

Oracle® Cloud

Using the Microsoft SQL Server Adapter

Release 16.4

E71394-05

December 2016

This guide describes how to configure and add the Microsoft SQL Server Adapter to an integration in Oracle Integration Cloud Service.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

This documentation is in preproduction status and is intended for demonstration and preliminary use only. It may not be specific to the hardware on which you are using the software. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to this documentation and will not be responsible for any loss, costs, or damages incurred due to the use of this documentation.

The information contained in this document is for informational sharing purposes only and should be considered in your capacity as a customer advisory board member or pursuant to your beta trial agreement only. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described in this document remains at the sole discretion of Oracle.

This document in any form, software or printed matter, contains proprietary information that is the exclusive property of Oracle. Your access to and use of this confidential material is subject to the terms and conditions of your Oracle Master Agreement, Oracle License and Services Agreement, Oracle PartnerNetwork Agreement, Oracle distribution agreement, or other license agreement which has been executed by you and Oracle and with which you agree to comply. This document and information contained herein may not be disclosed, copied, reproduced, or distributed to anyone outside Oracle without prior written consent of Oracle. This document is not part of your license agreement nor can it be incorporated into any contractual agreement with Oracle or its subsidiaries or affiliates.

Contents

| | |
|---|----------|
| Preface | v |
| Audience | v |
| Related Resources | v |
| Conventions | v |
| 1 Getting Started with the Microsoft SQL Server Adapter | |
| About the Microsoft SQL Server Adapter | 1-1 |
| About Oracle Integration Cloud Service | 1-2 |
| About Oracle Integration Cloud Service Connections | 1-2 |
| About Oracle Integration Cloud Service Integrations | 1-3 |
| About Microsoft SQL Server Adapter Use Cases | 1-3 |
| Typical Workflow for Creating and Including an Adapter Connection in an Integration | 1-3 |
| 2 Creating an Microsoft SQL Server Adapter Connection | |
| Prerequisites for Creating a Connection | 2-1 |
| Uploading an SSL Certificate | 2-1 |
| Creating a Connection | 2-2 |
| Adding a Contact Email | 2-3 |
| Configuring Connection Properties | 2-3 |
| Configuring Connection Security | 2-4 |
| Configuring an Agent Group | 2-4 |
| Testing the Connection | 2-4 |
| Editing a Connection | 2-5 |
| Cloning a Connection | 2-5 |
| Deleting a Connection | 2-6 |
| 3 Creating an Integration | |
| 4 Adding the Microsoft SQL Server Adapter Connection to an Integration | |
| Configuring Basic Information Properties | 4-1 |
| What You Can Do from the Basic Info Page | 4-1 |
| What You See on the Basic Info Page | 4-2 |

| | |
|--|-----|
| Configuring Microsoft SQL Server Adapter Stored Procedure Properties | 4-2 |
| What You Can Do from the Invoke a Stored Procedure Page..... | 4-2 |
| What You See on the Invoke a Stored Procedure Page | 4-2 |
| Configuring Microsoft SQL Server Adapter SQL Statement Properties | 4-3 |
| What You Can Do from the Run a SQL Statement Page | 4-4 |
| What You See on the Run a SQL Statement Page..... | 4-4 |
| Configuring Microsoft SQL Server Adapter Polling Properties | 4-4 |
| What You Can Do from the Polling Page | 4-4 |
| What You See on the Polling Page..... | 4-4 |
| What You See on the Manage Tables Page..... | 4-5 |
| What You See on the Relations Page | 4-5 |
| What You See on the Polling Strategy and Options Page | 4-6 |
| Reviewing Configuration Values on the Summary Page | 4-6 |
| What You Can Do from the Summary Page | 4-7 |
| What You See on the Summary Page | 4-7 |

5 Creating Mappings and Lookups in Integrations

6 Administering Integrations

Preface

Using the Microsoft SQL Server Adapter describes how to configure the Microsoft SQL Server Adapter as a connection in an integration in Oracle Integration Cloud Service.

Topics:

- [Audience](#)
- [Related Resources](#)
- [Conventions](#)

Audience

Using the Microsoft SQL Server Adapter is intended for developers who want to use the Microsoft SQL Server Adapter in integrations in Oracle Integration Cloud Service.

