



Informatica® Cloud Application Integration
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Natural Language Interaction with Oracle Select AI

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Preface

Use *Natural Language Interaction with Oracle Select AI* to learn how to query Oracle Autonomous Database 23ai using the Select AI natural language interface.

CHAPTER 1

Introduction to Natural Language Interaction with Oracle Select AI recipe

Use the recipe to query an Oracle Autonomous Database 23ai using the Select AI natural language interface.

Select AI uses generative AI with Large Language Models (LLMs) to convert user input text into Oracle SQL. Select AI processes the natural language prompt, supplements the prompt with metadata, and then generates and runs an SQL query.

Prerequisites

To use the Natural Language Interaction with Oracle Select AI recipe, the following prerequisites must be met:

- Copy the `ojdbc8.jar` file to the following directory and restart the Secure Agent:
<Secure Agent installation directory>/apps/process-engine/ext
You can download the `ojdbc8.jar` file from the [Oracle website](#).
- Add the IP address of the Secure Agent machine to the ACL filtering exception list on the Oracle Cloud Server.
- `CREATE_CREDENTIAL` procedure in the `DBMS_CLOUD` package.

```
DBMS_CLOUD.CREATE_CREDENTIAL (  
  credential_name IN VARCHAR2,  
  user_ocid      IN VARCHAR2,  
  tenancy_ocid  IN VARCHAR2,  
  private_key   IN VARCHAR2,  
  fingerprint   IN VARCHAR2);
```

The following table describes the parameters used for the create credential procedure:

| Parameter | Description |
|------------------------------|--|
| <code>credential_name</code> | Specifies the name of the credential to be stored. |
| <code>user_ocid</code> | Specifies the user's Oracle client ID (OCID). |

| Parameter | Description |
|--------------|---|
| tenancy_ocid | Specifies the tenancy's OCID. |
| private_key | Specifies the generated private key. Private keys generated with a passphrase are not supported. You need to generate a private key without a passphrase. |
| fingerprint | Specifies a fingerprint. After a generated public key is uploaded to the user's account, the fingerprint is displayed in the console. Use the displayed fingerprint for this parameter. |

For information about creating the credential procedure, see the Oracle DBMS Cloud documentation.

- CREATE_PROFILE procedure in the DBMS_CLOUD_AI package.

```

DBMS_CLOUD_AI.CREATE_PROFILE
  profile_name      IN  VARCHAR2,
  attributes        IN  CLOB      DEFAULT NULL,
  status           IN  VARCHAR2  DEFAULT NULL,
  description      IN  CLOB      DEFAULT NULL
);

```

The following table describes the parameters used for the create profile procedure:

| Parameter | Description |
|--------------|--|
| profile_name | Name of the AI profile. The profile name must follow the naming rules of the Oracle SQL identifier. The profile name can't exceed 125 characters. This is a required parameter. |
| attributes | Profile attributes in the JSON format. The default value is NULL . |
| status | Status of the profile. The default value is enable . |
| description | Description for the AI profile. The default value is NULL . |

When you create a profile, you can associate the profile with the database tables. When the user prompts a query, Oracle runs that prompt in context with these tables to respond.

For more information about creating the profile procedure, see the Oracle DBMS Cloud AI package documentation.

After configuring the CREATE_CREDENTIAL procedure and CREATE_PROFILE procedure, you must perform the following steps:

[Configure Select AI for Natural Language Interaction with your Database](#)

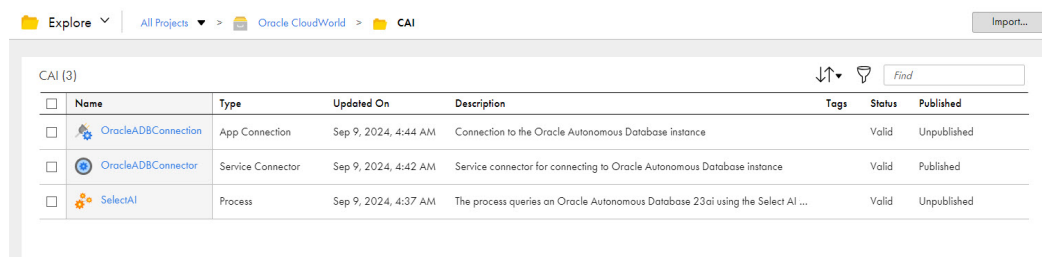
[Configure GENERATE function](#)

CHAPTER 2

Natural Language Interaction with Oracle Select AI recipe contents

The recipe contains multiple assets, such as a service connector, an app connection, and a process.

