



Developer Guide | PUBLIC

Document Version: 2206a – 2022-06-02

Geolocation: Geofence

Content

- 1 Geofence. 3**
- 1.1 Create a Geofence Configuration. 4
- 1.2 Maintain a Geofence Configuration. 5
- 1.3 Delete a Geofence Configuration. 6

1 Geofence

Overview

In SAP IoT, you can define geolocations that fall into one of the two categories "point of interest" (POI) or "area of interest" (AOI). For the latter, you can set up an additional entity named geofence. A geofence can be seen as a virtual fence around an area of interest, such as:

- Region
- Town
- Production Plant
- Harbor Area

There are numerous business-relevant questions that are related to such areas, for example:

- Has a freight train already reached a certain region of the country so that we can estimate the time of arrival at its destination?
- Can a truck carrying dangerous goods enter a particular town area, or is it mandatory to avoid that area and take a detour for reasons of public security?
- Has a truck already entered the outer boundary of a production plant so that we know whether we have fulfilled our delivery time agreement or not?
- Can a truck heading for a harbor expect immediate clearance upon arrival, or is the harbor area overcrowded so that the truck must be redirected to an external waiting space first?
- After trespassing the boundary of a production plant, did our truck adhere to the speed limits that are in effect in the plant area?

This kind of questions can be answered with SAP IoT by setting up geofence configurations. In a geofence configuration, you specify the location-related properties of a specific thing type (like a truck) and the kind of events that shall be raised when an instance of the thing type reaches or crosses a given position based on its current GPS coordinates. You can then associate the geofence with a time series data segment to specify the rules and actions to be executed when a particular event (like "truck 129 has reached ACME production plant, gate North") occurs.

Related Information

[Segment Service: Overview](#)
[Geolocations](#)

1.1 Create a Geofence Configuration

Process steps for creating a geofence configuration

Context

A geofence configuration defines when to trigger an event for a thing based on a selected property set. That is, you can control whether an event shall be raised for every thing derived from the specified thing type that enters or exits a geofence based on the provided coordinate fields for latitude and longitude of the thing position.

i Note

- The combination of values used for a geofence configuration must be unique. That is, duplicate instances of geofence configurations are **not** allowed.
- In the [New Fence Configuration](#) dialog box, you can ignore the [ID](#) field on top. The system generates a unique value for this field upon creation of a new configuration.

Procedure

1. From the launchpad, start the Geofence Configurations app.

The system presents the list of configurations available in the system.

2. Choose [Create](#).
3. In the [Property Set](#) field, expand the value help (□).

The system presents a dialog with additional selection criteria for the property set.

4. In the [Package](#) field, expand the value help (□) and choose the desired package.
5. In the [Thing Type](#) field, expand the value help (□) and choose the desired thing type.

The system populates the Property Sets list with all property sets that are assigned to the thing type.

6. Choose the desired property set.

The system navigates back to the [New Fence Configuration](#) dialog box.

7. From the fields that exist in the property set, choose the one that you want to use as the [Latitude Field](#) as well as the one that you want to use as the [Longitude Field](#).

i Note

For both latitude as well as longitude, only properties can be assigned that have been defined with one of the following data types: Decimal Number, Float, or GeoJSON.

8. In the [Events](#) section, specify whether the system shall raise events upon entering, exiting, or both entering and exiting the fence. You can also specify that no such events are raised.

9. Tick the [Track Unassigned](#) checkbox to ensure that even things that have **not** been assigned to any geofence shall be tracked by the system.

i Note

If this setting is active, the system evaluates the thing position against **all** defined geofences, which can result in a significant increase of processing time. Therefore, we recommend using this feature with care.

10. Check your settings. If everything is OK, choose [Save](#).

1.2 Maintain a Geofence Configuration

Process steps for maintaining a geofence configuration

Context

As an administrator, you want to modify the settings that have been defined for an existing geofence configuration.

Procedure

1. From the launchpad, start the Geofence Configurations app.

The system presents the list of configurations available in the system.