Related Resources

For more information, see these Oracle resources:

- Oracle Cloud
<http://cloud.oracle.com>
- *Using Oracle Integration Cloud Service*
- *Using the Oracle Mapper*
- Oracle Public Cloud Machine documentation in the Oracle Help Center:
<http://docs.oracle.com>

Conventions

The following text conventions are used in this document:

| Convention | Meaning |
|-----------------|--|
| boldface | Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary. |
| <i>italic</i> | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values. |

| Convention | Meaning |
|------------------------|--|
| <code>monospace</code> | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |

Getting Started with the Microsoft SQL Server Adapter

Review the following conceptual topics to learn about the Microsoft SQL Server Adapter and how to use it as a connection in integrations in Oracle Integration Cloud Service. A typical workflow of adapter and integration tasks is also provided.

Topics

- [About the Microsoft SQL Server Adapter](#)
- [About Oracle Integration Cloud Service](#)
- [About Oracle Integration Cloud Service Connections](#)
- [About Oracle Integration Cloud Service Integrations](#)
- [About Microsoft SQL Server Adapter Use Cases](#)
- [Typical Workflow for Creating and Including an Adapter Connection in an Integration](#)

About the Microsoft SQL Server Adapter

The Microsoft SQL Server Adapter enables you to create an integration in Oracle Integration Cloud Service.

Microsoft SQL Server uses the Structured Query Language (SQL). SQL enables you to add, access, and manage content in the SQL Server.

The Microsoft SQL Server Adapter provides the following benefits:

- Support for integrations between Microsoft SQL Server Adapter and an on-premises SQL Server. The Microsoft SQL Server Adapter runs in an on-premises environment to achieve this integration.
- Support for distributed polling and multithreading.
- Outbound (target) integration support for the following:
 - Execution of stored procedures based on database schemas. SQL Server stored procedures display OUTPUT parameters as IN/OUT parameters.
 - Execution of SQL statements:
 - Enables you to directly enter SQL statements.
 - Supports data manipulation language (DML) create, read, update, and delete (CRUD) statements.

- Supports validation of SQL queries.
- Supports bind variables (for example, `Employee_ID = #D`).

For more information about integrating on-premises applications with Microsoft SQL Server Adapter, see *Using Oracle Integration Cloud Service*.

Microsoft SQL Server Adapter is one of many predefined adapters included with Oracle Integration Cloud Service. You can configure Microsoft SQL Server Adapter as a target connection in an integration in Oracle Integration Cloud Service. For information about Oracle Integration Cloud Service, connections, and integrations, see the following sections:

- [About Oracle Integration Cloud Service](#)
- [About Oracle Integration Cloud Service Connections](#)
- [About Oracle Integration Cloud Service Integrations](#)

About Oracle Integration Cloud Service

Oracle Integration Cloud Service is a complete, secure, but lightweight integration solution that enables you to connect your applications in the cloud. It simplifies connectivity between your applications and connects both your applications that live in the cloud and your applications that still live on premises. Oracle Integration Cloud Service provides secure, enterprise-grade connectivity regardless of the applications you are connecting or where they reside.

Oracle Integration Cloud Service provides native connectivity to Oracle Software as a Service (SaaS) applications, such as Oracle Sales Cloud, Oracle RightNow Cloud, and so on. Oracle Integration Cloud Service *adapters* simplify connectivity by handling the underlying complexities of connecting to applications using industry-wide best practices. You only need to create a *connection* that provides minimal connectivity information for each system. Oracle Integration Cloud Service *lookups* map the different codes or terms used by the applications you are integrating to describe similar items (such as country or gender codes). Finally, the visual data mapper enables you to quickly create direct mappings between the trigger and invoke data structures. From the mapper, you can also access lookup tables and use standard XPath functions to map data between your applications.

Once you integrate your applications and activate the integrations to the runtime environment, the dashboard displays information about the running integrations so you can monitor the status and processing statistics for each integration. The dashboard measures and tracks the performance of your transactions by capturing and reporting key information, such as throughput, the number of messages processed successfully, and the number of messages that failed processing. You can also manage business identifiers that track fields in messages and manage errors by integrations, connections, or specific integration instances.

About Oracle Integration Cloud Service Connections

Connections define information about the instances of each configuration you are integrating. Oracle Integration Cloud Service includes a set of predefined *adapters*, which are the types of applications on which you can base your connections, such as Oracle Sales Cloud, Oracle Eloqua Cloud, Oracle RightNow Cloud, and others. A connection is based on an adapter. A connection includes the additional information required by the adapter to communicate with a specific instance of an application (this can be referred to as metadata or as connection details). For example, to create a connection to a specific RightNow Cloud application instance, you must select the

Oracle RightNow adapter and then specify the WSDL URL, security policy, and security credentials to connect to it.



