Oracle® Cloud

Using the QuickBooks Adapter with Oracle Integration Generation 2

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Contents

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

This guide is intended for developers who want to use this adapter in integrations in Oracle Integration.

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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.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`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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Understand the QuickBooks Adapter

Review the following conceptual topics to learn about the QuickBooks 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:

QuickBooks Adapter Capabilities

The QuickBooks Adapter enables you to create an integration with the QuickBooks application. You can configure the QuickBooks Adapter as an invoke connection in an integration in Oracle Integration.

The QuickBooks Adapter provides the following benefits:

- Provides metadata caching support.
- Provides invoke (target) connection support for performing the following types of actions against the selected module and operation:
  - Create (create records in QuickBooks)
  - Update (update records in QuickBooks)
  - Query (get a record from QuickBooks)
  - Delete (delete records from QuickBooks)
- Supports QuickBooks APIs protected using OAuth 2.0 three-legged authentication (authorization code credentials).

The QuickBooks Adapter is one of many predefined adapters included with 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 QuickBooks 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 adapter tasks and 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 QuickBooks Adapter Connection
3	Create the integration. When you do this, you add trigger (source) and invoke (target) connections to the integration.	Create Integrations in *Using Integrations in Oracle Integration Generation 2* and Add the QuickBooks Adapter Connection to an Integration
4	Map data between the trigger connection data structure and the invoke connection data structure.	Map Data in *Using Integrations in Oracle Integration Generation 2*
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 *Using Integrations in Oracle Integration Generation 2*
6	Activate the integration.	Activate Integrations in *Using Integrations in Oracle Integration Generation 2*
7	Monitor the integration on the dashboard.	Monitor Integrations in *Using Integrations in Oracle Integration Generation 2*
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 *Using Integrations in Oracle Integration Generation 2*
9	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in *Using Integrations in Oracle Integration Generation 2*

2 Create a QuickBooks 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 QuickBooks Adapter.

- Create an Intuit Developer Account
- Create an Application
- Add a Redirect URL
- Add a Sandbox or Production Company

Create an Intuit Developer Account

You must create an Intuit developer account. See Create an Intuit developer account.

Create an Application

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

1. Log in to your QuickBooks Developer account with the following URL:

   ```
   https://developer.intuit.com/app/developer/homepage
   ```

2. Click **Dashboard**, then click **Create an app**.
3. Select **QuickBooks Online and Payments**.
4. Enter a name for your application and select the **com.intuit.quickbooks.accounting** checkbox under **Select a scope**.
5. Click **Create app**. The application is created.
6. On the Develop your app page, click **Keys & credentials** under **Development Settings**. The client ID and client secret for the sandbox environment appear.
7. Click **Keys & credentials** under **Production Settings** and perform the required steps. The client ID and client secret for the production environment appear.
8. Copy the client ID and client secret.

You'll need to enter these values on the Connections page when you configure security for your QuickBooks Adapter connection in Oracle Integration. See Configure Connection Security.

Add a Redirect URL

1. Log in to your QuickBooks developer account.
2. Click **Dashboard**.
3. Select and open your application.
4. Click **Keys & credentials** under **Development Settings** to set your sandbox redirect URI or click **Keys & credentials** under **Production Settings** to set your production redirect URI.
5. Scroll down to the **Redirect URIs** section, and click **Add URI**.
6. Click **Save**.

Add a Sandbox or Production Company

You must have a sandbox or production company profile created in the QuickBooks application. See Create and test with a sandbox company. You can go to www.quickbooks.in to create your production company profile.

You'll need to select the company name on the Connections page when you configure security for your QuickBooks 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.

> **Note:**
>
> After you clone an integration, customize a prebuilt integration, or import an existing integration into Oracle Integration, you update the connection information according to the requirements of your integration environment. For custom fields or updated fields to appear in the mapper, you must refresh the endpoints in Oracle Integration. See Regenerate a WSDL File for Integrations in *Using Integrations in Oracle Integration Generation 2*.

