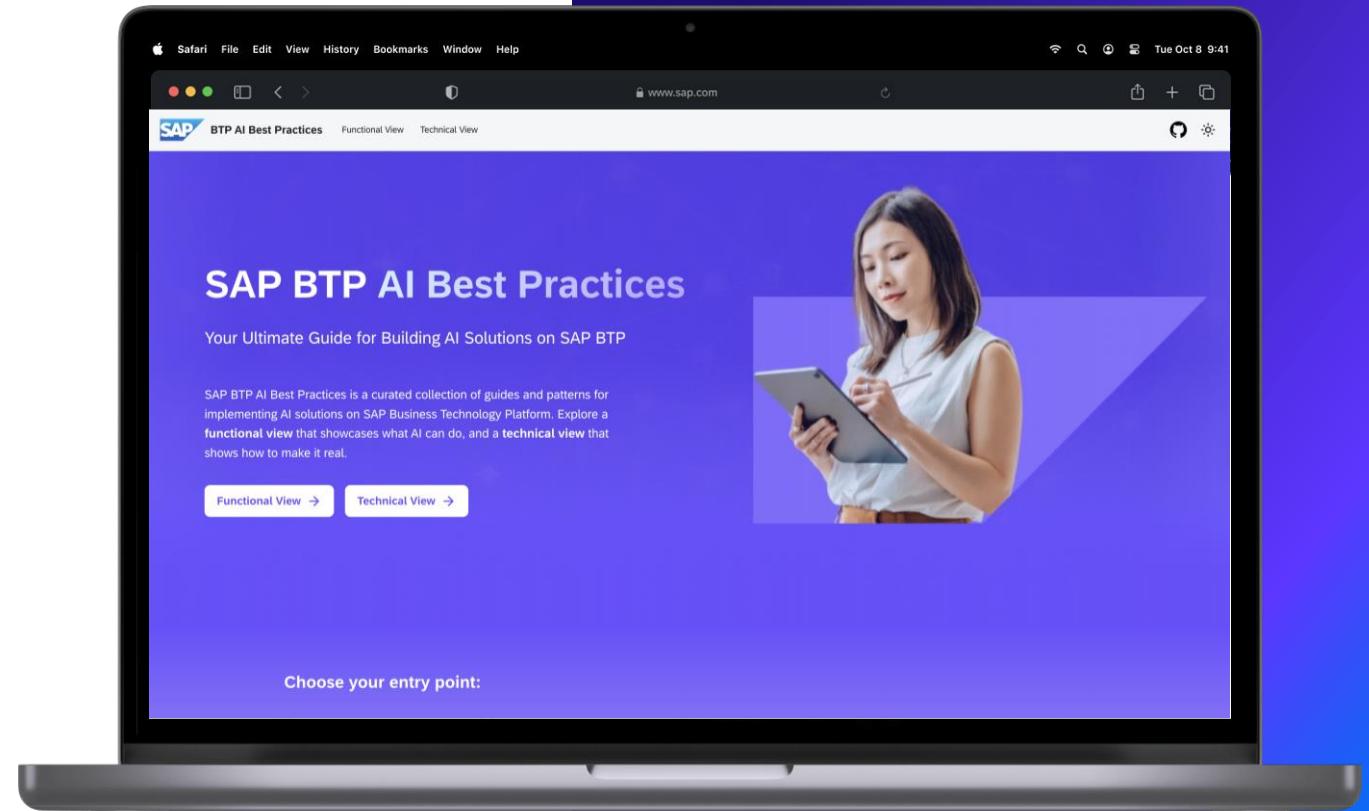


SAP BTP AI Best Practices

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.

