

PUBLIC

Custom Joule Skill & Agent in SAP Build Material Management and Sales Operations Specialist Agent

Configuration & User Guide

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Contents

Overview	3
Business Value & Benefits.....	5
Prerequisites.....	6
Configuration Guide.....	6
Setup Business Technology Platform Cockpit.....	6
Configure SAP Build Process Automation Destination	Error! Bookmark not defined.
Configure SAP S/4HANA Destination	6
User Roles Configuration.....	7
Services used:.....	7
Artifacts in the Agent:.....	7
Setup Content Package.....	8
Import Custom Joule Agent	8
Configuration & Modification	8
Release and Deploy the Project	8
Test the Joule Skills And Agent in SAP Build.....	9

This document contains 2 sections. Each section covers different information about this template content package.

1. **Overview:** In this section, you will get quick overview of the use case, what are high-level components used and how the template works in nutshell. Prerequisite section provides information on different services of SAP Business Technology Platform that are required to use this template.
2. **Configuration Guide** It contain sections which will guide you to setup your (a) SAP Business Technology Platform Account with destination, user roles etc., (b) Links and steps to set up Joule studio and Joule (c) Import and configure the template using SAP Build Process Automation - Joule studio

Note:

- Learning contents are published only for demo and reference purposes. We do not provide any support to learning / sample content.
- This documentation is not a detailed guide to set up SAP Business Technology Platform services. It assumes that IT admin who is setting the content is skilled with SAP Business Technology Platform environment. **Configuration section must be followed.**
- This template content is to accelerate your solution development. You must modify this template according to your requirements to achieve the desired business goal. To use this template content, you need to have basic knowledge and understanding of SAP Build Process Automation and its capabilities.