About Oracle Integration Cloud Service Integrations

Integrations are the main ingredient of Oracle Integration Cloud Service. An integration includes at the least a trigger (source) connection (for requests sent to Oracle Integration Cloud Service) and invoke (target) connection (for requests sent from Oracle Integration Cloud Service to the target) and the field mapping between those two connections.

When you create your integrations, you build on the [connections](#) you already created by defining how to process the data for the trigger (source) and invoke (target) connections. This can include defining the type of operations to perform on the data, the business objects and fields against which to perform those operations, required schemas, and so on. To make this easier, the most complex configuration tasks are handled by Oracle Integration Cloud Service. Once your trigger (source) and invoke (target) connections are configured, the mappers between the two are enabled so you can define how the information is transferred between the trigger (source) and invoke (target) data structures for both the request and response messages.



About Microsoft SQL Server Adapter Use Cases

The Microsoft SQL Server Adapter can be used in scenarios such as the following.

You can create an integration that includes an SOAP Adapter connection on the source (inbound) side and an Microsoft SQL Server Adapter on the target (outbound) side. For example, when configuring the target Microsoft SQL Server Adapter, you can select a stored procedure that enables you to pass an employee ID as an input parameter from the SOAP Adapter to an on-premises SQL database to retrieve additional information about the employee (first name, last name, email ID, and so on). The request is sent to the on-premises agent for execution. The employee results are then returned to Oracle Integration Cloud Service.

Related Topics:

About Agents and Integrations Between On-Premises Applications and Oracle Integration Cloud Service

Managing Agent Groups and the On-Premises Agent

Monitoring Agents

Typical Workflow for Creating and Including an Adapter Connection in an Integration

You follow a very simple workflow to create a connection with an adapter and include the connection in an integration in Oracle Integration Cloud Service.

| Step | Description | More Information |
|------|---|---|
| 1 | Create the adapter connections for the applications you want to integrate. The connections can be reused in multiple integrations and are typically created by the administrator. | Creating an Microsoft SQL Server Adapter Connection |
| 2 | Create the integration. When you do this, you add source and target connections to the integration. | Creating an Integration and Adding the Microsoft SQL Server Adapter Connection to an Integration |
| 3 | Map data between the source connection data structure and the target connection data structure. | <i>Mapping Integration Cloud Service Data of Using Oracle Integration Cloud Service</i> |
| 4 | Specify the primary business identifier to track a field across an integration flow during runtime. | <i>Assigning Business Identifiers of Using Oracle Integration Cloud Service</i> |
| 5 | (Optional) Create lookups that map the different values used by those applications to identify the same type of object (such as gender codes or country codes). | <i>Creating Lookups of Using Oracle Integration Cloud Service</i> |
| 6 | Activate the integration. | <i>Managing Integrations of Using Oracle Integration Cloud Service</i> |
| 7 | Monitor the integration on the dashboard. | <i>Monitoring Integration Cloud Services of Using Oracle Integration Cloud Service</i> |
| 8 | Track payload fields in messages during runtime. | <i>Assigning Business Identifiers for Tracking Fields in Messages and Managing Business Identifiers for Tracking Fields in Messages of Using Oracle Integration Cloud Service</i> |
| 9 | Manage errors at the integration level, connection level, or specific integration instance level. | <i>Managing Errors of Using Oracle Integration Cloud Service</i> |

Creating an Microsoft SQL Server Adapter Connection

A connection is based on an adapter. You define connections to the specific cloud applications that you want to integrate. The following topics describe how to define connections:

Topics

- [Prerequisites for Creating a Connection](#)
- [Uploading an SSL Certificate](#)
- [Creating a Connection](#)
- [Editing a Connection](#)
- [Cloning a Connection](#)
- [Deleting a Connection](#)

Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the Microsoft SQL Server Adapter:

- Ensure that the target SQL Server is publicly accessible.
- Ensure that you have write permissions on the database.
- Ensure that you have the required permissions to run stored procedures and packages and SQL statements against the SQL Server.
- Know the database hostname or IP address and the port number.
- Know the database or instance name.
- Know the username and password for connecting to the database.
- Know the agent group to associate with the Oracle SQL Server Cloud adapter. You select the agent group during connection configuration in [Configuring an Agent Group](#).

