

Tutorial

OrionContextBroker

JSON Messages

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Web Services

HTTP

Hypertext Transfer Protocol (HTTP)

- camada de **aplicação**
- base para a comunicação de dados da **World Wide Web**
- funciona via **TCP** na **porta 80**
- modelo computacional **cliente-servidor**
- **métodos**
 - GET
 - HEAD
 - POST
 - PUT
 - DELETE



HTTP Verb	Path	Action	Used for
GET	/photos	index	display a list of all photos
GET	/photos/new	new	return an HTML form for creating a new photo
POST	/photos	create	create a new photo
GET	/photos/:id	show	display a specific photo
GET	/photos/:id/edit	edit	return an HTML form for editing a photo
PATCH/PUT	/photos/:id	update	update a specific photo
DELETE	/photos/:id	destroy	delete a specific photo

Serviço Web

Uma **aplicação autocontida**, identificada por um **URI** (*Uniform Resource Identifier*), cujas interfaces e ligações são definidas, descritas e localizadas por artefatos que utilizam a linguagem **XML** (*Extensible Markup Language*) ou **JSON** (*JavaScript Object Notation*).

- Deve ser capaz de **interagir com outras aplicações** através da troca de mensagens XML/JSON utilizando os protocolos de comunicação padrão da Internet;
- Disponibiliza os recursos da aplicação do software sobre a rede de uma forma normalizada.

- **JSON (JavaScript Object Notation)** is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate.
- **Extensible Markup Language (XML)** is a simple, very flexible text format derived from SGML (ISO 8879). Originally designed to meet the challenges of large-scale electronic publishing, XML is also playing an increasingly important role in the exchange of a wide variety of data on the Web and elsewhere.

XML

```
(curl localhost:1026/v1/queryContext -s -S --header
'Content-Type: application/xml' -d @- | xmllint
--format -) <<EOF
<?xml version="1.0" encoding="UTF-8"?>
<queryContextRequest>
  <entityIdList>
    <entityId type="Room" isPattern="false">
      <id>Room1</id>
    </entityId>
  </entityIdList>
  <attributeList/>
</queryContextRequest>
EOF
```

JSON (since release 0.9.0)

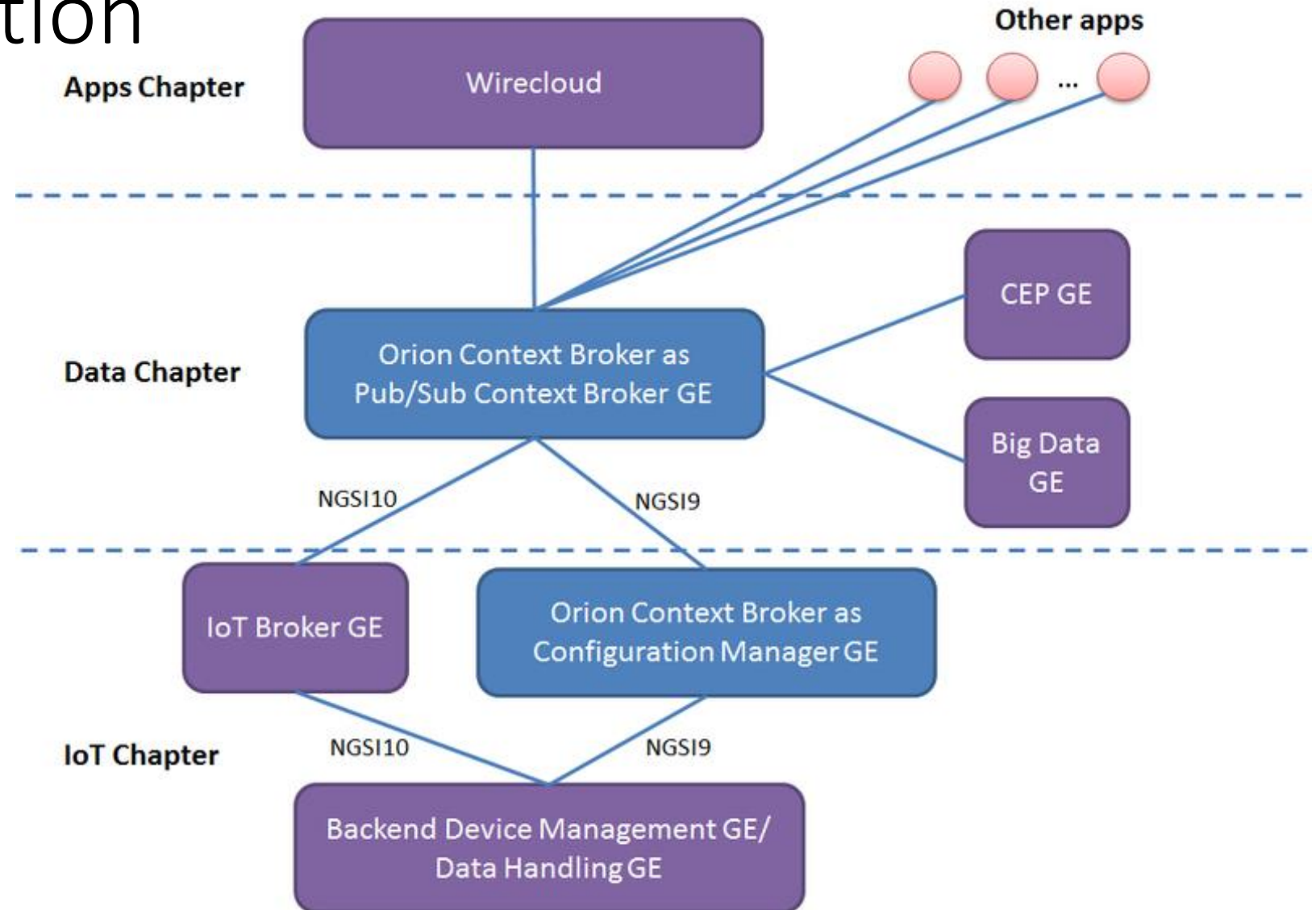
```
(curl localhost:1026/v1/queryContext -s -S --header
'Content-Type: application/json' --header 'Accept:
application/json' -d @- | python -mjson.tool) <<EOF
{
  "entities": [
    {
      "type": "Room",
      "isPattern": "false",
      "id": "Room1"
    }
  ]
}
EOF
```