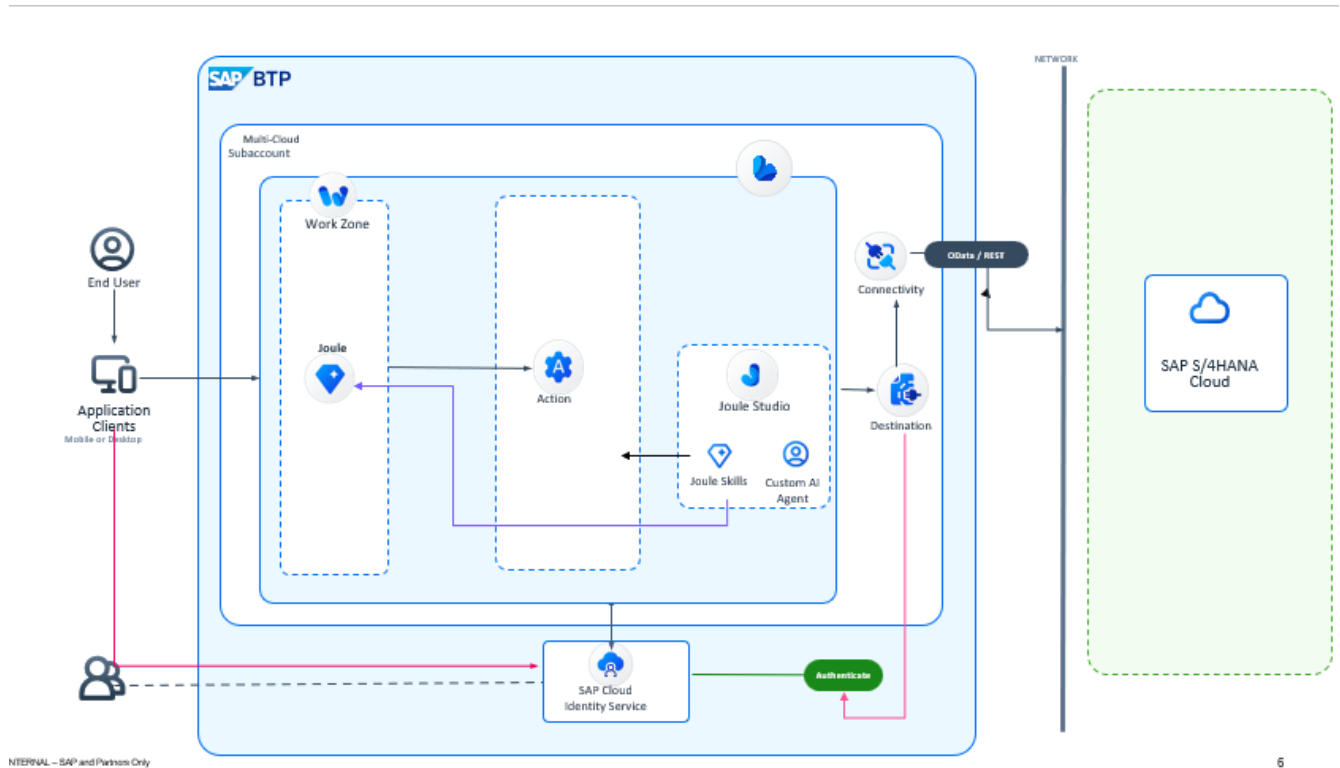
Overview

1. This document outlines the technical configuration requirements needed to enable and run the “Material Management and Sales Operations Specialist” package agent.
2. The primary audience for this document includes technical stakeholders, such as IT administrators, developers, and functional experts.
3. The Joule Agent is designed to understand user requests and intelligently trigger the appropriate SAP actions—such as checking material stock availability, suggesting alternative materials, or creating sales orders—while ensuring all mandatory inputs are captured and the responses remain clear, accurate, and business-friendly.
4. The “**Material Management and Sales Operations Specialist**” Agent retrieves material stock details and substitution information from the SAP S/4HANA backend system.
5. If you are new to Joule Studio or would like to explore how AI agents can enhance business workflows, this example offers a practical and ready-to-use business scenario.

Solution flow :

Material Management & Sales Operations Agent – Flow

1. The requester (e.g., user/business user) interacts with the Agent asking for stock details, material substitution, or sales order creation.
2. The Agent first understands the user's intent and then refers to the relevant Joule skill (tool/action) configured in the system.



a. Material Stock Check Flow

- If the user asks for stock or availability:
 - The Agent invokes the 'Material Stocks' skill.
 - This internally uses the action `API_MATERIAL_STOCK_SRV`.
 - The system fetches real-time stock details for the given material.
 - The Agent presents the available quantity and stock status to the user.

b. Material Substitution Flow

- If the user asks for alternative or substitute materials:
 - The Agent invokes the 'Material Determination' skill.

- This uses Material Determination action
 - The system identifies valid substitute materials based on configuration.
 - The Agent returns the list of alternative materials to the user.
-

c. Sales Order Creation Flow

- If the user requests to create a sales order:
 - The Agent invokes the 'Sales Order' skill.
 - This uses the service API_SALES_ORDER_SRV.
 - If required inputs (like Material ID, Quantity, Customer) are missing:
 - The Agent prompts the user to provide them.
 - Once all inputs are available:
 - The system creates the sales order.
 - The Agent confirms the order creation with details.
-

Final Behavior

- The Agent always:
 - Identifies intent first
 - Calls the correct backend service/action
 - Avoids assumptions
 - Responds with clear, business-friendly output

Business Value & Benefits

- **Faster Decision Making**
Instant access to real-time stock and material availability helps users take quick actions.
- **Improved Operational Efficiency**
Automates manual steps like stock checks, material substitution, and sales order creation.
- **Reduced Errors**
Ensures correct data usage by validating inputs and using standard SAP services.
- **Better Customer Service**
Enables quick responses with accurate stock info and alternative material suggestions.
- **Increased Productivity**
Users can complete multiple tasks (check stock, find substitutes, create orders) through a single agent.

- **Seamless SAP Integration**
Leverages standard APIs like API_MATERIAL_STOCK_SRV and API_SALES_ORDER_SRV for reliable execution.
- **Guided User Experience**
Prompts for missing inputs and ensures smooth, error-free process completion.

Prerequisites

For this template to run successfully the following prerequisites are needed.

- Joule Studio in SAP Build
Follow the setup guide [here](#) based on your tenant configuration.

NOTE: If you need additional help with these prerequisites (such as setting up SAP Build Process Automation and SAP Build Work Zone), you can run the Discovery Center mission: [Setup Joule Studio for a BTP Enterprise Account](#).

Configuration Guide

Setup Business Technology Platform Cockpit

Configure SAP S/4HANA Destination

This content package can be used with SAP S/4HANA Cloud, Public Edition. Destination can be created accordingly.

Destination Property	Value
Name	<Name>
Type	HTTP
URL	<SAP S/4HANA endpoint> Example: https://<s4system-name>-api.xxxxxxxx
Proxy Type Internet	Internet
Authentication	Basic Authentication
Username	<Username> of the SAP S/4HANA Communication User
Password	<Password> of the SAP S/4HANA Communication User

Add the property **sap.processautomation.enabled** as **true** to view the destination in the SAP Build Process Automation tenant. Please refer [help document](#) for more details.

