Oracle® Construction and Engineering

Using the Oracle Aconex Cloud Adapter with Oracle Integration 3

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Oracle Construction and Engineering Using the Oracle Aconex Cloud 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.

Audience

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

Documentation Accessibility

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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
- Oracle Aconex documentation

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 Oracle Aconex Cloud Adapter

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

Topics:

Oracle Aconex Cloud Adapter Capabilities

The Oracle Aconex Cloud Adapter enables you to set up a connection with Oracle Aconex in Oracle Integration. It is one of many predefined adapters included with Oracle Integration. You can configure the Oracle Aconex Cloud Adapter as an invoke connection within an integration in Oracle Integration.

Adapter Capabilities

- **Easy API Module Selection**: Facilitates the seamless selection of various Oracle Aconex API modules, including:
  - Cost
  - Documents
  - Field
  - Mail
  - Models (BCF API)
  - Packages
  - Project Fields
  - Projects
  - Related Items
  - Tasks
  - User Roles
  - Workflows
- **Simple Operation Selection**: Allows effortless selection of specific operations (API service endpoints) within each selected API module. Each operation is accompanied by a basic description for usage clarification.

- **Intuitive Data Mapping Functionality**: Supports intuitive data mapping based on the selected operation, with mandatory fields highlighted as necessary.
- **Automatic Population of Request Parameters**: Automatically populates common request parameters essential for a successful API request, streamlining the integration process.

Adapter Benefits

- **Accelerated Integration Timeline**: Significantly reduces the time required to create integrations with Oracle Aconex through Oracle Integration.
- **Simplified Integration Process**: Enables seamless integration of Oracle Aconex with other applications, even without extensive knowledge of Oracle Integration or Oracle Aconex REST APIs. While familiarity with REST APIs can enhance certain functionalities, it is not mandatory for basic integration tasks.
- **Reduced Dependency on the Generic REST Adapter**: Reduces the need to rely on the generic REST Adapter, providing a tailored solution for Oracle Aconex integration needs.

Oracle Aconex Cloud Adapter Use Cases

The Oracle Aconex Cloud Adapter streamlines integration between Oracle Aconex and other applications. It provides comprehensive capabilities across various API modules and ensures efficient and accurate synchronization of critical project data.

The Oracle Aconex Cloud Adapter can be used in the following scenarios:

Cost Management

The adapter can be used to integrate various cost management functionalities, enabling comprehensive project financial oversight. This includes budget and contract management, tracking changes, and cost reporting, fully integrated within the Oracle Aconex environment.

Document Management

The adapter facilitates the integration flows for uploading documents to Oracle Aconex. It automates the upload process to ensure all necessary documents, including metadata and required fields are available in Oracle Aconex. It also supports keeping the documents current by using the adapter suppression and update operations. Additionally, the adapter provides the ability to interrogate the information of a document, which is critical for reporting.

Field Management

The adapter can integrate field operations with site inspections and punch lists, ensuring that site management is fully aligned with the broader project goals. This module supports comprehensive site inspection and reporting functionality.

Field Essentials Use Cases:

- Add Issues and Inspections
- View and Update Issues
- Setup Areas and Users
- Punch lists and Daily Reports

Field Administration Use Cases:

- Manage Users and Permissions

- Configure Issues and Inspections

Mail Management

The adapter automates mail operations, such as creating, replying, and viewing of mail content and metadata based on actions in your source application. This automation streamlines communication and ensures that the important project information is appropriately addressed. Additionally, the adapter can integrate mail attachment downloads into the target application workflow, ensuring all relevant attachments are saved and accessible. This enhances information availability and improves project documentation. The adapter also facilitates the viewing and management of mail metadata and schemas, keeping mail-related information organized and easily accessible.

Models Management

The adapter facilitates seamless integration with the Models module using the BCF API v3.0, streamlining the management of BIM issues for Oracle Aconex design. It can automate the creation, updating, and querying of BIM-related issues, ensuring that project, topic, file, comment, and viewpoint services are easily accessible through a simple interface. By leveraging the adapter's operations, users can quickly integrate BIM data into their workflows, reducing manual overhead and enhancing data consistency across systems.

