Oracle® Cloud

Using the Oracle Messaging Cloud Service Adapter with Oracle Integration
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4 Troubleshoot the Oracle Messaging Cloud Service Adapter
This guide describes how to configure the Oracle Messaging Cloud Service Adapter as a connection in an integration in Oracle Integration.

Note:
The information in this guide applies to all of your Oracle Integration instances. It doesn't matter which edition you're using, what features you have, or who manages your cloud environment. You'll find what you need here, including notes about any differences between the various flavors of Oracle Integration when necessary.

Topics
• Audience
• Documentation Accessibility
• Related Resources
• Conventions

Audience
This guide is intended for developers who want to use the Oracle Messaging Cloud Service Adapter in integrations in Oracle Integration.

Documentation Accessibility
For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support
Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Resources
See these Oracle resources:
- Oracle Cloud
  [http://cloud.oracle.com](http://cloud.oracle.com)
- Using Integrations in Oracle Integration
- Using the Oracle Mapper with Oracle Integration

### Conventions

The following text conventions are used in this document:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><strong>italic</strong></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td><strong>monospace</strong></td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
Understand the Oracle Messaging Cloud Service Adapter

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

Topics:

- Oracle Messaging Cloud Service Adapter Capabilities
- What Application Version Is Supported?
- About Oracle Messaging Cloud Service Adapter Use Cases
- Workflow to Create and Add an Oracle Messaging Cloud Service Adapter Connection to an Integration

Oracle Messaging Cloud Service Adapter Capabilities

The Oracle Messaging Cloud Service Adapter enables you to create an integration with Oracle Messaging Cloud Service. Oracle Messaging Cloud Service provides a messaging system for applications to communicate reliably with each other, enabling application developers to share information across multiple applications. Oracle Messaging Cloud Service is heavily influenced by the Java Message Service (JMS) API specification, which is a standard messaging interface for sending and receiving messages between enterprise Java applications.

This adapter enables you to interact with Oracle Messaging Cloud Service queues and topics hosted in Oracle Public Cloud. You can perform the following tasks against Oracle Messaging Cloud Service queues and topics:

- Send and receive messages to and from queues
- Create durable subscriptions for topics
- Subscribe to and consume messages from topics
- Send messages to topics

What Application Version Is Supported?

For information about which application version is supported by this adapter, see the Oracle Integration Adapters Certification Matrix under section Oracle Integration Adapters Certification at the top of the page:

Oracle Integration Adapters Certification Matrix
About Oracle Messaging Cloud Service Adapter Use Cases

The Oracle Messaging Cloud Service Adapter enables Oracle Integration to interact with the external Oracle Messaging Cloud Service of Oracle Public Cloud.

Workflow to Create and Add an Oracle Messaging Cloud Service Adapter Connection to 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.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>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.</td>
<td>Create an Oracle Messaging Cloud Service Adapter Connection</td>
</tr>
<tr>
<td>2</td>
<td>Create the integration. When you do this, you add trigger and invoke connections to the integration.</td>
<td>Create Integrations and Add the Oracle Messaging Cloud Service Adapter Connection to an Integration</td>
</tr>
<tr>
<td>3</td>
<td>Map data between the trigger connection data structure and the invoke connection data structure.</td>
<td>Map Data of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>4</td>
<td>(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).</td>
<td>Manage Lookups of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>5</td>
<td>Activate the integration.</td>
<td>Manage Integrations of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>6</td>
<td>Monitor the integration on the dashboard.</td>
<td>Monitor Integrations of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>7</td>
<td>Track payload fields in messages during runtime.</td>
<td>Assign Business Identifiers for Tracking Fields in Messages and Manage Business Identifiers for Tracking Fields in Messages of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>8</td>
<td>Manage errors at the integration level, connection level, or specific integration instance level.</td>
<td>Manage Errors of Using Integrations in Oracle Integration</td>
</tr>
</tbody>
</table>
Create an Oracle Messaging Cloud Service Adapter Connection

A connection is based on an adapter. You define connections to the specific cloud applications that you want to integrate.

