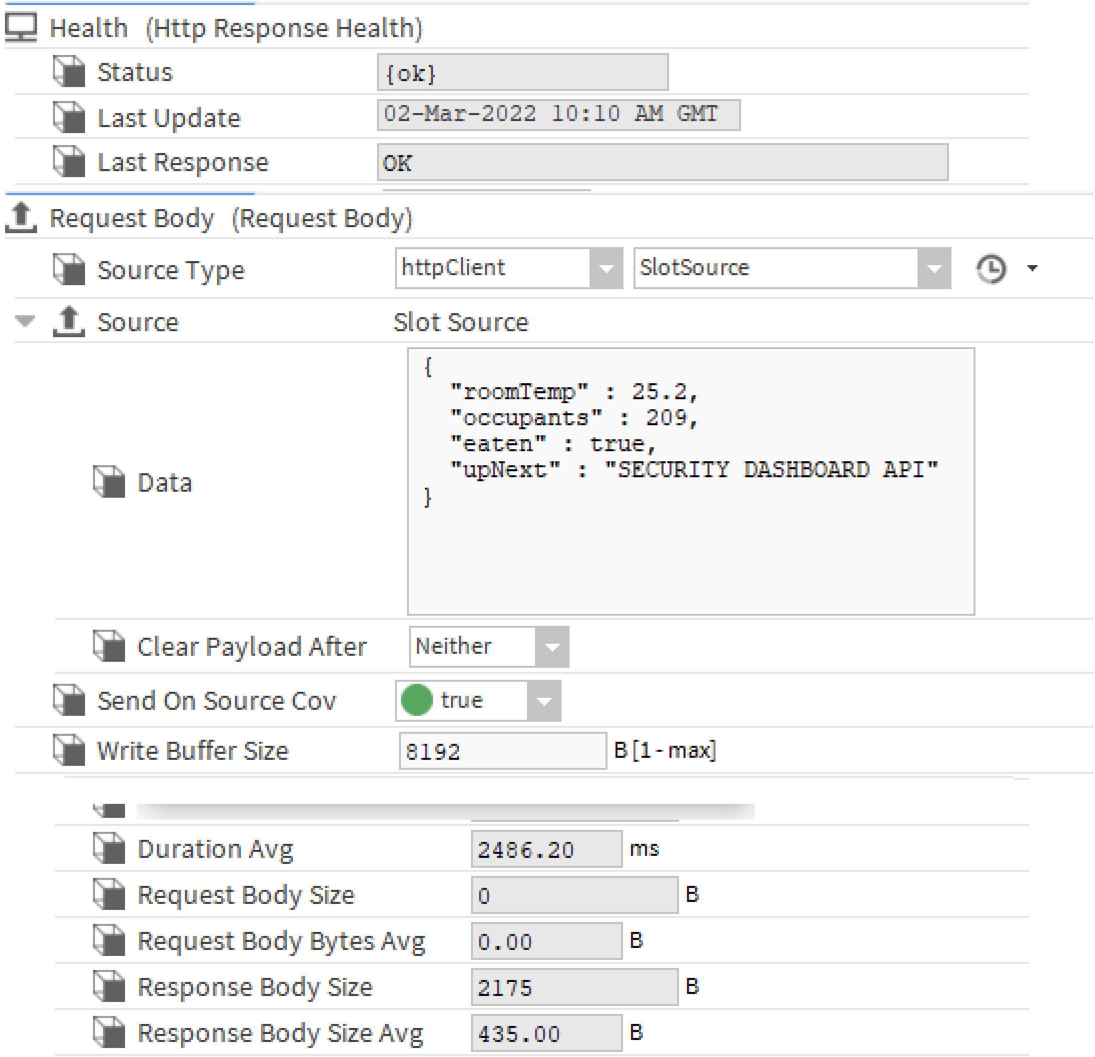
- RESTful web services/APIs obey a common set of rules and constraints to conform with modern architecture of scalability

Standalone Client



CharlottePollenData (Http Client)

Enabled	● true
Out	{"message":"success","lat":35.22,"lng":
Health	Http Response Health
Address	https://api.ambeedata.com/latest/pollen...
Method	GET
Headers	Http Headers
Parameters	Http Parameters
Http Tuning Policy	Http Standalone Tuning Policy
Authenticator	Http Authenticator
Transport	Http Transport
Request Body	Request Body



Health (Http Response Health)

Status	{ok}
Last Update	02-Mar-2022 10:10 AM GMT
Last Response	OK

Request Body (Request Body)

Source Type	httpClient · SlotSource
Source	Slot Source

Data

```
{
  "roomTemp" : 25.2,
  "occupants" : 209,
  "eaten" : true,
  "upNext" : "SECURITY DASHBOARD API"
}
```