REST – Representational State Transfer

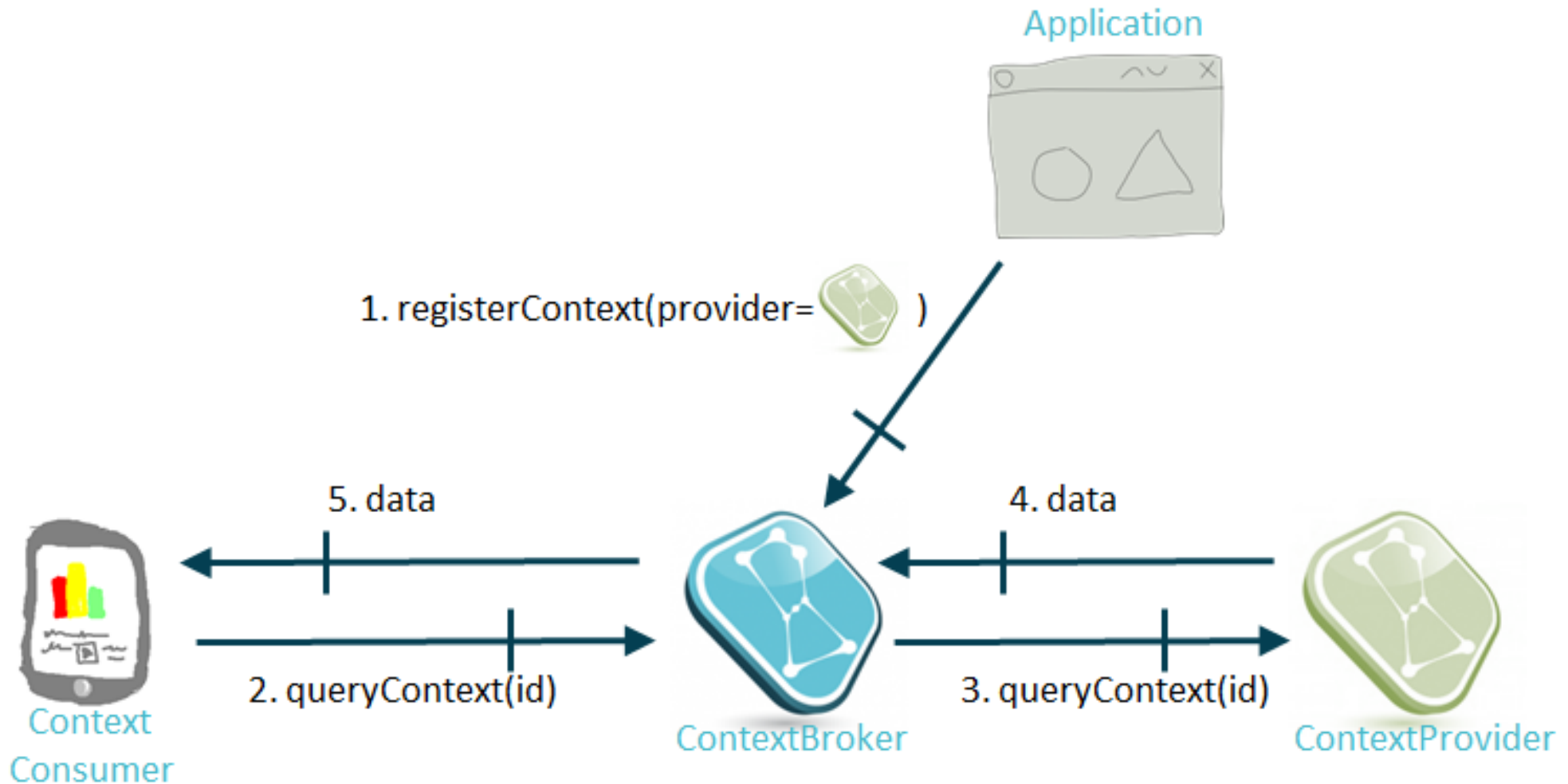
REST ou **RESTfull** são **padrões arquiteturais** que permitem definir e implementar **serviços web**.

- Um protocolo cliente/servidor **sem estado**, cada mensagem HTTP contém toda a informação necessária para compreender o pedido
- Um conjunto de **operações** bem definidas que se aplicam a todos os recursos de informação: **POST**, **GET**, **PUT** e **DELETE**
- Cada recurso é unicamente direcionado através da sua **URI**

Orion Integration IoT Broker



Orion Integration with Context Provider



MongoDB



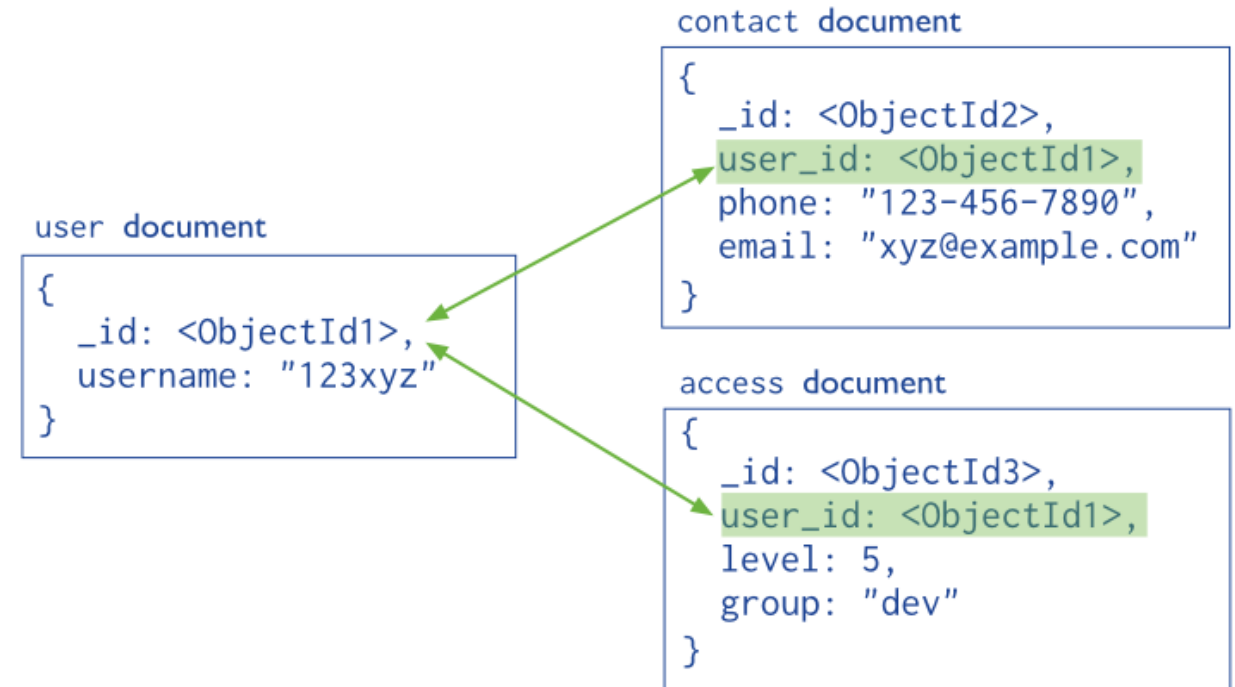
{ name: mongo, type: DB }

What is MongoDB

- MongoDB is an open-source document database that provides high performance, high availability, and automatic scaling.

Document Database

- A record in MongoDB is a document, which is a data structure composed of field and value pairs. MongoDB documents are similar to JSON objects. The values of fields may include other documents, arrays, and arrays of documents.



MongoDB

The advantages of using documents are:

- Documents (i.e. objects) correspond to native data types in many programming languages.
- Embedded documents and arrays reduce need for expensive joins.
- Dynamic schema supports fluent polymorphism.

```
{  
  name: "sue",  
  age: 26,  
  status: "A",  
  groups: [ "news", "sports" ]  
}
```

← field: value
← field: value
← field: value
← field: value

MongoDB

Key Features

- **High Performance**

- MongoDB provides high performance data persistence. In particular,
- Support for embedded data models reduces I/O activity on database system.
- Indexes support faster queries and can include keys from embedded documents and arrays.

- **High Availability**

- To provide high availability, MongoDB's replication facility, called replica sets, provide:
- Automatic failover;
- Data redundancy.

MongoDB



Key Features

- **Automatic Scaling**

- MongoDB provides horizontal scalability as part of its core functionality.
- Automatic sharding distributes data across a cluster of machines.
- Replica sets can provide eventually-consistent reads for low-latency high throughput deployments.

NGSI Context Management

Technical Details – Overview

- The Context Management component provides the NGSI-9 and NGSI-10 interfaces to manage Context Information about Context Entities.
- Through these interfaces, a Context Management component will provide its context management services to actors outside of a single network.

These actors can:

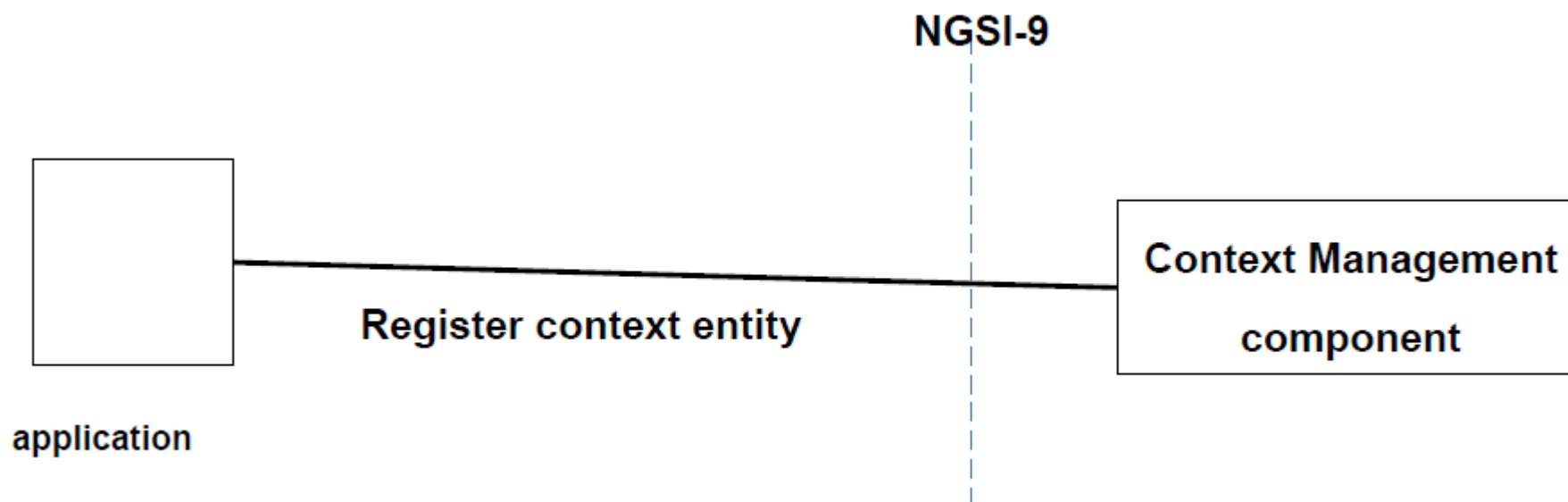
- Provide Context Information (update operations)
- Consume Context Information (query and subscribe/notify operations)
- Discover context entities through query or notifications (register and discover operations)

