Oracle® Construction and Engineering

Sync Unifier Activities and Assignments with Oracle Primavera Cloud

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Contents

Preface

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

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Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at `http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc`.

Access to Oracle Support

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Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Resources

For more information, see these Oracle resources:

- Oracle Integration documentation on the Oracle Help Center.
- Oracle Cloud at `http://cloud.oracle.com`.

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.

Convention	Meaning
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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About This Accelerator

Use this accelerator to synchronize activities, assignments, and spreads between Primavera Unifier and Oracle Primavera Cloud.

> **Note:**
>
> This accelerator is available as **Unifier – Oracle Primavera Cloud | Sync Activities and Assignments** in the Integration Store.

Overview

The Unifier – Oracle Primavera Cloud | Sync Activities and Assignments accelerator synchronizes Primavera Cloud activities, assignments, and spreads with Unifier on an event-driven basis based on the data received in the request.

The accelerator consists of two integrations: the first one synchronizes activities and assignments, and the second one synchronizes activity and assignment spreads. The second integration is called automatically once the activities and assignments are synchronized. This application integration uses the standard REST Adapter and the Oracle Primavera Cloud Adapter available in the Integration store.

To use the accelerator, you need to install it and configure the connections and other resources. Then, activate and run the accelerator using the Oracle Integration interface or REST API. This accelerator is dependent on the Unifier – Oracle Primavera Cloud | Sync Resources, Roles, and Rates accelerator and should be called after the roles and resources are synchronized.

Integration Workflow

The following high-level integration flow explains how activities, assignments, and spreads are created or updated in Unifier from Primavera Cloud.

1. The integration is triggered when a request is sent to an integration in Oracle Integration. This request contains information about the data that should be synchronized in Unifier.

2. Oracle Integration calls Primavera Cloud to query the project specified in the integration request, along with its activities, assignments, WBS objects, and spreads. If specified in the request, the baseline data is also synchronized.

3. The project data is then synchronized with Unifier by creating a matching Unifier project along with the project data.

System and Access Requirements

- Oracle Integration 3
- Oracle Primavera Unifier
- Oracle Primavera Cloud

- Primavera Unifier user account with administration role
- Primavera Cloud user account with administrative privileges

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Before You Install the Accelerator

You must perform the following configuration tasks on your Primavera Unifier and Oracle Primavera Cloud instances to connect to these external systems using Oracle Integration and synchronize activities and assignments.

Configure Unifier

To configure Unifier, complete the initial setup outlined below:

- **Get Relevant Permissions**: Ensure that you have the relevant permissions to configure Oracle Integration in Unifier. In Unifier, permissions are controlled in **User Administration (Admin mode) > Access Control > Administration Mode Access > Oracle Integration Cloud**.

- **Add Unifier as a Trusted Application in Oracle Integration**: Ensure that Unifier is added as a trusted application using client credentials grant type in Oracle Integration. You will need the Client ID, Client Secret, and App Scope information generated for Unifier in the procedure outlined in the Initial Oracle Integration Setup. Contact Oracle Support for this information.

- **Create or Use an Existing Shell**: A shell is where the users can organize and manage their business information. Create a new shell or use an existing one where you want to synchronize Primavera Cloud activities and assignments. See Creating a Shell.

Configure Primavera Cloud

To configure Primavera Cloud, complete the initial setup outlined below:

- **Create a Primavera Cloud Integration User Account**: You can create an integration user account in Primavera Cloud to connect with Oracle Integration and manage integrations. Creating an integration account is optional but recommended to keep track of the data modified through integrations and to avoid issues related to using a standard user account, such as account lockouts or the employee leaving the organization. See Setting up an Integration User Account.

- **Create or Use an Existing Workspace**: Workspaces represent the hierarchical structure of your organization's businesses, projects, or processes. Create a new workspace or use an existing one to synchronize Primavera Cloud activities and assignments with Primavera Unifier. See Add a Workspace.

- **Create or Use an Existing Project**: A project is a formalized plan undertaken to create a service, product, or result. Projects may consist of various other details, including activities and assignments. Create a new project or use an existing one to synchronize its activities and assignments with Unifier. See Add a Project.

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Install and Configure the Accelerator

On your Oracle Integration instance, install the accelerator 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 the accelerator using the keyword *Unifier*.

3. After you find your required accelerator, click **Get**.

   A message confirms that the accelerator was successfully installed, and the accelerator card shows **In Use**.

4. Click **Configure** ![wrench icon] on the accelerator to configure its resources.

   The project workspace opens, displaying all the resources of the accelerator. Configure the resources before you activate and run the accelerator.

Configure the Unifier Connection

Connecting with Primavera Unifier through Oracle Integration requires two connections. The first connection obtains the endpoint, and the second one sends the OAuth token, custom headers, and endpoint details to Unifier. Both connections use the REST adapter in Oracle Integration to make API requests.

Follow the steps in each section below to connect with Unifier.

Connection 1 - Using REST Adapter

1. In the Connections section, click **Actions...** on the connection, and then select **Edit**.

2. In the Properties section, complete the following fields:

   • **Connection Type**: Select **REST API Base URL**.

   • **Connection URL**: Enter the URL of your Unifier instance.

3. In the Security section, enter the following details:

Field	Information to Enter
Security Policy	Select **Basic Authentication**.
User Name	Enter your Unifier or integration account username.
Password	Enter your Unifier or integration account password.

4. (Optional) In the **Access type** section, click **Connectivity agent**.