Uploading an SSL Certificate

Certificates are used to validate outbound SSL connections. If you make an SSL connection in which the root certificate does not exist in Oracle Integration Cloud Service, an exception is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle Integration Cloud Service to connect with

external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration Cloud Service.

To upload a certificate:

1. From the Oracle Integration Cloud Service home page, click the **Administration** tab in the upper right corner.

All certificates currently uploaded to the trust store are displayed in the Certificates dialog. The **Filter By > Type** list displays the following details:

- **Preinstalled:** Displays the certificates automatically installed in Oracle Integration Cloud Service. These certificates cannot be deleted.
- **Uploaded:** Displays the certificates uploaded by individual users. These certificates can be deleted and updated.

You can also search for certificates in the **Search** field. The search results are limited to a maximum of ten records sorted by name for performance and usability reasons. To ensure that your search results are more granular, enter as much of the certificate name as possible.

2. Click **Upload** at the top of the page.
3. In the Upload Certificate dialog box, enter a unique identifier for the certificate.

This is a name you can use to identify the certificate.

4. Click **Browse** to locate the certificate file (.cer).
5. Click **Upload**.
6. Click the certificate name to view details such as the subject of the certificate, the issuer of the certificate, the date the certificate was issued, and the date the certificate expires.

Creating a Connection

The first step in creating an integration is to create the connections to the applications with which you want to share data.

1. In the Integration Cloud Service toolbar, click **Designer**.
2. On the Designer Portal, click **Connections**.
3. Click **New Connection**.

The Create Connection — Select Adapter dialog is displayed.

4. Select an adapter from the dialog. You can also search for the type of adapter to use by entering a partial or full name in the Search field, and clicking **Search**.

The New Connection — Information dialog is displayed.

5. Enter the information to describe the connection.
 - Enter a meaningful name to help others find your connection when they begin to create their own integrations. The name you enter is automatically added in capital letters to the **Identifier** field.

- Select the role (direction) in which to use this connection (trigger, invoke, or both). Only the roles supported by this adapter are displayed for selection. When you select a role, only the connection properties and security policies appropriate to that role are displayed on the Connections page. If you select an adapter that supports both invoke and trigger, but select only one of those roles, then try to drag the adapter into the section you did not select, you receive an error (for example, configure an Oracle RightNow Cloud Adapter as only an invoke, but drag the adapter to the trigger section).
- Enter an optional description of the connection.

New Connection - Information

Enter information that describes the connection. Use a meaningful name and description to help others find your connection when they create their own integrations. The Identifier must be unique and can be set only when the connection is created.

* Connection Name: Order Status

* Identifier: ORDER_STATUS

Connection Role: Invoke

Description: Enter a brief description...

Create Cancel

6. Click **Create**.

Your connection is created and you are now ready to configure connection details, such as email contact, connection properties, security policies, and connection login credentials.

Adding a Contact Email

From the Connection Administrator section of the connection, you can add a contact email address for notifications.

1. In the **Email Address** field, enter an email address to receive email notifications when problems occur.
2. In the upper right corner, click **Save**.

Configuring Connection Properties

Enter connection information so your application can process requests.

1. Click **Configure Connectivity**.

The Connection Properties dialog is displayed.

2. Enter the host name or IP address of the database server.

3. Enter the optional database server port number.
4. Enter the optional database name.
5. Click **OK**.
6. Configure connection security. See [Configuring Connection Security](#).

Configuring Connection Security

Configure security for your Oracle SQL Server Cloud adapter connection by selecting the security policy and security token.

1. Click **Configure Credentials**.
2. Enter your login credentials:
 - a. Select the security policy. Only the Username Password Token policy is supported. It cannot be deselected.
 - b. Enter a username and password to connect to the database.
 - c. Reenter the password a second time.
3. Click **OK**.
4. Select the agent group with which to associate the application. See [Configuring an Agent Group](#).

Configuring an Agent Group

Configure an agent group for accessing your on-premises application.

1. Click **Configure Agents**.

The Select an Agent Group page appears.
2. Click the name of the agent group.
3. Click **Use**.
4. Test the connection. See [Testing the Connection](#).

