

Oracle® Cloud

Using the PayPal Adapter with Oracle Integration Generation 2



F29724-08
December 2022



Oracle Cloud Using the PayPal Adapter with Oracle Integration Generation 2,

F29724-08

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Preface

This guide describes how to configure this adapter as a connection in an integration in Oracle Integration.



Note:

The use of this adapter may differ depending on the features you have, or whether your instance was provisioned using Standard or Enterprise edition. These differences are noted throughout this guide.

Topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Diversity and Inclusion](#)
- [Related Resources](#)
- [Conventions](#)

Audience

This guide is intended for developers who want to use this 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

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Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and

partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Resources

See these Oracle resources:

- Oracle Cloud
<http://cloud.oracle.com>
- *Using Integrations in Oracle Integration Generation 2*
- *Using the Oracle Mapper with Oracle Integration Generation 2*

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.
<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.

1

Understand the PayPal Adapter

Review the following conceptual topics to learn about the PayPal 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:

- [PayPal Adapter Capabilities](#)
- [What Application Version Is Supported?](#)
- [Workflow to Create and Add a PayPal Adapter Connection to an Integration](#)
-



Note:

There are overall service limits for Oracle Integration. A service limit is the quota or allowance set on a resource. See [Service Limits](#).

PayPal Adapter Capabilities

The PayPal Adapter enables you to create an integration with the PayPal application.

The PayPal Adapter provides the following benefits:

- Provides invoke (target) connection support for performing the following types of actions against the selected object and operation:
 - Create or Update Information (create or update records in PayPal)
 - Delete Information (delete invoicing records or a template from PayPal)
 - Query Information (get records from PayPal)
- Provides trigger (source) connection support for performing various types of actions against events from the following modules:
 - Billing
 - Catalog
 - Checkout
 - Invoicing
 - Payment
- Provides invoke (target) connection support for performing various types of operations against objects from the following modules:
 - Add Tracking
 - Catalog Products

- Invoicing
- Orders
- Payments
- Payouts
- Subscriptions
- Transaction Search
- Supports the following integration patterns:
 - Batch Operation: Supported by the Payouts and Add Tracking modules.
 - Invoke (outbound)
 - Query (outbound)
- Support for PayPal APIs protected using OAuth 2.0 client credentials authentication.

The PayPal Adapter is one of many predefined adapters included with Oracle Integration. You can configure the PayPal Adapter as a trigger and an invoke connection in an integration in Oracle Integration.

What Application Version Is Supported?

For information about which application version is supported by this adapter, see the Connectivity Certification Matrix.

See [Connectivity Certification Matrix](#).

Workflow to Create and Add a PayPal 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.

This table lists the workflow steps for both the adapter tasks and the overall integration tasks, and provides links to instructions for each step.

Step	Description	More Information
1	Access Oracle Integration.	Go to https://instance_URL/ic/home/
2	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.	Create a PayPal Adapter Connection
3	Create the integration. When you do this, you add trigger (source) and invoke (target) connections to the integration.	Create Integrations in <i>Using Integrations in Oracle Integration Generation 2</i> and Add the PayPal Adapter Connection to an Integration

Step	Description	More Information
4	Map data between the trigger connection data structure and the invoke connection data structure.	Map Data in <i>Using Integrations in Oracle Integration Generation 2</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).	Manage Lookups in <i>Using Integrations in Oracle Integration Generation 2</i>
6	Activate the integration.	Activate Integrations in <i>Using Integrations in Oracle Integration Generation 2</i>
7	Monitor the integration on the dashboard.	Monitor Integrations in <i>Using Integrations in Oracle Integration Generation 2</i>
8	Track payload fields in messages during runtime.	Assign Business Identifiers for Tracking Fields in Messages and Manage Business Identifiers for Tracking Fields in Messages in <i>Using Integrations in Oracle Integration Generation 2</i>
9	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in <i>Using Integrations in Oracle Integration Generation 2</i>

2

Create a PayPal 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](#)
- [Create a Connection](#)
- [Upload an SSL Certificate](#)

Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the PayPal Adapter:

Creating an App and Obtaining the Client ID and Client Secret

To generate the client ID and client secret, you must create an app using the PayPal Developer Dashboard.

1. Log in to your PayPal Developer Dashboard with the following URL:

`https://developer.paypal.com/developer/applications`

2. Click **My Apps & Credentials**.

App Name	Type	Actions
Default Application	REST	System generated, no actions available.
OICtest	REST	
restapp	REST	
TestApp	REST	

Note:

You can use the toggle to switch between the sandbox and live environments.