Topics:
• Prerequisites for Creating a Connection
• Create a Connection
• Upload an SSL Certificate

Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the Oracle Messaging Cloud Service Adapter.

• You must subscribe to Oracle Messaging Cloud Service to use the Oracle Messaging Cloud Service Adapter. The Oracle Messaging Cloud Service is a communication backbone delivered as a cloud service that connects internet-based applications and devices in the cloud and on-premises environments. This subscription provides you with a username, password, and messaging service URI that you specify when configuring a connection on the Connections page in Oracle Integration.

  For information about subscribing to Oracle Messaging Cloud Service, see https://cloud.oracle.com/messaging.

Create 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 navigation pane, click Integrations, then click Connections.
2. Click Create.

Note:
You can also create a connection in the integration canvas of:
• An orchestrated integration (See Define Inbound Triggers and Outbound Invokes.)
• A basic routing integration (See Add a Trigger (Source) Connection.)
The Create Connection — Select Adapter dialog is displayed.

3. 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 Create New Connection dialog is displayed.

4. 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. If you modify the identifier name, do not include a blank space (for example, Sales Opportunity).
   - 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 Service Cloud (RightNow) Adapter as only an invoke, but drag the adapter to the trigger section).
   - Enter an optional description of the connection.

5. Click Create.

Your connection is created and you are now ready to configure connection details, such as email contact, connection properties, security policies, connection login credentials, and (for certain connections) agent group.

Add 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.

Configure Connection Properties

Enter connection information so your application can process requests.

1. Click Configure Connectivity.
   The Connection Properties dialog is displayed.

2. In the Messaging Service URL field, specify the URI that you received when subscribing to Oracle Messaging Cloud Service.

3. Click OK.

4. Configure connection security.

Configure Connection Security

Configure security for your Oracle Messaging Cloud Service 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 Oracle Messaging Cloud Service. You received these credentials when subscribing to Oracle Messaging Cloud Service.
   c. Reenter the password a second time.

3. Click OK.

Test the Connection

Test your connection to ensure that it is successfully configured.

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

2. If your adapter connection uses a WSDL, you are prompted to select the type of connection testing to perform:
   • Validate and Test: Performs a full validation of the WSDL, including processing of the imported schemas and WSDLs. Complete validation can take several minutes depending on the number of imported schemas and WSDLs. No requests are sent to the operations exposed in the WSDL.
   • Test: Connects to the WSDL URL and performs a syntax check on the WSDL. No requests are sent to the operations exposed in the WSDL.

If successful, the following message is displayed and the progress indicator shows 100%.
Connection connection_name was tested successfully.
3. If your connection was unsuccessful, an error message is displayed with details. Verify that the configuration details you entered are correct.

4. When complete, click **Save**, then click **Close**.

### Upload 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, an exception is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle Integration to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration.

To upload an SSL certificate:

1. In the navigation pane, click **Integrations**, then click the < arrow next to **Designer**.
2. Click **Settings > Certificates**. 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. 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.

3. Click **Upload** at the top of the page.

4. In the Upload Certificate dialog box, select the certificate type. Each certificate type enables Oracle Integration to connect with external services.
   - **Trust Certificate**: Use this option to upload a trust certificate.
     a. Enter a unique alias for the certificate.
     b. Click **Browse**, then select the trust file (for example, `.cer` or `.crt`) to upload.
   - **Message Protection Certificate**: Use this option to upload a keystore certificate with SAML token support. Create, read, update, and delete (CRUD) operations are supported on this type of certificate.
     a. Enter a unique alias for the certificate.
     b. Click **Browse**, then select the certificate file (`.cer` or `.crt`) to upload.
   - **Identity Certificate**: Use this option to upload a certificate for two-way SSL communication.
     a. Click **Browse**, then select the keystore file (`.jks`) to upload.
     b. Enter the password of the keystore being imported.
     c. Enter the comma-separated list of aliases from the keystore being imported.
d. Enter the comma-separated list of passwords corresponding to key aliases.

e. If you want to display the passwords in clear text, select **Show Key Password(s)**. This enables you to ensure that you are correctly entering a list of keystore passwords.

