Oracle® Cloud
Using the Trello Adapter with Oracle Integration 3

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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 `https://www.oracle.com/corporate/accessibility/`.

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 at `http://cloud.oracle.com`

- *Using Integrations in Oracle Integration 3*

- *Using the Oracle Mapper with Oracle Integration 3*

- Oracle Integration documentation on the Oracle Help Center.

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.

1

Understand the Trello Adapter

Review the following conceptual topics to learn about the Trello 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:

- Trello Adapter Capabilities
- What Application Version Is Supported?
- About Trello Adapter Use Cases
- Workflow to Create and Add a Trello Adapter Connection to an Integration

> ✎ **Note:**
>
> There are overall service limits with Oracle Integration. A service limit is the quota or allowance set on a resource. See Service Limits.

Trello Adapter Capabilities

Use the Trello Adapter to create an integration with Trello. Trello provides boards, lists, and cards to organize and prioritize projects. Projects are represented by boards that contain lists (associated with lists of tasks). Lists contain cards (associated with tasks). Cards can move from one list to the next list (for example, the life cycle flow of a product from initial design to completion). You can assign users to cards and can group users and boards into organizations. Use the Trello Adapter to select and perform specific card, board, and list API operations in Trello.

The Trello Adapter is one of many predefined adapters included with Oracle Integration. You can configure the Trello Adapter as a 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.

About Trello Adapter Use Cases

The Trello Adapter can be used in scenarios such as the following.

- Create an integration with the REST Adapter as the trigger connection and the Trello Adapter as the invoke connection. Configure the Trello Adapter with the **Create a board** operation to create a board in Trello. Select and configure the REST Adapter to send a POST request to the Trello Adapter. Perform appropriate data mapping between the

REST Adapter and Trello Adapter in the mapper. The Trello Adapter sends the **Create a board** operation as a payload while invoking the operation in Trello.

- Create an integration with the REST Adapter as the trigger connection and the Trello Adapter as the invoke connection. Configure the Trello Adapter with the **Delete a member from a card** operation in the Trello Adapter to delete a specific member from a card in Trello. Select and configure the REST Adapter to send a DELETE request to the Trello Adapter. Perform appropriate data mapping between the REST Adapter and the Trello Adapter in the mapper. The REST Adapter sends a DELETE request to the Trello Adapter, which sends the **Delete a member from a card** operation as a payload while invoking the operation in Trello.

Workflow to Create and Add a Trello Adapter Connection to an Integration

Follow a workflow to create a connection with an adapter and include the connection in an integration in Oracle Integration.

Step	Description	More Information
1	Create a Trello user account and obtain an API key (client ID) and secret key (client secret).	Prerequisites for Creating a Connection
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 Trello Adapter Connection
3	Create the integration. When you do this, you add source and target connections to the integration.	Add the Trello Adapter Connection to an Integration and Understand Integration Creation and Best Practices in *Using Integrations in Oracle Integration 3*
4	Map data between the source connection data structure and the target connection data structure.	Map Data in *Using Integrations in Oracle Integration 3*
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 3*
6	Activate the integration.	Manage Integrations in *Using Integrations in Oracle Integration 3*
7	Monitor the integration on the dashboard.	Monitor Integrations During Runtime in *Using Integrations in Oracle Integration 3*
8	Track payload fields in messages during runtime.	Assign Business Identifiers for Tracking Fields in Messages and Track Integration Instance in *Using Integrations in Oracle Integration 3*

Step	Description	More Information
9	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in *Using Integrations in Oracle Integration 3*

2

Create a Trello 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 a Certificate to Connect with External Services

Prerequisites for Creating a Connection

These are the prerequisites for creating a connection with the Trello Adapter.

- Obtaining the Client ID and Client Secret
- Obtaining the Certificate

Obtaining the Client ID and Client Secret

Before you can use the Trello Adapter, you must obtain the API key (client ID) and secret key (client secret).

1. If you do not have an account, perform the following steps:

    a. Go to https://trello.com/.

    b. Create an account.

2. Log in to the Trello Developers Console.

3. In the navigation bar, click **Sandbox**.

4. If you do not have any API keys, click **grab your API key here**.

    This action generates your API key and client secret key under the **Developer API Keys** and **OAuth** headers, respectively.

5. Write down the API key and client secret key values. You need these values when creating a connection with the Trello Adapter on the Connections page.

Obtaining the Certificate

Before creating a Trello Adapter connection, you must upload the Trello public trust certificate to Oracle Integration.

1. Download the Trello certificate from https://www.trello.com/.

2. Upload the certificate into Oracle Integration as a trust certificate. See Upload a Certificate to Connect with External Services.

Create a Connection

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

To create a connection in Oracle Integration:

1. In the navigation pane, click **Design**, then **Connections**.

2. Click **Create**.

> **✎ Note:**
>
> You can also create a connection in the integration canvas. See Define Inbound Triggers and Outbound Invokes.

