

IBP Demand Planning Agent



PUBLIC

Custom Joule Skill & Agent in SAP Build IBP Demand Planning Agent

Configuration & User Guide

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

Overview: In this section, you will get a quick overview of the use case, what high-level components are used and how the template works in a nutshell. The prerequisite section provides information on different services of SAP Business Technology Platform that are required to use this template.

Configuration Guide: It contains section 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:

- This agent and documentation are intended for Business use. The content is designed to support real business scenarios and enterprise integrations.
- This documentation does not provide a full end-to-end setup guide for all SAP Business Technology Platform services. It assumes that the IT administrator responsible for setting up has prior experience with SAP Business Technology Platform and related services. The configuration steps outlined in this document must be followed as described.
- This content is provided to accelerate enterprise solution implementation. Customers are expected to adapt and extend the agent, skills, and configurations based on their specific business requirements. Users should have a basic understanding of SAP Build Process Automation and its capabilities to effectively customize and operate the solution.

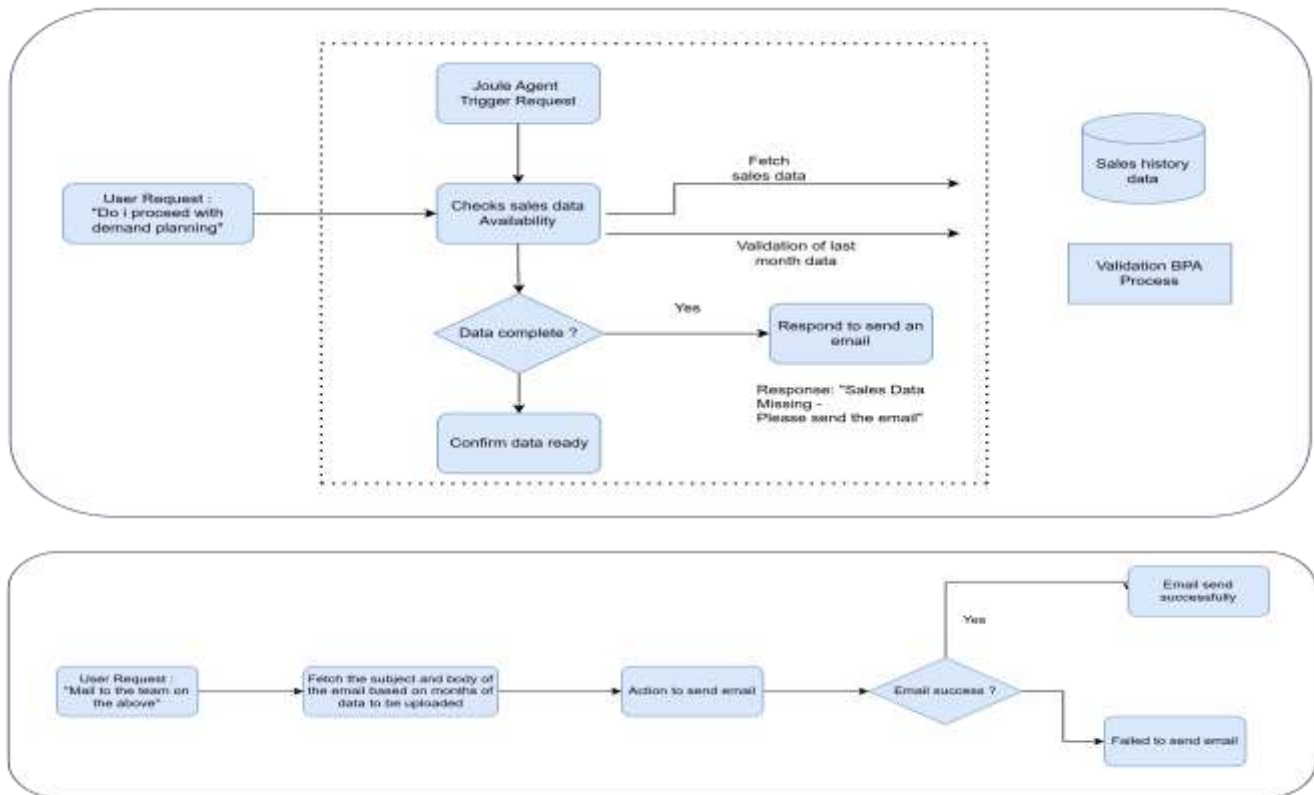
Overview

The **IBP Demand Planning Agent** helps planners verify the **availability and readiness of sales history data** before running demand planning activities in SAP Integrated Business Planning (IBP). Through a conversational interface in Joule, planners ask if the latest period sales history is ready; the agent then checks backend data and responds with a clear “ready/not ready” status. When gaps are detected, the agent can initiate a notification workflow to inform responsible data owners so that corrective actions are taken quickly.

