

# Binding APIs to CAI Chatbot

**Prerequisites:** Running API endpoints, completed previous 2 tutorials

**Result:** Running CAI chatbot with single action connected to API endpoint

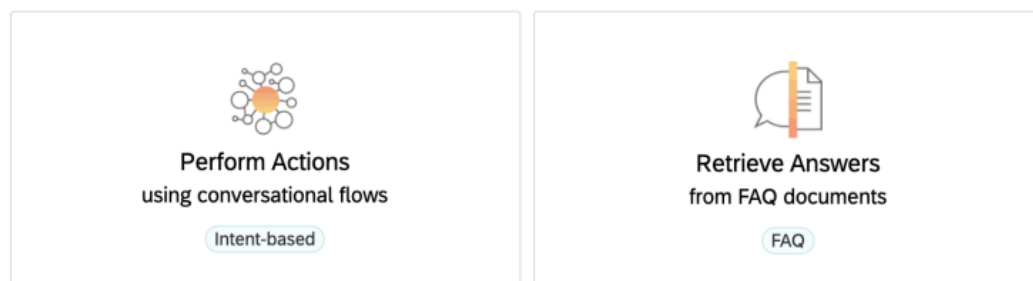
## 1. Log in to the Platform

Go to <https://cai.tools.sap/> . Before you use the platform for the first time, you need to sign up and create your user account.

## 2. Create Your Chatbot

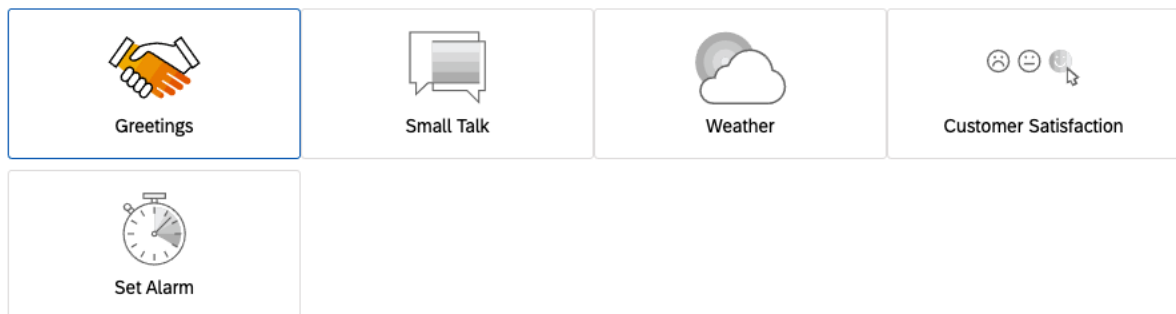
Click + *New* Bot at the top right of the page in SAP Conversational AI and create your first chatbot.

1. Select Perform Actions option for chatbot



Create

2. Select greetings predefined skill for your bot



3. Create your bot:
  - a. Enter a name and, if desired, a description for your bot.
  - b. (Optional) Add up to six topics to your bot. By categorizing bot in this way, CAI can suggest more appropriate training data to improve it later on.
  - c. Set default language as English

/ chatbot

Description (optional)

Topics (optionally categorize your bot with up to 6 topics to improve your bot training)

Try: [Customer support](#), [Food and beverage](#), [Telecommunications](#)

Default language (your bot is multilingual, you can add more languages later on)

English Advanced

#### 4. Select your data policy according to [Bot Data Policy settings](#).

##### Type of data

Select the most restrictive type of data used by your bot. Note that health-related data is not allowed.

- ☒ Non-personal
- ☐ Personal
- ☐ Sensitive Personal
- ☐ Health

Data retention: unlimited duration

##### Store conversation data

Select whether you want to store your user's conversations. [Learn how this affects monitoring and connect](#).

- ☒ Store (recommended)  
Store your user's conversations to improve and monitor your bot.
- ☐ Do not store  
Do not store your user's conversations. This will heavily impact monitoring and connect features.