Related Topics:

About Agents and Integrations Between On-Premises Applications and Oracle Integration Cloud Service

Managing Agent Groups and the On-Premises Agent

Monitoring Agents

Testing the Connection

Test your connection to ensure that it is successfully configured.

1. In the upper right corner of the page, click **Test**.

If successful, the following message is displayed and the progress indicator shows 100%.

The connection test was successful!

2. If your connection was unsuccessful, an error message is displayed with details. Verify that the configuration details you entered are correct.
3. When complete, click **Save**.

Editing a Connection

You can edit connection settings after creating a new connection.

1. In the Oracle Integration Cloud Service toolbar, click **Designer**.
2. On the Designer Portal, click **Connections**.
3. On the Connections page, search for the connection name.
4. Select **Edit** from the connection **Actions** menu or click the connection name.



The Connection page is displayed.

5. To edit the notification email contact, change the email address in the **Email Address** field.
6. To edit the connection properties, click **Configure Connectivity**. Note that some connections do not include this button. If your connector does not include a **Configure Connectivity** button, then click the **Configure Credentials** button.

Cloning a Connection

You can clone a copy of an existing connection. It is a quick way to create a new connection.

1. In the Oracle Integration Cloud Service toolbar, click **Designer**.
2. On the Designer Portal, click **Connections**.
3. On the Connections page, search for the connection name.
4. Select **Clone** from the connection **Actions** menu.



The Clone Connection dialog is displayed.

5. Enter the connection information.

6. Click **Clone**.
7. Click **Edit** to configure the credentials of your cloned connection. Cloning a connection does not copy the credentials.

See [Editing a Connection](#) for instructions.

Deleting a Connection

You can delete a connection from the connection menu.

1. In the Oracle Integration Cloud Service toolbar, click **Designer**.
2. On the Designer Portal, click **Connections**.
3. On the Connections page, search for the connection name.
4. Click **Delete** from the connection **Actions** menu.



The Delete Connection dialog is displayed if the connection is not used in an integration.

5. Click **Yes** to confirm deletion.

Creating an Integration

Integrations use the adapter connections you created to your applications, and define how information is shared between those applications. You can view, export, create, import, edit, or delete integrations; create integrations to publish or subscribe to messages; add and remove request and response enrichment triggers; and create routing paths for different target endpoints in integrations. Click the following topics for more information.

Topic

- [Creating Integrations \(in *Using Oracle Integration Cloud Service*\)](#)

Adding the Microsoft SQL Server Adapter Connection to an Integration

When you drag the Microsoft SQL Server Adapter into the invoke area of an integration, the Cloud Endpoint Configuration Wizard appears. The wizard guides you through the configuration of Microsoft SQL Server Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the Microsoft SQL Server Adapter as an invoke in an integration.

Topics

- [Configuring Basic Information Properties](#)
- [Configuring Microsoft SQL Server Adapter Stored Procedure Properties](#)
- [Configuring Microsoft SQL Server Adapter SQL Statement Properties](#)
- [Reviewing Configuration Values on the Summary Page](#)

For more information about Microsoft SQL Server Adapter, see [About the Microsoft SQL Server Adapter](#).

Configuring Basic Information Properties

The Basic Info page appears when you drag an adapter onto the integration canvas. Review these topics to learn more about Microsoft SQL Server Adapter basic information settings.

Topics

- [What You Can Do from the Basic Info Page](#)
- [What You See on the Basic Info Page](#)

What You Can Do from the Basic Info Page

You can specify the following values on the Basic Info page. The Basic Info page is the initial wizard page that is displayed whenever you drag the Microsoft SQL Server Adapter to the target area.

- Specify a meaningful name.
- Specify the type of operation to run against the SQL Server:
 - Select a stored procedure to invoke in the SQL Server. This selection takes you to the Invoke a Stored Procedure page when you click **Next**.

- Select a SQL statement to run against the SQL Server. This selection takes you to the Run a SQL Statement page when you click **Next**.

What You See on the Basic Info Page

The following table describes the key information on the Basic Info page.

| Element | Description |
|--|--|
| What do you want to call your endpoint? | <p>Provide a meaningful name so that others can understand the connection. For example, if you are creating a database connection for adding new employee data, you may want to name it <code>CreateEmployeeInDB</code>. You can include English alphabetic characters, numbers, underscores, and dashes in the name. You cannot include the following:</p> <ul style="list-style-type: none">• Blank spaces (for example, <code>My DB Connection</code>)• Special characters (for example, <code>#;83&</code> or <code>right)now4</code>)• Multibyte characters |
| What operation do you want to perform? | <p>Select the type of operation for this connection to perform:</p> <ul style="list-style-type: none">• Invoke a Stored Procedure: Select to invoke a stored procedure in the database.• Run a SQL Statement: Select to run a SQL query against the database. |

Configuring Microsoft SQL Server Adapter Stored Procedure Properties

Enter the Microsoft SQL Server Adapter stored procedure parameters.

