



PUBLIC

Connection Guide for Fleet Management Systems

SAP Warehouse Robotics

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1. BUSINESS SCENARIO

For the integration between SAP Warehouse Robotics and non-SAP fleet management systems, the communication is bidirectional, and you need to set up a two-way connection.

To integrate SAP Warehouse Robotics with fleet management systems from different robot vendors, you need to implement an adapter. The adapter is a component between SAP Warehouse Robotics and the fleet management system. You can use the adapter to perform the following actions:

- To translate robot tasks dispatched from SAP Warehouse Robotics into APIs that can be recognized by the fleet management systems.
- To write back the robot task statuses from the fleet management systems to SAP Warehouse Robotics.

This document guides you through setting up the connection from SAP Warehouse Robotics to the adapter of the fleet management system and from the adapter of the fleet management system to SAP Warehouse Robotics.

2. SETTING UP THE CONNECTION FROM SAP WAREHOUSE ROBOTICS TO THE ADAPTER OF FLEET MANAGEMENT SYSTEM

2.1 Prerequisites

- You have set up your global account and subaccount. For more information, see [Managing Global Accounts Using the Cockpit](#) and [Managing Subaccounts Using the Cockpit](#).
- You have subscribed to **SAP Warehouse Robotics**. For more information, see [Onboarding](#).
- You have set up the adapter for your fleet management system and have the necessary connection information (such as link URL and credential).

2.2 Procedures

2.2.1 Create a Destination in SAP BTP

2.2.1.1 Prerequisites

You have assigned the **Connectivity and Destination Administrator** role to the sub-account.

2.2.1.2 Procedures

On-Premise System

If the adapter of your fleet management system is deployed on an on-premise system, you need to perform the following actions:

1. SAP Cloud Connector
Configure SAP Cloud Connector in the on-premise landscape.
For more information, see [Cloud Connector](#).
2. Set up HTTP destinations in SAP BTP.

If your adapter is deployed on an on-premise system, select the **OnPremise** proxy type. HTTP destinations are relevant for the destination service. For more information, see [Managing Destinations](#).

Cloud System

If the adapter of your fleet management system is deployed on a cloud system, you only need to set up HTTP destinations in SAP BTP. Select the **Internet** proxy type. HTTP destinations are relevant for the destination service. For more information, see [Managing Destinations](#).

2.2.2 Define Fleet Management System in SAP Warehouse Robotics

2.2.2.1 Prerequisites

You have created a destination in SAP BTP in the previous [chapter 2.2.1](#).

2.2.2.2 Procedures

1. Go to SAP Warehouse Robotics.
2. Open the **Onboard Robots - Fleet Management** app, choose **Define Fleet Management System**.
3. Create a fleet management system or edit an existing one.
4. Fill the destination name in **Destination in SAP BTP** and save your changes.

Create Fleet Management System

Fleet Management System: *

Please use only letters, numbers, and underscore characters.

Description: ⓘ

Destination in SAP BTP: *

ⓘ The destination that you define in SAP BTP for connecting to the fleet management system. X

Create Cancel

3. SETTING UP THE CONNECTION FROM THE ADAPTER OF FLEET MANAGEMENT SYSTEM TO SAP WAREHOUSE ROBOTICS

3.1 Prerequisites

- You have set up your global account and subaccount. For more information, see [Managing Global Accounts Using the Cockpit](#) and [Managing Subaccounts Using the Cockpit](#).
- You are assigned the **Administrator** role for the global account.
- You have created a Cloud Foundry space. For more information, see [Managing Spaces](#).
- You have configured the subaccount's entitlements to add the **API access service of SAP Warehouse Robotics** service.
- You have subscribed to **SAP Warehouse Robotics**. For more information, see [Onboarding](#).

3.2 Procedures

3.2.1 Creating a Service Instance

Create an instance for the **API access service of SAP Warehouse Robotics** service.

3.2.1.1 Procedures

1. Open your global account in the SAP BTP cockpit.
2. Open your subaccount.
3. In the navigation area, choose **Services** -> **Service Marketplace**.

All services and applications to which your global account is entitled are listed. You can filter by services or search for the service you want to subscribe to.

4. Choose **API Access Service of SAP Warehouse Robotics** to open the **Overview** page.
5. Choose **Create**.
6. In the **New Instance or Subscription** dialog, enter the required information for the new instance.
 - The service and the runtime environment are pre-filled.
 - Select a plan.
 - Select the space in which you want to create the instance.
 - Enter an instance name.
 - Instance parameters are not required.

Review your entries and choose **Create**.

You're redirected to the space in which you have created the service instance. You can now create the service key.

3.2.2 Creating a Service Key

Create a service key to get the credentials for accessing SAP Warehouse Robotics APIs.

3.2.2.1 Context

The service key that you create depends on the authentication type you're using. SAP Warehouse Robotics APIs support the following authentication types:

- OAuth 2.0 client credentials

3.2.2.2 Procedure

1. Open your global account in the SAP BTP cockpit.
2. Open your subaccount.
3. In the navigation area, choose **Spaces** and open your space.
4. In the navigation area, choose **Services -> Instances and Subscriptions**.
5. Find the service instance for which you want to create the service key, choose **Actions**, and then choose **Create Service Key**.
6. In the **New Service Key** dialog, proceed as follows:
 - a. Enter a name for the service key.
 - b. Choose **Create**
7. Once the service key is created, choose **View Credentials**.

A JSON file is displayed.

If you use client credential authentication, you can extract the following information from the JSON file:

Attribute	Description
uaa.clientid	The OAuth client ID
uaa.clientsecret	The OAuth client secret
uaa.url	The base URL for the OAuth server

Related Information

3.2.3 Obtain the Callback URL for Fleet Management System

Get the URL that the adapter of your fleet management system will send the callback information.

3.2.3.1 Procedures

1. Go to SAP Warehouse Robotics;
2. Open the **Onboard Robots - Fleet Management** app, choose **Define Fleet Management Systems**.
3. Choose the **Obtain Callback URL** button for your relevant fleet management system. Then the URL is copied to your clipboard.

3.2.4 Access the Callback URL for Fleet Management System

Access the callback URL for the fleet management system with the credentials.

3.2.4.1 Prerequisites

You have the following information:

Attribute	Description
uaa.clientid	The OAuth client ID
uaa.clientsecret	The OAuth client secret
uaa.url	The base URL for the OAuth server
callback-url	The callback URL of the fleet management system

3.2.4.2 Procedures

1. Use a REST API client of your choice to create an access token by making a POST call to the base URL of the OAuth server contained in the service key.

Adapt the URL as follows:

<uaa.url>/oauth/token

Set the following properties in the POST call:

- Message Header: <application/x-www-form-urlencoded>
- Message Body:

Key	Value
client_id	<client ID from the service key>
client_secret	<client secret from the service key>

Key	Value
grant_type	client_credentials

The access token is contained in the response.

2. You can now access the API:

- Using a REST API client of your choice to make calls using the endpoint URL
 - The URL has the following format:
<callback-url>/<endpoint>
Example: <callback-url>/robotTaskStatuses
- Use the following Request Headers:
 - Authorization: Bearer <access_token_retrieved_from_step_1>

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