Packages Management

The adapter can facilitate the creation and management of packages within Oracle Aconex, ensuring that all related documents, mail, and attachments are organized and easily accessible.

Package Essentials Use Cases:

- Create, Edit, Move, and Delete Packages
- Find, View, and Export Packages
- Send Packages and Manage Administrators and Editors
- Documents, Mail, and Attachments
- Package Reviews

Project Fields Management

The adapter automates creation, editing, enabling, and disabling of project fields in Oracle Aconex. This ensures that all necessary project fields are accurately maintained and updated in line with the source application project requirements.

Project Management

The adapter automates the process of inviting users to projects in Oracle Aconex, based on changes in the source application, ensuring efficient and accurate user management across your project teams.

Related Items Management

The adapter enhances integration with the Related Items module, providing comprehensive access to both new and historical relationship data within Oracle Aconex. It simplifies the process of querying transaction and event data and enables users to easily add or remove relationships between items. By utilizing the adapter, users can enhance data management by ensuring related items in Oracle Aconex are consistently updated and properly linked, improving traceability and information accuracy.

Task Management

The adapter integrates tasks from Oracle Aconex into the primary project management tool, keeping all task-related information synchronized.

User Role Management

The adapter can be used for updating user roles across systems by synchronizing role assignments. This helps maintain correct user permissions and access levels across various project management tools. Additionally, it can automate the process of managing user roles within Oracle Aconex based on changes in the source application, ensuring efficient and accurate user management across the project teams.

Workflow Integration

The adapter can create integration flows that track workflow status changes in Oracle Aconex, keeping the target project management tool updated with the latest status and ensuring better tracking and management of project workflows.

Oracle Aconex Cloud Adapter Restrictions

The adapter has the following restrictions:

- **File Size Limitation**:
  - The adapter does not support uploading files exceeding 1 GB in size.
  - To ensure optimal performance and compatibility, the adapter enforces a file size limit of 1 GB for all upload operations. Attempting to upload files larger than this limit will result in an error. This restriction is designed to prevent issues related to memory consumption and processing time, ensuring efficient and reliable file management within the Documents and Mail modules.
  - Uploads of attachments larger than 700 to 800 MB may encounter issues, leading to upload (document register) failures.
- **Unsupported Modules**: The adapter currently does not support operations with the Oracle Aconex Directory module.

For the above-mentioned known limitations, it is recommended to use the generic REST Adapter until the next release for Oracle 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.

What Application Version Is Supported?

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

Workflow to Create and Add a 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 a project.	Create or Import a Project in *Using Integrations in Oracle Integration 3*
3	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 an Oracle Aconex Cloud Adapter Connection
4	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 3* and Add the Oracle Aconex Cloud Adapter Connection to an Integration
5	Map data between the trigger connection data structure and the invoke connection data structure.	Map Data in *Using Integrations in Oracle Integration 3*
6	(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*
7	Activate the integration.	Activate an Integration in *Using Integrations in Oracle Integration 3*
8	Monitor the integration on the dashboard.	Monitor Integrations During Runtime in *Using Integrations in Oracle Integration 3*
9	Track payload fields in messages during runtime.	Assign Business Identifiers for Tracking Fields in Messages and Track Integration Instances in *Using Integrations in Oracle Integration 3*
10	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in *Using Integrations in Oracle Integration 3*

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What's New

This page lists the new features, improvements, and bug fixes in each release.

25.02

New Oracle Aconex API Module Support

API Module	Description
Models (BCF API)	The adapter now supports integration with Oracle Aconex design via the open standard BCF API. Using BCF Services (Project, Topic, File, Comment, Viewpoint, Related Topics, Document References, etc.) for managing BIM issues.
Related Items	The adapter now supports integration with the Related Items API. This integration provides access to new and historical related items data within Oracle Aconex, including support for querying transactions/events and modifying relationships.

Bug Fixes and Improvements

Area	Description
Adapter UI	• Resolved a bug in Edit mode where changing the module defaulted to the previous module's operation. • Fixed the "No Module Found" error on the Operations Page in Edit mode.
Basic Authentication	Enhanced the Basic Authentication test connection flow by validating credentials during the test process, reducing integration setup errors.
Mail	Corrected the `MailFormFields` schema mappings to match the expected API structure for the "Create Mail", "Forward Mail", "Reply Mail", and "View Mail Metadata" operations.
Versioning	Version numbers now follow the Oracle Integration release versioning format (e.g., 25.02.0).