Clear Payload After	Neither
Send On Source Cov	● true
Write Buffer Size	8192 B [1 - max]
Duration Avg	2486.20 ms
Request Body Size	0 B
Request Body Bytes Avg	0.00 B
Response Body Size	2175 B
Response Body Size Avg	435.00 B

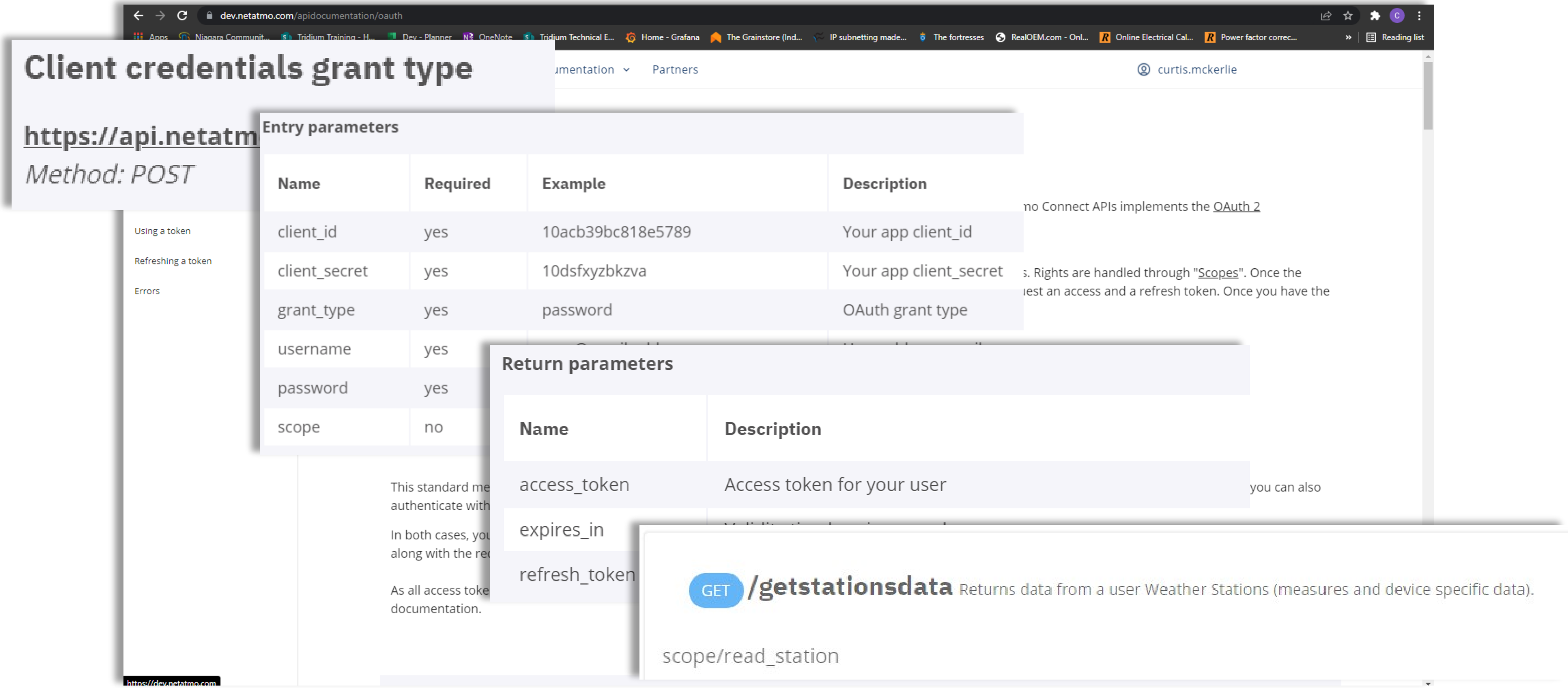
Use Cases – today's demonstration

- Local/Remote device control
  - Integrate with APIs on IoT Devices / Gateways

- Bringing useful data into a building, from an API
  - Occupancy, Weather forecasts, Travel updates, Air quality data, parking…

- Exporting station data to an external services / cloud
  - REST APIs available for AWS IoT, Azure IoT, Google Cloud…

Documentation is Key – Weather Station



dev.netatmo.com/apidocumentation/oauth

Client credentials grant type

https://api.netatm

Method: POST

Entry parameters

Name	Required	Example	Description
client_id	yes	10acb39bc818e5789	Your app client_id
client_secret	yes	10dsfxyzbkzva	Your app client_secret
grant_type	yes	password	OAuth grant type
username	yes		
password	yes		
scope	no		

mo Connect APIs implements the OAuth 2

s. Rights are handled through "Scopes". Once the
uest an access and a refresh token. Once you have the

Return parameters

Name	Description
access_token	Access token for your user
expires_in	
refresh_token	