NGSI-9

Context Entity Discovery Interface

Register Context Entity Operation

- The RegisterContextEntity operation enables the Context Management component to allow registering and updating Context Entities, their attributes and availability.

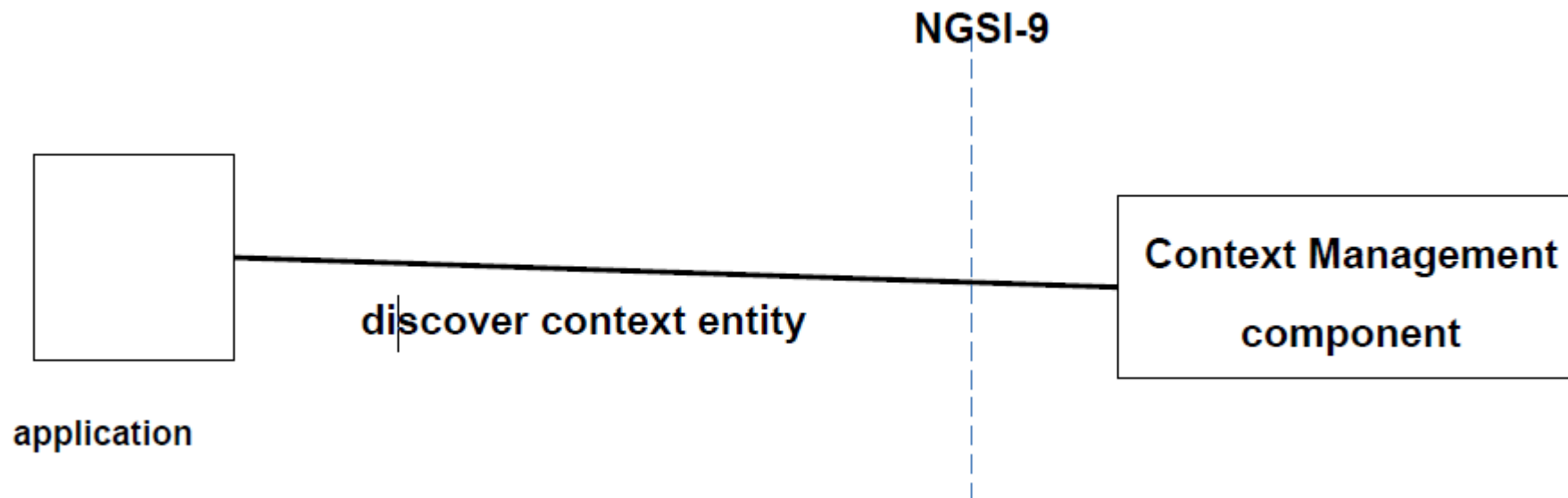


NGSI-9

Context Entity Discovery Interface

Discover Context Entity Operation

- The DiscoverContextEntity operation enables an actor to discover available Context Entities and their attributes.



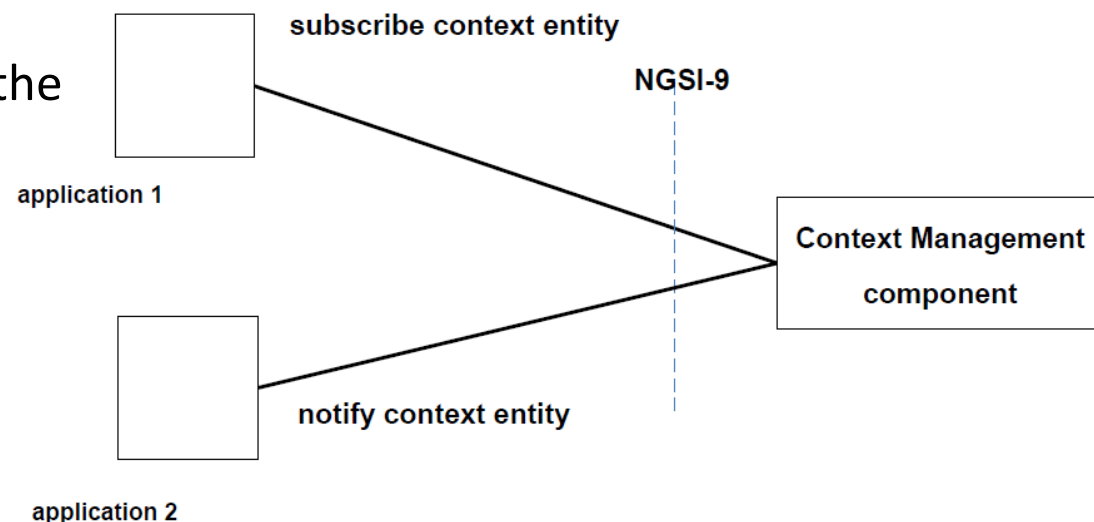
NGSI-9

Context Entity Discovery Interface

Subscribe and Notify based Context Entity Discovery

Operation

- SubscribeNotifyContextEntity operation enables an application (application 1) to issue a subscription to the Context Management component on behalf of application 2, such that application 2 receives the respective notification upon the availability of new Context Entities or changes to available Context Entities and their attributes.

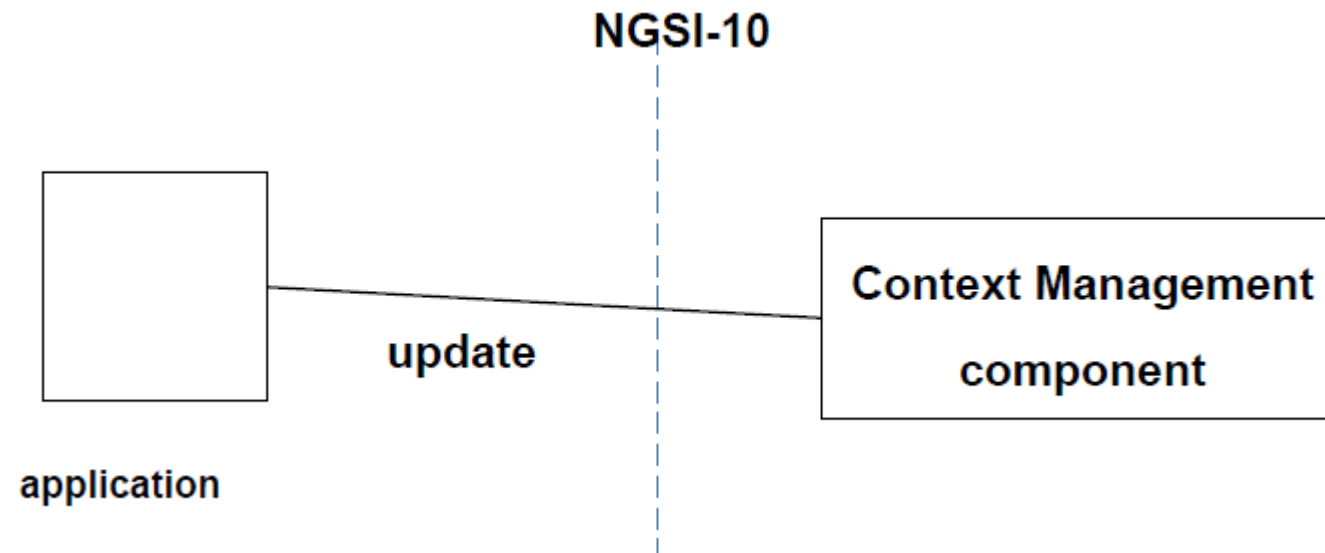


NGSI-10

Context Information Interface

Update Context Operation

- The update operation enables an application acting as a context producer to provide or update Context Information to the Context Management component.