3. Click **Create App** under the **REST API apps** section.
4. Enter a name for your app and click **Create App**. The app details page is displayed.
5. Copy the client ID and client secret for your app.
You'll need to enter those values on the Connections page when you configure security for your PayPal Adapter connection in Oracle Integration. See [Configure Connection Security](#).

Create a Connection

Before you can build an integration, you have to create the connections to the applications with which you want to share data.

To create a connection in Oracle Integration:

1. In the left navigation pane, click **Home > Integrations > 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.)

3. In the Create Connection — Select Adapter dialog, select the adapter to use for this connection. To find the adapter, scroll through the list, or enter a partial or full name in the **Search** field and click



Search.

4. In the Create Connection dialog, enter the information that describes this connection.
 - a. 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, don't include blank spaces (for example, SALES OPPORTUNITY).
 - b. Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
 - c. Select the role (direction) in which to use this connection (trigger, invoke, or both). Only the roles supported by the 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, you'll get an error when you try to drag the adapter into the section you didn't select. For example, let's say you configure a connection for the Oracle Service Cloud (RightNow) Adapter as only an **invoke**. Dragging the adapter to a **trigger** section in the integration produces an error.
 - d. Enter an optional description of the connection.

5. Click **Create**.

Your connection is created. You're now ready to configure the connection details, such as connection properties, security policies, connection login credentials, and (for certain connections) agent group.

Configure Connection Properties

Enter connection information so your application can process requests.

1. Go to the **Connection Properties** section.
2. In the **PayPal environment** field, select the environment (**Sandbox** or **Live**) from the dropdown list.

 **Note:**

You may encounter some stability issues in the PayPal sandbox because it is not as stable as a live environment.

Configure Connection Security

Configure security for your PayPal Adapter connection by specifying the client ID and client secret.

1. Go to the **Security** section.
2. In the **Client Id** field, enter the client ID that you obtained after performing the steps in the prerequisites section. See [Creating an App and Obtaining the Client ID and Client Secret](#).
3. In the **Client Secret** field, enter the client secret that you obtained after performing the steps in the prerequisites section. See [Creating an App and Obtaining the Client ID and Client Secret](#).
4. In the **Confirm Client Secret** field, re-enter the client secret a second time for confirmation.

Test the Connection

Test your connection to ensure that it's configured successfully.

1. In the page title bar, click **Test**. What happens next depends on whether your connection uses a Web Services Description Language (WSDL) file.

If Your Connection...	Then...
Doesn't use a WSDL	The test starts automatically and validates the inputs you provided for the connection.


If Your Connection...	Then...
Uses a WSDL	<p>A dialog prompts you to select the type of connection testing to perform:</p> <ul style="list-style-type: none"> • 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.

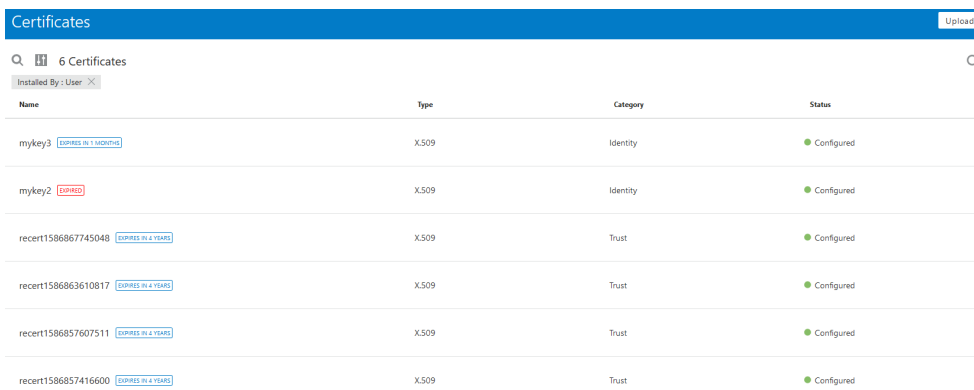
2. Wait for a message about the results of the connection test.
 - If the test was successful, then the connection is configured properly.
 - If the test failed, then edit the configuration details you entered. Check for typos, verify URLs and credentials, and download the diagnostic logs for additional details. Continue to test until the connection is successful.
3. When complete, click **Save**.

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 left navigation pane, click **Home > Settings > Certificates**. All certificates currently uploaded to the trust store are displayed in the Certificates dialog. The  link enables you to filter by name, certificate expiration date, status, type, category, and installation method (user-installed or system-installed). Certificates installed by the system cannot be deleted.



