Oracle® Construction and Engineering
Sync Aconex Issues with Unifier

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Preface

This document describes how to install, configure, and run this recipe in Oracle Integration 3.

Documentation Accessibility

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Related Resources

See these Oracle resources:

*   Oracle Cloud at `http://cloud.oracle.com`
*   *Using Integrations in Oracle Integration 3*
*   *Using the REST Adapter with Oracle Integration 3*
*   Oracle Integration documentation
*   Oracle Aconex documentation
*   Oracle Primavera Unifier 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.

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

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About This Recipe

Use this recipe to synchronize issues between Oracle Aconex and Unifier.

> **✎ Note:**
>
> This recipe is available as **Aconex — Unifier | Sync Issues** in Oracle Integration. Oracle provides this recipe as a sample only. The recipe is meant only for guidance, and is not warranted to be error-free. No support is provided for this recipe.

Overview

This recipe delivers a project that includes two integrations:

- **Sync Aconex Issues with Unifier**
- **Sync Unifier Issues with Aconex**

Run the first integration, **Sync Aconex Issues with Unifier**, when you want to create new or update existing issues in Unifier, based on existing Aconex issues.

Run the second integration, **Sync Unifier Issues with Aconex**, when you are ready to update the original issues again in Aconex, based on the current state of the issues in Unifier. For example, you can run the second integration to close the issues in Aconex, after having manually processed the issues in Unifier.

General Workflow

1. Perform the required initial configuration in Aconex and Unifier. See Before You Install the Recipe.
2. Install and configure the recipe, which includes configuring the delivered connections and updating the integration properties.
3. Run the Sync Aconex Issues with Unifier Integration.
4. Manually process the newly created or updated issues in Unifier as needed.
5. Run the Sync Unifier Issues with Aconex Integration.

System and Access Requirements

- Oracle Integration Version 3
- Oracle Aconex
- Oracle Primavera Unifier (Unifier Accelerator)*
- An account in Oracle Aconex with an administrator role
- An account in Oracle Primavera Unifier (Unifier Accelerator)* with an administrator role

> **✎ Note:**
>
> This recipe supports the *Unifier Accelerator* base configuration of Oracle Primavera Unifier. Throughout the rest of this document, all references to Unifier imply the Unifier Accelerator.

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Before You Install the Recipe

You must perform some initial configuration tasks on your Oracle Aconex and Unifier instances to be able to connect to these external systems using Oracle Integration and synchronize issues between them.

Configure Oracle Aconex

You must complete the following tasks in Oracle Aconex:

1. Create project fields to enable users to specify if an issue needs to be sent to Unifier.
2. Apply project fields to an issue type.
3. Create or update an issue to send to Unifier.

Create Project Fields

A project administrator needs to create project fields in Oracle Aconex that will enable the users to specify if an issue needs to be sent to Unifier.

To learn about using project fields in Oracle Aconex, see Using Project Fields in the Oracle Aconex Help.

Information specific to creating project fields for integration is provided below.

Create the following fields for the project whose issues you want to synchronize:

- **Send to Unifier Issue**
- **Unifier Issue Record Number**
- **Unifier Project Number**

> **✎ Note:**
>
> For all three fields, you do not have to enter anything in the **Field Name** field; it is set by Oracle Aconex automatically.

To create new project fields, complete the following steps:

1. Log in to Oracle Aconex and select the required project.
2. Select the **Setup** tab, then select **Project Settings**.
3. On the **Project Settings** page, select **Project Fields**, then select **Fields**.
4. On the **Project Fields** page, click the **New Field** button.
5. In the New Field dialog box, enter the information for the new field:
   a. For the **Send to Unifier Issue** field:
      i. From the **Type** list, select **Select List (Single)**.

      ii. In the **Label** field, enter `Send to Unifier Issue`.

      iii. In the **Select Options** field, enter `Yes`, `No`, and `Sent` on separate lines.

      iv. Leave the **Inline Edit** check box unchecked (the default).

      v. Leave the **Selections Allowed** field set to **Single** (the default).

      vi. In the **Tool Tip** field, provide an optional tool tip. For example, *Yes – Send the issue to Unifier*, or *No – Do not send the issue to Unifier*, or *Sent – Issue has been added to Unifier*.

   b. For the **Unifier Issue Record Number** field:

      i. From the **Type** list, select **Text**.

      ii. In the **Label** field, enter `Unifier Issue Record Number`.

      iii. In the **Min Character Limit** field, enter `1`.

      iv. In the **Max Character Limit** field, enter `15`.

      v. In the **Tool Tip** field, provide an optional tool tip. For example, the record number created in Unifier for the issue.

   c. For the **Unifier Project Number** field:

      i. From the **Type** list, select **Text**.

      ii. In the **Label** field, enter `Unifier Project Number`.

      iii. In the **Min Character Limit** field, enter `1`.

      iv. In the **Max Character Limit** field, enter `60`.

      v. In the **Tool Tip** field, provide an optional tool tip. For example, the project number for the issue created in Unifier.