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Oracle Aconex API Module Support

API Module	Description
Cost	The adapter can be used to integrate various cost management functionalities, enabling comprehensive project financial oversight. This includes budget and contract management, tracking changes, and cost reporting, fully integrated within the Aconex environment.
Field	The adapter can integrate field operations with site inspections and punch lists, ensuring that site management is fully aligned with the broader project goals. This module supports comprehensive site inspection and reporting functionality.
Packages	The adapter can facilitate the creation and management of document packages within Aconex, ensuring that all related documents, mails, and attachments are organized and easily accessible.

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Resolved Restrictions

Area	Description
Multiple File Upload	The restriction for synchronizing only one file at a time when working with files has been removed. The adapter now supports multiple file uploads for all multi-part/mixed operations (including file uploads, edits, etc.) within the Documents and Mail modules. Users need to duplicate the Attachment object in the mapper to enable multiple file uploads.
Large File Upload	The restriction for supporting only "Small File Upload" has been removed. The "Large File Upload" functionality has been implemented. • The adapter now automatically determines the appropriate upload method based on the file size: – For files less than 100 MB, the standard "Small File Upload" method is used. – For files between 100 MB and 1 GB, the "Large File Upload" method is used. • The adapter also automatically updates the headers and path for the "Large File Upload" method, implementing an automated chunking approach.

Additional Improvements and Corrections

Area	Description
Documents	• The support for the "View Document Type Schema" operation in the Documents module has been restored. The accept header issue has been fixed, and the operation now functions correctly. • The issue with the "Download Mail Attachment" endpoint has been resolved. The error `<ErrorCode>URL_UNKNOWN</ErrorCode>` has been fixed, and the operation is now working properly. • The issue with the "Get Saved Searches" endpoint in the Documents module has been resolved. The error response with error code 404 and `<ErrorCode>URL_UNKNOWN</ErrorCode>` has been fixed, and the operation is now working properly.
Mail	• The "List Mail" API endpoint has been added to the Mail module. This service executes a search of an organization's project mailbox, enabling users to retrieve a list of mail efficiently. • The issue with the "Mark Mail As Read" and "Mark Mail As Unread" operations has been resolved. The bug that caused an error to display on the Summary page and prevented the creation of the invoke has been fixed. • The error with the "Forward Mail" and "Reply Mail" operations has been resolved. The issue that caused the system to return an "`unknown value: {mailId}`" error has been fixed, and the `INVALID_PARAMETER_VALUE` response for these endpoints has been corrected. • The issue with "Mail Thread" invokes showing errors in the mapper has been resolved. The error "`exception Duplicated definition for: 'InRefTo'`" has been fixed. • The issue where some Mail module operations would produce error responses from the Oracle Aconex system has been resolved. The error `<ErrorCode>URL_UNKNOWN</ErrorCode>` has been fixed, and the operations are now working properly.

Area	Description
User Roles	The issues with the following User Role API operations have been resolved, and users can now successfully create invokes: • Update User Role (Project) • Update Secured Asset Permissions (Organization) • Update Secured Asset Permissions (Project) • Update Users Assigned to User Role (Organization) • Update Users Assigned to User Role (Project) • Delete User Role (Organization) • Delete User Role (Project) The Operations Page Wizard failures have been fixed, and all of the above operations are now working properly.

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Create an Oracle Aconex Cloud Adapter Connection

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

Prerequisites for Creating a Connection

Every integration with Oracle Aconex APIs must be registered with Oracle, and you will receive the credentials required to uniquely identify the integration.

The first step is to decide which API Security method will be used, as the registration process differs depending on the chosen method.

The available methods are:

- Register an OAuth Integration
- Register a Basic Authentication Integration

For details about both methods, see Register a Customer integration in Aconex Support Central.

It is crucial to complete the registration process for the selected security method to establish a secure and successful connection between the adapter and Oracle Aconex.