2. Use the [Search](#) field to find the configuration you want to modify. Alternatively, you can also use the [Thing Type](#) and [Property Set](#) filter criteria to narrow down the number of configurations presented in the list.
3. In the list of configurations, click the one you want to change.

The system displays the [Edit Fence Configuration](#) dialog box.

4. Change the configuration settings as required and choose [Save](#).

The system displays a confirmation message and takes you back to the entry screen of the app.

i Note

The combination of values used for a geofence configuration must be unique. That is, duplicate instances of geofence configurations are **not** allowed.

1.3 Delete a Geofence Configuration

Process steps for deleting a geofence configuration.

Context

As an administrator, you want to delete one or more geofence configurations, for example, to get rid of some outdated configurations that are no longer needed.

⚠ Caution

The system cannot check the usage relationships between a geofence configuration and any rules that may rely on the geofence. Therefore, it's up to you to verify that the configurations you delete are no longer used by any rules.

Procedure

1. From the launchpad, start the Geofence Configurations app.

The system presents the list of configurations available in the system.

2. Use the [Search](#) field to find the configuration you want to modify. Alternatively, you can also use the [Thing Type](#) and [Property Set](#) filter criteria to narrow down the number of configurations presented in the list.

→ Tip

Searching for configurations associated with a particular thing type comes in handy whenever changes to your physical devices have been made, which, in most cases, calls for mirroring the new device with a newly created thing type.

3. Select the configurations to be deleted by ticking the checkbox in the leftmost column of the list.

→ Tip

If your selection reflects precisely the set of configurations to be deleted, you can use the [Select All](#) checkbox in the header row of the list instead of selecting each row individually.

4. Choose .

The system displays a warning message.

5. If you are sure that you want to delete the selected configurations, choose [OK](#).

The system navigates you back to the entry screen of the app.

Important Disclaimers and Legal Information

Hyperlinks

Some links are classified by an icon and/or a mouseover text. These links provide additional information.

About the icons:

- Links with the icon  : You are entering a Web site that is not hosted by SAP. By using such links, you agree (unless expressly stated otherwise in your agreements with SAP) to this:
 - The content of the linked-to site is not SAP documentation. You may not infer any product claims against SAP based on this information.
 - SAP does not agree or disagree with the content on the linked-to site, nor does SAP warrant the availability and correctness. SAP shall not be liable for any damages caused by the use of such content unless damages have been caused by SAP's gross negligence or willful misconduct.
- Links with the icon  : You are leaving the documentation for that particular SAP product or service and are entering a SAP-hosted Web site. By using such links, you agree that (unless expressly stated otherwise in your agreements with SAP) you may not infer any product claims against SAP based on this information.

Videos Hosted on External Platforms

Some videos may point to third-party video hosting platforms. SAP cannot guarantee the future availability of videos stored on these platforms. Furthermore, any advertisements or other content hosted on these platforms (for example, suggested videos or by navigating to other videos hosted on the same site), are not within the control or responsibility of SAP.

Beta and Other Experimental Features

Experimental features are not part of the officially delivered scope that SAP guarantees for future releases. This means that experimental features may be changed by SAP at any time for any reason without notice. Experimental features are not for productive use. You may not demonstrate, test, examine, evaluate or otherwise use the experimental features in a live operating environment or with data that has not been sufficiently backed up.

The purpose of experimental features is to get feedback early on, allowing customers and partners to influence the future product accordingly. By providing your feedback (e.g. in the SAP Community), you accept that intellectual property rights of the contributions or derivative works shall remain the exclusive property of SAP.

Example Code

Any software coding and/or code snippets are examples. They are not for productive use. The example code is only intended to better explain and visualize the syntax and phrasing rules. SAP does not warrant the correctness and completeness of the example code. SAP shall not be liable for errors or damages caused by the use of example code unless damages have been caused by SAP's gross negligence or willful misconduct.

Bias-Free Language

SAP supports a culture of diversity and inclusion. Whenever possible, we use unbiased language in our documentation to refer to people of all cultures, ethnicities, genders, and abilities.

© 2022 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company. The information contained herein may be changed without prior notice.

Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.

Please see <https://www.sap.com/about/legal/trademark.html> for additional trademark information and notices.