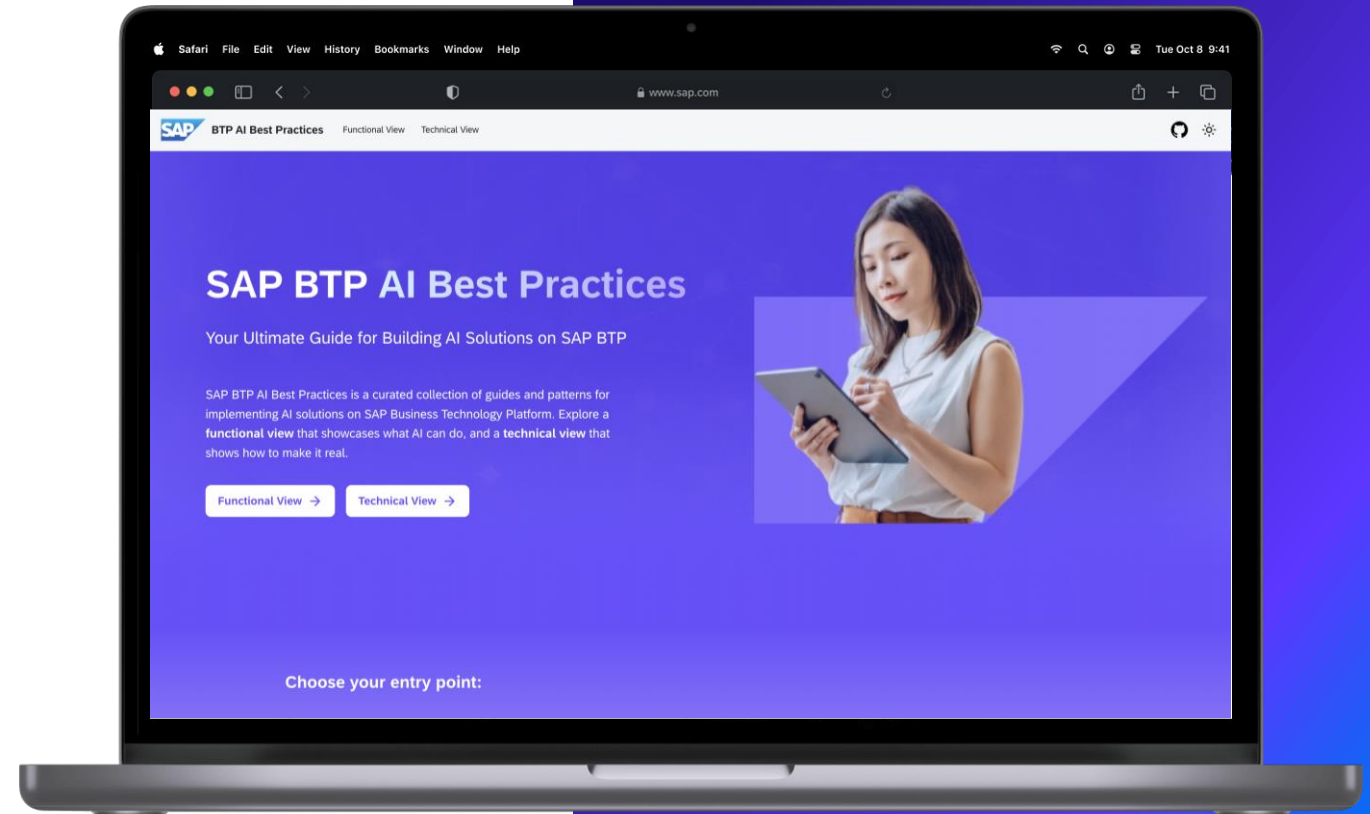


SAP BTP AI Best Practices

Custom Joule Skills

A structured approach to efficiently **extend Joule functionality** tailored to your business needs.



BTP AI Services Center of Excellence

23.10.2025

Steps

- 1 Overview**
- 2 Pre-requisites**
- 3 Key Choices and Guidelines**
- 4 Implementation**

Custom Joule Skills

Practical extension of Joule digital assistant

Extending **Joule** functionality creates endless opportunities for tailoring to specific business needs and context.