OAuth Integration Registration: Necessary Steps

For OAuth-based integration, there are specific prerequisites and steps that need to be followed. One of the first steps is determining the type of OAuth integration that aligns with the requirements of the application.

> **Note:**
>
> The adapter uses the Non-Interactive Integration type for establishing connections - an integration that has no user interaction. This is a trusted client that uses JWT Bearer (otherwise known as User Assertion) grant type.

For detailed instructions about implementing OAuth in a Non-Interactive Integration, see Implement OAuth in a Non-Interactive Integration.

For additional information, see Getting started with APIs in the Oracle Aconex REST API documentation.

Create a Connection

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

> **Note:**
>
> You can also create a connection in the integration canvas. See why working with projects is preferred.

To create a connection in Oracle Integration:

1. Decide where to start:
   - Work in a project (see why working with projects is preferred).
     a. In the navigation pane, click **Projects**.
     b. Select the project name.
     c. Click **Integrations**.
     d. In the **Connections** section, click **Add** if no connections currently exist or **+** if connections already exist. The Create connection panel opens.
   - Work outside a project.
     a. In the navigation pane, click **Design**, then **Connections**.
     b. Click **Create**. The Create connection panel opens.
2. 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.
3. 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`).

Element	Description
Role	Select the role (direction) in which to use this connection. **Note**: *Only* the roles supported by the adapter you selected are displayed for selection. Some adapters support all role combinations (trigger, invoke, or trigger and invoke). Other adapters support fewer role combinations. 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.
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.

4. Click **Create**.

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

5. Follow the steps to configure a connection.
   The connection property and connection security values are specific to each adapter. Your connection may also require configuration with an access type such as a private endpoint or an agent group.

6. Test the connection.

Configure Connection Properties

Enter connection information so your application can process requests.

1. Go to the **Properties** section.

2. In the **Aconex instance URL** field, enter the URL of your Oracle Aconex instance.

   This is the physical location where your project data is stored.

3. From the **Connection Type** list, select **REST API Base URL**.

Configure Connection Security

Configure security for your connection.

1. Go to the **Security** section.
2. In the **Security policy** field, select which security policy you want to use.

Security policy	Options
Basic Authentication	• **User Name** — Enter the user name of your Oracle Aconex integration account. • **Password** — Enter the password of your Oracle Aconex integration account. **Note:** Oracle Aconex login is changing, and as a result of this, Basic Authentication will be deprecated in the Oracle Aconex Cloud Adapter. From August 2024, all users must sign in to Oracle Aconex using a Lobby account. For more information, see Aconex login is changing in Aconex Support Central.

Security policy	Options

OAuth using JWT User Assertion	• **Access Token URI** — Enter the URI of the POST request to the token endpoint of the Lobby. For example:
	`https://constructionandengineering.oraclecloud.com/auth/token`
	• **JWT Headers in JSON Format** — Upload a JSON file with the User Assertion JWT header. For example:
	`{ "kid":"MyCertificateAlias", "typ":"JWT", "alg":"RS256" }`
	• **JWT Payload in JSON Format** — Upload a JSON file with the User Assertion JWT body. For example:
	`{ "sub":"patrick.oleary@majestic.com", "iss":"MyClientID", "aud":"https://identity.oraclecloud.com/", "exp":1708778535, "iat":1708774935, "jti":12345, "user_id":1879050130, "user_site":"https://au1.aconex.com" }`
	• **JWT Private Key Alias** — Enter the name of the private key that you uploaded to Oracle Integration certificates, matching the public certificate that was uploaded to the Lobby. This key will be used to verify that the User Assertion is signed by your application.
	To add a private key to Oracle Integration:
	a. In the navigation panel, select **Settings**, then **Certificates**.
	b. Click **Upload**.
	c. Enter the information that describes this certificate:
	i. **Alias Name**: Enter the name of the JWT signing Private key.
	For example: `Oracle-Aconex-Private-key`

