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Using the Oracle CPQ Cloud Adapter

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Primary Author: Mark Kennedy

Contents

Preface

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

Topics:

Audience

Using the Oracle CPQ Cloud Adapter is intended for developers who want to use the Oracle CPQ Cloud 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*
- *Getting Started with Oracle Cloud*
- *Managing and Monitoring Oracle Cloud*

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.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

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

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Getting Started with the Oracle CPQ Cloud Adapter

Review the following conceptual topics to learn about the Oracle CPQ Cloud 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

Oracle CPQ Cloud Capabilities

The Oracle Configure, Price, and Quote (CPQ) Cloud Adapter enables you to create an integration with an Oracle CPQ application.

The Oracle CPQ Cloud Adapter enables you to convert sales opportunities into revenue by automating the quoting and sales order process with guided selling, dynamic pricing, and a workflow approval process.

Oracle CPQ cloud extends sales automation to include the creation of an optimal quote, which enables sales personnel to configure and price complex products; select the best options, promotions, and deal terms; and include upsell and renewals, all using automated workflows.

The main use case for Oracle CPQ Cloud is as the trigger (source) in an integration in which Oracle Sales Cloud is the invoke (target). This adapter replicates the point-to-point integration that exists today between Oracle CPQ Cloud and Oracle Sales Cloud. Oracle CPQ Cloud is the trigger (source) of the record application. A synchronize process is triggered as you update and save data in Oracle CPQ Cloud, but it can also be configured by the administrator of the application. The Oracle CPQ Cloud Adapter can also be configured as the invoke (target) in an integration.

Prebuilt integration flows with Oracle CPQ Cloud and Oracle Sales Cloud for quote creation, opportunity import, and quote update are also provided from the Oracle Marketplace.

What Application Version Does the Oracle CPQ Cloud Adapter Support?

The Oracle CPQ Cloud Adapter was originally created to work with 2015R1, but works with any later version of Oracle CPQ Cloud. The only tightly coupled case is with Oracle Commerce Cloud integration, where 2016R2 for Oracle CPQ Cloud is required along with whichever version of the Oracle CPQ Cloud Adapter is released with it.

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.

 Video

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.

Video

About Oracle CPQ Cloud Adapter Use Cases

The Oracle CPQ Cloud Adapter can be used as the invocation trigger (source) for quotes and the Oracle SOAP APIs can be used as the invoke (target). Another use case is an Oracle Sales Cloud integration that uses quote data to interact with an opportunity business object and its revenue items.

Video

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 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 Oracle CPQ Cloud Adapter Connection
2	Create the integration. When you do this, you add trigger and invoke connections to the integration.	Creating an Integration and Adding the Oracle CPQ Cloud Adapter Connection to an Integration
3	Map data between the trigger connection data structure and the invoke connection data structure.	Mapping Integration Cloud Service Data of *Using Oracle Integration Cloud Service*

Step	Description	More Information
4	(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).	Creating Lookups of *Using Oracle Integration Cloud Service*
5	Activate the integration.	Managing Integrations of *Using Oracle Integration Cloud Service*
6	Monitor the integration on the dashboard.	Monitoring Integration Cloud Services of *Using Oracle Integration Cloud Service*
7	Track payload fields in messages during runtime.	Assigning Business Identifiers for Tracking Fields in Messages and Managing Business Identifiers for Tracking Fields in Messages of *Using Oracle Integration Cloud Service*
8	Manage errors at the integration level, connection level, or specific integration instance level.	Managing Errors of *Using Oracle Integration Cloud Service*

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Creating an Oracle CPQ Cloud 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

You must satisfy the following prerequisites to create a connection with the Oracle CPQ Cloud Adapter:

- Register with Oracle CPQ Cloud site. You then receive an email with information that you use to create a connection on the Connections page. For information about creating a connection, see Configuring Connection Properties and Configuring Connection Security.
- Obtain the WSDL from the CPQ Cloud site. Note the following details:
  - The WSDL must be generated by the CPQ Cloud site to integrate with Integration Cloud Service.
  - Web Services 2.0 must be used to generate the URL needed to generate the WSDL.
  - The Commerce SOAP server URL endpoint must be used to generate the URL needed to generate the WSDL.
  - The commerce process to integrate with ICS must be used to generate the URL needed to generate the WSDL.

  Integration Cloud Service uses the Oracle CPQ Cloud transaction WSDL to understand the valid data and operations provided by Oracle CPQ Cloud.

  To access the Oracle CPQ Cloud transaction WSDL:

1. Log in to the Oracle CPQ Cloud site that you want integrate with Integration Cloud Service.
2. To open the Admin home page, click **Admin**.

   The Admin home page appears.
3. Under **Integration Platform**, click **Web Services**.
4. For the **Web Service Version**, select **2.0**.
5. Ensure that the **Commerce** tab is the current tab.
6. From the **Process Name** list, select the name of the commerce process to integrate with Integration Cloud Service.
7. In the **SOAP Server URL** field, append `?WSDL` to the end of the value.

   For example: `https://site_URL/v2_0/receiver/commerce/processVarName?WSDL`.

   where:

   – *`site_URL`* is the base URL of the Oracle CPQ Cloud site.

   – `processVarName` is the variable name of the selected commerce process.

   – Optional: To confirm that the URL is correct, open it in a web browser. A page of WSDL should appear.

   Use the URL you created as needed in Integration Cloud Service to reference the CPQ Cloud transaction WSDL.

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.