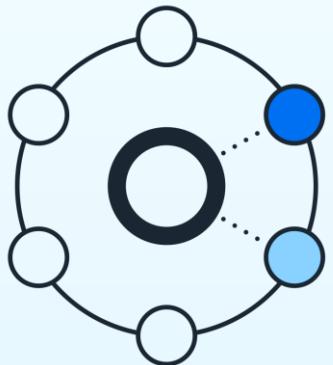
Custom Skills enable easy implementation with **SAP systems** and external APIs alike

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

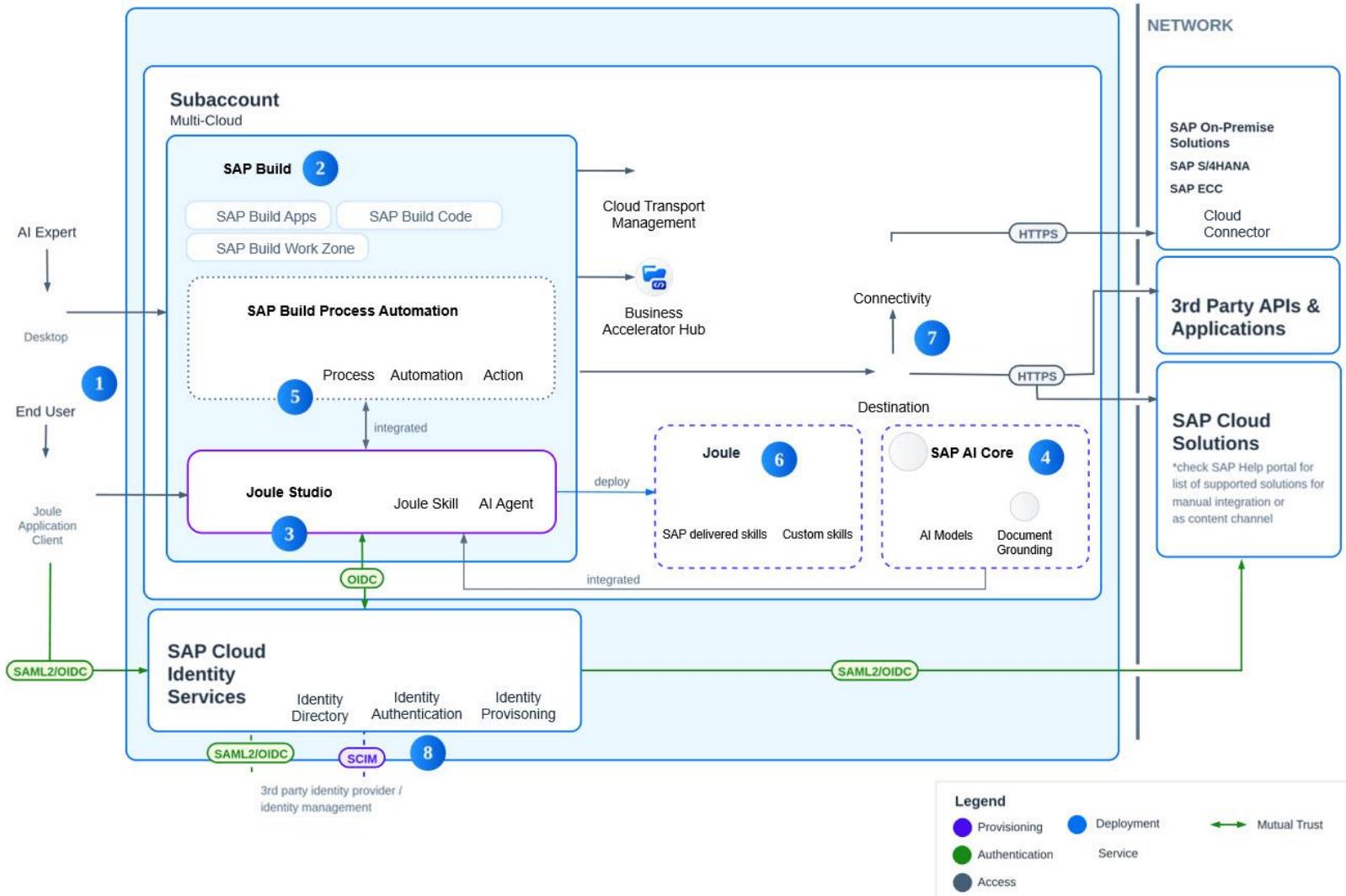