#### 5. Set your bot visibility. And [create](#) your bot.

- ☐ Public  
Your bot is open to everyone
- ☒ Private  
Your bot is private and accessible only by you and the developers you decide to share it with

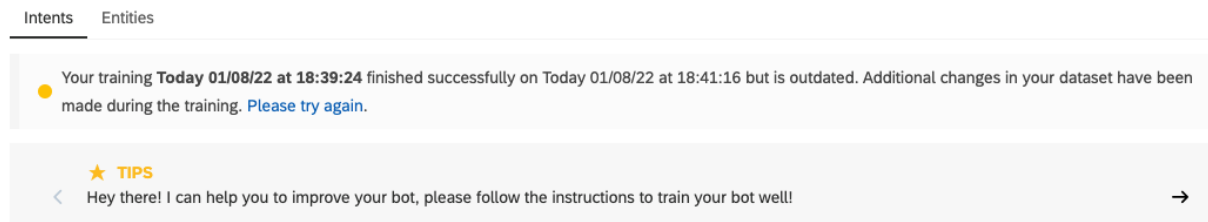
Create

### 3. Creating Sales Order Intent

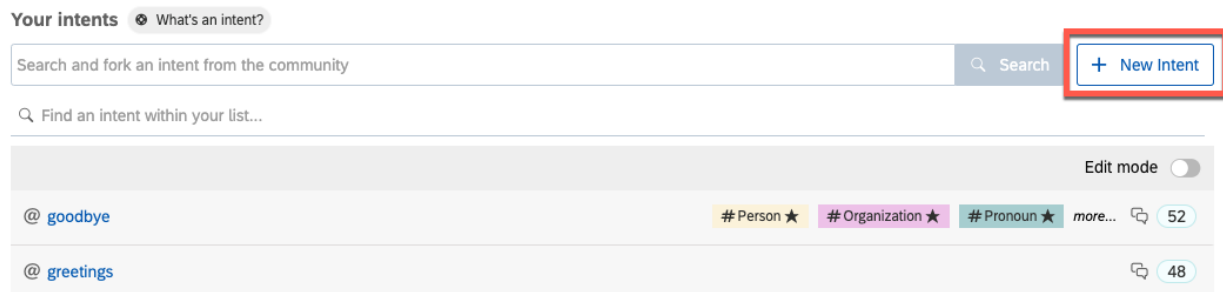
An intent is a collection of sentences that all have the same meaning, even though they can be very different from one another. When a user sends a message to your bot, CAI algorithm predicts the intents to which it's close enough and decides what the intention of the message is.

Everything your chatbot understands is in the intents. Each intent corresponds to an action that your user wants to perform. For example, the intent greetings enables your bot to understand when a user says Hello. Explore each intent by clicking the name of the intent (for example, greetings), and you'll see the expressions inside that train your bot to understand the user's intent.

1. Click [+ New Intent](#) button to create a new intent.



#### Create and manage your intents




2. Name Your Intent and decide set your matching strictness to 50

The screenshot shows the 'Let's create your intent' form. It has a title bar 'Let's create your intent'. Below the title bar is a text input field with the value 'salesorder' and a dropdown menu with the value 'chatbot'. Below this is a text input field for 'Your intent description (optional)'. Below that is a 'Matching Strictness' slider with a value of 50. The slider has a range from 0 to 100. Below the slider is a note: 'A detected intent with a confidence score strictly greater than the matching strictness is kept and returned in the JSON. Our recommendation is a matching strictness between 50 and 70.' At the bottom right are 'Cancel' and 'Create Intent' buttons.

- Click the salesorder intent and add your expressions to train your intent. Try to add more than 50 expressions per intent at least for better training of chatbot.



















#### Expression

 + Add Language

Type an expression to add...

Import Expressions

All

<input type="checkbox"/>	What can you tell me about my order 12345?	  
<input type="checkbox"/>	What can you tell me about my order 12345?	  
<input type="checkbox"/>	Which orders did I make in the last week?	  
<input type="checkbox"/>	Which orders did I place in the last month?	  
<input type="checkbox"/>	I would like to see the order 12345.	  
<input type="checkbox"/>	I would like to see my order 12345.	  

## 4. Create Sales Order ID Entity

An entity is a keyword that is extracted from an expression. CAI automatically detects [28 different entities](#), such as Datetime, Location, Person, and so on. However, we're not limited to these gold entities. We can create a custom entity like Sales Order ID.

- Navigate to entity tab in Train tab.

Train Build Connect Monitor Settings

Intents Entities

Your training **Today 01/08/22 at 18:39:24** finished successfully on Today 01/08/22 at 18:41:16 but is outdated. Additional changes in your dataset have been made during the training. [Please try again.](#)

**TIPS**

Hey there! I can help you to improve your bot, please follow the instructions to train your bot well!

### Create and manage your intents

Your intents What's an intent?

Search and fork an intent from the community Search + New Intent

Find an intent within your list...

