

# Joule for ABAP Developers & ABAP AI Capabilities - DEMOs

## Joule Chat - Introduction

### Prompt

Hi, Joule!

- How can you help me in ABAP?
  - What is your base LLM?
  - Have you been fine-tuned for ABAP?
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## Joule Chat - Guide on how to build your RAP app (Build Travel Booking Management App)

### Prompt

Generate application for a Travel Booking Agency

The Travel entity requires the fields:

travel id  
agency id  
customer id  
first name  
last name  
destination  
booking fees  
total price  
currency code

Use the **data** element types from the package /DMO for all the above fields.

Create the **object** names **with** the prefix 'ms' and without a suffix.

The application will have a helper class with the following methods:

get\_booking\_status  
validate\_customer  
generate\_description

The application will have another class with one method called 'generate\_demo\_data' to create 5 sample records in the travel entity.

Change the data type of the following fields in the entity Travel:  
'booking fees' to the data element '/DMO/Booking\_FEE'  
'destination' to the data element '/DMO/City'

Add new field 'status' in the entity Travel and use /DMO/BOOKING\_STATUS as Data Element for it.

Add new field 'description' in the entity Travel for the description of the destination city, and use /DMO/DESCRIPTION as Data Element for it.

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### **Joule Cloud Generator - Generate the transactional UI service (Generate Travel Booking BO)**

#### **Prompt#1**

Create a transaction application for travel management. Create the entity Travel based on the structure /DMO/TRAVEL\_DATA.

The second entity is Booking based on /DMO/BOOKING\_DATA. The generated objects should end with suffix "\_MS"

#### **Prompt#2**

Change the data type of the following fields in the entity Travel:

'booking fees' to the data element '/DMO/Booking\_FEE'  
'destination' to the data element '/DMO/City'

Add Destination field for entity Travel, use /DMO/CITY as data element.

Add SightseeingsTips field for entity Travel, use /DMO/DESCRIPTION as data element.

Add DiscountedFlightPrice field for entity Booking, use /DMO/FLIGHT\_PRICE as data element.

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### **Joule Chat - Adjust CDS Behavior Definitions**

#### **Prompt**

Adjust the selected behavior definition with the following steps and add comment starting with //

1. Set CustomerID field as mandatory for ZR\_TRAVEL\_MS
  2. Add the fields SightseeingsTips and TotalPrice as readonly for ZR\_TRAVEL\_MS
  3. Add field mandatory during the creation and set the following fields Destination, StartDate and EndDate for ZR\_TRAVEL\_MS
  4. Set field DiscountedFieldPrice as readonly for ZR\_BOOKING\_MS
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### Joule Chat - Suggest code snippets for developer via Joule (Create Helper Class)

#### Prompt

Add a helper class with name "zcl\_travel\_helper\_MS" that will contain common business logic that can be consumed by different business objects & methods - for example, in determinations or validations within my RAP application. It has the following methods:

- validate\_customer with input type pf /dmo/customer\_id, and output return type - abap\_bool. This method checks in the database if there exists a row with the given CustomerID. If such a row exists, return true, otherwise return false.
  - get\_booking\_status with input type of /dmo/booking\_status\_text, and output return type - /dmo/booking\_status. This method checks the booking status within ONLY 3 options: B if booked, N if new, X if Cancelled.
  - get\_sightseeing\_tips with input type of /dmo/city and, output return type - /dmo/description. This method uses ABAP AI SDK powered by ISLM to call an LLM & generate sightseeing tips for a specific city, however, keep the implementation empty!
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### Joule Chat - Enhance CDS Data Models with Joule (Enhance DiscountedFlightPrice field in the CDS view Booking)

#### Prompt

Add the following code lines for the field “**DiscountedFlightPrice**” to calculate the total price with discount based on field “carrier\_id”:

- If field “**carrier\_id**” is equal to **LH**, the discount is 10% of field “**flight\_price**”
- If field “**carrier\_id**” is equal to **AF**, the discount is 15% of field “**flight\_price**”

Use CAST explicitly as follows:

- cast field “flight\_price” as abap.dec(16,2)
  - cast “discount percentage value” as abap.dec(5,2)
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### Joule Chat - Provide Help Content with Joule

#### Prompt

How to define an ABAP CDS view? Given me an example for a travel entity?

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### Joule Explain

#### Prompt

/explain class zcl\_travel\_helper\_ms

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### Joule - ABAP Unit Test Generation generates ABAP Unit Test cases

#### Prompt

Define a unit test “LTCL\_Travel\_Helper\_MS” without any methods for the ABAP Class “ZCL\_TRAVEL\_HELPER\_MS”

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### Predict RAP Business Logic Capability

#### Enhance validation - validateCustomer Method Description

Instantiate the helper class ZCL\_TRAVEL\_HELPER\_MS, then read the CustomerID field from the CDS view ZR\_TRAVEL\_MS.

Check if the CustomerID is initial, and validate it using the ZCL\_TRAVEL\_HELPER\_MS helper class.

If the CustomerID is missing or invalid, append the key failed-travel. Also, add the key to reported-travel with a NEW\_MESSAGE\_WITH\_TEXT error message.

#### Enhance determination - setSightseeingTips Method Description

Instantiate a helper class ZCL\_TRAVEL\_HELPER\_MS. Read the SightseeingsTips field from the Travel entity

Filter out all entries where SightseeingsTips is already filled.

Use get\_sightseeing\_tips to generate sightseeing tips based on the Destination.

Update the SightseeingsTips field with this generated value

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### Predictive Code Completion Capability

#### Enhance determination - calcTotalTravelPrice Method Description

"1) Read Travel and Booking entities

"2) Calculate the total flight price of the bookings using reduce operator in calculated\_total\_price variable

"3) Update the total price of the Travel

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### OData Consume Capability

#### Prompt

/Consume GET/A\_BusinessPartner?\$select=BusinessPartner, Customer, BusinessPartnerUUID, BusinessPartnerCategory

/Consume I want to read the field ID from all Business Partners.

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### Joule Chat - Provide code snippets to consume the ABAP AI SDK powered by ISLM Capability

#### Implementation of the determination - get\_sightseeing\_tips Method Description

#### Prompt

Implement the selected method by calling an LLM to generate the sightseeing tips for a given city using the ABAP AI SDK, powered by ISLM following the steps below:

" Step 1: Create an instance of SAP AI Core ISLM completion API Factory based on the ISLM\_Scenario 'ZINST\_Travel\_Demo\_MS'

" Step 2: Set system prompt "| You are a Travel Expert and support by giving sightseeing tips for a given city. | && | Write a short summary of the top 10 most sightseeing tips | && | using a brief listing without a caption | && | it should be less than 1000 characters |."

" Step 3: Set user prompt 'The city is...'

" Step 4: Create a message container via Message Container API & Add the system prompt and user prompt

" Step 5: Execute Completion API & Get the Completion

" Step 6: Ensure sightseeings tips length limit

" Step 7: Return the sightseeings tips

" Step 8: Catch if any Exceptions

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