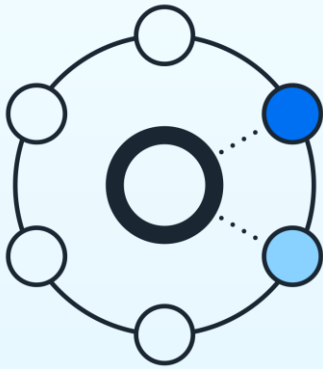
Custom Skills enable easy implementation with **SAP systems** and external APIs alike

Expected Outcome

- Create custom functionality to extend Joule.
- Leverage external resources directly through single entry point - Joule .

Key Benefits

Why use Custom Joule Skills?



Single entry point

Easily access all data sources, processes and integrations from one Joule assistant.



Tailored to your business

Easily create functionality tailored to your business needs and context.



Integration made simple

Joule Skills provides easy integration with SAP and third-party APIs

Pre-requisites

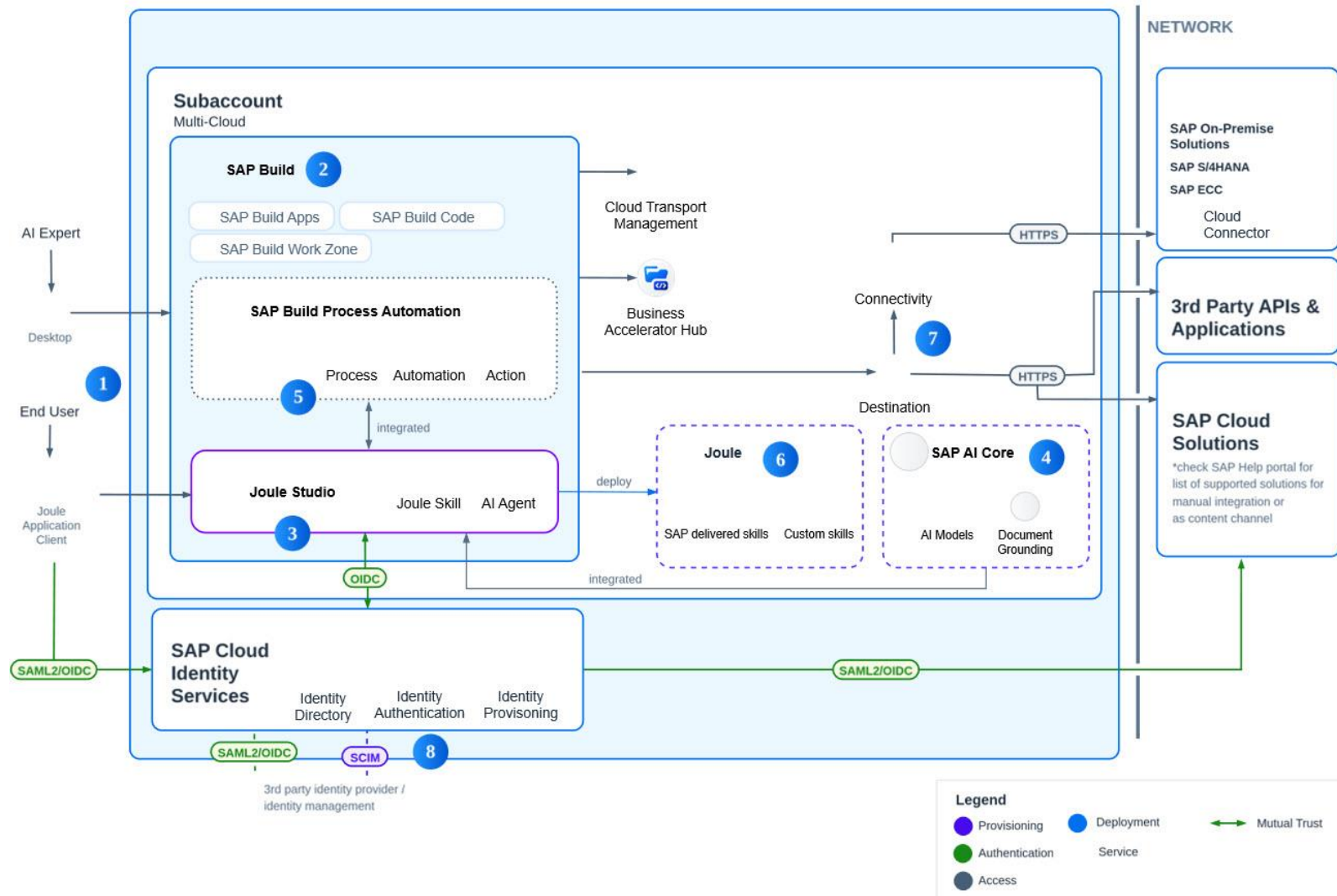
Business

- Joule Subscription
 - SAP Build with build-default service plan
 - License for an active developer user in SAP Build
 - BTP Subaccount with active subscriptions to SAP Build Process Automation and SAP Cloud Identity Services
-