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.
Add the Oracle Messaging Cloud Service Adapter Connection to an Integration

When you drag the Oracle Messaging Cloud Service Adapter into the trigger and invoke areas of an integration, the Adapter Endpoint Configuration Wizard is invoked. This wizard guides you through configuration of the Oracle Messaging Cloud Service Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the Oracle Messaging Cloud Service Adapter as a trigger or invoke in an integration.

Topics:
- Basic Info Page
- Trigger Operations Page
- Trigger Messages Page
- Invoke Operations Page
- Invoke Messages Page
- Summary Page

Basic Info Page

You can enter a name and description on the Basic Info page of each adapter in your integration.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| What do you want to call your endpoint? | Provide a meaningful name so that others can understand the responsibilities of this connection. You can include English alphabetic characters, numbers, underscores, and dashes in the name. You cannot include the following:  
  • Blank spaces (for example, My Inbound Connection)  
  • Special characters (for example, #;83 or rightnow4)  
  • Multibyte characters |
| What does this endpoint do?       | Enter an optional description of the connection's responsibilities. For example: This connection receives an inbound request to synchronize account information with the cloud application. |
## Trigger Operations Page

Enter the Oracle Messaging Cloud Service Adapter trigger operation values for your integration.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Select Destination</strong></td>
<td>Select the JNDI destination name of the queue or topic to consume the message. In the trigger direction, the connection polls (consumes) messages from a destination.</td>
</tr>
<tr>
<td><strong>Destination Name Filter</strong></td>
<td>Enter the initial letters to filter the display of JNDI destination names. You can also select one of the following filtering options.</td>
</tr>
<tr>
<td></td>
<td>• All: Displays all JNDI destination names.</td>
</tr>
<tr>
<td></td>
<td>• Queue: Displays only the queue names.</td>
</tr>
<tr>
<td></td>
<td>• Topic: Displays only the topic names.</td>
</tr>
<tr>
<td><strong>Message Selector</strong></td>
<td>Specify filtering logic to receive messages that match certain criteria. Enter an expression between 1 and 255 characters in length. Use SQL92 syntax in this field. The JMS server uses these criteria to filter messages received by this consumer. This works with variables defined in standard JMS headers and user-defined properties. You cannot use variables or elements that are in the payload of the message. For example, you can enter logic such as:</td>
</tr>
<tr>
<td></td>
<td>• JMSPriority &gt; 3. Based on this, messages with a priority greater than 3 are consumed. All other messages are rejected.</td>
</tr>
<tr>
<td></td>
<td>• JMSType = 'car' AND color = 'blue' AND weight 2500</td>
</tr>
<tr>
<td></td>
<td>• Country in ('UK', 'US', 'France')</td>
</tr>
<tr>
<td><strong>Continue to receive messages when offline</strong></td>
<td>Select to continue receiving messages while the Oracle Message Cloud Service is offline. If you selected a topic in the <strong>Select Destination</strong> list, this checkbox is enabled.</td>
</tr>
</tbody>
</table>
Trigger Messages Page

Enter the Oracle Messaging Cloud Service Adapter trigger message values for your integration.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subscriber ID</strong></td>
<td>Specify a unique ID to create a durable subscription to a topic on the Messaging Service Cloud. This field is enabled and is mandatory if you selected the <strong>Continue to receive messages when offline</strong> checkbox. This is the identifier of a durable subscription that outlasts a client’s connection with a JMS message server. When a durable subscriber is disconnected from the JMS server, the server must store messages that the subscriber misses. When the durable subscriber reconnects, the message server sends it all the unexpired messages that accumulated. The durable subscription only works for JMS topics. For a nondurable subscriber, the message server does not send it all the unexpired messages. You can specify an ID for receiving messages from a topic (multiconsumer queue). Enter a value between 1 and 255 characters in length. When you specify an ID for topics, you receive messages even if you do not currently have an active subscription session. You can access these messages the next time you have an active subscription session.</td>
</tr>
</tbody>
</table>