NOTE: Make sure the API used in this template (see the below sections to get the API name) is exposed with the correct communication scenario to the communication user.

Communication scenarios:

- Material Stock Integration -SAP_COM_0164,
- Master Data - Product Substitution Integration - SAP_COM_0707,
- Sales Order Integration - SAP_COM_0109

User Roles Configuration

To access this template, the users need to have the roles as described [here](#).

Services used:

There are three Action projects used in this template. They use different API Services.

Action Project Name	Service Used	Purpose
Service for namespace API_MATERIAL_STOCK_SRV	https://{host}:{port}/sap/opu/odata/sap/ <i>/A_MaterialStock('{Material}')/to_MatStkInAcctMod</i>	To retrieve Material Stocks from SAP S/4HANA Cloud Public Edition
Material Determination	<i>/SlsMatlDeterminationRecord</i>	To retrieve Material Determination from SAP S/4HANA Cloud Public Edition
Service for namespace API_SALES_ORDER_SRV	<i>/A_SalesOrder('{SalesOrder}')/to_Item</i>	To create sales order in SAP S/4HANA Cloud Public Edition

Artifacts in the Agent:

Type	Name	Description
Joule Skill	Material Stocks	Retrieves Materials details for a specified Material from SAP S/4HANA.
Joule Skill	Material Substitution	A skill to retrieve material substitution for products from SAP S/4HANA

Joule Skill	Sales Order	A skill to create sales based on customer. /Product details in SAP S/4HANA
Joule Agent	Material and Sales Operations Agent	Agent to retrieve the Material Stocks, Substitution and create sales order in SAP S/4HANA

Setup Content Package

Import Custom Joule Agent

All imported custom agents are available in SAP Build Store. To know more about the SAP Build Store visit [SAP Build Process Automation Store](#).

This template can be downloaded from the SAP Build Store:

1. Navigate to the **Store** option in your SAP Build Lobby.
2. Select the **Project Type** filter as “Joule Agent and Skill”
3. In the Search bar type “**Material and Sales Operations Agent**”
4. Select the “Create from Template” button to add the template into your lobby.
5. Once the creation is complete, navigate to the Lobby to find the “**Material and Sales Operations Agent**” project is available for use.

Configuration & Modification

Once the Joule Skill & Agent project is added into the lobby, it can be run directly without any modification.

However, if you need to modify Joule skills that are used within the project or you want to modify the agent, with its instructions/additional context or other fields, you can do so.

In order to understand the various capabilities of Joule Studio and work with them please refer to the link: [Create AI Capabilities | SAP Help Portal](#)

Release and Deploy the Project

Once the agent is verified by the user / modified based on user need, it has to be released and deployed into a shared environment.

- Refer to the link below to create/Share an Environment:
[Environments | SAP Help Portal](#)
- Refer to the link below to release a project:

[Release a Project | SAP Help Portal](#)

- Refer to the link below to deploy a project:
[Deploy a Project | SAP Help Portal](#)

Test the Joule Skills and Agent in SAP Build

1. To access your projects, navigate to **Control Tower ->Tenant Configuration->Environments**.
2. Select your environment.
3. After deploying the project, the project should be seen in the Shared Environment.
4. Click on the Tab, '**Joule**'
5. Click on the button '**Launch**'

This will open the Joule launchpad where you can key in the below prompts in order to test the agent.

Prompt	Expected Result
Share the available stocks for TG21	The Material TG21 details will be retrieved from SAP S/4 HANA
Share the material substitution for this material TG21	The Material substitution details for TG21 will be displayed from SAP S/4HANA
create sales order for this material TG21	A sales order will be created in SAP S/4HANA Note: Joule will ask for the required details to create the sales order, such as material, sold-to party, sales organization, and other necessary information.

NOTE:

1: Currently the Agent will be only deployed in the SAP Build environment and hence testing can also be done only in the Build Lobby. If you want to **activate the Joule in other systems** Eg: SAP S/4HANA or SAP Work zone, then click on the **settings** in 'Control Tower->Environments-><Your Shared Environment that was created>->Joule'

Here you must switch the toggle on for '**Share Environment Capabilities**'.

Last Updated: Author: Members: Identifier: Description:

Projects Triggers Automation Launchers Agent Management Alert Handlers Variables API Keys Visibility Scenarios Processes and Workflows **Joule**

Joule Digital Assistant Shared

Launch



Environment Capabilities

Version

Joule Settings

Selecting this option deploys the environment's capabilities to Joule shared assistant, making them available to users who have "Execute" or "Administrator" rights for this environment.

Share Environment Capabilities

Apply

Cancel