Business

- 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

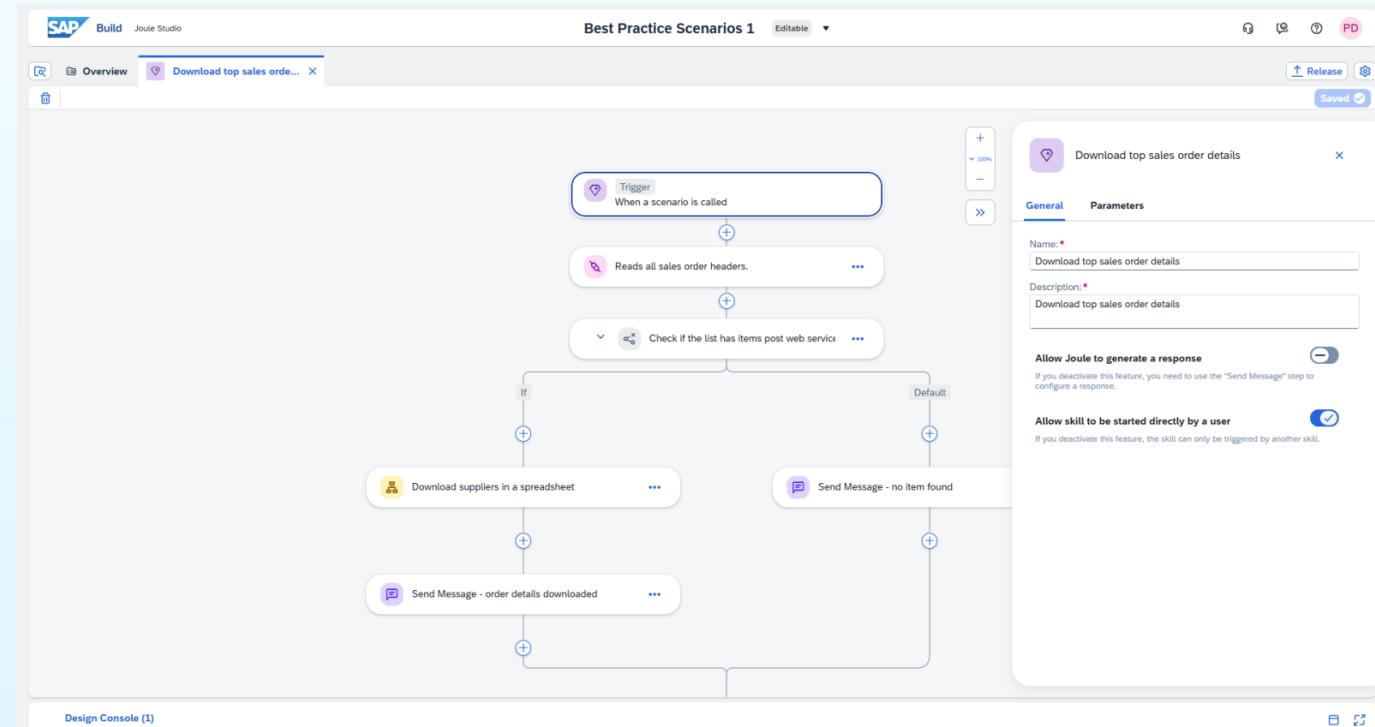


Key Choices and Guidelines

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.