Topics

- [What You Can Do from the Invoke a Stored Procedure Page](#)
- [What You See on the Invoke a Stored Procedure Page](#)

What You Can Do from the Invoke a Stored Procedure Page

You can specify the following values on the Invoke a Stored Procedure page. The Invoke a Stored Procedure page is the wizard page that is displayed if you selected Invoke a Stored Procedure as the operation type on the Basic Info page.

- Select the database schema that includes the data you want to query (for example, you want to query details about an employee based on their employee ID).
- Select a stored procedure or package from the list that is displayed after you select the database schema.

What You See on the Invoke a Stored Procedure Page

The following table describes the key information on the Invoke a Stored Procedure page.

| Element | Description |
|------------------|--|
| Select Schema | Select a database schema from the list. This action refreshes the page to display fields for selecting a package or procedure to invoke. |
| Select Package | Select the database package. This action refreshes the page to display the procedures available for the package. |
| Select Procedure | Displays the in (inbound), out (outbound), and in/out (inbound/outbound) parameters for the selected package. |
| Arguments | Display the in, out, and in/out parameters that are passed with this procedure. |

Configuring Microsoft SQL Server Adapter SQL Statement Properties

Enter the Microsoft SQL Server Adapter SQL statement parameters.

Topics

- [What You Can Do from the Run a SQL Statement Page](#)
- [What You See on the Run a SQL Statement Page](#)

Note:

- Do not use schema/database names in SQL queries. Configure the details in the connection. For example:

```
Update HR.employee set HR.employee.first_name = 'Name' where
HR.employee.employee_id='1'
```

can be changed to a simple query, such as:

```
Update employee set first_name = 'Name' where employee_id='1'
```

where HR is used in the connection details. This restricts a user with specific privileges to a particular schema/database.

- When configuring the adapter as an invoke connection, ensure that proper spaces are provided between key words for a pure SQL statement. For example, the following statement fails during integration activation because there is no blank space between VALUES and (#.

```
INSERT INTO <table_name> VALUES(#EMPNO, #EMPNAME)
```

Add a blank space between VALUES and (#, and the statement is successfully processed.

```
INSERT INTO <table_name> VALUES (#EMPNO, #EMPNAME)
```

What You Can Do from the Run a SQL Statement Page

You can specify the following values on the Run a SQL Statement page. The Run a SQL Statement page is the wizard page that is displayed if you selected SQL statements as the operation type on the Basic Info page.

- Enter a SQL query.
- Click **Validate SQL Query** to ensure that your query has correct syntax and specifies tables, fields, and values that exist.
- Ensure that after you click **Validate SQL Query**, the **Status** field displays **Success!**.

What You See on the Run a SQL Statement Page

The following table describes the key information on the Run a SQL Statement page.

| Element | Description |
|-----------|---|
| SQL Query | Identifies the SQL query. |
| Status | After you click Validate SQL Query , ensure the Status field displays Success! . |

Configuring Microsoft SQL Server Adapter Polling Properties

Import the Microsoft SQL Server Adapter tables and select the root database table for the service query.

Topics

- [What You Can Do from the Polling Page](#)
- [What You See on the Polling Page](#)
- [What You See on the Manage Tables Page](#)
- [What You See on the Relations Page](#)
- [What You See on the Polling Strategy and Options Page](#)

What You Can Do from the Polling Page

You can import root database tables on the Polling page.