This standard me
authenticate with

you can also

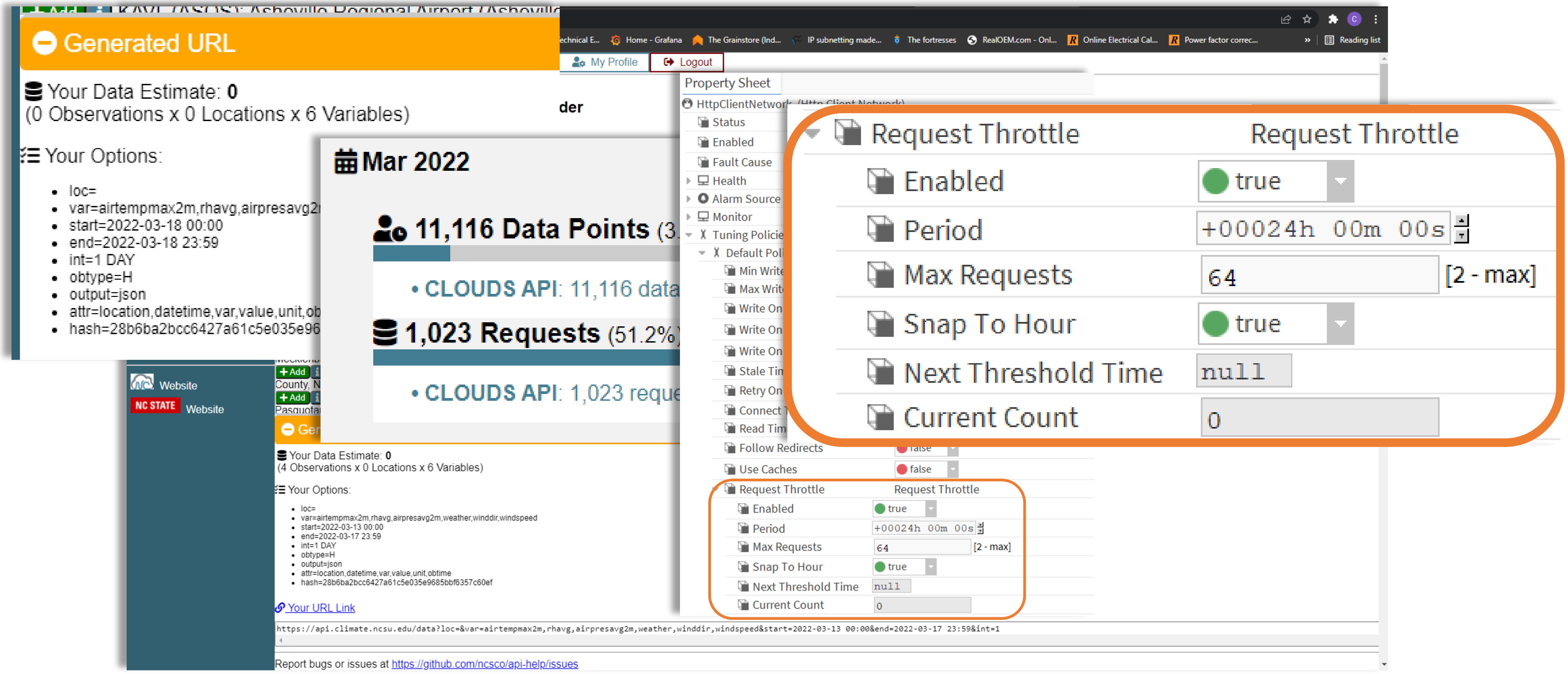
In both cases, you
along with the re

As all access toke
documentation.

GET **/getstationsdata** Returns data from a user Weather Stations (measures and device specific data).

scope/read_station

Documentation is Key – CLOUDS



Generated URL

Your Data Estimate: **0**
(0 Observations x 0 Locations x 6 Variables)

Your Options:

- loc=
- var=airtempmax2m,rhavg,airpresavg2
- start=2022-03-18 00:00
- end=2022-03-18 23:59
- int=1 DAY
- obtype=H
- output=json
- attr=location,datetime,var,value,unit,ob
- hash=28b6ba2bcc6427a61c5e035e96

Mar 2022

11,116 Data Points (3.