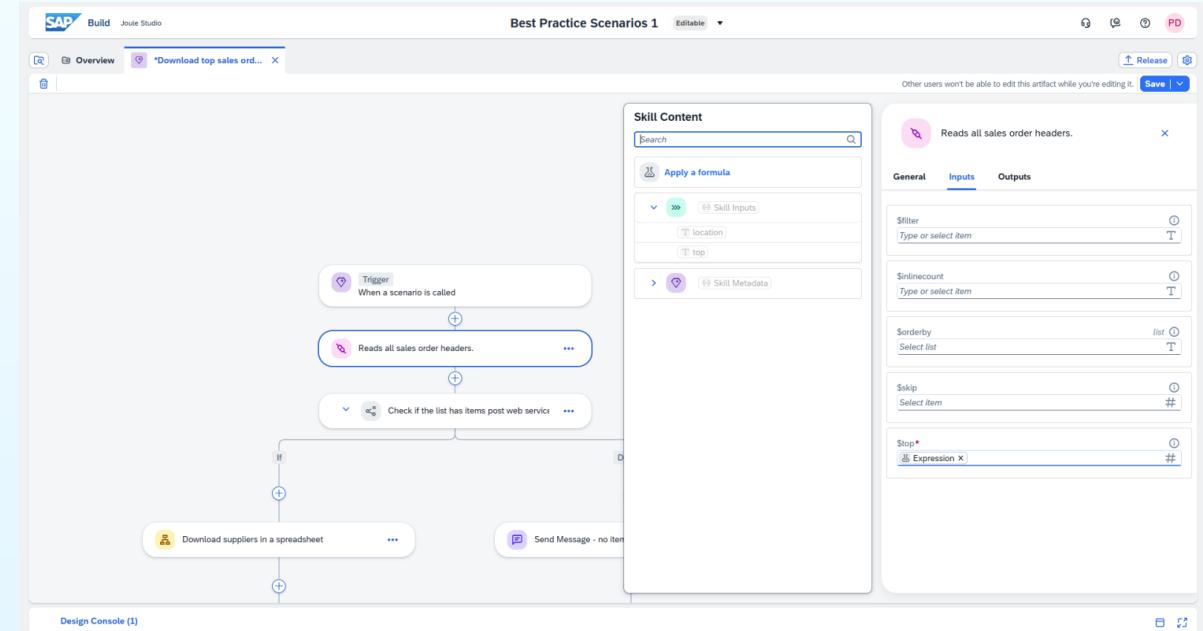
Update the tax code in all the line items of the purchase order '123456' with 'I1'. Please confirm the update is successful after you complete the task.

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

SAP Build Joule Studio Best Practice Scenarios 2 Editable

Overview Summarize the text within a defined word limit X

Release Saved ✓

Trigger When a scenario is called

Summarize a text based on words

Send Message

End

Summarize the text within a defined word limit

Name: Description:

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)

```
graph TD; Trigger[Trigger: When a scenario is called] --> Summarize[Summarize a text based on words]; Summarize --> Send[Send Message]; Send --> End([End]);
```

Example: Summarize text using AI Core

The screenshot shows the SAP Joule Studio interface for configuring a skill named "Summarize the text within a defined word limit".

Best Practice Scenarios 2 (Editable)

