

Informatica® Cloud Application Integration August 2024

# Al Agent for Salesforce using Google Gemini

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Publication Date: 2024-12-02

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#### **Preface**

Use AI Agent for Salesforce using Google Gemini to learn how to interact with Salesforce using a list of Salesforce Object Query Language (SOQL) queries and answer user queries with the help of the Gemini Large Language Model (LLM). This guide assumes that you have an understanding of the Salesforce Connector and Gemini Connector concepts.

#### CHAPTER 1

# Introduction to Al Agent for Salesforce using Google Gemini recipe

The AI Agent for Salesforce using Google Gemini recipe is based on REST and SOAP APIs. The recipe shows you how to use the GeminiAI Agent framework to interact with Salesforce and address user queries autonomously.

Based on the user's query, the LLM generates a list of Salesforce Object Query Language (SOQL) queries that are needed to retrieve all the relevant details from Salesforce. These queries are executed in a sequence, and the results are used by the Gemini Large Language Model (LLM) as context to answer the user's query.

The process receives a request from the user that includes system instructions for an LLM and an additional system instruction for executing SOQL queries. The LLM uses the instructions to generate a list of SOQL queries that need to be executed against Salesforce. The process sequentially executes each generated SOQL query against the Salesforce database. After each query execution, the result is used as context for the next query to the LLM.

The process continues this cycle using the response from each SOQL query as context data for the next LLM query, along with the initial user instructions. This loop continues until all queries generated from the user input have been processed. The maximum number of requests to be made to Salesforce is set to 5 by default. You can change the limit while invoking the process.

After all the SOQL queries have been executed and their results gathered, a final query is made to the LLM. The context for this final query consists of the results of all the executed SOQL queries.

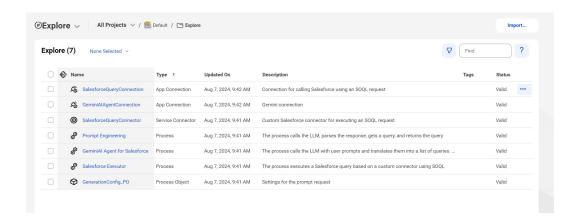
The LLM uses the aggregated context to provide a response to the user's original question.

Watch an interactive demo to know more about how to use this recipe.

#### Recipe contents

The AI Agent for Salesforce using Google Gemini recipe contains a process object, service connector, app connections, and processes.

The following image shows the assets that the Al Agent for Salesforce using Google Gemini recipe package contains:



## Al Agent for Salesforce using Google Gemini recipe assets

The following table lists the assets that the AI Agent for Salesforce using Google Gemini recipe package contains:

Asset Name	Asset Type	Description
GenerationConfig_P0	Process object	Creates the prompt request.
SalesforceQueryConnector	Service connector	Custom Salesforce service connector for executing SOQL requests.
GeminiAlAgentConnection	App connection	Gemini connection.
SalesforceQueryConnection	App connection	Calls Salesforce using an SOQL request.
Salesforce Executor	Process	Executes a Salesforce query based on a custom connector using SOQL.
Prompt Engineering	Process	Calls the LLM, parses the response, gets a query, and returns the query.
GeminiAl Agent for Salesforce	Process	Calls the LLM with user prompts and translates them into a list of queries. The queries are executed in a sequence. As each query runs, the LLM creates a new Salesforce query.

#### CHAPTER 2

# Using the AI Agent for Salesforce using Google Gemini recipe

To use the Al Agent for Salesforce using Google Gemini recipe, you must perform the following steps manually:

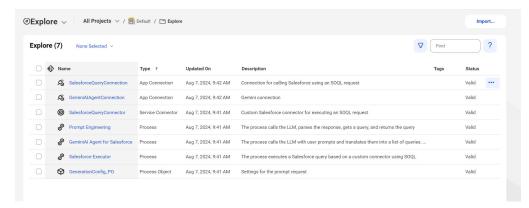
- Step 1: Copy and access the recipe
- Step 2: Publish the SalesforceQueryConnector service connector
- Step 3: Configure and publish the GeminiAlAgentConnection connection
- Step 4: Configure and publish the SalesforceQueryConnection connection
- Step 5: Configure and publish the processes
- Step 6: Invoke the process

#### Copying and accessing the recipe

Copy the pre-configured assets in the recipe to a separate project or folder.

- 1. Open the Al Agent for Salesforce using Google Gemini recipe and click Use.
- 2. Select the location where you want to copy the recipe, and then click Continue.
- In the Copying the recipe dialog box, click OK.
   It might take some time for the recipe to get copied. You will receive a notification when the recipe is ready for use.
- 4. After the recipe is copied, click **Explore** to access the recipe content.

5. Navigate to the project or folder where you copied the recipe or enter the recipe name in the **Find** box.
All the assets in the recipe are displayed as shown in the following image:



### Publishing SalesforceQueryConnector service connector

You can publish the SalesforceQueryConnector service connector from the assets page.

To publish the service connector, click **Actions** in the row that contains the service connector and select **Publish**.