Name	Type	Category	Status
mykey3 <small>EXPIRES IN 1 MONTH</small>	X.509	Identity	Configured
mykey2 <small>EXPIRES</small>	X.509	Identity	Configured
recent1596867745048 <small>EXPIRES IN 4 YEARS</small>	X.509	Trust	Configured
recent1596863610817 <small>EXPIRES IN 4 YEARS</small>	X.509	Trust	Configured
recent1596857607511 <small>EXPIRES IN 4 YEARS</small>	X.509	Trust	Configured
recent1596857416600 <small>EXPIRES IN 4 YEARS</small>	X.509	Trust	Configured

2. Click **Upload** at the top of the page. The Upload Certificate dialog box is displayed.

3. Enter an alias name and optional description.
4. In the **Type** field, select the certificate type. Each certificate type enables Oracle Integration to connect with external services.
 - **X.509 (SSL transport)**
 - **SAML (Authentication & Authorization)**
 - **PGP (Encryption & Decryption)**

X.509 (SSL transport)

1. Select a certificate category.
 - a. **Trust:** Use this option to upload a trust certificate.
 - i. Click **Browse**, then select the trust file (for example, `.cer` or `.crt`) to upload.
 - b. **Identity:** Use this option to upload a certificate for two-way SSL communication.
 - i. Click **Browse**, then select the keystore file (`.jks`) to upload.
 - ii. Enter the comma-separated list of passwords corresponding to key aliases.

 **Note:**

When an identity certificate file (JKS) contains more than one private key, all the private keys must have the same password. If the private keys are protected with different passwords, the private keys cannot be extracted from the keystore.

- iii. Enter the password of the keystore being imported.
 - c. Click **Upload**.

SAML (Authentication & Authorization)

1. Note that **Message Protection** is automatically selected as the only available certificate category and cannot be deselected. Use this option to upload a keystore certificate with SAML token support. Create, read, update, and delete (CRUD) operations are supported with this type of certificate.
2. Click **Browse**, then select the certificate file (`.cer` or `.crt`) to upload.
3. Click **Upload**.

PGP (Encryption & Decryption)

1. Select a certificate category. Pretty Good Privacy (PGP) provides cryptographic privacy and authentication for communication. PGP is used for signing, encrypting, and decrypting files. You can select the private key to use for encryption or decryption when configuring the stage file action.
 - a. **Private:** Uses a private key of the target location to decrypt the file.
 - i. Click **Browse**, then select the PGP file to upload.
 - ii. Enter the PGP private key password.
 - b. **Public:** Uses a public key of the target location to encrypt the file.
 - i. Click **Browse**, then select the PGP file to upload.

- ii. In the **ASCII-Armor Encryption Format** field, select **Yes** or **No**. **Yes** shows the format of the encrypted message in ASCII armor. ASCII armor is a binary-to-textual encoding converter. ASCII armor formats encrypted messaging in ASCII. This enables messages to be sent in a standard messaging format. This selection impacts the visibility of message content. **No** causes the message to be sent in binary format.
 - iii. From the **Cipher Algorithm** list, select the algorithm to use. Symmetric-key algorithms for cryptography use the same cryptographic keys for both encryption of plain text and decryption of cipher text.
- c. Click **Upload**.

3

Add the PayPal Adapter Connection to an Integration

When you drag the PayPal Adapter into the trigger or invoke area of an integration, the Adapter Endpoint Configuration Wizard is invoked. This wizard guides you through configuration of the PayPal Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the PayPal Adapter as a trigger and an invoke in an integration.

Topics:

- [Basic Info Page](#)
- [Trigger Operations Page](#)
- [Invoke Action Page](#)
- [Invoke Operations Page](#)
- [Summary Page](#)

Basic Info Page

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

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 hyphens in the name. You can't include the following characters: <ul style="list-style-type: none">• No blank spaces (for example, My Inbound Connection)• No special characters (for example, #;83& or righ(t)now4) except underscores and hyphens• No multibyte characters
What does this endpoint do?	Enter an optional description of the connection's responsibilities. For example: <code>This connection receives an inbound request to synchronize account information with the cloud application.</code>

Trigger Operations Page

Use the Operations page to select the module and event to perform in the PayPal application.