Apply Project Fields to an Issue Type

After creating new project fields, you need to apply them to the issue type for the issue that you want to synchronize with Unifier.

To learn about applying project fields to issue types in Oracle Aconex, see Apply Project Fields to Issue Types in the Oracle Aconex Help.

Information specific to integration is provided below.

To add fields to an issue type:

1. Log in to Oracle Aconex and select the required project.

2. Select the **Field** tab, then from the **Project** section, select **Settings**.

3. On the **Settings** page, select **Issues**, then select **Issue Types**.

4. In the **Issue Types** table, select **Edit Fields** next to the required issue type.

5. From the **Project Fields** library, click the **+** plus icon next to a field to add it to the issue type. Repeat this step for all the fields that you want to add to your issue type.

> ✏️ **Note:**
>
> The order that you add fields will be the order that they appear in the issue.

6. Select the **Mandatory** check box next to the **Send to Unifier Issue** field to make it mandatory.

7. Select **Save**.

Create or Update an Issue to Send to Unifier

You can create a new issue or update an existing issue that you want to synchronize with Unifier.

To learn how to create an issue in Oracle Aconex, see Adding a New Issue to a Project in the Oracle Aconex Help.

Information specific to integration is provided below.

To create a new issue to be sent to Unifier:

1. Log in to Oracle Aconex and select the required project.

2. Select the **Field** tab, then select **Issues**.

3. Click **Add Issue**.

4. Enter the following information in the New Issue dialog box:

   a. From the **Issue Type** list, select the required issue type. Typically, it will be an issue type to which you applied the new project fields.

   b. In the **Description** field, provide a brief description of the issue.

   c. In the **Assignment** section:

      i. From the **Assigned To** list, select the organization to which the issue is assigned.

      ii. In the **Due** field, enter the due date for the issue.

   d. (Optional) In the **Photos** and **Location** sections, add any photos or location details.

   e. In the **Additional Details** section, from the **Send to Unifier Issue** list, select **Yes**.

   > **Note:**
   >
   > The **Unifier Project Number** and **Unifier Issue Record Number** fields will be auto-populated after you run the integration flow to synchronize Oracle Aconex issues with Unifier.

5. Select **Save**.

> **Note:**
>
> You can also update an existing Oracle Aconex issue in Unifier by changing the **Send to Unifier Issue** field to **Yes**, provided the issue status is not **Closed** in Unifier. When updating an existing Oracle Aconex issue in Unifier, only the issue description known as **Title** in Unifier is updated.

Configure Unifier

You must complete the following tasks in Unifier:

1. **Create a Project**: Create a shell (project) with which you want to link your Oracle Aconex issues. A shell is where users can organize business information in one place to make managing it easy. For more information, see Creating a Shell.

2. **Enable the Business Process for the Project**: Information is entered and stored using electronic business process (BP) forms and routed via configurable workflows. You can create your own business processes and configure the workflow to determine how you will process the Oracle Aconex issues created via integration in Unifier. For more information, see Setting Up Business Processes and Configuring Business Processes

3. **Activate the Workflow**: Workflows are included with the business process and control how business process records flow through the steps of the creation, response, review, and approval process. You must activate the workflows that you plan to set up and use. For more information, see Configure a BP Workflow (Workflow Tab).

> **Note:**
>
> The default workflow selected in the auto creation settings of the issues business process is used when Oracle Aconex issues are created in Unifier. For more information, see Set Up Auto-Creation for a Workflow BP.

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Install and Configure the Recipe

On your Oracle Integration instance, install the recipe to deploy and configure the integration and associated resources.

1. On the Oracle Integration Home page, in the **Get Started** section, click **Browse store**.

2. Search for this recipe:

   Aconex — Unifier | Sync Issues

3. After you find the recipe, click **Get** on the recipe card.

   A message confirms that the recipe was successfully installed, and the recipe card shows **In use**.