**Specify a definition for the message**

Deselect if the schema to pass is an opaque message (for example, a GIF or PNG file). Deselecting this check box disables the fields below.

**Provide a location to the XSD that describes your message**

Click **Browse** to select the XSD file (for example, /net/myhost/scratch/omsc/expense.xsd). When selected, the XSD file contents are displayed.

The Oracle Messaging Cloud Service connection requires complete XSDs that are self-resolvable in the Oracle Integration environment. Any schema file (XSD) that explicitly performs an include or import of any other child schema must be self-resolvable. If not, the schemas (XSDs) are not consumed by the Oracle Messaging Cloud Service connection.
Invoke Operations Page

Enter the Oracle Messaging Cloud Service Adapter invoke operation values for your integration.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select the schema element to use in this integration</td>
<td>Select the schema element to use in this integration. The elements available are based on the selected XSD file.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Destination</td>
<td>Select the JNDI destination name of the queue or topic to produce the message. In the invoke direction, the connection sends (produces) messages to a destination.</td>
</tr>
<tr>
<td>Destination Name Filter</td>
<td>Enter the initial letters to filter the display of JNDI destination names. You can also select one of the following filtering options:</td>
</tr>
<tr>
<td></td>
<td>• All: Displays all JNDI destination names.</td>
</tr>
<tr>
<td></td>
<td>• Queue: Displays only the queue names.</td>
</tr>
<tr>
<td></td>
<td>• Topic: Displays only the topic names.</td>
</tr>
<tr>
<td>Remove Message after 0 seconds</td>
<td>Specify the life span of the message. If no subscribers consume the message in the given life span, the message is not delivered. The maximum time a message can live in Oracle Messaging Cloud Service is 14 days. The time-to-live can be set to a value less than 14 days for any given message. When a message reaches the defined time-to-live value, it is permanently deleted.</td>
</tr>
</tbody>
</table>

Invoke Messages Page

Enter the Oracle Messaging Cloud Service Adapter invoke message values for your integration.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify a definition for the message</td>
<td>Deselect if the schema to pass is an opaque message (for example, a GIF or PNG file). Deselecting this check box disables the fields below.</td>
</tr>
</tbody>
</table>
### Element Description

**Provide a location to the XSD that describes your message**

Click **Browse** to select the XSD file (for example, `/net/myhost/scratch/omsc/costs.xsd`). When selected, the contents are displayed.

The Oracle Messaging Cloud Service connection requires complete XSDs that are self-resolvable in the Oracle Integration environment. Any schema file (XSD) that explicitly performs an include or import of any other child schema must be self-resolvable. If not, the schemas (XSDs) are not consumed by the Oracle Messaging Cloud Service connection.

**Select the schema element to use in this integration**

Select the schema element to use in this integration. The elements available are based on the selected XSD file.

---

### Summary Page

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

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary</strong></td>
<td>Displays a summary of the configuration values you defined on previous pages of the wizard. 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. To return to a previous page to update any values, click the appropriate tab in the left panel or click <strong>Back</strong>. Click <strong>Cancel</strong> to cancel your configuration details.</td>
</tr>
</tbody>
</table>
Troubleshoot the Oracle Messaging Cloud Service Adapter

Most errors result from an incorrect URL, username, or password. Ensure that you enter the correct values when configuring your connection on the Connections page.

Additional integration troubleshooting information is provided. See Troubleshooting Oracle Integration in *Using Integrations in Oracle Integration*. 