Element	Description
Select Model	<ul style="list-style-type: none"> • Billing: Configures billing and billing-related business objects/events such as Billing Plan Created, Billing Subscription Activated, and so on. • Invoicing: Configures invoicing and invoicing-related business objects/events such as Invoicing Invoice Created, Invoicing Invoice Refunded, and so on. • Payment: Configures payment and payment-related business objects/events such as Payment Capture Completed, Payment Authorization Voided, Payment Order Created, and so on. • Checkout: Configures checkout and checkout-related business objects/events such as Checkout Order Approved, Checkout Order Voided, Checkout Buyer Approved, and so on. • Catalog: Configures catalog products and catalog product-related business objects/events such as Catalog Product Created and Catalog Product Updated.
Select API Version	Select the API version to use.
Select Object	Select an object within the selected module.
Filter By Object Name	Type the initial letters of the object name to filter the display of names in the list.
Select Event	Select an event name, such as Payment Authorization Created .
Filter by Event Name	Type the initial letters of the event name to filter the display of names in the list.

Invoke Action Page

Use the Action page to select the type of action to perform in PayPal. You can retrieve information from the PayPal application or create or update records.

Element	Description
Which action do you want to perform in PayPal?	<ul style="list-style-type: none"> • Query: Retrieves information from the PayPal application corresponding to the selected object and operation. • Create or Update: Creates new records or updates the existing records in the PayPal application. • Delete: Deletes the invoicing records or templates from the PayPal application.

Invoke Operations Page

Use the Operations page to select the module and operation to perform in the PayPal application.

Element	Description
Select Module	<ul style="list-style-type: none">• Add Tracking: Configures tracking and tracking-related business objects/operations such as Show Tracking Information.• Catalog Products: Configures catalog products and catalog product-related business objects/operations such as Create Product, Show Product Details, and so on.• Invoicing: Configures invoicing and invoicing-related business objects/events such as Send Invoice, Create Template, Delete Template, Record Refund For Invoice, and so on. Note: The Generate QA Code operation is not currently supported by the PayPal Adapter.• Orders: Configures orders and order-related business objects/operations such as Create Order, Authorize Payment For Order, Show Order Details, and so on.• Payments: Configures payments and payment-related business objects/operations such as Capture Authorized Payment, Void Authorized Payment, Show Details For Authorized Payment, and so on.• Payouts: Configures payouts and payout-related business objects/operations such as Create Batch Payout, Cancel Unclaimed Payout Item, Show Payout Batch Details, and so on.• Subscriptions: Configures subscriptions and subscription-related business objects/operations such as List Plans, Show Subscriptions Details, and so on.• Transaction Search: Configures transaction search and transaction search-related business objects/operations such as List Transactions and List All Balances. Note: This module is supported only by the Query action. Note: The Update Product and Update Order operations are not currently supported by the PayPal Adapter.
Select API Version	Select the API version to use.
Select Object	Select an object within the selected action.
Filter By Object Name	Type the initial letters of the object name to filter the display of names in the list.
Select Operation	Select an operation name, such as Show Product Details .
Filter by Operation Name	Type the initial letters of the operation name to filter the display of names in the list.

Summary Page

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

Element	Description
Summary	<p>Displays a summary of the 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> <p>To cancel your configuration details, click Cancel.</p>

4

Implement Common Patterns Using the PayPal Adapter

You can use the PayPal Adapter to implement the following common pattern.

Topics:

- [Synchronize PayPal Products With the Salesforce Application](#)

Note:

Oracle Integration offers a number of pre-assembled solutions, known as recipes, that provide you with a head start in building your integrations. You can start with a recipe, and then customize it to fit your needs and requirements. Depending upon the solution provided, a variety of adapters are configured in the pre-assembled solutions. See the Recipes page on the Oracle Help Center.

Synchronize PayPal Products With the Salesforce Application

You can synchronize PayPal records such as a product with the Salesforce application. For this pattern, you view details of the PayPal product in the Salesforce application.

1. Create an app-driven orchestrated integration.
2. Drag a PayPal Adapter into the integration as a trigger connection.
3. Configure the PayPal endpoint:
 - a. On the Basic Info page, provide an endpoint name, and click **Next**.
 - b. On the Operations page, select the **Catalog** module, the **Product** object, and the **Catalog Product Created** event.
 - c. On the Summary page, review your selections, and click **Done**.
4. Drag a Salesforce Adapter into the integration canvas.
5. Configure the Salesforce Adapter endpoint:
 - a. On the Basic Info page, provide a name.
 - b. On the Action page, select **Create, Update Or Delete Information**.
 - c. On the Operations page, select **Create** as an operation and **Account** as a business object.
 - d. Review your selections on the Summary page, and click **Done**.
6. In the mapper, perform the required mapping. The completed integration looks as follows.



7. Save and close the integration.
8. Activate the integration.

The integration is triggered when the product creation event occurs and the same account is created in the Salesforce application.