Configure Skill Inputs

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

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

Parameters

Inputs

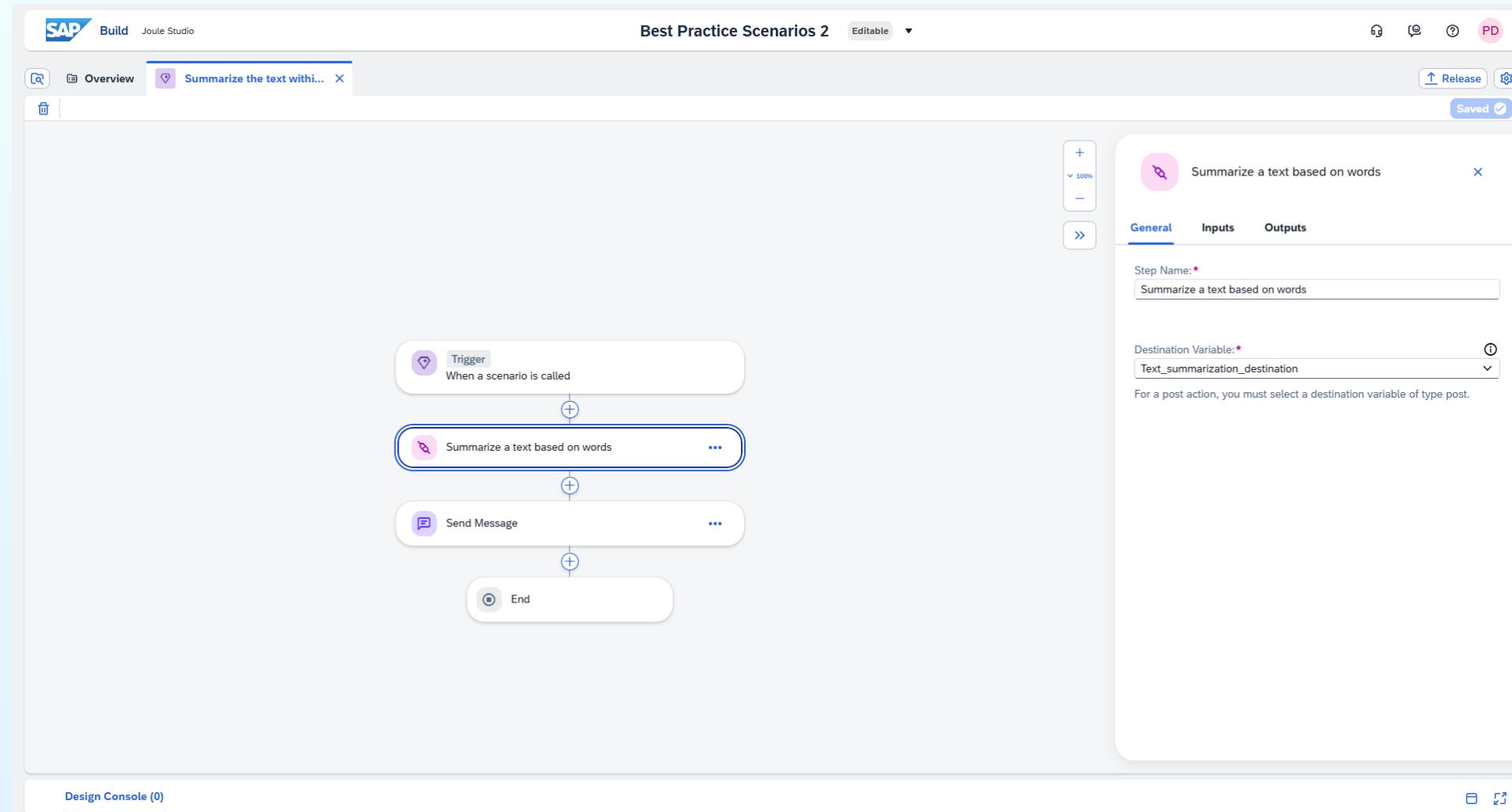
- input text *
- word length

Outputs

Configure

Design Console (0)