What You See on the Polling Page

The following table describes the key information on the Polling page.

| Element | Description |
|---------------|---|
| Import Tables | Imports tables and the root database table for the service query. |

| Element | Description |
|---|--|
| Remove Tables | Removes tables. Select Remove Tables , clear the checkbox to the right of the table you want to remove, and click Ok . You cannot remove the root database table. |
| Review and Manage relationships reachable from the root database table. | Appears after importing tables. Select Edit to open the Relations page where you can view, create, and remove relationships between tables. |
| Review and verify the attributes created from the imported tables and relationships. | Appears after importing tables. Select Edit to open the Attributes Filtering page where you can review, verify, select or deselect the attributes in the object model created from the imported tables and the defined relationships. |
| Polling Strategy and Options | Appears after importing tables. Select Edit to open the Polling Strategy and Options page where you can define the polling strategy and specify polling options. |

What You See on the Manage Tables Page

The following table describes the key information on the Manage Tables page. The Manage Tables page appears when you select **Schema** on the Microsoft SQL Server Adapter Manage Tables page.

| Element | Description |
|-------------------------|---|
| Schema | Selects the schema for the tables and views you are importing. |
| Tables | The name of the table to which the schema or view is applied. The list next to the Tables field allows these selections: <ul style="list-style-type: none"> • All — selects all available tables and views. • Table — selects tables. • View — selects views. |
| Available Tables | Lists the tables that meet the selection criteria. |
| Selected Tables | Lists your table selection. |
| Primary Keys | Appears when you select tables without a primary key defined. Selects the virtual primary key for the table. |

What You See on the Relations Page

The following table describes the key information on the Relations page. The Relations page appears when you select **Edit** for the Review and Manage relationships reachable from the root database table option on the Microsoft SQL Server Adapter Poll for a New or Changed Records page.

| Element | Description |
|------------|---|
| Create New | Opens the Create Relation page with these options: <ul style="list-style-type: none">• Parent Table — selects the parent table for the relationship between tables.• Child Table — selects the child table for the relationship between tables.• Relationship — defines the relationship between the parent and child tables.• Attribute Name — Applies attributes to the table relationship.• Mapping — Displays the mapping for the table relationship. |
| Detach | Opens the Relationships list in a new window. |

What You See on the Polling Strategy and Options Page

The following table describes the key information on the Polling Strategy and Options page. The Polling Strategy and Options page appears when you select **Edit** for Polling Strategy and Options on the Microsoft SQL Server Adapter Poll for a New or Changed Records page.

| Element | Description |
|-------------------------|---|
| Logical Delete Field | Selects a field in the root database table. To allow the selection, polling must be enabled in the Status column. |
| Read Value | Identifies the value that is used to indicate a row has been read. For example, PROCESSED. Surrounding quotes are not required. |
| Unread Value | Indicates the rows to process. Only rows with Logical Delete Field and column values that match the UnRead Value are read. |
| Polling Frequency (Sec) | Specifies the polling frequency for new records or events. |
| Batch Size | Specifies the number of table rows to process during a transaction. |

Reviewing Configuration Values on the Summary Page

You can review the specified adapter configuration values on the Summary page.

Topics

- [What You Can Do from the Summary Page](#)
- [What You See on the Summary Page](#)

What You Can Do from the Summary Page

You can review trigger (source) or invoke (target) configuration details from the Summary page. The Summary page is the final wizard page for each adapter after you have completed your configuration.

- View the configuration details you defined for the trigger (source) or invoke (target) adapter. For example, if you have defined an inbound trigger (source) adapter with a request business object and immediate response business object, specific details about this configuration are displayed on the Summary page.
- Click **Done** if you want to save your configuration details.
- Click a specific tab in the left panel or click **Back** to access a specific page to update your configuration definitions.
- Click **Cancel** to cancel your configuration details.

What You See on the Summary Page

The following table describes the key information on the Summary page.

| Element | Description |
|---------|--|
| Summary | <p>Displays a summary of the trigger (source) or invoke (target) configuration values you defined on previous pages of the wizard.</p> <p>The information that is displayed can vary by adapter. For some adapters, the selected business objects and operation name are displayed. For adapters for which a generated XSD file is provided, click the XSD link to view a read-only version of the file.</p> <p>To return to a previous page to update any values, click the appropriate tab in the left panel or click Back.</p> |

Creating Mappings and Lookups in Integrations

You must map data between trigger connections and invoke connections in integrations. You can also optionally create lookups in integrations.

Topics

- Mapping Integration Cloud Service Data (in *Using Oracle Integration Cloud Service*)
- Creating Lookups (in *Using Oracle Integration Cloud Service*)

Administering Integrations

Oracle Integration Cloud Service provides you with the information and tools required to activate, monitor, and manage your integrations in the runtime environment.

Topic

- Administering Integration Cloud Service (in *Using Oracle Integration Cloud Service*)