Technical

- Set up a SAP Business Technology Platform (SAP BTP) subaccount ([Setup Guide](#))
- Set up SAP Build ([Setup Guide](#))
- Set up subscription to Cloud Identity Services ([Setup Guide](#))
- Set up Joule Studio ([Setup Guide](#))

High-level reference architecture

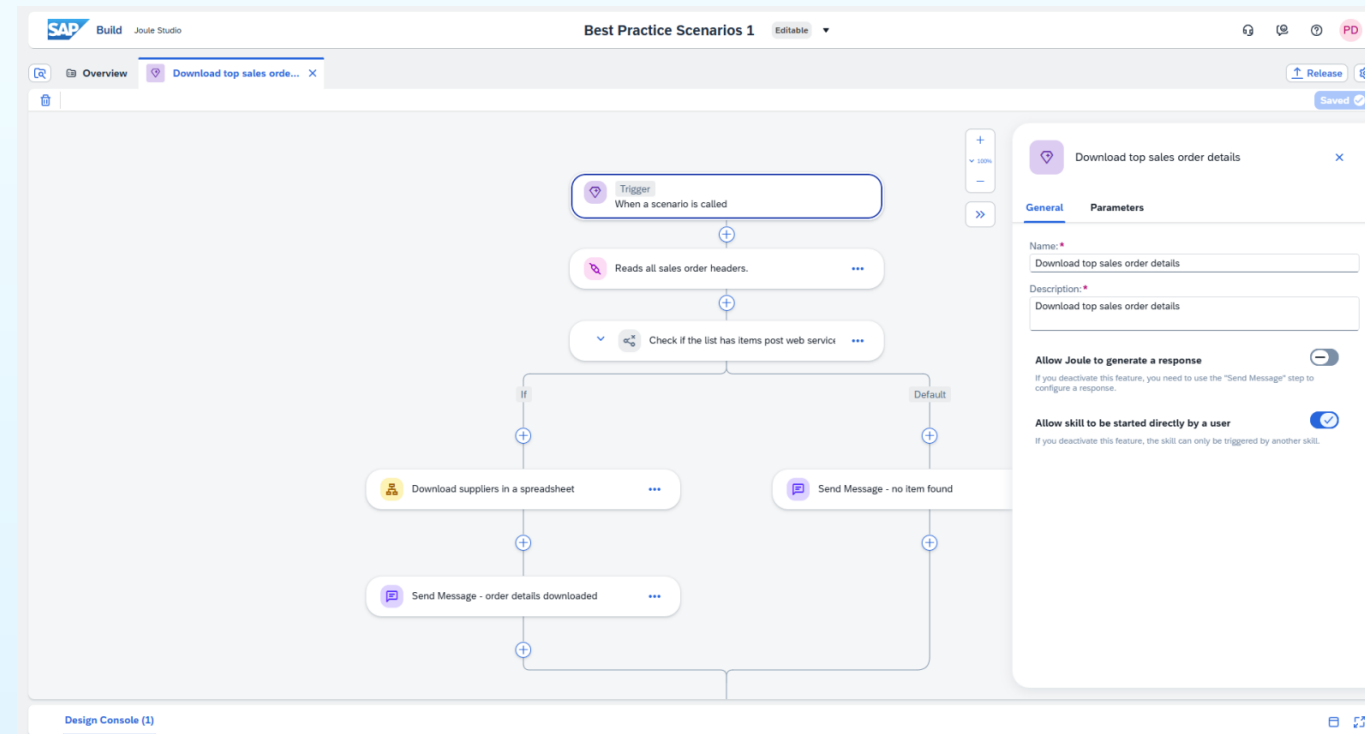


Key Choices and Guidelines

Decisions that impact the performance and utility of the custom skill

Skills development

- Clear and precise description.
- Each skill should be a self-contained function
- Do not delete or modify critical data
- Follow consistency in naming and ensure no overlap
- Deploy skills only in custom environment
- Carefully designate mandatory input and output fields
- Verify action outputs
- Convert inputs to appropriate data type
- Use meaningful parameter descriptions