Example: Summarize text using AI Core



Example: Summarize text using AI Core

SAP Build Joule Studio Best Practice Scenarios 2 Editable

Overview Summarize the text withi... X ↑ Release ⚙️ PD Saved ✓

Trigger When a scenario is called

Summarize a text based on words

Send Message

End

Skill Content

Apply a formula

Input text

Word length

General Inputs Outputs

Summarize a text based on words

text*

input text

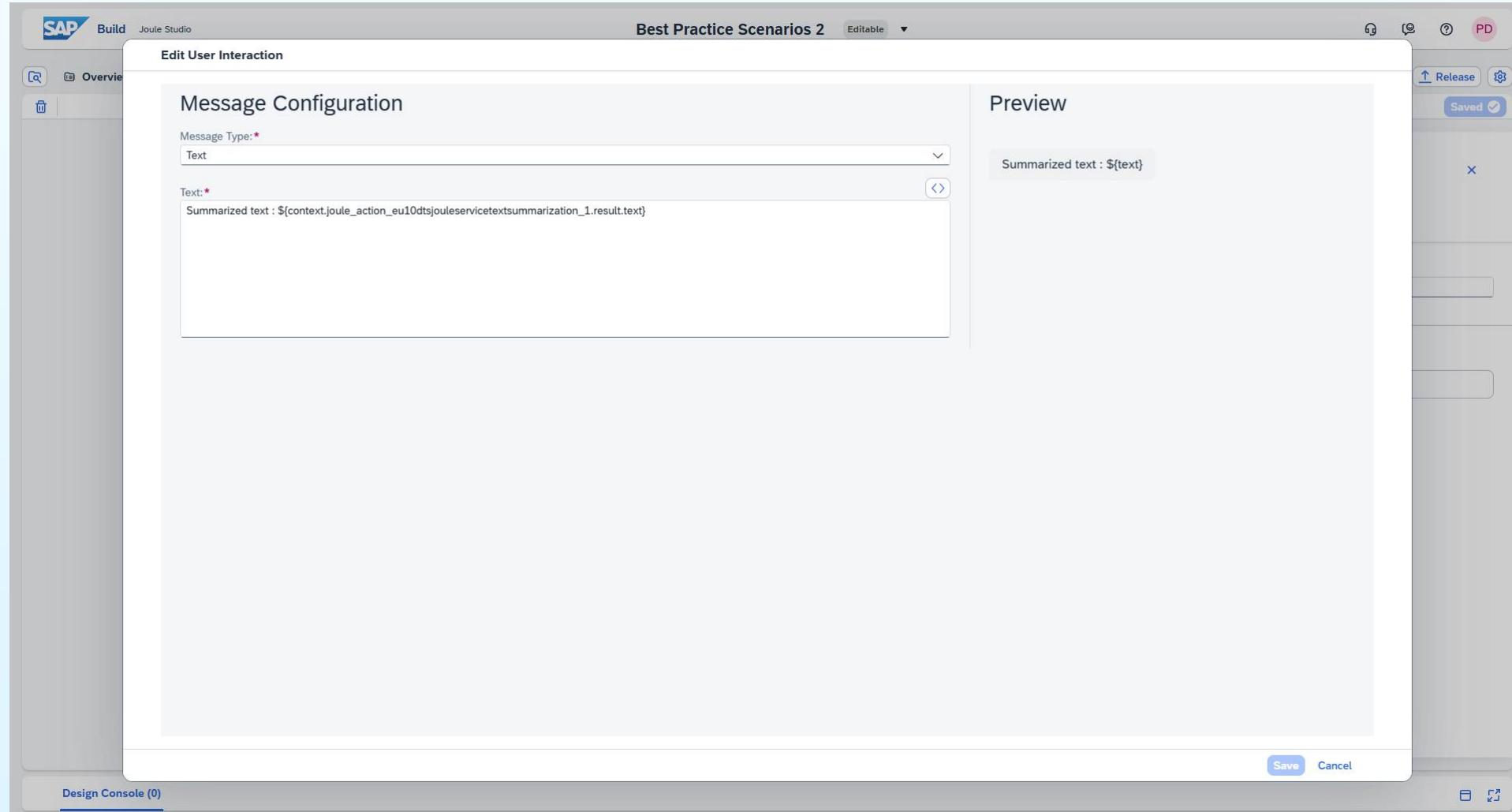
words*

word length

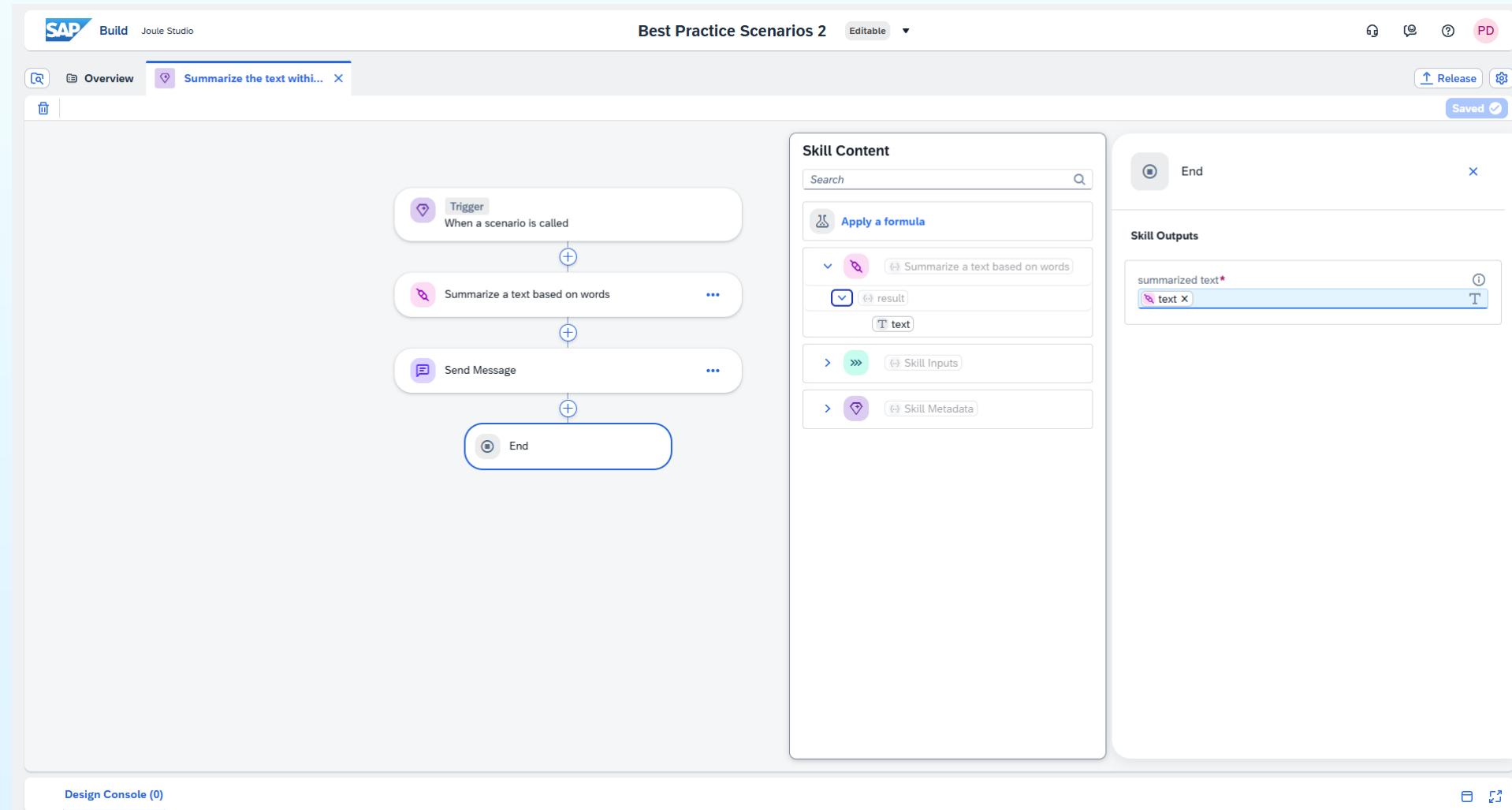
Design Console (0)

```
graph TD; Trigger[Trigger: When a scenario is called] --> Summarize[Summarize a text based on words]; Summarize --> Send[Send Message]; Send --> End[End]
```