3. In the Create connection panel, 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.

4. Enter the information that describes this connection.

Element	Description
Name	Enter a meaningful name to help others find your connection when they begin to create their own integrations.
Identifier	Automatically displays the name in capital letters that you entered in the **Name** field. If you modify the identifier name, don't include blank spaces (for example, `SALES OPPORTUNITY`).
Role	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, assume 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.
Keywords	Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
Description	Enter an optional description of the connection.

Element	Description
Share with other projects	**Note**: This field only appears if you are creating a connection in a project.
	Select to make this connection publicly available in other projects. Connection sharing eliminates the need to create and maintain separate connections in different projects.
	When you configure an adapter connection in a different project, the **Use a shared connection** field is displayed at the top of the Connections page. If the connection you are configuring matches the same type and role as the publicly available connection, you can select that connection to reference (inherit) its resources.
	See Add and Share a Connection Across a Project.

5. Click **Create**.

   Your connection is created. You're now ready to configure the connection properties, security policies, and (for some connections) access type.

Configure Connection Security

Select the security policy and specify the API key and client secret ID for the connection.

1. Go to the **Security** section.

   The **Security Policy** field displays **Custom Security Policy**. This value cannot be changed.

2. In the **Client Id** field, enter the API key you obtained in Prerequisites for Creating a Connection. This value is used to identify the client making the request.

3. In the **Client Secret** field, enter the client secret key ID you obtained in Prerequisites for Creating a Connection. This value is used to identify the client application making the request.

4. In the **Scope** field, enter the permissions the application is requesting on behalf of the user (either `read`, `write`, or `account`). To delete and add members to a board or card, you need the account scope.

5. Click **Provide Consent**.

   The consent dialog is displayed. If the dialog is not displayed, ensure that your browser pop-up blocker is turned off.

6. Read the instructions and provide your consent.

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 and verify URLs and credentials. Continue to test until the connection is successful.

3. When complete, click **Save**.

Upload a Certificate to Connect with External Services

Certificates allow Oracle Integration to connect with external services. If the external service/endpoint needs a specific certificate, request the certificate and then import it into Oracle Integration.

If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception error 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.

1. Sign in to Oracle Integration.

2. In the navigation pane, click **Settings**, then **Certificates**.
   All certificates currently uploaded to the trust store are displayed on the Certificates page.

3. Click **Filter** ⊤ 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.

4. Click **Upload** at the top of the page.
   The Upload certificate panel is displayed.

5. Enter an alias name and optional description.

6. In the **Type** field, select the certificate type. Each certificate type enables Oracle
   Integration to connect with external services.

   • Digital Signature

   • X.509 (SSL transport)

   • SAML (Authentication & Authorization)

   • PGP (Encryption & Decryption)

   • Signing key

Digital Signature

The digital signature security type is typically used with adapters created with the Rapid
Adapter Builder. See Learn About the Rapid Adapter Builder in Oracle Integration in *Using
the Rapid Adapter Builder with Oracle Integration 3*.

1. Click **Browse** to select the digital certificate. The certificate must be an X509Certificate.
   This certificate provides inbound RSA signature validation. See Implement Digital
   Signature Validation (RSA) in *Using the Rapid Adapter Builder with Oracle Integration 3*.

2. Click **Upload**.

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. The following supported cipher algorithms are FIPS-compliant:

- AES128

- AES192

- AES256

- TDES

  c. Click **Upload**.

Signing key

A signing key is a secret key used to establish trust between applications. Signing keys are used to sign ID tokens, access tokens, SAML assertions, and more. Using a private signing key, the token is digitally signed and the server verifies the authenticity of the token by using a public signing key. You must upload a signing key to use the OAuth Client Credentials using JWT Client Assertion and OAuth using JWT User Assertion security policies in REST Adapter invoke connections. Only PKCS1- and PKCS8-formatted files are supported.

1. Select **Public** or **Private**.

2. Click **Browse** to upload a key file.
    If you selected **Private**, and the private key is encrypted, a field for entering the private signing key password is displayed after key upload is complete.

3. Enter the private signing key password. If the private signing key is not encrypted, you are not required to enter a password.

4. Click **Upload**.

3

Add the Trello Adapter Connection to an Integration

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

These topics describe the wizard pages that guide you through configuration of the Trello Adapter as an invoke in an integration. The Trello Adapter cannot be used as a trigger in an integration.

Topics:

- Basic Info 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:
	• 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 Operations Page

Select the Trello Adapter invoke operation.

You can select the Trello API operation to perform on the invoke Trello Adapter Operations page.

Element	Description
Select Operation	Select the Trello API operation to perform: • **Get user details**: Get information about a specific user such as the user ID, user name, and member type. • **Create a board**: Create a new board. • **Create a list**: Create a new list. • **Create a card**: Create a new card. • **Add a member to a card**: Add a member to a card. • **Add a label to a card**: Add a label to a card. • **Add/update due date of a card**: Add or update the due date of a card. • **Add a member to a board**: Add a member to a board. • **Move a card to a different list**: Move a card from one list to another list. • **Move a card to a different board**: Move a card from one board to another board. • **Delete a member from a board**: Delete a member from a board. • **Delete a member from a card**: Delete a member from a card.

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 **Go back**. To cancel your configuration details, click **Cancel**.