Key Choices and Guidelines

Decisions that impact the performance and utility of the application

Joule Interactions

- Provide clear, specific, and actionable prompts when interacting with Joule. The more precise your input, the better Joule can interpret and execute the intended skill
- You may also take an approach with multi-line prompts

*Identify purchase order '123456'.
Update the tax code to I1 on all purchase order line items.
Generate a summary confirming the update and state any issues encountered.*

Create a sales order using customer PO '123456' for 'Material1' with a quantity of 10 PCs.

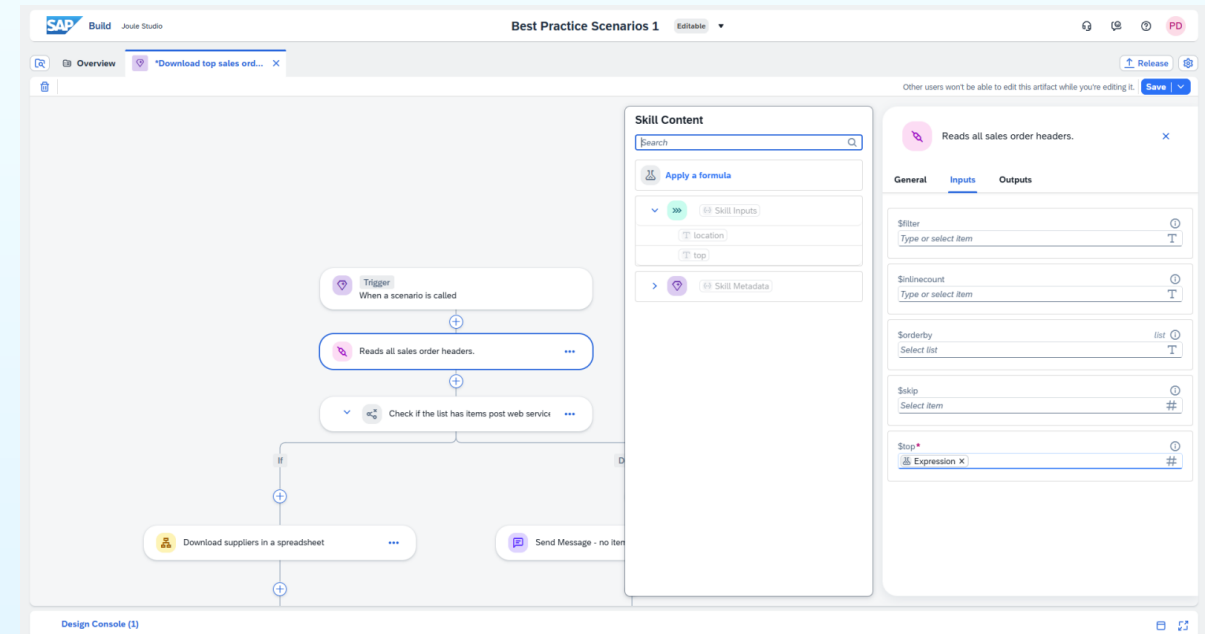
Update the tax code in all the line items of the purchase order '123456' with 'I1'. Please confirm the update is successful after you complete the task.

Key Choices and Guidelines

Decisions that impact the performance and utility of the application

Known Limitations

- Deployment time between 5 - 30 minutes
- SAP Build Process Automation cannot call Joule skills
- Automations and processes triggered from SAP Build Process Automation within Joule skills are asynchronous
- If permissions are modified in a shared environment, any deployed projects must be redeployed



Implementation

Programming Model Selection Guidelines

Operations with Sales Orders

Description

This example showcases how Joule can extract and update information regarding Sales Order in SAP system

Reference Tutorial

- [Read Sales Order Details](#)
- [List Sales Order Items](#)
- [Create Sales Order](#)
- [Update Sales Order](#)

Invoke Approval Workflow

Description

Create a Joule skill that invokes an approval workflow from SAP Build Process Automation. This example demonstrates how Joule can call existing Build Process Automation components

Reference Tutorial

- [Invoke Approval Workflow](#)

Invoke RPA process

Description

Create a Joule skill that invokes an RPA from SAP Build Process Automation to download top sales order details.