#### Configuring and publishing the GeminiAlAgentConnection connection

Configure the API key in the GeminiAIAgentConnection connection, and then publish the connection.

- 1. Open the GeminiAlAgentConnection connection.
- 2. In the **Connection Properties** section, enter the API key in the **API\_Key** property. The **API\_Key** property authenticates Gemini connection requests.
- 3. Save and publish the connection.

## Configuring and publishing the SalesforceQueryConnection connection

Configure the user credentials and runtime environment in the SalesforceQueryConnection connection, and then publish the connection.

1. Open the SalesforceQueryConnection connection.

- 2. From the Run On list, select Cloud Server or any Secure Agent.
- 3. In the Connection Properties section, enter values for the following properties:

Property	Description
Username	Salesforce developer account user name.
Password	Salesforce developer account password.
Consumer_Key	The consumer key associated with the Salesforce user account for API access.
Consumer_Secret	The consumer secret associated with the Salesforce user account for API access.

Save and publish the connection.

#### Configuring and publishing the processes

To configure and publish the processes, perform the following steps:

- To publish the Salesforce Executor process, click Actions in the row that contains the process and select Publish.
- Open the Prompt Engineering process.
- On the Temp Fields tab of the Start step, the Model\_LLM field is set to gemini-1.5 pro by default. You
  can optionally edit the model version. For information about changing the model version, see the Gemini
  documentation.
- 4. Save and publish the process.
- 5. Open the **GeminiAl Agent for Salesforce** process.
- 6. Optionally, you can change the tracing level from Verbose to None on the Advanced tab.
- 7. Optionally, in the Prepare First Prompt To LLM step, enter the prompt instructions in the Assignments field by updating the Prompt\_Configuration and Prompt\_Request fields using the Expression Editor, as shown in the following sample code:

```
For Prompt Configuration:
 <generationConfig>
      <candidateCount>1</candidateCount>
      <maxOutputTokens>5000</maxOutputTokens>
      <temperature>0.5</temperature>
      <topP>0.5</topP>
      <topK>1</topK>
   </generationConfig>
For Prompt Request:
<Generate Content Request>
   <contents>
        <text>{$input.System_Instruction_Planning}</text>
       <parts>
         <text>input:{$input.User Prompt}</text>
      </parts>
       <parts>
         <text>output:</text>
      </parts>
```

For the **Prompt\_Configuration** field, enter values for the following properties:

Property	Description
stopSequences	Contains sequences of characters or strings that stop the model's output. This property controls where the model must end its response.
candidateCount	Specifies the number of response candidates that the model must generate. For example, if the value is set to 1, the model generates one response. If set to a higher number, the model generates that many alternative responses for the same input.
maxOutputTokens	Defines the maximum number of tokens that the model can generate in its response. Setting a limit ensures that the response is concise and fits within the desired length constraints.
temperature	Controls the randomness of the model's output. A lower value close to 0 makes the output more deterministic, while a higher value close to 1 increases randomness and creativity. For example, if temperature is set to 0.5, the model balances between deterministic and creative outputs.
topP	Determines the cumulative probability threshold for token selection. The model considers the smallest set of tokens whose cumulative probability meets or exceeds $topP$ . For example, if $topP$ is set to 0.1, the model considers only the top 10% most probable tokens at each step.
topK	Limits the number of the highest-probability tokens to consider during response generation. For example, if $topK$ is set to 2, the model considers only the top 2 tokens at each step, controlling output diversity and quality.

8. Save and publish the process.

Alternatively, you can also publish the **GeminiAl Agent for Salesforce** process from the assets page. To publish the process, click **Actions** in the row that contains the process and select **Publish**. The subprocesses will be published automatically. You can modify the process as mentioned in step 7 before publishing the process if needed.

#### Invoking the process

When you invoke the GeminiAl Agent for Salesforce process, the user sees an answer from the LLM based on the user prompt. The process ensures that the LLM utilizes the data obtained from Salesforce to provide a comprehensive and informed response to the user's query.

To invoke the process, perform the following steps:

 Open the GeminiAl Agent for Salesforce process and click Actions > Properties Details > Copy Service URL. 2. Call the process by passing the **User\_Prompt** parameter. Open a text editor and add the input fields and values to the service URL as shown in the following format:

```
<Cloud Application Integration POD URL>/active-bpel/public/rt/<API_name>? User Prompt=<User Prompt>
```

**Note:** The **Max\_Query\_Limit** input field is set to **5** by default. This limits the maximum number of requests to be made to Salesforce. You can optionally change the limit by passing an additional parameter, Max\_Query\_Limit, in the service URL as shown in the following format:

```
<Cloud Application Integration POD URL>/active-bpel/public/rt/<API_name>?
User_Prompt=<User_Prompt>&Max_Query_Limit=<Max_Query_Limit>
```

3. Open a browser and paste the service URL as shown in the following image:



You can also invoke the process using the Run Using option, REST or SOAP API endpoints in any API client, such as cURL, Postman, SOAP UI, or through any programming language.