Example: Summarize text using AI Core



Example: Summarize text using AI Core



Example: Summarize text using AI Core - Demo

Joule

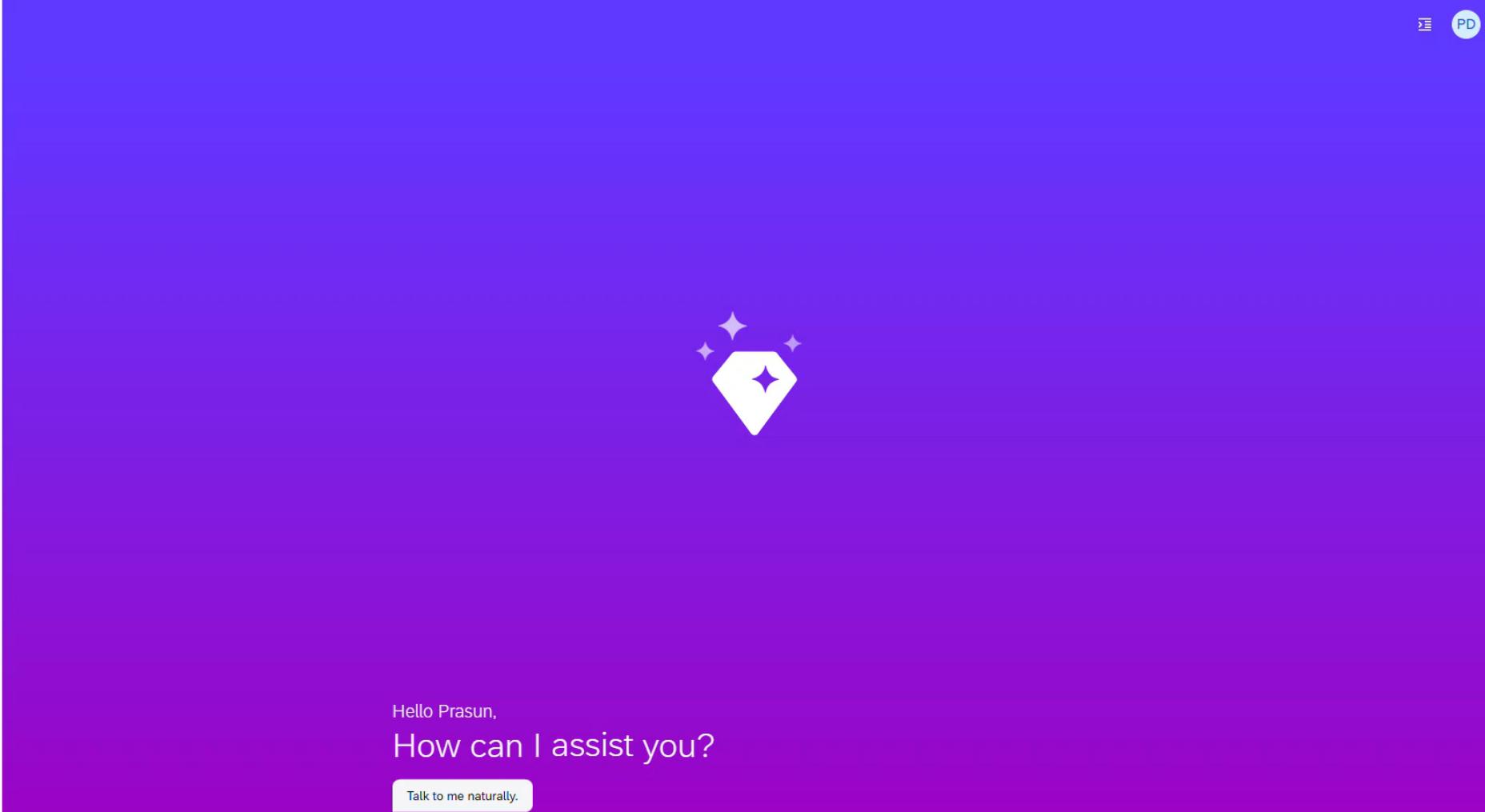
+ New Conversation

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