Edit mode

@ salesorder	# Pronoun ★ # Number ★	1
@ goodbye	# Person ★ # Organization ★ # Pronoun ★ more...	52
@ greetings	# Pronoun ★ # Person ★ # DateTime ★	48

2. Create your free entity with **sales-order-id** name and 50 matching strictness

**Create a custom entity**

/ chatbot / sales-order-id

☐ **Restricted entity**

Useful if you have a strict list of words to detect and don't need automatic detection of entity.

**# Pizza**

- ☐ cheese
- ☐ calzone
- ☐ pepperoni

or

☒ **Free entity**

Useful if you don't have a strict list of values and want machine learning to detect all possible values.

**# Phone-Type**

- ☐ I want to buy an iPhone
- ☐ My Huawei is broken
- ☐ I'd like to have the new Samsung phone

or

☐ **Regex entity**

Useful if you have a pattern to detect and don't need machine learning detection of the entity.

**# Bank**

/ [A-Z]{2,} / i

My IBAN is 34294ZZ49390

**Match 1**

**Full Match** 3 - 7 IBAN

Matching Strictness

0 50 100

A detected entity with a confidence score strictly greater than the matching strictness is kept and returned in the JSON. Our recommendation is a matching strictness between 50 and 80.

3. Now go back to your salesorder intent and expand your expressions and tag your entities like below

**Intent overview**

6 EN 6

**# Number** ★ 5 **# Pronoun** ★ 11 **# Sales-Order-Id** 1

**Expression**

+ Add Language

Type an expression to add...

You have 1 expression suggested to enrich your intent

All

☐ Can you tell me anything about my 1234 order?

**1234**

Type to search an entity...

**# Sales-Order-Id**

**# Pronoun** ★ you

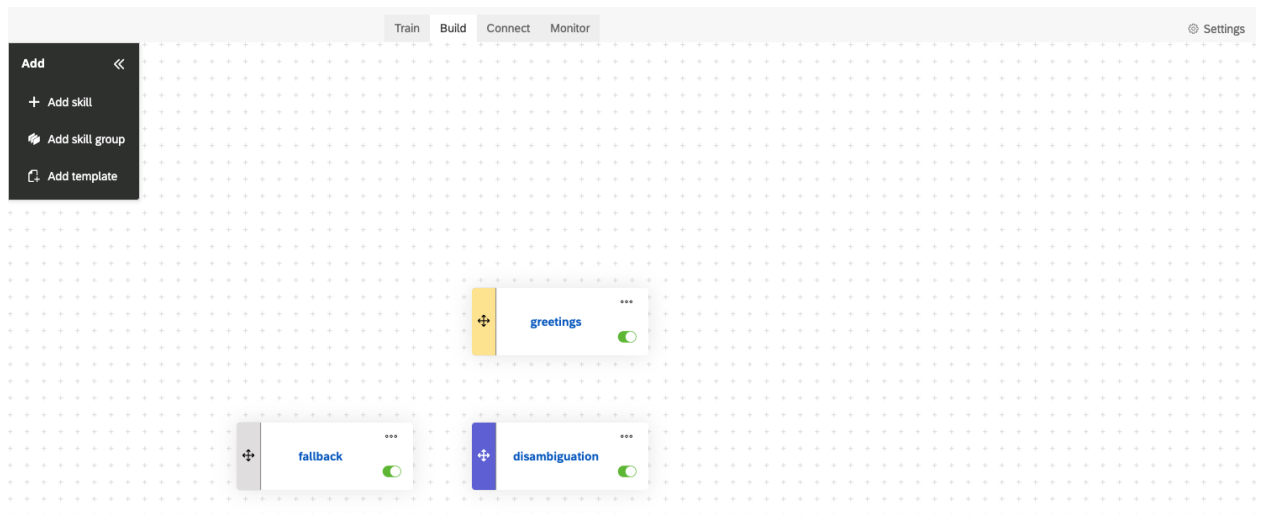
**# Pronoun** ★ me

**# Pronoun** ★ my

✕ **# Sales-Order-Id** 1234

## 5. Create New Skill

A skill is a block of conversation that has a clear purpose and that your bot can execute to achieve a goal. It can be as simple as the ability to greet someone, but it can also be more complex, like getting details of an order according to information given by user. You can add a skill to your bot on the Build tab by clicking Add skill in the command panel on the left. You can add as many skills to your bot as you wish.



1. Create your business skill named salesorder and open your skill by clicking on it

× **Add Skill**

**Name**  
 245  
ex. book-flight, checkout

**Type**  


Business Floating Initialize

Business skills reflect the core purpose of your bot.