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. In the **WSDL URL** field, specify the URL to use in this integration, For information about obtaining the WSDL, see Prerequisites for Creating a Connection.
3. Click **OK**.
4. Configure connection security.

Configuring Connection Security

Configure security for your Oracle CPQ Cloud Adapter connection by selecting the security policy and security token.

1. Click **Configure Credentials**.

2. Enter your login credentials. The only requirement is that you must have API access in Oracle CPQ Cloud. Beyond that it does not matter which user is configured.

   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**.

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.

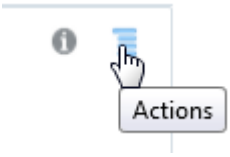
5. To edit the notification email contact, change the email address in the **Email Address** field.

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.

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Creating an Integration

Integrations use the adapter connections you created to your applications, and define how information is shared between those applications. You can create, import, modify, 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 invoke endpoints in integrations. Click the following topics for more information.

Topic

- Creating Integrations (in *Using Oracle Integration Cloud Service*)

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Adding the Oracle CPQ Cloud Adapter Connection to an Integration

When you drag the Oracle CPQ Cloud 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 CPQ Cloud Adapter endpoint properties.

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

Topics

For more information about the Oracle CPQ Cloud Adapter, see Oracle CPQ Cloud Capabilities.

Configuring Basic Information Properties

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

Topics

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 an adapter to the section of the integration canvas supported by your adapter.

- Specify a meaningful name.
- Specify a description of the responsibilities.

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?	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 `righ(t)now4`) • 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.`

Configuring Oracle CPQ Trigger Request Properties

View the Oracle CPQ Cloud trigger request values for your integration.

Topics

What You Can Do from the Oracle CPQ Trigger Request Page

You can view the Transaction business object to receive from the Oracle CPQ application as a request document to start the integration flow.

What You See on the Oracle CPQ Trigger Request Page

The following table describes the key information on the trigger Oracle CPQ Request page.

Element	Description
Business Object	View the transaction business object. This object is from the CPQ commerce process. This is the business object that you receive from the Oracle CPQ application as a request document to start this integration flow. This business object is automatically selected based on the content of the WSDL file you specified when creating the Oracle CPQ connection.

Configuring Oracle CPQ Trigger Response Properties

View the Oracle CPQ Cloud trigger response values for your integration.

Topics

What You Can Do from the Oracle CPQ Trigger Response Page

You can view the trigger response properties for Oracle CPQ Cloud.

- The response business object sent from the integration flow to the Oracle CPQ application
- The synchronous response selection for the response type
- The transaction business object used in this connection

What You See on the Oracle CPQ Trigger Response Page

The following table describes the key information on the trigger Oracle CPQ Response page.

Element	Description
Send a Response	Indicates that a response business object is sent from the integration flow to the Oracle CPQ application. This option is automatically configured and cannot be changed.
Response Type	Indicates that the business object is sent back synchronously to the source application. This option is automatically configured and cannot be changed.
Business Object	Displays the Transaction business object. This object is from a CPQ Commerce process. This business object is automatically selected based on the content of the WSDL file you specified when creating the Oracle CPQ connection.

Configuring Oracle CPQ Invoke Operation Properties

View and configure the Oracle CPQ Cloud invoke operation values for your integration.

Topics

What You Can Do from the Oracle CPQ Invoke Operations Page

You can view and configure the invoke operation properties for Oracle CPQ Cloud.

- View the Oracle CPQ API version being used.
- Select the type of operation for the connection to perform.
- View the transaction business object used in this connection.

What You See on the Oracle CPQ Invoke Operations Page

The following table describes the key information on the invoke Oracle CPQ Operations page.

Element	Description
CPQ API Version 2	Displays Commerce.

Element	Description
Select an Operation	Select an operation. These operations come from the WSDL you specified when creating the connection. • **Add a Transaction**: Adds a new item to an existing transaction performing the Add from Catalog action. The input parameters include the process, the document, the action on the document, and the items to be added. • **Create Transaction**: Supports the creation of a commerce Transaction without line items and transactions with nonconfigurable line items from a specified process. For all transactions required to be created with configurable line items, the Configuration SOAP API must be invoked. This action returns the transaction ID. • **Export File Attachments**: Exports a file attachment using one of two methods to stream the data through SOAP: – Inline base64 content in a SOAP message – Binary stream with MIME containers through an MTOM transmission These methods read and write multiple attributes at once per transaction. This API can only be used by full-access users with the Modify Users permission. There are two modes available for use: – Content: Retrieves the content of the attached fields. – Metadata: Retrieves the file information or metadata for the referenced fields. • **Get Transaction**: Returns the complete Transaction XML content for the given Transaction ID. • **Import File Attachments**: Imports a file attachment using one of two methods to stream the data through SOAP: – Inline base64 content in a SOAP message – Binary stream with MIME containers through an MTOM transmission These methods read and write multiple attributes at once per transaction. This API can only be used by full-access users with the Modify Users permission. There are two modes available for use: – Update: Attaches a file or set of files to the transaction – Delete: Removes a file from the file attachment attribute • **Remove from Transaction**: Removes an item from an existing transaction by performing the Remove Line Items action. The input parameters include the document ID, document number, process name, and document name. • **Update Transaction**: Updates an existing transaction by performing the Modify and Auto-fill actions. The Create Document action is not supported.
Business Objects	Displays the Transaction business object.

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

You can review 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 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	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 **Back**.

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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*)

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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*)