4. Click **Configure** 🔧 on the recipe to configure its resources.

The project workspace opens, displaying all the resources of the recipe.

Now that the recipe is installed, you must configure the following resources before you can run the integrations in this recipe:

1. Configure the Aconex Connection.

2. Configure the Unifier Connection.

3. Update the Sync Aconex Issues with Unifier Integration Properties.

4. Update the Sync Unifier Issues with Aconex Integration Properties.

Configure the Aconex Connection

1. In the **Connections** section of the project workspace, find the connection named **Aconex Connection**.

2. Click **Actions** ••• next to the connection and select **Edit**.

3. In the **Properties** section, do the following:

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

   b. In the **Connection URL** field, enter the base URL of your Aconex API.

      For example:

      ```
      https://<region>.aconex.com/field-management/api
      ```

4. In the **Security** section, do the following:

   a. From the **Security policy** list, select **Basic Authentication**.

   b. In the **User name** field, enter the user name of the integration account.

   c. In the **Password** field, enter the password of the integration account.

5. Click **Save**. If prompted, click **Save** again.

6. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again.

A message confirms if your test is successful.

7. To return to the project workspace, click **Go back** .

Configure the Unifier Connection

1. In the **Connections** section of the project workspace, find the connection named **Unifier Connection**.

2. Click **Actions** ... next to the connection and select **Edit**.

3. In the **Properties** section, do the following:

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

   b. In the **Connection URL** field, enter the endpoint URL.

4. In the **Security** section, do the following:

   a. From the **Security policy** list, select **OAuth Custom Two Legged Flow**.

   b. In the **Access Token Request** field, specify the request using cURL syntax to fetch the access token.

   c. Expand **Optional security**, then in the **access_token_usage** field, specify how the access token should be passed to access the endpoint.

5. Click **Save**. If prompted, click **Save** again.

6. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again.

   A message confirms if your test is successful.

7. To return to the project workspace, click **Go back** .

Update the Sync Aconex Issues with Unifier Integration Properties

In order for the **Sync Aconex Issues with Unifier** integration to be able to synchronize issues, you must activate the integration and then define the following integration property values.

1. In the **Integrations** section of the project workspace, find the **Sync Aconex Issues with Unifier** integration.

2. Activate the integration.

   a. Click **Actions** ... next to the integration, then select **Activate**.

   b. In the **Activate integration** panel, select the appropriate tracing level, then click **Activate**.

3. Update the integration property values.

   a. Click **Actions** ... next to the integration, then select **Update property values**.

   b. In the **Update property values** panel, do the following:

      i. Click to expand the **API_Key** property, then in the **New value** field, enter the ID to identify the client making the request. This is also known as the Integration ID and only needs to be filled in once.

    ii. Click to expand the **Email_Id** property, then in the **New value** field, enter the email address of the user who will receive the notifications if the integration fails to run successfully.

    iii. Click to expand the **Aconex_Project_Id** property, then in the **New value** field, enter the Aconex project number whose issues you want to synchronize.

    iv. Click to expand the **Unifier_Project_Number** property, then in the **New value** field, enter the Unifier project number with which you want to synchronize the issues.

    v. Click to expand the **Issue_Type** property, then in the **New value** field, enter the issue type name.

    vi. Click to expand the **Aconex_Area_Id** property, then in the **New value** field, enter the ID of the area where the Aconex issue is located.

  c. Click **Submit**.

Update the Sync Unifier Issues with Aconex Integration Properties

In order for the **Sync Unifier Issues with Aconex** integration to be able to synchronize issues, you must activate the integration and then define the following integration property values.

1. In the **Integrations** section of the project workspace, find the **Sync Unifier Issues with Aconex** integration.

2. Activate the integration.

  a. Click **Actions** next to the integration, then select **Activate**.

  b. In the **Activate integration** panel, select the appropriate tracing level, then click **Activate**.

3. Update the integration properties.

  a. Click **Actions** next to the integration, then select **Update property values**.

  b. In the **Update property values** panel, do the following:

    i. Click to expand the **API_Key** property, then in the **New value** field, enter the ID to identify the client making the request. This is also known as the Integration ID and only needs to be filled in once.

    ii. Click to expand the **Aconex_Project_Id** property, then in the **New value** field, enter the Aconex project number.

    iii. Click to expand the **Unifier_Project_Number** property, then in the **New value** field, enter the Unifier project number.

    iv. Click to expand the **Aconex_Area_Id** property, then in the **New value** field, enter the ID of the area where the Aconex issue is located.

    v. Click to expand the **EmailAddress** property, then in the **New value** field, enter the email address of the user who will receive the notifications if the integration fails to run successfully.

  c. Click **Submit**.

