

BlueForest © Geofencing

Minimum REST API support

# Versions

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| --- | --- | --- | --- |
| Date | Author | Version | Comment |
| 04/11/2021 | Guillaume Pelletier | 0.1 | First version |
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|  |  |  |  |

# Abstract

This specification defines the minimum set of API used by the Geofencing Service. Along with this, the API to access the service itself will be presented.

This is intended to be a strong guideline for implementation.

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# Introduction

## Notational convention

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[rfc2119]](https://tools.ietf.org/html/rfc2119).

The underlying format used for this specification is JSON. Consequently, the terms "object" and "array" as well as the four primitive types (strings, numbers, booleans, and null) are to be interpreted as described in Section 1 of[[rfc8259]](https://tools.ietf.org/html/rfc8259).

Some examples in this document contain "partial" JSON documents used for illustrative purposes. In these examples, three periods "..." are used to indicate a portion of the document that has been removed for compactness.

## Context

This section describe where this API is located into the global Architecture (targeting Geofencing Component only).



Figure 1 The overall Geofencing service Architecture

This specification concerns the interfaces numbered 1 to 6 in figure 1.

* The interfaces 1 and 2 are the interface exposed by the geofencing service.
* The interfaces 3 to 6 are the interface exposed by the geofencing REST service.

# Authentication

The preferred authentication methods are OAuth 2.0 and HTTP Basic (when using SSL).

# Web Service API

## Structure

The REST APIs provide access to the geofencing resources (data entities) via URI paths. To use the REST API, the client will make an HTTP request and parse the response. The REST API uses JSON as its communication format, and the standard HTTP methods like GET, PUT, POST and DELETE (see API descriptions below for which methods are available for each resource). REST API resource have the following structure:

<https://host:port/geofencing/api/api-version/action-name?query-parameters>

The API MUST be case insensitive.

The API MUST use GET method.

## Directory

Directory is the way to lookup for a specific resources, given its unique identifier or alias.

### Methods

#### GetContext

Retrieve an OPTIONAL context for the directory. A context is a map between Unique Identifier (**UId**) and aliases.

##### Request

###### Action

**GET** [/geofencing/dir/1/getcontext](http://host:port/geofencing/dir/api-version/getcontext)

##### Response

#### Lookup

Lookup for a geofence given it’s **UId**.

##### Request

###### Action

**GET** [http://host:port/geofencing/api-version/lookup](http://host:port/geofencing/api-version/lookup?query-parameters)

###### Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | In | Description |
| accept | String | Header | Setting to *application/json* is recommended |
| uid | String | query | Setting to the Unique Id of the geofence to retrieve MUST be present for a valid request. |

##### Response

Status: 200 OK

With a valid Geofence Json content as described into attached documentation.

## Subscription

This is the way to subscribe to the geofence repository changes.

|  |  |
| --- | --- |
| Event Name | Description |
| GeofencesAdded | Messaged when a geofence has been added |
| GeofencesRemoved | Messaged when a geofence has been removed |
| GeofencesUpdated | Messaged when a geofence has been updated |
| LinkAdded | Messaged when an asset to geofence link has been added |
| LinkRemoved | Messaged when an asset to geofence link has been removed |
| LinkUpdated | Messaged when an asset to geofence link has been updated |

## Browse

Query informations about link and geofence

### Method

#### BrowseLinks

Retreive all the links connected with an Asset.

##### Request

###### Action

**GET** [/geofencing/dir/1/browselinks](http://host:port/geofencing/dir/api-version/getcontext)

###### Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | In | Description |
| accept | String | Header | Setting to *application/json* is recommended |
| uid | String | query | Setting to the Unique Id of the asset. MUST be present for a valid request. |
| from | Date time | query | the beginning of search period |
| to | Date time | query | OPTIONAL end of search period |
| index | int | query | OPTIONAL pagination offset to select sub part of the returned array. Default value : 0. |
| count | Int | query | OPTIONAL pagination size to limit the size of the returned array. Default value : 20 (min value : 1 | max value : 100) |

##### Response

Status: 200 OK

{

"items":[

{

"uid":5487,

"asset": "4561",

"aliases":[],

"geofence":"6FA59203-B132-4877-A027-DA11C74F8E7C",

"validity":[

{

"from":"2012-04-23T00:00:00.0Z",

"to":"2012-04-24T00:00:00.0Z",

"recurrence":"week",

"recurrencecount": 4

}

]

}

],

"totalcount":248

}

## Check

# Service API

## Control

## Check