- **CLOUDS API**: 11,116 data

1,023 Requests (51.2%)

- **CLOUDS API**: 1,023 reque

Your Data Estimate: **0**
(4 Observations x 0 Locations x 6 Variables)

Your Options:

- loc=
- var=airtempmax2m,rhavg,airpresavg2m,weather,winddir,windspeed
- start=2022-03-13 00:00
- end=2022-03-17 23:59
- int=1 DAY
- obtype=H
- output=json
- attr=location,datetime,var,value,unit,obtime
- hash=28b6ba2bcc6427a61c5e035e9685bbf6357c60ef

Your URL Link

```
https://api.climate.ncsu.edu/data?loc=&var=airtempmax2m,rhavg,airpresavg2m,weather,winddir,windspeed&start=2022-03-13 00:00&end=2022-03-17 23:59&int=1
```

Report bugs or issues at https://github.com/ncsco/api-help/issues

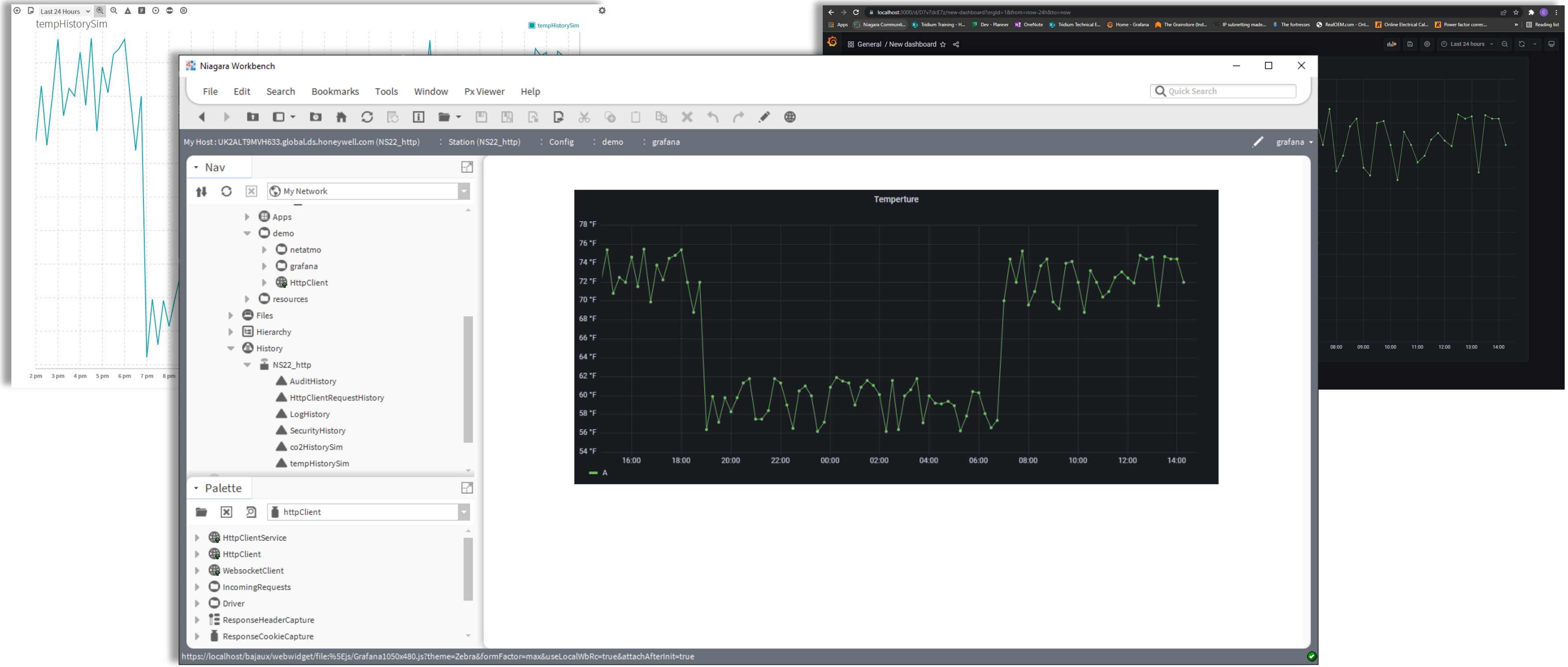
Property Sheet

HttpClientNetwork (Http Client Network)

Request Throttle	Request Throttle
Enabled	● true
Period	+00024h 00m 00s
Max Requests	64 [2 - max]
Snap To Hour	● true
Next Threshold Time	null
Current Count	0

Follow Redirects	● false
Use Caches	● false
Request Throttle	Request Throttle
Enabled	● true
Period	+00024h 00m 00s
Max Requests	64 [2 - max]
Snap To Hour	● true
Next Threshold Time	null
Current Count	0

Webhooks



My Host : UK2ALT9MVH633.global.ds.honeywell.com (NS22_http) : Station (NS22_http) : Config : demo : grafana

https://localhost/bajaux/webwidget/file:%5Ejs/Grafana1050x480.js?theme=Zebra&formFactor=max&useLocalWbRc=true&attachAfterInit=true

When can I start using this?

- Already released in the EMEA region

- Is included in the 4.12 image for all regions

Licensing

- Free to evaluate with demo license
- Production use requires additional license and active SMA
- Each HTTP Client component counts as one global point
- Each HTTP Driver point counts as one global point

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CHARLOTTE, NC | APRIL 4-6

Thank you for your attention

Any Questions?

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