This example demonstrates how Joule can call existing SAP Build Process Automation components.

Reference Tutorial

- [Invoke RPA Process](#)

Call SAP Services

Description

This example shows how to enrich Joule with existing SAP AI Services

Reference Tutorial

- [Translate text using SAP Translation Hub](#)
- [Summarize text using AI Core](#)

Example: Summarize text using AI Core

The screenshot displays the SAP Build Joule Studio interface for creating a scenario. The top navigation bar includes the SAP logo, 'Build' and 'Joule Studio' labels, the scenario name 'Best Practice Scenarios 2', an 'Editable' status, and icons for help, chat, and a profile. Below this, a tab bar shows 'Overview' and a selected tab 'Summarize the text with...'. The main workspace features a vertical flowchart with four steps: a 'Trigger' (When a scenario is called), 'Summarize a text based on words', 'Send Message', and 'End'. To the right, a configuration panel for the selected step 'Summarize the text within a defined word limit' is shown, with tabs for 'General' and 'Parameters'. The 'General' tab contains fields for 'Name' and 'Description', both set to 'Summarize the text within a defined word limit'. It also includes two toggle switches: 'Allow Joule to generate a response' (disabled) and 'Allow skill to be started directly by a user' (enabled). The bottom status bar shows 'Design Console (0)' and icons for a design view and a full-screen view.

SAP Build Joule Studio

Best Practice Scenarios 2 Editable

Overview Summarize the text with...

Summarize the text within a defined word limit

Trigger
When a scenario is called

Summarize a text based on words

Send Message

End

Name: *
Summarize the text within a defined word limit

Description: *
Summarize the text within a defined word limit

Allow Joule to generate a response
If you deactivate this feature, you need to use the "Send Message" step to configure a response.

Allow skill to be started directly by a user
If you deactivate this feature, the skill can only be triggered by another skill.

Design Console (0)

Example: Summarize text using AI Core

The screenshot displays the SAP Joule Studio interface. At the top, the navigation bar includes the SAP logo, 'Build', 'Joule Studio', and the title 'Best Practice Scenarios 2' with an 'Editable' dropdown. On the right, there are icons for help, chat, and a user profile labeled 'PD'. Below the navigation bar, a tab labeled 'Summarize the text withi...' is active. The main workspace shows a skill configuration for 'Summarize the text within a defined word limit'. A 'Configure Skill Inputs' dialog is open, displaying a table of inputs.

Configure Skill Inputs

Some inputs might be bound to other skills and deleting them can cause errors.