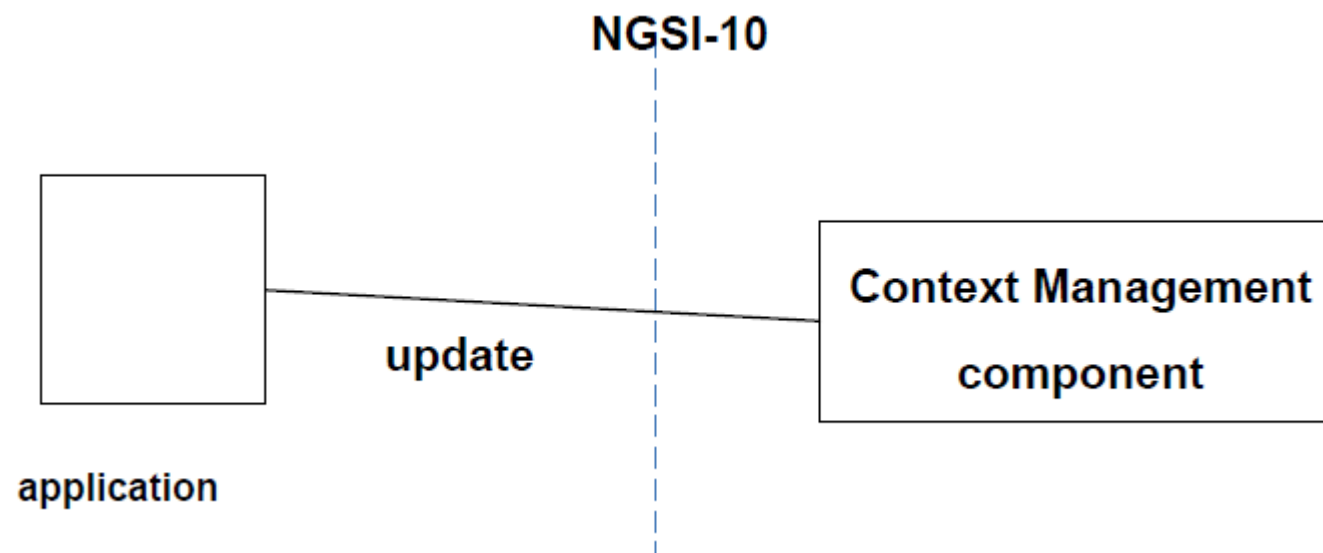


NGSI-10

Context Information Interface

Query Operation

- The Query operation enables applications acting as context consumers to query for Context Information;
- Explicitly listed Context Entities using their Context Entity id;
- Context Entities which are specified by patterns of entity id and/or attributes.

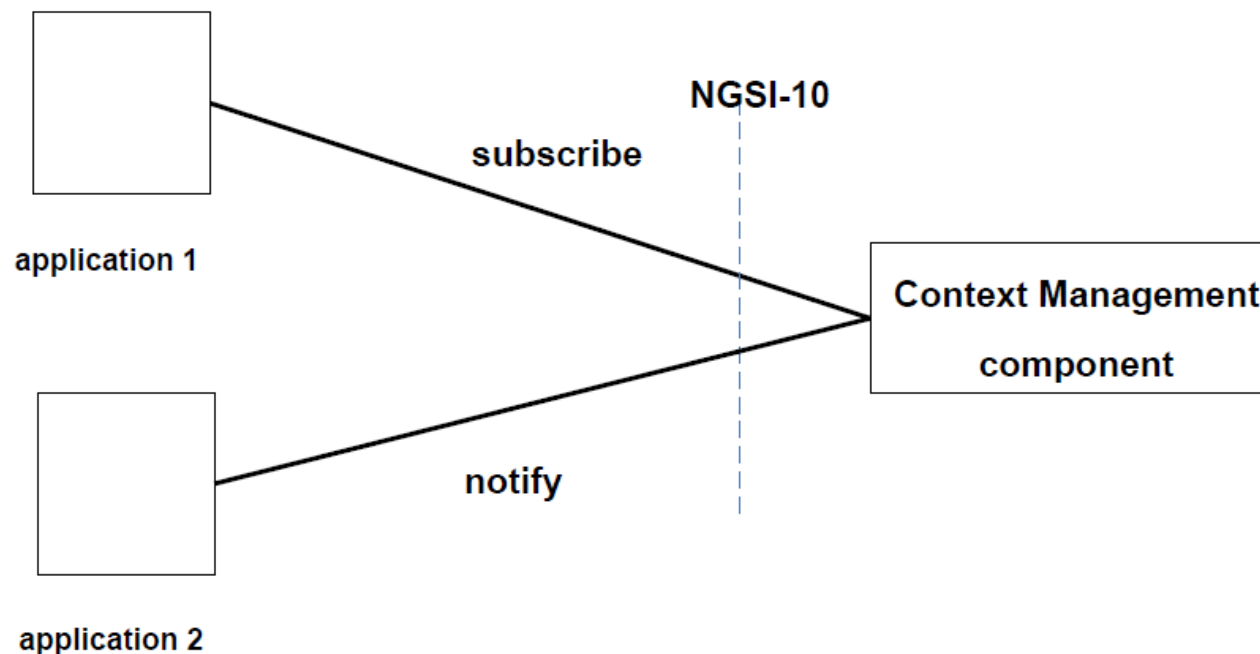


NGSI-10

Context Information Interface

Subscription and Notification Operation

- The Subscription operation enables an application (application 1) to issue a subscription to the Context Management;
- component on behalf of application 2, such that application 2 receives the respective notifications for changes of context;
- attribute values.