The following image shows the assets that the Natural Language Interaction with Oracle Select AI recipe package contains:



| Name | Type | Updated On | Description | Tags | Status | Published |
|---------------------|-------------------|----------------------|--|------|--------|-------------|
| OracleADBConnection | App Connection | Sep 9, 2024, 4:44 AM | Connection to the Oracle Autonomous Database instance | | Valid | Unpublished |
| OracleADBConnector | Service Connector | Sep 9, 2024, 4:42 AM | Service connector for connecting to Oracle Autonomous Database instance | | Valid | Published |
| SelectAI | Process | Sep 9, 2024, 4:37 AM | The process queries an Oracle Autonomous Database 23ai using the Select AI ... | | Valid | Unpublished |

Natural Language Interaction with Oracle Select AI recipe assets

The following table lists the assets that the Natural Language Interaction with Oracle Select AI recipe package contains:

| Asset Name | Asset Type | Description |
|---------------------|-------------------|---|
| OracleADBConnector | Service connector | Connects to the Oracle Autonomous Database instance. |
| OracleADBConnection | App connection | Connection to the Oracle Autonomous Database instance. |
| SelectAI | Process | The process queries an Oracle Autonomous Database 23ai using the Select AI natural language interface. Select AI uses generative AI with an LLM to process the natural language prompt, supplements the prompt with metadata, and then generates and runs an SQL query. |

CHAPTER 3

Using the Natural Language Interaction with Oracle Select AI recipe

To use the Natural Language Interaction with Oracle Select AI recipe, you must perform the following steps manually:

- Step 1: Copy and access the recipe
- Step 2: Publish the OracleADBCconnector connector
- Step 3: Configure and publish the OracleADBCConnection connection
- Step 4: Configure and publish the process
- Step 5: Invoke the process

Copying and accessing the recipe content

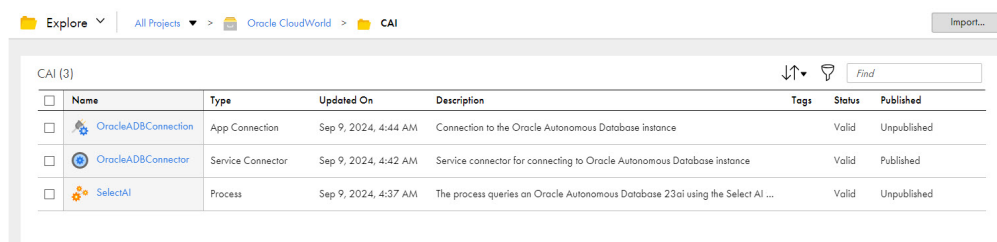
To copy and access the recipe content, perform the following steps:

1. Open the **Natural Language Interaction with Oracle Select AI** recipe and click **Use**.
2. Select the location where you want to copy the recipe, and then click **Continue**.
3. 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:



| Name | Type | Updated On | Description | Tags | Status | Published |
|----------------------|-------------------|----------------------|--|------|--------|-------------|
| OracleADBCConnection | App Connection | Sep 9, 2024, 4:44 AM | Connection to the Oracle Autonomous Database instance | | Valid | Unpublished |
| OracleADBCConnector | Service Connector | Sep 9, 2024, 4:42 AM | Service connector for connecting to Oracle Autonomous Database instance | | Valid | Published |
| SelectAI | Process | Sep 9, 2024, 4:37 AM | The process queries an Oracle Autonomous Database 23ai using the Select AI ... | | Valid | Unpublished |

Publishing the OracleADBConnector service connector

You can publish the **OracleADBConnector** service connector from the assets page.

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

Configuring and publishing the OracleADBConnection connection

Configure the JDBC driver, connection URL, and user credentials to log in to the database and publish the OracleADBConnection connection.

1. Open the **OracleADBConnection** connection.
2. From the **Type** list, select **OracleADBConnector** from the recipe assets folder.
3. From the **Run On** list, select the Secure Agent.
4. In the **Connection Properties** section, enter values for the following properties:

| Property | Description |
|---------------------|--|
| JDBC Driver | The fully qualified Java class name of the JDBC driver. Specify the following driver class name: <code>oracle.jdbc.OracleDriver</code> |
| JDBC Connection URL | The connection URL to connect to an external database. Specify the following connection URL: <code>jdbc:oracle:thin:@(description=(retry_count=20)(retry_delay=3)(address=(protocol=tcps)(port=1521)(host=<hosturl>))(connect_data=(service_name=<ServiceName>))(security=(ssl_server_dn_match=yes)))</code> Add the host and service name in the URL. |
| User Name | The user name to connect to the database. |
| Password | The password to connect to the database. |

5. Save and publish the connection.

Configuring and publishing the process

Configure the runtime environment and publish the process.

1. Open the **SelectAI** process.
2. On the **Start** tab of the Start step, select **Cloud Server** from the **Run On** list.

3. Optionally, you can change the tracing level from **Verbose** to **None** on the **Advanced** tab.
4. Save and publish the process.

Invoking the process

When you invoke the SelectAI process, Oracle generates an SQL query response or a natural language response based on the input provided.

1. Open the **SelectAI** process and click **Actions > Properties Details > Copy Service URL**.
2. 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>?  
prompt=<User_Prompt>&action=<action>&profile=<profile>
```

Here, `prompt` is the query to the Oracle Autonomous Database in Natural Language.

`action` is the type of action to be performed on the query such as `showsql`, `narrate`, and `chat`. If you do not pass any action input, the `narrate` action is used as the default action.

`profile` is the database profile that is used to run the query.

3. Open a browser and paste the service URL.

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