Security policy	Options
	ii. **Description**: Enter an optional description of the private key. iii. **Type**: Select **Signing key**. iv. **Category**: Select **Private**. v. **Key File**: Upload the private key in PEM format that will be used to verify that the User Assertion is signed by your application. d. Click **Upload**. • Expand the **Optional Security** section – **Scope** — Enter the scope, if applicable. – **Access Token Request** — Enter the POST request to the token endpoint of the Lobby, specifying client credentials using Basic Authentication in the header (Base64 encoding of the Client ID and Secret joined by a colon ':'). Include the pre-configured fields as parameter variables in the request. The format you specify can vary by service provider. For example: `-X POST -H 'Content-Type: application/x-www-form-urlencoded' \ -H 'Authorization: Basic <base64 encoded Client ID and Secret>' \ -d 'grant_type=urn:ietf:params:oauth:grant-type:jwt-bearer&assertion=${user_assertion}&client_assertion_type=urn:ietf:params:oauth:client-assertion-type:jwt-bearer&client_assertion=${client_assertion}' \ ${access_token_uri}`

Test the Connection

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

1. In the page title bar, click **Test**.

   The test starts automatically and validates the inputs you provided for the connection.
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**.

4

Add the Oracle Aconex Cloud Adapter Connection to an Integration

When you select and place the Oracle Aconex Cloud Adapter into the invoke area of an integration, the Adapter Endpoint Configuration Wizard opens and guides you through configuration of the Oracle Aconex Cloud Adapter endpoint properties.

The following sections describe the settings you need to enter on each page of the wizard.

Basic Info Page

Enter the endpoint name, description, and select an API module.

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 for the connection's functionality. For example: `This endpoint executes a search of an organization's document register for a project.`
Select API module	Select the Oracle Aconex service API module you want from the list.

Configure Operations Page

Specify the operation that you want your selected API module to perform.

Element	Description
Select Operation	Select which operation you want the selected Oracle Aconex API service module to perform. Each API module offers specific operations that you can perform.
Operation Description	Upon selection of the operation, a brief description is provided to help understand its functionality.

Summary Page

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

This page presents a summary of the configuration values defined on the previous pages of the wizard. Additionally, based on the selected operation, it dynamically displays the request and response data associated with that specific operation. Each line provides a comprehensive overview of the configured settings and the expected data interactions specific to that operation.

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**.

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Copy a Document from One Project to Another

You can copy an Aconex document from one project to another using the Oracle Aconex Cloud Adapter.

This section provides a high-level overview of creating an integration flow to copy a document from one project to another using the Oracle Aconex Cloud Adapter. It describes how to create the Oracle Aconex Cloud Adapter connection, use the connection as an invoke in an integration flow, map the data between the connections, and finally activate and run the integration. A typical workflow to create and add the Oracle Aconex Cloud Adapter connection to an integration is as follows:

Topics:

Create an Oracle Aconex Cloud Adapter Connection

Before you can build an integration, you must create a connection with Oracle Aconex using the Oracle Aconex Cloud Adapter.

To create the connection:

1. In the navigation pane, select **Design**, then **Connections**.
2. Click **Create**.
3. In the **Create connection** panel, select **Oracle Aconex Cloud**.

   To find the adapter, scroll through the list, or enter a partial or full name in the **Search** field. For example, you can search for *Aconex*.
4. Enter the information that describes this connection:

Field	Value
Name	`Aconex Cloud Connection`
Identifier	`ACONEX_CLOUD_CONNECTION` The identifier is automatically added. If you want to modify the identifier, do not include blank spaces.

Field	Value
Role	`Invoke` The Role is automatically set to Invoke.

5. Click **Create**.
6. On the **Configure a connection** page, do the following:
   a. In the **Properties** section, in the **Aconex instance URL** field, specify the URL of your Oracle Aconex instance.

      For example:

      `https://ea1.aconex.com`

   b. In the **Properties** section, in the **Connection Type** field, select the **REST API Base URL**.
   c. In the **Security** section, enter the user name and password of your Oracle Aconex account.
7. On the page title bar, click **Test**.

   The test starts automatically and validates the inputs you provided for the connection. You will get a notification if the test was successful.
8. Click **Save**.

Create an Integration Workflow

Integrations use the connections you created to your applications and define how information is shared between those applications.

Create an integration flow by creating an integration, and then dragging the required adapters into the invoke area of the integration. Map data between the invoke and the target connections' data structures to define how data will be transferred.

The following topics describe how to create the integration workflow for copying a document from one project to another.