**Activation** ☒  
Your skill is active. If you deactivate it, your bot will no longer use it when chatting.


**Title**  
Your bot automatically uses this skill title when disambiguating during chat. If you don't specify one, your bot will display: salesorder


## 2. Set trigger for your action

chatbot / salesorder  Business    Fork

README.md Triggers Requirements Actions

Trigger this skill only if:  How do triggers work?



If | 

User says

entity is detected

in the conversation

@salesorder  
@goodbye  
@greetings

#Sales-Order-Id

#Cardinal

#Color

#Datetime

#Distance

#Duration

#Email

#Emoji

#Interval

#Ip

#Job

#Language

\_sentiment

\_source

\_language

\_processing\_language

\_memory

\_skill

\_skill\_occurrences

\_conversation\_language

\_client\_info

+ New Intent

You can easily use the entities enrichment, ex: #location.lat


[View more about conditions](#)

Train Build Connect Monitor


chatbot / salesorder  Business  

README.md Triggers Requirements Actions

Trigger this skill only if:  How do triggers work?



If @salesorder is-present  



3. Set your requirements for action as below

chatbot / salesorder Business Fork

README.md Triggers Requirements Actions

Specify requirements for actions What's a requirement?

**Primary requirements**  
Select which information the skill must gather before executing actions

UK

+	@salesorder	as	intent	▼
	#sales-order-id	as	salesOrderID	

+

How does memory work?

```
memory : {  
  intent : {  
    slug: "salesorder",  
    confidence: 0.99,  
    description: "Nice intent!"  
  }  
}
```

*Filled with mock data*

4. Add condition for your action

UK

If #sales-order-id is-present +

+

5. Create your action in Actions tab

1. Select connect external service. We can select either call webhook or consume API service. We will use consume API service since our TestSalesOrder service is only OData endpoint. To use webhooks, we need [special response formats](#).

UK

**ADD CONDITION** to trigger actions

Choose Message Type Connect External Service Connect Fallback Channel Update Conversation

CALL WEBHOOK  
CONSUME API SERVICE



## 2. Define your API request

API Service Configuration

The URL must use https, a destination, or a relative path (starting with /)

GET  Save

Authentication Headers Response [How does this work?](#)

Use a template  OR Accept  [+ New Fields](#) [Save Template](#)

3. Select choose message type -> custom and in the message type select card and replace script with below

```
{
  "type": "card",
  "delay": "",
  "content": {
    "title": "SALES ORDER {{memory.salesOrderID.raw}}",
    "subtitle": "Type: {{api_service_response.default.body.SalesOrderType}} Date: {{api_service_response.default.body.CreationDate}}",
    "description": "Total Net Amount: {{api_service_response.default.body.TotalNetAmount}} {{api_service_response.default.body.TransactionCurrency}}",
    "status": "{{api_service_response.default.body.OverallSDPProcessStatus}}",
    "statusState": "information"
  }
}
```

4. For the final step select update conversation -> edit memory and delete the salesOrderID.

☐ Reset all memory

Save

THEN

Set memory fields

Your memory key

Value

Unset memory fields

salesOrderID

+ Add fields

## 6. Test Your Skill

You can test your chatbot by clicking chat preview at the bottom right corner of the page.

TrainBuildConnectMonitor

Settings

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Your intents

What's an intent?

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Search

+ New Intent

Find an intent within your list...