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Run the Sync Aconex Issues with Unifier Integration

After you have activated the integration and updated the integration property values, you can run the integration.

1. In the **Integrations** section of the project workspace, click **Actions** ... next to **Sync Aconex Issues with Unifier**, then select **Run**.

2. On the Configure and run page, do the following:

   a. From the **Run As** list, select the user name of the user running the integration.

   b. In the **Request type** section, select **Ad hoc request** to run the integration independent of a schedule.

   c. 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.

3. Click the **Observe** tab at the top of the project workspace.

   You will see the integration flow being triggered and running successfully.

   > **Note:**
   >
   > To manage errors in your project, see Manage Errors in a Project.

Synchronization Results

Running the **Sync Aconex Issues with Unifier** integration makes the following changes in Oracle Aconex and Unifier:

In Oracle Aconex:

- The **Send to Unifier Issue** field is set to **Sent**.
- The **Unifier Project Number** field is auto-populated.
- The **Unifier Issue Record Number** field is auto-populated.

In Unifier:

- A new issue is created or an existing issue is updated (if the issue status is not Closed).
- The issue description is updated.

- The first user-defined field, **Issues Text 255 UDF 1**, is auto-populated with the Oracle Aconex project ID.
- The second user-defined field, **Issues Text 255 UDF 2**, is auto-populated with the Oracle Aconex issue record number.

When the issue is created in Unifier, you can manually process and close it using the Unifier workflow.

> **Note:**
>
> You can also update an existing Oracle Aconex issue in Unifier (if the issue status is not **Closed** in Unifier) by changing the **Send to Unifier Issue** field to **Yes** and running the integration again.

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Process Issues in Unifier

You can manually process an issue in Unifier to review and close it.

To process an issue, you will use the workflow you defined during the initial configuration. After the issue is closed in Unifier, you can run the Sync Unifier Issues with Aconex integration to finally close the issue in Oracle Aconex.

Perform the following steps to process the issue in Unifier:

Send the Issue for Review

1. Log in to Unifier and navigate to your project.

2. Select **Issues**.

3. Check the **Record Number** for the issue that was created through integration and notice that its **Status** is open.

4. Select **Tasks**.

5. On the Tasks page, select the **Record Number** link for the issue that needs to be processed.

6. On the **Issue** dialog, do the following:

    a. Click **Accept**, then click **Send**.

    b. In the Workflow Action Details dialog, do the following:

        i. From the **Workflow Actions** list, select **Send for Review**.

        ii. In the **To** field, select the reviewer using the **User and Group Picker**, then click **Done**.

        iii. Click **Send**.

The status of the issue is changed to **Awaiting Review**.

Close the Issue After Review

1. On the Tasks page, select the **Record Number** link for the issue that needs to be processed.

2. On the Issue dialog, do the following:

    a. Click **Accept**, then click **Send**.

    b. In the Workflow Action Details dialog, do the following:

        i. From the **Workflow Actions** list, select **Close**.

        ii. In the **To** field, select the reviewer using the **User and Group Picker**, then click **Done**.

        iii. Click **Send**.

The status of the issue is changed to **Closed**.

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Run the Sync Unifier Issues with Aconex Integration

After you have processed the issues in Unifier, you can run the integration.

1. In the **Integrations** section of the project workspace, click **Actions** ... next to **Sync Unifier Issues with Aconex**, then select **Run**.

2. On the Configure and run page, do the following:

   a. From the **Run As** list, select the user name of the user running the integration.

   b. In the **Request type** section, select **Ad hoc request** to run the integration independent of a schedule.

   c. Click **Run**.

   You've now successfully submitted the integration to be run.

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

3. Click the **Observe** tab at the top of the project workspace.

   You will see the integration flow being triggered and running successfully.

   > **Note:**
   >
   > To manage errors in your project, see Manage Errors in a Project.

After the Sync Unifier Issues with Aconex integration runs successfully, the status of the Oracle Aconex issue is automatically changed to **Closed** and the **Send to Unifier Issue** field is set to **Sent**.

> **Note:**
>
> To update an existing Oracle Aconex issue in Unifier, first ensure that the issue status is not **Closed** in Unifier, then change the **Send to Unifier Issue** field in Oracle Aconex back to **Yes**, and finally run the integration process again.