Topics:

Create the Integration

After you create your connections, you can create the integration.

To create the integration:

1. In the navigation pane, select **Design**, then **Integrations**.

2. Click **Create**.
3. In the **Create Integration** panel, do the following:
   a. Click **Schedule**.
   b. Enter the following mandatory schedule details:
      i. In the **Name** field, enter a name for the schedule.
      You can include English alphabetic characters, numbers, underscores, and dashes in the identifier.
      ii. In the **Identifier** field, accept the default value or change it if needed.
      The name you enter in the Name field is automatically added to the Identifier field in upper case. If you want to modify the identifier, do not include blank spaces.
   c. Click **Create**.

Add an Invoke to Download the Document File by Project ID and Document ID

To get the document file, first add the invoke connection to the integration.

To add an invoke:

1. On the integration page, hover over an arrow and click **Add**  .
2. From the list of available connections, select **Oracle Aconex Cloud**.
3. In the Adapter Endpoint Configuration Wizard, do the following:
   a. On the **Basic Info** page:
      i. In the **What do you want to call your endpoint?** field, enter `DownloadDocument`.
      ii. In the **What does this endpoint do?** field, enter an optional description.
      iii. In the **Select an API module** field, select **Documents**.
   b. On the **Operations** page:
      i. In the **Select operation** field, select **downloadDocumentFile**.
   c. On the **Summary** page, view the summary and click **Finish**.

Map Data to Download the Document File by Project ID and Document ID

One of the key tasks to your integration is defining how data is transferred, or mapped, between the source project and the target project.

To map data for retrieving the document file by the project ID and document ID from the source project:

1. On the integration page, select **Map (DownloadDocument)**, click **Actions** ..., and then select **Edit**.
2. On the mapper, in the **Target** section, expand **Template Parameters**.
3. Right-click **Project ID** and select **Create Target Node**.
4. In the **Expression Builder** (bottom of the page), click **Switch to Design View**  .
5. In the **Design View** window, enter the source project ID as text or number.

For example: `1879048400`

6. Click **Save** .
7. Right-click **Document ID** and select **Create Target Node**.
8. In the **Expression Builder**, click **Switch to Design View** .
9. In the **Design View** window, enter the source document ID as text or number.

   For example: `271341877549258845`

10. Click **Save** , then click **Validate**.
11. Click **Go Back** , then click **Save**.

Add an Invoke to Download the Document File by Project ID and Document ID

To get the document metadata, add another invoke connection to the integration.

To add an invoke:

1. On the integration page, hover over an arrow and click **Add** .
2. From the list of available connections, select **Oracle Aconex Cloud**.
3. In the Adapter Endpoint Configuration Wizard, do the following:
   a. On the **Basic Info** page:
      i. In the **What do you want to call your endpoint?** field, enter `GetDocumentMetadata`.
      ii. In the **What does this endpoint do?** field, enter an optional description.
      iii. In the **Select an API module** field, select **Documents**.
   b. On the **Operations** page:
      i. In the **Select operation** field, select **viewDocumentMetadata**.
   c. On the **Summary** page, view the summary and click **Finish**.

Map Data to Get the Document Metadata by Project ID and Document ID

After adding the invoke to retrieve the document metadata, map the Project ID and Document ID in the same manner as done for the document file download invoke.

To map data for retrieving the document metadata by the project ID and document ID from the source project:

1. On the integration page, select **Map (GetDocumentMetadata)**, click **Actions** , and then select **Edit**.
2. On the mapper, in the **Target** section, expand **Template Parameters**.
3. Right-click **Project ID** and select **Create Target Node**.

4. In the **Expression Builder**, click **Switch to Design View** .
5. In the **Design View** window, enter the source project ID as text or number.

   For example: `1879048400`

6. Click **Save** .
7. Right-click **Document ID** and select **Create Target Node**.
8. In the **Expression Builder**, click **Switch to Design View** .
9. In the **Design View** window, enter the source document ID as text or number.

   For example: `271341877549258845`

10. Click **Save** , then click **Validate**.
11. Click **Go Back** , then click **Save**.

Add an Invoke to Upload the Document to the Target Project

To upload the document to the target project, add another invoke connection to the integration.