5. (Optional) Click the **Associate agent group** button, and select an available agent group.

   You must create an agent group and install the on-premises connectivity agent before you can create an integration in which messages are exchanged between Oracle Integration and your locally-installed application resources residing in an on-premises network or a

private cloud. See Manage the Agent Group and the On-Premises Connectivity Agent topic for more information.

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

7. 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.

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

Connection 2 - Using REST Adapter

1. In the Connections section, click **Actions...**on the connection, and then select **Edit**.

2. In the Properties section, complete the following fields:

   a. **Connection Type**: Select **REST API Base URL**.

   b. **Connection URL**: Enter your Unifier instance URL.

3. In the Security section, enter the following details:

Field	Information to Enter
Security Policy	Select **OAuth Two Legged Custom Flow**.
Access Token	Enter the access token request in the following format: `-X GET -H "Content-Type: application/x-www-form-urlencoded" -H "Authorization: Basic<Base64-Encoded-value-of-user-password>" -d 'grant_type=client_credentials' <https://<SERVER_URL>/ws/rest/service/v2/auth/token>` **Note**: Replace the `<Base64-Encoded-value-of-user-password>` and `<https://<SERVER_URL>/ws/rest/service/v2/auth/token>` values as needed.
Password	Enter your Unifier or integration account password.

4. (Optional) In the **Access type** section, click **Connectivity agent**.

5. (Optional) Click the **Associate agent group** button, and select an available agent group.

   You must create an agent group and install the on-premises connectivity agent before you can create an integration in which messages are exchanged between Oracle Integration and your locally-installed application resources residing in an on-premises network or a private cloud. See Manage the Agent Group and the On-Premises Connectivity Agent topic for more information.

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

7. 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.

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

Configure the Primavera Cloud Connection

Connecting with Oracle Primavera Cloud through Oracle Integration requires two connections. The first connection uses the Oracle Primavera Cloud Adapter to retrieve data from Primavera Cloud. The second connection uses the REST adapter in Oracle Integration to send additional requests, such as retrieving baseline data.

Follow the steps in each section below to connect with Primavera Cloud.

Connection 1 - Using Primavera Cloud Adapter

1. In the Connections section, click **Actions...** on the connection, then select **Edit**.

2. In the Properties section, in the **Connection URL** field, enter your Primavera Cloud instance URL.

3. In the Security section, enter the following details:

Field	Information to Enter
User Name	Enter your Primavera Cloud or integration account username.
Password	Enter your Primavera Cloud or integration account password.

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

5. 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.

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

Connection 2 - Using REST Adapter

1. In the Connections section, click **Actions...** on the connection, then select **Edit**.

2. In the Properties section, complete the following fields:

   • **Connection Type**: Select **REST API Base URL**.

   • **Connection URL**: Enter your Primavera Cloud instance URL.

3. In the Security section, enter the following details:

Field	Information to Enter
Security Policy	Select **OAuth Custom Two Legged Flow** .
Access Token Request	Enter the access token request in the following format: `X POST "https://<SERVER_URL>/primediscovery/apitoken/request?scope=http://<SERVER_URL>/api" -H "Authorization: Basic <Base64-Encoded-value-of-user-password>.`

4. In the **Optional Security** section, in the **access_token_usage** field, enter the token type and token header details in the following format:

```
-H Authorization: Bearer ${access_token} -H x-prime-
tenant:idcs-05d4abeffe8047c9968e6ca8cb965d33 -H x-prime-identity-
app:lab3_primaveracloudwtssapp_DEV_CORP_APPID -H x-prime-tenant-
code:idcs-84951720917c4e4dab88ed1db398f926
```

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** .

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Activate and Run the Accelerator

After configuring connections and resources, activate and run the accelerator through the Oracle Integration interface or REST API. Both methods require passing a JSON payload in the provided format.

1. In the project workspace, click **Activate**. In the Activate project panel, with the default project deployment selected, choose an appropriate tracing option, then click **Activate**.

   A message confirms that the integration has been activated. Refresh the page to view the updated status of the integration.

2. Run the accelerator.

   a. In the Integrations section of the project workspace, click **Actions** ••• on the integration flow, then select **Run**.

   b. On the Configure and Run page, in the Request section, click the **Body** tab.

   c. In the **Body** field, enter the required JSON payload. For example:

   ```
   {
     "unifierJobId": "123456",
     "synchronizeBaselineProjects": false,
     "opcWorkspaceCode": "code",
     "removeUnreferencedData": true,
     "opcProjectCode": "OPC-Jira-Integrated",
     "unifierProjectNumber": "P-001"
   }
   ```

Element	Description
unifierJobId	A unique identifier for the Unifier job.
synchronizeBaselineProjects	Indicates whether to synchronize baseline projects (true/false).
opcWorkspaceCode	The Primavera Cloud workspace ID.
removeUnreferencedData	Indicates whether to remove previously synchronized data (true/false).
opcProjectCode	The Primavera Cloud project ID.
unifierProjectNumber	The project number of the Unifier project.

   d. Select **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. Monitor the running of the integration flow in Oracle Integration.

a. In the project workspace, click **Observe**. You'll see the integration flow being triggered and running successfully.

b. To manage errors in your project, see Manage Errors in a Project.

> ✎ **Note:**
>
> To run the integration using the REST API, on the Configure and Run page, click the **Endpoint Metadata** tab. Copy the **Endpoint URL** and use additional information as necessary.

Related Documentation

• Sync Unifier Roles and Resources with Oracle Primavera Cloud