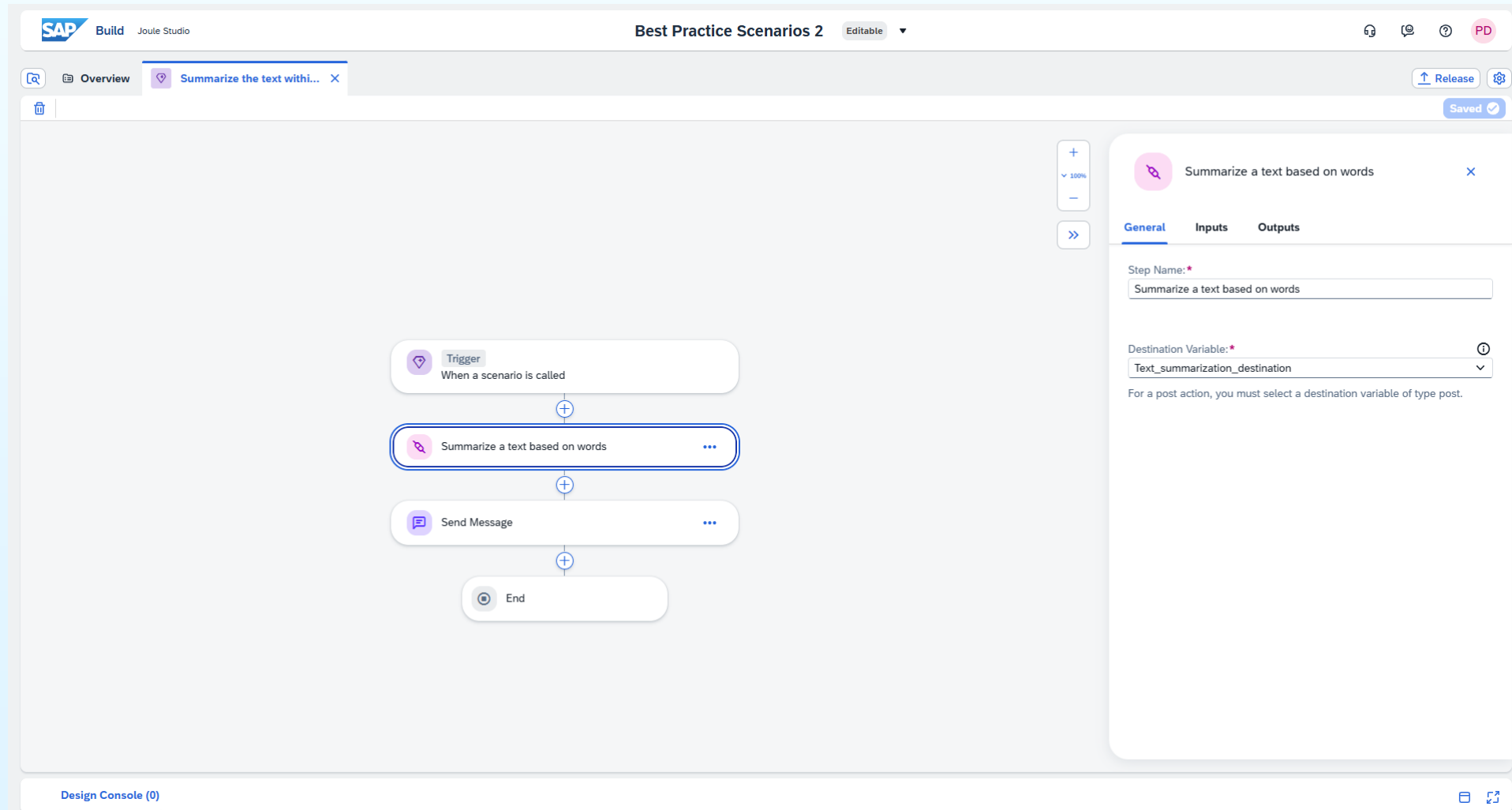
Inputs

Name *	Identifier *	Description *	Required
input text	inputText	input text	<input checked="" type="checkbox"/>
word length	wordLength	word length	<input type="checkbox"/>

Buttons: Add Input, Apply, Cancel

The background shows the skill configuration interface with sections for 'Parameters', 'Inputs', and 'Outputs'. The 'Inputs' section lists 'input text' and 'word length' with 'Configure' buttons. The 'Outputs' section also has a 'Configure' button.

Example: Summarize text using AI Core



Example: Summarize text using AI Core

The screenshot displays the SAP Joule Studio interface for building a scenario. The top navigation bar includes the SAP logo, 'Build' button, 'Joule Studio' text, and the scenario title 'Best Practice Scenarios 2' with an 'Editable' status. On the right, there are icons for help, chat, and a user profile labeled 'PD'. Below the navigation bar, a tab labeled 'Overview' is active, showing a scenario flow diagram. The flow starts with a 'Trigger' block (When a scenario is called), followed by a 'Summarize a text based on words' block, then a 'Send Message' block, and finally an 'End' block. To the right of the flow diagram is the 'Skill Content' panel, which contains a search bar and two sections: 'Skill Inputs' and 'Skill Metadata'. The 'Skill Inputs' section lists 'input text' and 'word length'. The 'Skill Metadata' section is currently empty. On the far right, a detailed view of the 'Summarize a text based on words' skill is shown, with tabs for 'General', 'Inputs', and 'Outputs'. The 'Inputs' tab is active, showing two input fields: 'text*' (with a value 'input text x') and 'words*' (with a value 'word length x'). The bottom of the interface features a 'Design Console (0)' and icons for a list and a share function.