To add an invoke:

1. On the integration page, hover over an arrow and click **Add** .
2. From the list of available connections, select **Oracle Aconex Cloud**.
3. In the Adapter Endpoint Configuration Wizard, do the following:
   a. On the **Basic Info** page:
      i. In the **What do you want to call your endpoint?** field, enter `RegisterDocumentToTargetProject`.
      ii. In the **What does this endpoint do?** field, enter an optional description.
      iii. In the **Select an API module** field, select **Documents**.
   b. On the **Operations** page:
      i. In the **Select operation** field, select **registerDocument**.
   c. On the **Summary** page, view the summary and click **Finish**.

Map Data to Upload the Document to the Target Project

Map the Project ID for the target project, then designate the downloaded document as an attachment and the retrieved metadata as document properties.

To map data to upload the document to the target project:

Map the Template Parameters

1. On the integration page, select **Map (RegisterDocumentToTargetProject)**, click **Actions** , and then select **Edit**.
2. On the mapper, in the **Target** section, expand **Template Parameters**.

3. Right-click **Project ID** and select **Create Target Node**.
4. In the Expression Builder, click **Switch to Design View**  .
5. In the **Design View** window, enter the source project ID as text or number.

   For example: `1879048400`
6. Click **Save**  .

Map the Attachments

1. On the mapper, in the **Source** section, expand **DownloadDocument Response**, and then **Download Document File Response** and then select **Stream Reference**.
2. In the **Target** section, expand **Attachments**, and then **Attachment** and then select **Attachment Reference**.
3. Drag the source element (**Stream Reference**) to the target element node (**Attachment Reference**).
4. In the **Source** section, expand **GetDocumentMetadata Response**, and then **View Document Metadata Response**, and then **Register Document**, and then select **File Name**.
5. In the **Target** section, expand **Attachments**, and then **Attachment**, and then **Attachment Properties**, and then select **Part Name**.
6. Drag the source element (**File Name**) to the target element node (**Part Name**).
7. Click **Save**  .

Map the Document Metadata

1. On the mapper, in the **Source** section, expand **GetDocumentMetadata Response**, and then **View Document Metadata Response**, and then **Register Document**, and then select **Document Number**.
2. In the **Target** section, expand **Document**, and then select **Document Number**.
3. Drag the source element (**Document Number**) to the target element node (**Document Number**).
4. In the **Source** section, expand **GetDocumentMetadata Response**, and then **View Document Metadata Response**, and then **Register Document**, and then select **Revision**.
5. In the **Target** section, expand **Document**, and then select **Revision**.
6. Drag the source element (**Revision**) to the target element node (**Revision**).
7. In the **Target** section, expand **Document**, and then select **Has File**.
8. Right-click **Actions**, and then select **Create Target Node**.
9. In the Expression Builder, click **Switch to Design View**  .
10. In the **Design View** window, enter `true()`.

11. Continue to add mappings as needed between the source element, **GetDocumentMetadata Response (Oracle Aconex Cloud)**, and the target element, **RegisterDocumentToTargetProject (Oracle Aconex Cloud)**.

> **Note:**
>
> Not every field may be used in the specified target project. It is recommended that the user retrieve the schema for registering the document beforehand to obtain the list of active and mandatory fields before constructing this invoke. Related APIs are:
>
> - View Document Schema
> - List Documents

12. Click **Validate**.
13. Click **Go Back** , then click **Save**.

Activate and Run the Integration

After your integration design is complete, activate and run the integration.

To activate and run the integration:

1. In the navigation pane, click **Design**, then **Integrations**.
2. Activate the integration.
    a. Hover over the integration, then click **Activate** .
    b. In the **Activate Integration** panel, choose the appropriate level of tracing, then click **Activate**.
3. Run the integration.
    a. Hover over the integration, then click **Actions** , then select **Run**.
    b. On the **Configure and run** page, click **Run**.

    You've now successfully submitted the integration for execution.

> **Note:**
>
> You can also schedule this integration to run at a date, time, and frequency of your choosing. See Define the Integration Schedule.

Related Topics

- Activate and Deactivate Integrations in *Using Integrations in Oracle Integration 3*