Edit mode

@ salesorder

# Pronoun★# Sales-Order-Id# Number★6

@ goodbye

# Person★# Organization★# Pronoun★more...52

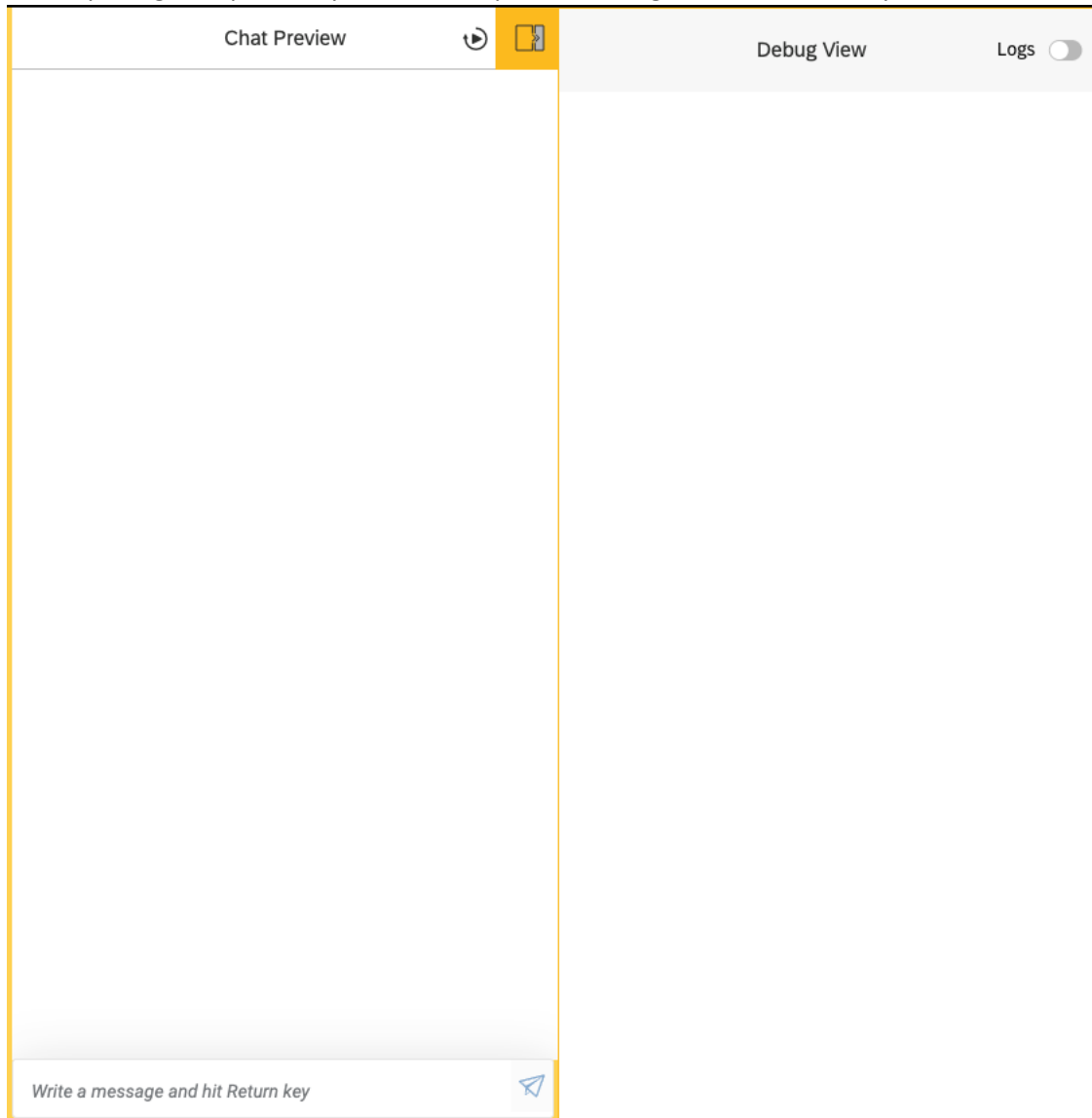
@ greetings

# Pronoun★# Person★# DateTime★48

Chat Preview

Shift+Alt+P

After opening chat preview you can also open the debug area for details of your chatbot events.



Chat Preview

Today 9:54 AM

What can you tell me about my order 4?

SALES ORDER 4

Type: OR Date: 2017-10-08

Total Net Amount: 20020 USD

Write a message and hit Return key

Debug View

Logs

▼ The skill `salesorder` is triggered

The triggers of your skill are complete

▼ Fill the requirement intent and store:

```
1 {
2   "slug": "salesorder",
3   "confidence": "0.99",
4   "description": null
5 }
```

▼ Fill the requirement salesOrderNumber and store:

```
1 {
2   "confidence": 0.96,
3   "raw": "4",
4   "value": "4"
5 }
```

▼ Actions running

The actions of the skill `salesorder` are executing.

▼ Executing action

```
1 {
2   "type": "service-api",
3   "value": {
4     "type": "message",
5     "value": "Length :261"
6   }
7 }
```

▼ Send a card

```
1 {
2   "type": "message",
3   "value": {
4     "type": "card",
5     "delay": "",
6     "content": {
7       "title": "SALES ORDER 4",
8       "subtitle": "Type: OR Date: 2017-10-08",
9       "description": "Total Net Amount: 20020 USD",
10      "status": "C",
11      "statusState": "information"
12    }
13  }
14 }
```

▼ Edit the memory

```
1 {
2   "type": "edit_memory",
3   "value": {
4     "updated_fields": {}
5   },
6   "message": "Executed edit memory action"
7 }
```