SAP Build Joule Studio

Best Practice Scenarios 2 Editable

Overview Summarize the text withi... X

Release Saved

Skill Content

Search

Apply a formula

Skill Inputs

input text

word length

Skill Metadata

Summarize a text based on words X

General Inputs Outputs

text*
input text x

words*
word length x

Trigger
When a scenario is called

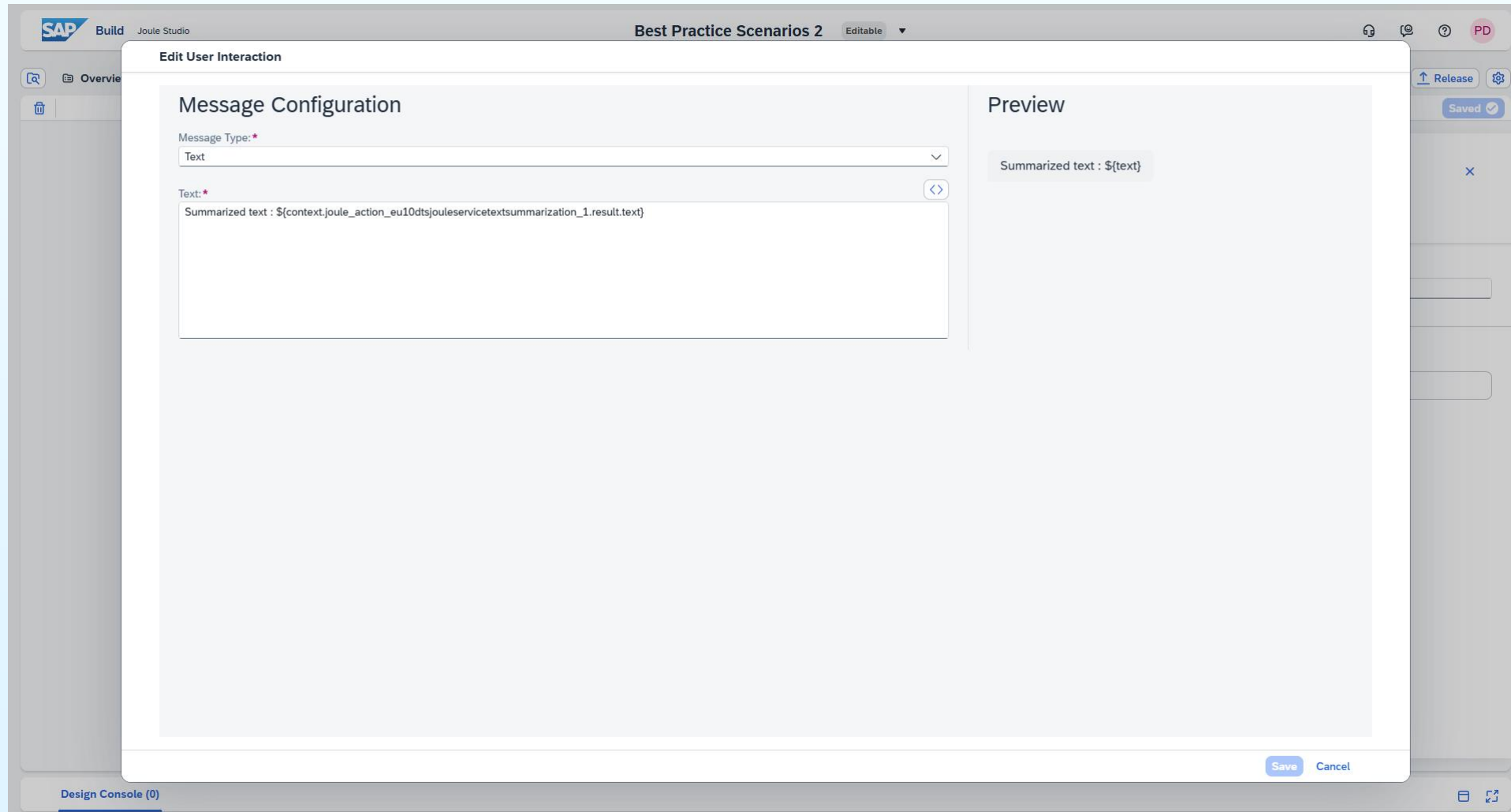
Summarize a text based on words

Send Message

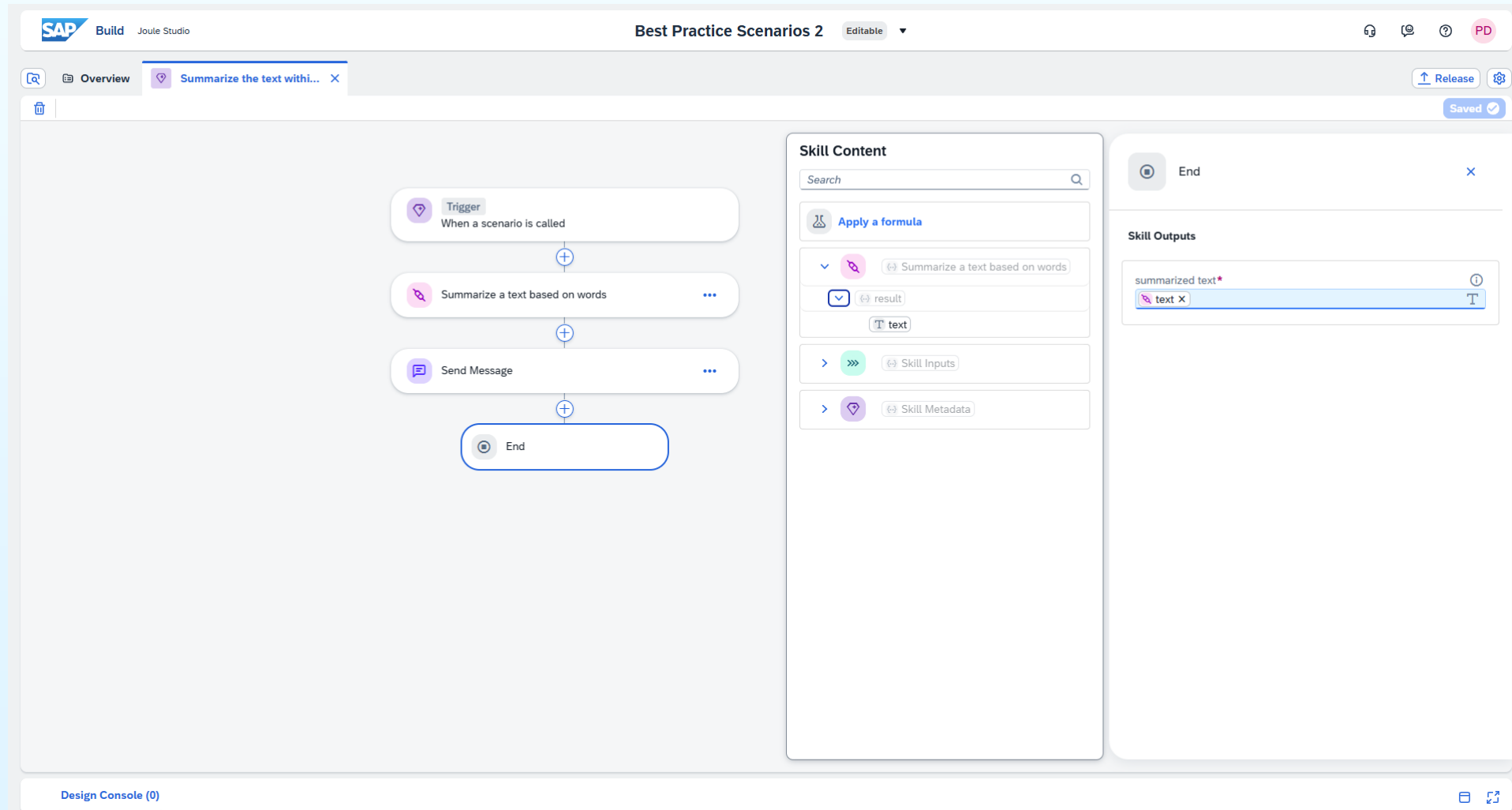
End

Design Console (0)

Example: Summarize text using AI Core



Example: Summarize text using AI Core



Example: Summarize text using AI Core - Demo

☰ Joule

+ New Conversation

Active 7/10 ▾

Translation of Text to German

Translation of Text to German

German BCP Language Code

German BCP Language Code


Translation of SAP Milestone to G...

German BCP Language Code

Translation of SAP Milestone to G...

Expired >


⌵ PD



Hello Prasun,
How can I assist you?

Talk to me naturally.

Message Joule...



Joule uses AI. Verify results.

Contributors



Stoyanov, Velizar



Das, Prasun

Thank you