How it works (high level):

- The agent is built in **SAP Joule Studio** (Agent Builder).
- A planner asks: “Do I proceed with demand planning for sales?”
- The agent triggers a **Sales Data Validation** skill that calls a backend API to retrieve the most recent period’s sales history values from **SAP Cloud Solution IBP**
- The skill evaluates the response to confirm **availability and completeness**.
- The agent returns a concise result and, if needed, can trigger a **communication** skill to notify stakeholders.

Solution flow (example given below) :



Business Value & Benefits

- **Forecast readiness assurance:** Confirms that the latest period sales history exists and is complete before planners start forecasting.
- **Reduced manual effort:** Eliminates repetitive, error-prone checks in spreadsheets, emails, or ad hoc reports.
- **Faster decision cycles:** Immediate yes/no validation lets planners proceed confidently or escalate quickly.
- **Built-in follow-ups:** When data is missing or incomplete, the agent can trigger an email notification to the data owners.
- **Consistency and transparency:** Standardizes the validation step across teams and planning cycles.
- **Higher planning quality:** Better input data drives more reliable demand plans.

Prerequisites

- **SAP Build Joule Studio** enabled in your BTP tenant.
- **SAP BTP Destination** configured for calling IBP from the SAP cloud solution SAP IBP.
- **SAP BTP Destination** configured for calling an email workflow using cap service.
- **Access to SAP IBP planning data** (historical sales values) used for readiness checks.
- **Client credentials (OAuth 2.0)** for the API endpoints you will call from the actions.
- Project roles and permissions in **SAP Build** and appropriate **backend authorizations** to read sales history data.

Backend Service

Get the backend CAP service ZIP file from SAP Intelligent Business Demand Planning Agent's dependencies, extract the zip file and open it in code editor

Email Workflow

Get the email BPA workflow MTAR file integrated with the cap service, import the file into the SAP lobby.

Configuration Guide

Setup Business Technology Platform Cockpit

- In your **BTP Global Account**, create or select a **subaccount** for SAP Build and Joule Studio.
- Assign **entitlements** for SAP Build services and ensure **Destinations** service is available.
- Configure **role collections** for your admins/authors/testers who will manage and run the IBP agent.

Configure SAP S/4HANA Destination

This content package can be used with SAP Cloud Solution SAP IBP. Destination can be created accordingly.

Destination Property	Value
Name	<Destination Name>
Type	HTTP
URL	http://{host}:{port}/sap/opu/odata/IBP
Proxy Type Internet	Internet
Authentication	Basic Authentication

Username	<Username>
Password	<Password>

Configure Email Destination

The destination points to a custom CAP-based OData v4 service (email) deployed on SAP S4/HANA which calls the workflow instance of email.

Destination Property	Value
Name	<Destination Name>
Type	HTTP
URL	http://{host}:{port} /odata/v4/email
Proxy Type Internet	Internet
Authentication	OAuth2ClientCredentials
Client ID	<Client ID>
Client Secret	<Client Secret>
Token Service URL	<Token Service URL>

NOTE: The Client ID, Client Secret, and Token Service URL are obtained from the **SAP BTP XSUAA service instance** bound to the CAP application. These credentials are generated via a service key and maintained in the SAP BTP destination for secure system-to-system authentication.

Additional properties:

Parameter	Value
PWebIDEEEnabled	false
HTML5.Timeout	6000
sap.applicationdevelopment.actions.enabled	true
sap.processautomation.enabled	true

User Roles Configuration

To Assign the following roles to users who will configure or run the agent:

- On **SAP BTP / SAP Build**.
- Lobby access (view/run projects).
- Process Automation developer/consumer roles (as applicable).
- Joule Studio roles for **Agent creation, skill editing, and testing**.

- **Backend / API**
- A **technical client** (client credentials) authorized to call the IBP endpoint used by `getSalesHistory`.
- Read only scope to relevant planning data used for readiness checks.