Orion *ContextBroker*

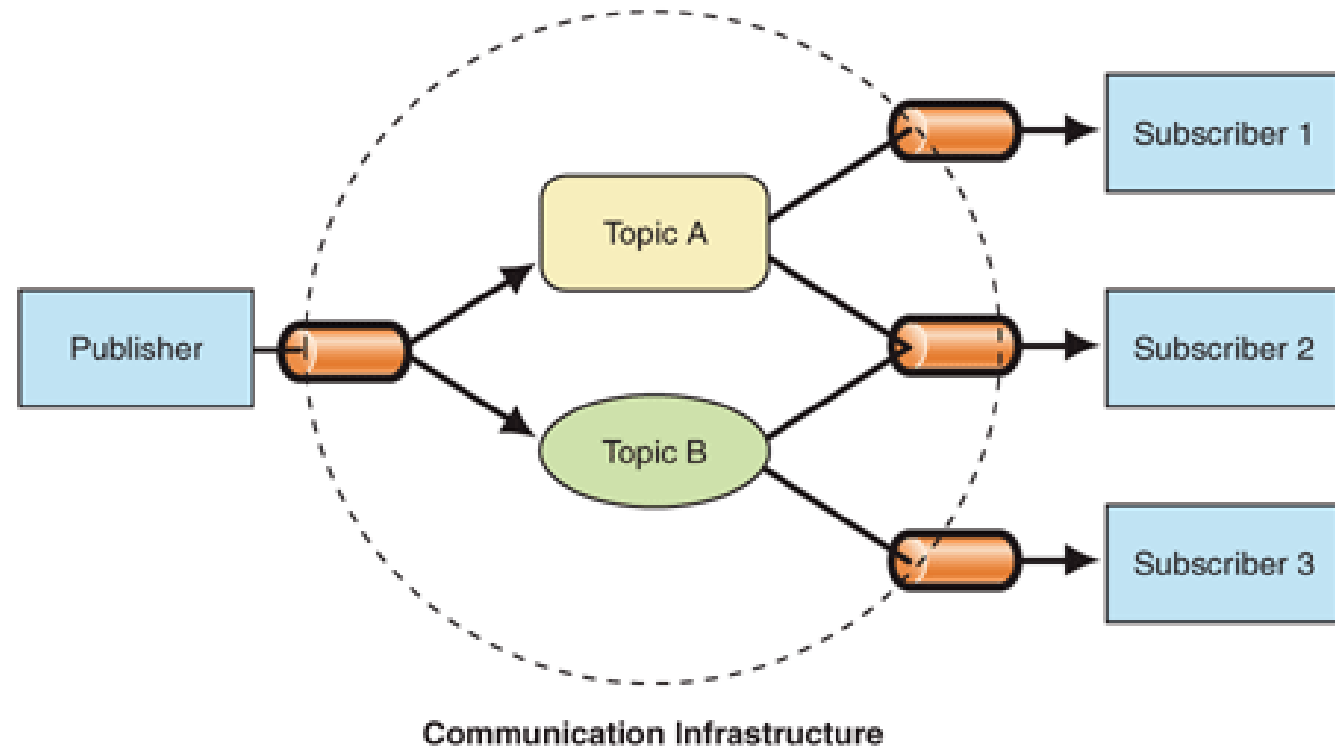


Orion ContextBroker GE

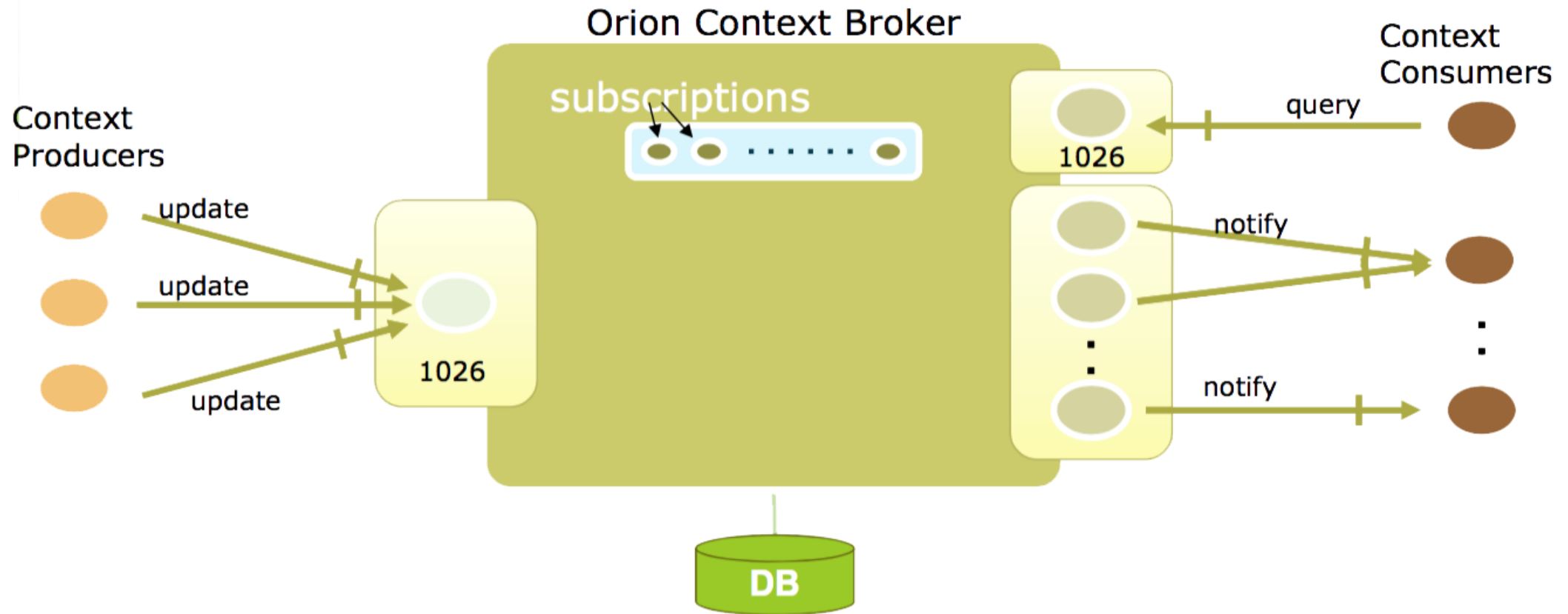
- Encarregado por gerenciar a informação de contexto
- A informação de contexto é relevante para as entidades
 - aplicações
 - usuários
 - coisas
- Faz o intermédio entre produtores e consumidores de contexto

Paradigma *publish-subscribe*

Padrão arquitetural usado para a comunicação assíncrona de vários processos



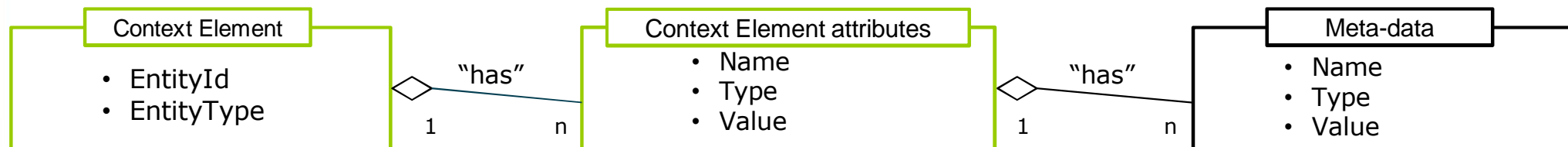
Orion ContextBroker GE



Orion ContextBroker GE

Next Generation Services Interface (NGSI)

- Modelo de informação para
 - Gerenciamento das fontes publicadoras de contexto (v9)
 - Gerenciamento do próprio contexto (v10)
- Padrão da Open Mobile Alliance (OMA)
- REST API (XML/JSON como linguagens de troca de informação)



Introduction

Summary of NGSI10 standard operations URLs

Each standard operation has a unique URL. All of them use the POST method. The summary is below:

<host:port>/v1/updateContext

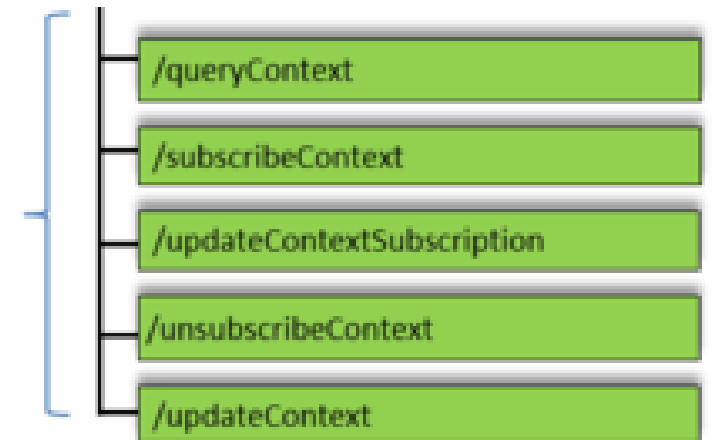
<host:port>/v1/queryContext

<host:port>/v1/subscribeContext

<host:port>/v1/updateContextSubscription

<host:port>/v1/unsubscribeContext

Resources for
NGSI-10
Operations



Context Consumer component

//{notificationURL}

Introduction

Summary of NGSi10 convenience operations URLs

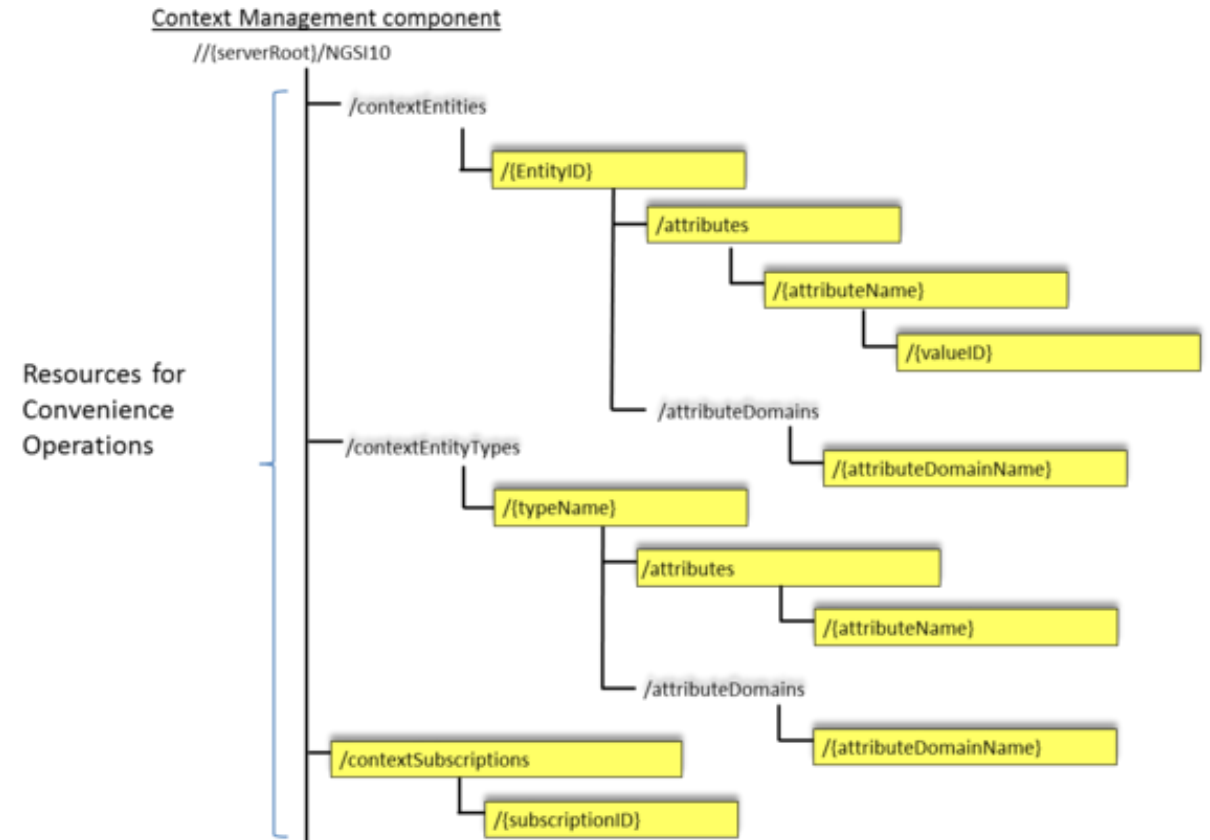
Convenience operations use a URL to identify the resource and a HTTP verb to identify the operation on that resource following the usual REST convention:

GET is used to retrieve information;

POST is used to create new information;

PUT is used to update information;

DELETE is used to destroy information.



Setup

- Acessar a documentação
 - <https://fiware-orion.readthedocs.io/en/develop/index.html> (vamos seguir o walkthrough – NGSI APIv1)
- Criar a instância no FiwareLab
- Atribuir IP público
- Criar regra de segurança (Firewall)
 - Abrir porta 22 e 1026
- Instalar o pacote adicional contextBroker-tests
 - `yum install contextBroker-tests`
 - `/usr/share/contextBroker/tests/`
 - `./accumulator-server.py --port 1028 --url /accumulate --host ::1 --pretty-print -v`
- Instalar o script para geração do Token de autenticação
 - `wget --no-check-certificate https://raw.githubusercontent.com/fgalan/oauth2-example-orion-client/master/token_script.sh`
 - Executar o script e criar o Token

Teste Básico

Version

Configurar os Headers

GET ▾

http://130.206.117.167:1026/version

Params

Send ▾

Authorization

Headers (2)

BodyPre-request Script

☒

Content-Type

application/json

⋮ ×

☒

Accept-Language

application/json

⋮ ×

key

value

Bulk Edit

BodyCookiesHeaders (4)Tests

Status: 200 OK

PrettyRawPreviewJSON ▾⋮

1 ▾

{

2 ▾

"orion": {

3

"version": "1.0.0",

4

"uptime": "0 d, 0 h, 5 m, 31 s",

5

"git_hash": "8bd2c62366f67596d518607b8d6886bc42ec5d2e",

6

"compile_time": "Tue Mar 29 13:20:18 CEST 2016",

7

"compiled_by": "fermin",

8

"compiled_in": "centollo"

9

}

10

}

Criando Contexto

Demonstração

130.206.117.167:1026/v1/updateContext

POST 130.206.117.167:1026/v1/updateContext

Authorization Headers (2) Body Pre-request script Tests

☒ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary JSON (application/json)

```
1 {
2   "contextElements": [
3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room1",
7       "attributes": [
8         {
9           "name": "temperature",
10          "type": "float",
11          "value": "23"
12        },
13        {
14          "name": "pressure",
15          "type": "integer",
16          "value": "720"
17        }
18      ]
19    }
20  ],
21  "updateAction": "APPEND"
22 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": ""
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": ""
18          }
19        ]
20      },
21      "statusCode": {
22        "code": "200",
23        "reasonPhrase": "OK"
24      }
25    }
26  ]
27 }
```


130.206.117.167:1026/v1/updateContext

POST 130.206.117.167:1026/v1/updateContext

Authorization Headers (2) Body Pre-request script Tests

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary JSON (application/json) ▼

```
1 {
2   "contextElements": [
3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room2",
7       "attributes": [
8         {
9           "name": "temperature",
10          "type": "float",
11          "value": "21"
12        },
13        {
14          "name": "pressure",
15          "type": "integer",
16          "value": "711"
17        }
18      ]
19    }
20  ],
21  "updateAction": "APPEND"
22 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room2",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": ""
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": ""
18          }
19        ]
20      },
21      "statusCode": {
22        "code": "200",
23        "reasonPhrase": "OK"
24      }
25    }
26  ]
27 }
```

Consulta

Demonstração

130.206.117.167:1026/v1/queryContext

POST `130.206.117.167:1026/v1/queryContext`

Authorization | Headers (2) | **Body** | Pre-request script | Tests

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary [JSON \(application/json\)](#) ▼

```
1 {
2   "entities": [
3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room1"
7     }
8   ]
9 }
```

```
1 {
2   "contextResponses": [
3     {
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6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
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12            "value": "23"
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": "720"
18          }
19        ]
20       }
21     }
22   ]
23 }
```

130.206.117.167:1026/v1/queryContext

POST 130.206.117.167:1026/v1/queryContext

Authorization Headers (2) Body Pre-request script Tests

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6       "id": "Room2"
7     }
8   ]
9 }
```

```
1 {
2   "contextResponses": [
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4       "contextElement": {
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6         "isPattern": "false",
7         "id": "Room2",
8         "attributes": [
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10            "name": "temperature",
11            "type": "float",
12            "value": "21"
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": "711"
18          }
19        ]
20      }
21    ]
22 }
```

130.206.117.167:1026/v1/queryContext

POST 130.206.117.167:1026/v1/queryContext

Authorization Headers (2) Body Pre-request script Tests

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3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room1"
7     },
8   ],
9   "attributes": [
10    "temperature"
11  ]
12 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": "23"
13          }
14        ]
15      },
16      "statusCode": {
17        "code": "200",
18        "reasonPhrase": "OK"
19      }
20    }
21  ]
22 }
```

130.206.117.167:1026/v1/queryContext

POST 130.206.117.167:1026/v1/queryContext

Authorization Headers (2) Body Pre-request script Tests

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6       "id": "Room1"
7     },
8   ],
9   "attributes": [
10    "temperature", "pressure"
11  ]
12 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": "23"
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": "720"
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19        ]
20      },
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22        "code": "200",
23        "reasonPhrase": "OK"
24      }
25    }
26  ]
27 }
```

130.206.117.167:1026/v1/queryContext

POST 130.206.117.167:1026/v1/queryContext

Authorization Headers (2) Body Pre-Request

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary

```
1 {
2   "entities": [
3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room1"
7     },
8     {
9       "type": "Room",
10      "isPattern": "false",
11      "id": "Room2"
12     }
13   ],
14   "attributes": [
15     "temperature"
16   ]
17 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": "23"
13          }
14        ]
15      },
16      "statusCode": {
17        "code": "200",
18        "reasonPhrase": "OK"
19      }
20    }
21  ],
22  "statusCode": {
23    "code": "200",
24    "reasonPhrase": "OK"
25  }
26 }
```