1. Go to the **Connection Properties** section.
2. In the **QuickBooks Environment** field, select the environment. Your selection enables the QuickBooks Adapter to connect to the appropriate endpoint.
   - **Sandbox**: A self-contained, testing environment that imitates a QuickBooks production environment. The sandbox environment enables you to test and debug your QuickBooks APIs before running them in QuickBooks' live production environment.
   - **Production**: QuickBooks' live production environment for running your QuickBooks APIs.

Configure Connection Security

Configure security for your QuickBooks Adapter connection by selecting the security policy and specifying the appropriate security details.

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 Create an Application.
3. In the **Client Secret** field, enter the client secret that you obtained after performing the steps in the prerequisites section. See Create an Application.
4. (Optional) In the **Scope** field, enter `com.intuit.quickbooks.accounting`. This is the only scope supported by the QuickBooks Adapter. You select it while creating an application in the QuickBooks application. See Create an Application.

   If you do not provide any value for the scope, `com.intuit.quickbooks.accounting` is added by default.
5. Click **Provide Consent** to verify the connection properties and get an access token.

   The QuickBooks application page is displayed.
6. Select the company name that you specified in the QuickBooks application. See Add a Sandbox or Production Company.
7. Once you see an access allowed message, you can test your connection.

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 adapter connection uses a Web Services Description Language (WSDL) file. Only some adapter connections use WSDLs.

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

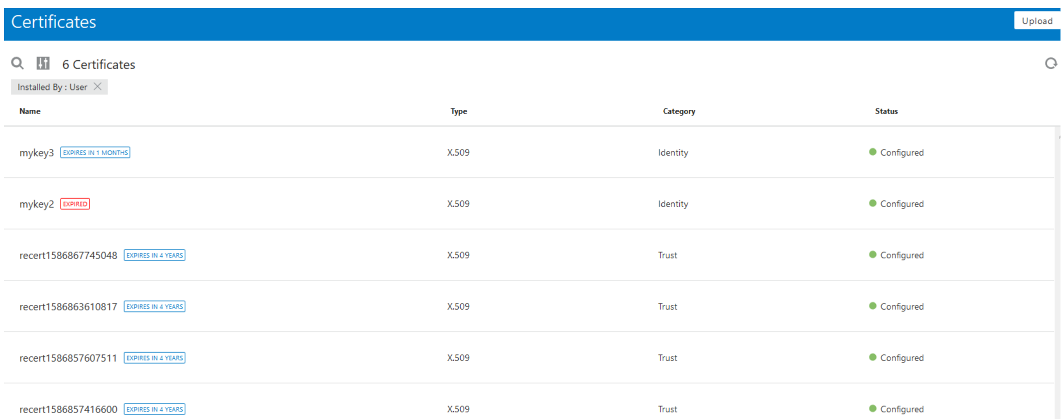
2. Wait for a message about the results of the connection test.
   - If the test was successful, then the connection is configured properly.
   - If the test failed, then edit the configuration details you entered. Check for typos, verify URLs and credentials, and download the diagnostic logs for additional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

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**.

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Add the QuickBooks Adapter Connection to an Integration

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

The following sections describe the wizard pages that guide you through configuration of the QuickBooks Adapter as an invoke in an integration. You cannot configure the QuickBooks Adapter as a trigger in an integration.

Topics:

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: • 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: `This connection receives an inbound request to synchronize account information with the cloud application.`

Invoke Action Page

Select the type of action to perform.

Element	Description
Select an action type	• **Query information**: Retrieves information from the QuickBooks application corresponding to the selected module and operation. • **Create, update, or delete information**: Creates a new record, updates an existing record, or deletes a record in/from a QuickBooks application. For example, **Create Accounts**, **Create Purchase Order**, **Update Invoice**, and **Delete Bill**.

Invoke Operation Page

Select the module and operation to perform in the QuickBooks application.

Element	Description
Select operation type (Displayed if the **Create, update, or delete information** option is selected on the Action page.)	Displays the following options: **Create**, **Delete**, and **Update**.
Select module	Select a module, such as **Invoice**, **Account**, **Customer**, **Sales Receipt**, and so on.
Filter by module name	Type a keyword or the initial letters of the module name to filter the display of names in the list.
Select operation	Select an operation name, such as **Get Payment**.
Filter by operation name	Type a keyword or 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	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**. To cancel your configuration details, click **Cancel**.