Services used:

The following **Action Projects** are used in this IBP Demand Planning Agent:

Action / Skill Name	Service Used	Purpose
getSalesHistory (Action)	/PLANNING_DATA_API_SRV	Retrieves sales history values for the target period and determines readiness (available & complete).
sendEmail (Action)	/sendEmail	Notify stakeholders if sales history is missing or incomplete.

Actions are grouped into **Joule Skills** for clarity and reuse.

Artifacts in the Agent:

Type	Name	Description
Joule Skill	Sales Data Validation Skill	Calls <code>getSalesHistory</code> to validate whether the latest required period has complete sales history.
Joule Skill	Communication Skill	Calls <code>sendEmail</code> to notify data owners when issues are found.
Joule Agent	IBP Demand Planning Agent	Con conversationally checks readiness and guides planners to proceed or trigger follow-ups.
Environment Variable	Definition_Id	Defines the workflow id used to trigger notification workflows from the agent.
Environment Variable	Bpa_Url	Defines the URL of the email BPA workflow that triggers the email.

Setup Content Package

Import Custom Joule Agent

- Navigate to **Store** in your **SAP Build Lobby**.
- Set **Project Type** to “**Joule Agent and Skill.**”
- Search for “**Intelligent Business Demand Planning Agent.**”



- Click **Create from Template** to add the project to your Lobby.
- Verify the **Intelligent Business Demand Planning Agent** project appears and opens without errors.

Configuration & Modification

You can run the agent **as it is** once destinations are configured.

- To tailor behavior, update the **Sales Data Validation** skill (e.g., add period heuristics, completeness thresholds) or refine **Communication** templates.
- Adjust **Agent system instructions** to control response style, confirmations, and escalation prompts.

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.

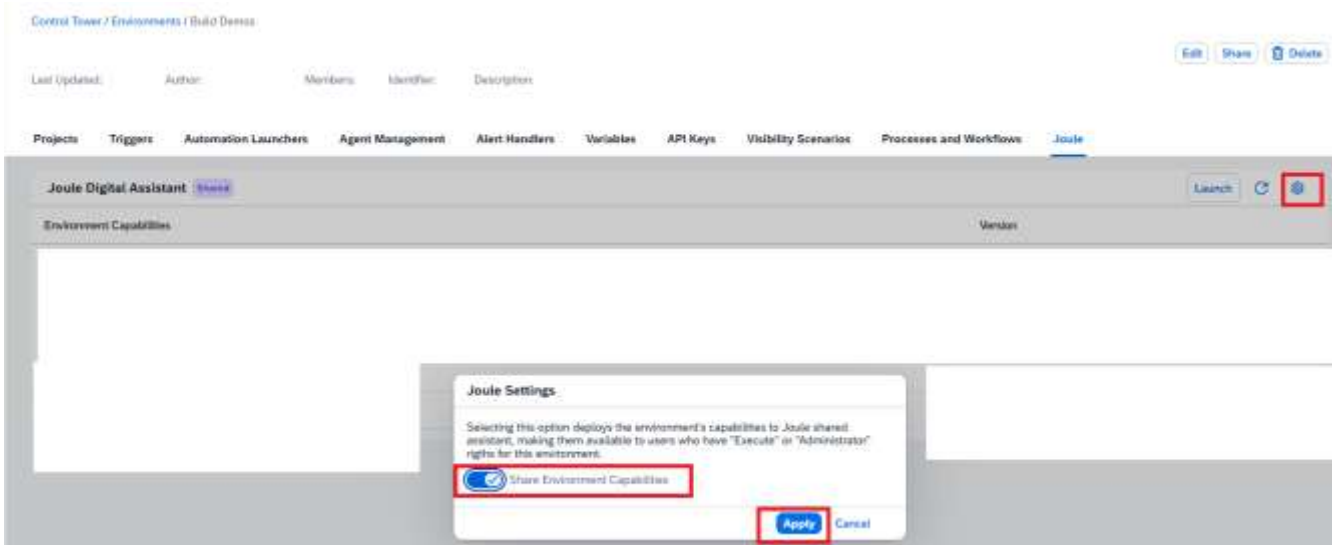
Prompt	Expected Result
Do I proceed with demand planning of sales?	Sales data has not been uploaded until Feb-26. Data is available until Oct-23. Please mail the respective team.

Mail to the team on the above	Email sent successfully
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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>->Joule'

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



Support:

If you experience any issues or need any support related to IBP Demand Planning Agent with Artifacts since it involves CAP service, please contact:

SAP_BTP_AI_AUTO@infosys.com