```
21 {
22   "contextElement": {
23     "type": "Room",
24     "isPattern": "false",
25     "id": "Room2",
26     "attributes": [
27       {
28         "name": "temperature",
29         "type": "float",
30         "value": "21"
31       }
32     ]
33   },
34   "statusCode": {
35     "code": "200",
36     "reasonPhrase": "OK"
37   }
38 }
39 ]
40 }
```

130.206.117.167:1026/v1/queryContext

POST 130.206.117.167:1026/v1/queryContext

Authorization Headers (2) Body Pre

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary

```
1 {
2   "entities": [
3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room1"
7     },
8     {
9       "type": "Room",
10      "isPattern": "false",
11      "id": "Room2"
12     }
13   ],
14   "attributes": [
15     "temperature", "pressure"
16   ]
17 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": "23"
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": "720"
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19        ]
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23        "reasonPhrase": "OK"
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25    }
26  ]
27 }
28 {
29   "contextElement": {
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31     "isPattern": "false",
32     "id": "Room2",
33     "attributes": [
34       {
35         "name": "temperature",
36         "type": "float",
37         "value": "21"
38       },
39       {
40         "name": "pressure",
41         "type": "integer",
42         "value": "711"
43       }
44     ]
45   },
46   "statusCode": {
47     "code": "200",
48     "reasonPhrase": "OK"
49   }
50 }
```


130.206.117.167:1026/v1/queryContext

POST 130.206.117.167:1026/v1/queryContext

Authorization Headers (2) Body Pre

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary

```
1 {
2   "entities": [
3     {
4       "type": "Room",
5       "isPattern": "true",
6       "id": "Room.*"
7     }
8   ],
9   "attributes": [
10    "temperature"
11  ]
12 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
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```
1 {
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7       {
8         "name": "temperature",
9         "type": "float",
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11      }
12    ]
13  },
14  "statusCode": {
15    "code": "200",
16    "reasonPhrase": "OK"
17  }
18 }
```

Update

Demonstração

130.206.117.167:1026/v1/updateContext

```
POST 130.206.117.167:1026/v1/updateContext

Authorization Headers (2) Body Pre-request script Tests
form-data x-www-form-urlencoded raw binary JSON (application/json)

1 {
2   "contextElements": [
3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room1",
7       "attributes": [
8         {
9           "name": "temperature",
10          "type": "float",
11          "value": "26.5"
12        },
13        {
14          "name": "pressure",
15          "type": "integer",
16          "value": "763"
17        }
18      ]
19    }
20  ],
21  "updateAction": "UPDATE"
22 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": ""
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": ""
18          }
19        ]
20      },
21      "statusCode": {
22        "code": "200",
23        "reasonPhrase": "OK"
24      }
25    }
26  ]
27 }
```

130.206.117.167:1026/v1/queryContext

POST 130.206.117.167:1026/v1/queryContext

Authorization Headers (2) Body Pre-request script Tests

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary JSON (application/json) ▼

```
1 {
2   "entities": [
3     {
4       "type": "Room",
5       "isPattern": "true",
6       "id": "Room.*"
7     },
8   ],
9   "attributes": [
10    "temperature", "pressure"
11  ]
12 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": "26.5"
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": "763"
18          }
19        ]
20      },
21      "statusCode": {
22        "code": "200",
23        "reasonPhrase": "OK"
24      }
25    },
26  ]
27 }
```

Delete

Demonstração

130.206.117.167:1026/v1/updateContext

POST 130.206.117.167:1026/v1/updateContext

Authorization Headers (2) Body Pre-request script Tests

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary JSON (application/json)

```
1 {
2   "contextElements": [
3     {
4       "type": "Room",
5       "isPattern": "false",
6       "id": "Room1",
7       "attributes": [
8         {
9           "name": "temperature",
10          "type": "float",
11          "value": "23"
12        },
13        {
14          "name": "pressure",
15          "type": "integer",
16          "value": "720"
17        }
18      ]
19    }
20  ],
21   "updateAction": "DELETE"
22 }
```

```
1 {
2   "contextResponses": [
3     {
4       "contextElement": {
5         "type": "Room",
6         "isPattern": "false",
7         "id": "Room1",
8         "attributes": [
9           {
10            "name": "temperature",
11            "type": "float",
12            "value": ""
13          },
14          {
15            "name": "pressure",
16            "type": "integer",
17            "value": ""
18          }
19        ]
20      },
21      "statusCode": {
22        "code": "200",
23        "reasonPhrase": "OK"
24      }
25    }
26  ]
27 }
```

Convenience

Demonstração

130.206.117.167:1026/v1/contextEntities/Room1

```
1 {  
2   "contextElement": {  
3     "type": "",  
4     "isPattern": "false",  
5     "id": "Room1",  
6     "attributes": [  
7       {  
8         "name": "temperature",  
9         "type": "float",  
10        "value": "33.4"  
11      },  
12      {  
13        "name": "pressure",  
14        "type": "integer",  
15        "value": "45"  
16      }  
17    ]  
18  },  
19  "statusCode": {  
20    "code": "200",  
21    "reasonPhrase": "OK"  
22  }  
}
```


130.206.117.167:1026/v1/contextEntities/Room2

```
1 {  
2   "contextElement": {  
3     "type": "Room",  
4     "isPattern": "false",  
5     "id": "Room2",  
6     "attributes": [  
7       {  
8         "name": "temperature",  
9         "type": "float",  
10        "value": "21"  
11      },  
12      {  
13        "name": "pressure",  
14        "type": "integer",  
15        "value": "711"  
16      },  
17      {  
18        "name": "type",  
19        "type": "char",  
20        "value": "cozinha"  
21      }  
22    ]  
23  },  
24  "statusCode": {  
25    "code": "200",  
26    "reasonPhrase": "OK"  
27  }  
28 }
```

Subscription

Accumulate Script

Subscribe (precisa acionar o script accumulate via putty)

130.206.117.167:1026 × + No Environment

POST 130.206.117.167:1026/v1/subscribeContext Params Send

Authorization Headers (2) Body Pre-request Script Tests

☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary JSON (application/json)

```
1 {
2   "entities": [
3     {
4       "type": "cabrini",
5       "isPattern": "false",
6       "id": "Room1"
7     }
8   ],
9   "attributes": [
10    "temperature"
11  ],
12  "reference": "http://localhost:1028/accumulate",
13  "duration": "P1M",
14  "notifyConditions": [
15    {
16      "type": "ONCHANGE",
17      "condValues": [
18        "pressure"
19      ]
20    }
21  ],
22  "throttling": "PT5S"
```

Pretty Raw Preview JSON

Realize updates do valor de pressão para que ocorram as notificações!

```
1 - - [26/Sep/2016 19:39:03] "POST /accumulate HTTP/1.1" 200 -
POST http://localhost:1028/accumulate
Content-Length: 480
User-Agent: orion/0.28.0 libcurl/7.19.7
Host: localhost:1028
Accept: application/xml, application/json
Content-Type: application/json; charset=utf-8
```

```
{
  "contextResponses": [
    {
      "contextElement": {
        "attributes": [
          {
            "name": "temperature",
            "type": "float",
            "value": "23"
          }
        ],
        "id": "Room1",
        "isPattern": "false",
        "type": "cabrini"
      },
      "statusCode": {
        "code": "200",
        "reasonPhrase": "OK"
      }
    }
  ],
  "originator": "localhost",
  "subscriptionId": "57e977375765c3188baabd7d"
```

```
"ampacktybctowip": "2163113121e2c3188d9a9d9a"
"oktyd7u9foc": "JOC9JPO9C"
]`
```

Projeto

Hands on

Projeto

Criar as entidades da casa, sendo que o parâmetro “type” deve ser o seu nome ou sobrenome:

Exemplo:

```
{  
  "contextElements": [  
    {  
      "type": "cabrini",  
      "isPattern": "false",  
      "id": "Room1",  
      "attributes": [  
        {  
          "name": "temperature", .....        }  
      ]  
    }  
  ]  
}
```

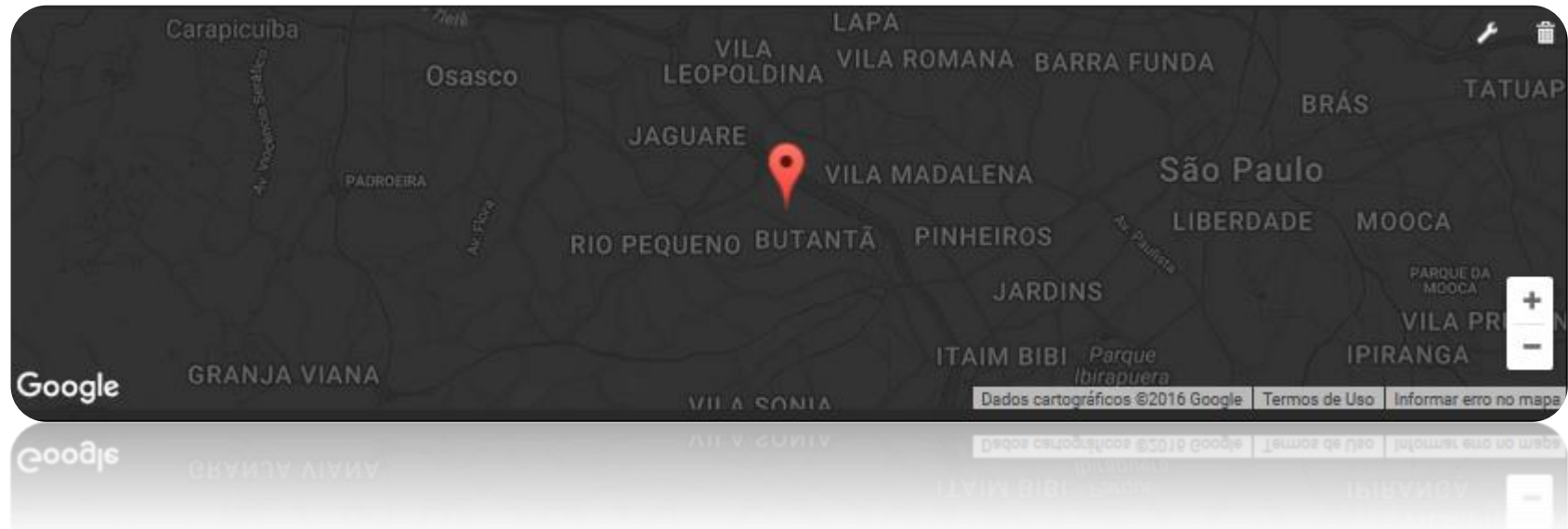


Projeto “Desafio”

Desafio: Inserir as coordenadas de Geolocalização da residência.

Exemplo:

```
{  
  "name": "position",  
  "type": "string",  
  "value": "43.47258, -3.8026643"  
}
```



Criando um dashboard

Freeboard.io

DATASOURCE

Connects to an Orion Context Broker, an implementation of the NGSI9/10 REST API binding developed as a part of the FI-WARE platform. See <https://github.com/telefonicaid/fiware-orion> for more details.

Colocar um espaço

TYPE FIWARE Orion

NAME CB1

HOST:PORT 130.206.117.167:1026

THING PROXY YES ☒

A CORS Proxy (JSONP connection) will be used

FIWARE-SERVICE

FIWARE-SERVICEPATH

/

X-AUTH-TOKEN

L9RkAKCHrIFWSI2Z4VMOVXIKUDnEOE

Token

Type

TYPE iotdevice

ID

sp_pad_intel-galileo_001

ID

ADVANCED

☐ NO

Advanced mode permits access to all JSON request

REFRESH EVERY

5

SECONDS

WIDGET

TYPE Gauge

TITLE medidor

VALUE `datasources["CB1"]["temperatura"]`

+ DATASOURCE

✕ JS EDITOR

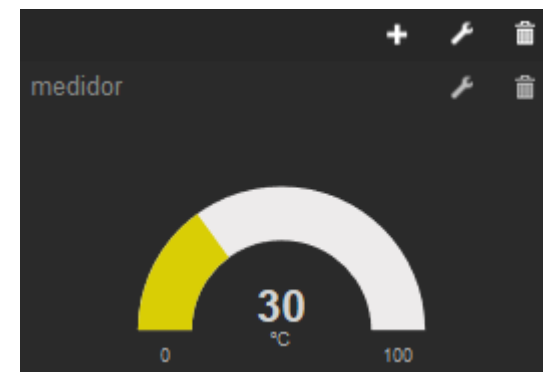
UNITS °C

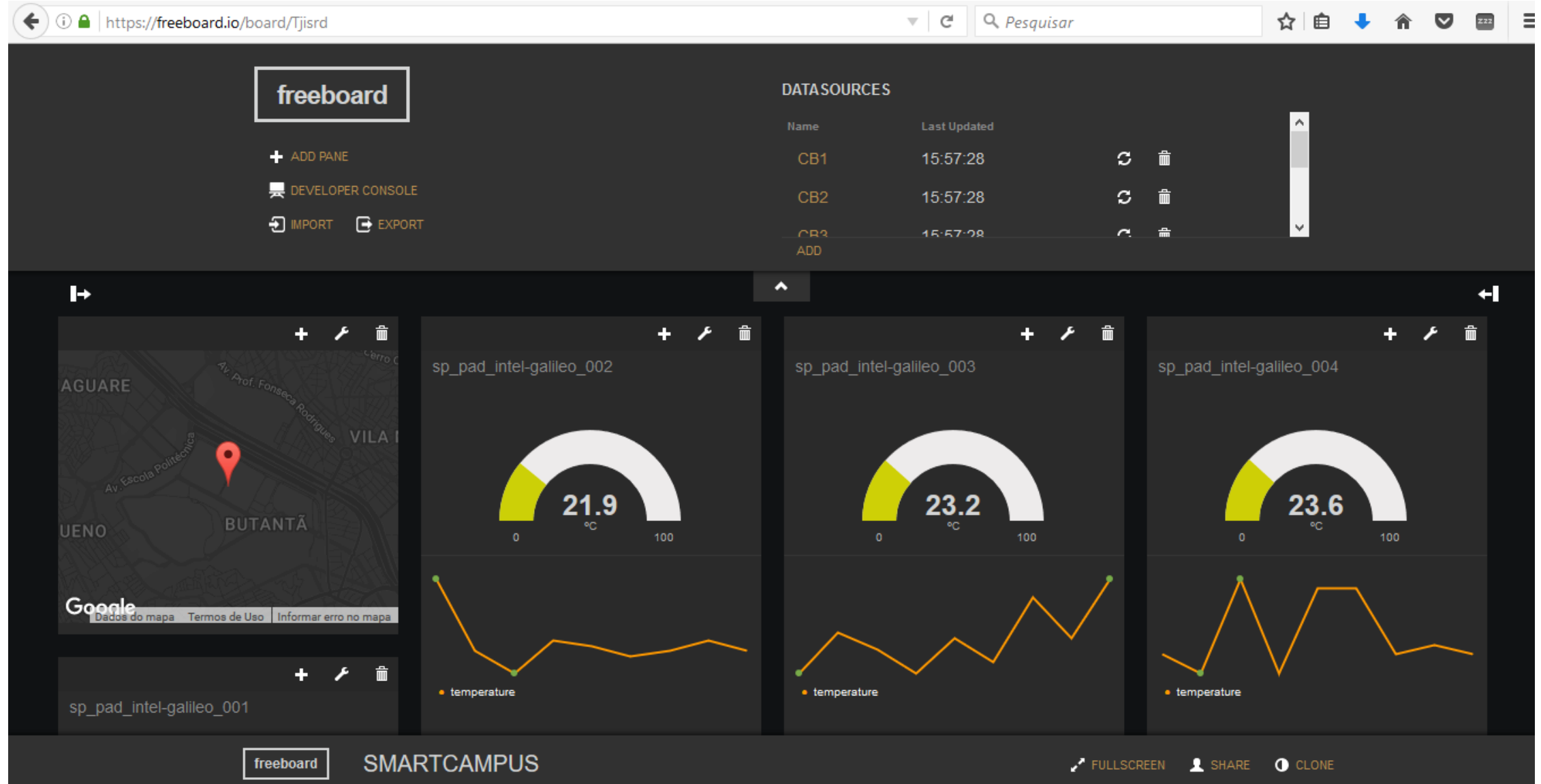
MINIMUM 0

MAXIMUM 100

SAVE

CANCEL





Obrigado!