# Oracle® Cloud

# Sync Project Details from Oracle Primavera Cloud to PostgreSQL Using Amazon SQS

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# Preface

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

**Topics:**



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## 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 Recipe

Use this recipe to synchronize project details from Oracle Primavera Cloud to PostgreSQL using Amazon Simple Queue Service (Amazon SQS).

> **Note:**
>
> This recipe is available as **Oracle Primavera Cloud — PostgreSQL | Sync Project Details** 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 is a scheduled orchestration recipe that includes two integrations to synchronize project details from Oracle Primavera Cloud to PostgreSQL using Amazon SQS.

To use the recipe, you must install the recipe and configure the connection and other resources within it. When triggered, the first integration flow of the recipe - **Oracle Primavera AWS SQS ProjectSync** extracts the project details from Oracle Primavera Cloud and subsequently publishes the details to Amazon SQS. This in turn triggers the second integration flow of the recipe - **AWS SQS PostgreSQL DB ProjectSync** which consumes the published project details from Amazon SQS as messages and updates the same to the PostgreSQL database.

## System and Access Requirements

- Oracle Integration, Version 24.04 or higher
- Oracle Primavera Cloud
- An account on Oracle Primavera Cloud with the Administrator role
- An IAM user account on Amazon Web Services (AWS) with **AmazonSQSFullAccess** permission
- A PostgreSQL database
- An account on the PostgreSQL database with the Administrator role

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# Before You Install the Recipe

You must perform the following configuration tasks on your Amazon SQS, Oracle Primavera Cloud and PostgreSQL instances to successfully connect to these external systems using Oracle Integration and sync project details.

## Configure Amazon SQS

To access Amazon SQS using Oracle Integration, you must perform the following configuration tasks.

1. Create an AWS Account
2. Create an IAM User and Obtain the Access Key and Secret Access Key

In addition, review the connection properties and securities that you have to configure in Create a Connection.

## Configure Oracle Primavera Cloud

To access Oracle Primavera Cloud from Oracle Integration, you must have a separate user account on Oracle Primavera Cloud.

Log in to your Oracle Primavera Cloud instance as an **Administrator** and perform the following tasks.

1. Create a user account for Oracle Integration. Make a note of the username and password set for the account. You must use the credentials of this user account to connect to Oracle Primavera Cloud from Oracle Integration.
2. The user account must have **Read** permission for the project object.

## Configure PostgreSQL

To access the PostgreSQL database from Oracle Integration and sync project details, you must perform certain configurations on your PostgreSQL instance.

For general configuration tasks, see Prerequisites for Creating a Connection.

In addition, you have to create a database table. To create a database table:

1. Log in to your PostgreSQL Workbench instance as an **Administrator**.
2. On the left navigation pane, expand **Schemas** and then **public**.
3. Create the database table in either of the two ways given below.
    a. Right-click on the public schema.
    b. Click **Query Tool**.
    c. Paste the query on the Query tool and then execute.

    or,

a. Under public schema, right-click **Tables**, select **Create** and then **Tables**.

b. In the Create-Table dialog, specify the name of the table as `primavera_projects_tab`.

c. Right-click on the empty table, and under **Create** select **Column**.
Download primavera_projects_tab.sql for sample data to populate in the columns of the database table.

d. Click **Save**.

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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. Find the recipe you want to install, then click **Get**.

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

3. Click **Configure**  on the recipe to configure its resources.

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

## Configure the Amazon SQS Connection

1. In the Connections section, click the connection name.
2. In the Properties section, enter the AWS region name. For example: `ap-south-1`.
3. In the Security section, enter the following details:

| Field | Information to Enter |
|---|---|
| **Security Policy** | Select **Amazon Signature Version 4**. |
| **Access Key** | Enter the access key obtained from the AWS instance. See Configure Amazon SQS. |
| **Secret Key** | Enter the secret key obtained from the AWS instance. |
| **AWS Region** | Select the same AWS region that you entered in step 2 (`ap-south-1`). |

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**  .

## Configure the Oracle Primavera Cloud Connection

1. In the Connections section, click the connection name.
2. In the Properties section, enter the Oracle Primavera Cloud host name. For example: `https://your_domain_name.oraclecloud.com`.
3. In the Security section, enter the following details:

| Field | Information to Enter |
|---|---|
| **Security Policy** | Select **Oracle Primavera Cloud Login**. |
| **Username** | Enter the username of the account created for Oracle Integration on the Oracle Primavera Cloud instance. See Configure Oracle Primavera Cloud. |
| **Password** | Enter the password of the account created for Oracle Integration on the Oracle Primavera Cloud instance. |

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**  .

# Configure the PostgreSQL Connection

1. In the Connections section, click the connection name.
2. In the Properties section, enter the following details:

| Field | Information to Enter |
|---|---|
| **Host Name** | Enter the PostgreSQL host name. See Configure PostgreSQL. |
| **Port** | Enter the PostgreSQL port. |
| **Database Name** | Enter the name of the database. |

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

| Field | Information to Enter |
|---|---|
| **Security Policy** | Select **Username Password Token**. |
| **Username** | Enter the username of your PostgreSQL instance. |
| **Password** | Enter the password of your PostgreSQL instance. |

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**  .

# Configure the Lookup Table

Edit the **ORACLE-BRT-AWS_SQS_PROPERTY** lookup table and enter appropriate values.

1. In the Lookups section, click the lookup name.
2. In the **Property_Name** column, enter the name of the column.
3. In the **Property_Value** column, enter the value as shown in the table below.

| Property | Description | Value |
|---|---|---|
| **QueueURL** | Specifies the Queue URL. | `https://sqs.<AWS Region>.amazonaws.com/<AWS Account ID>/<Queue Name>.fifo` |

4. Click **Save**. If prompted, click **Save** again.
5. To return to the project workspace, click **Go back**  .

# 4 Activate and Run the Recipe

After you've configured the connections and other resources, you can activate and run the recipe.

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. Update property values for both the scheduled integration flows (**Oracle Primavera AWS SQS ProjectSync** and **AWS SQS PostgreSQL DB ProjectSync**). You can update the integration properties only after activating the integration flows.

   a. In the Integrations section of the project workspace, click **Actions** ⋯ on the integration flow, then select **Update property values**.

   b. In the Update property values panel, update the following integration properties with appropriate values.

      - **ToEmail**: This integration property holds the email address to which error notifications are sent. Enter an email address of your choice.
      - **RetryCount**: This integration property holds the number of attempts made in case of errors. This could be due to network glitch or any other connectivity issues.

   c. Click **Submit**.

      A message confirms that the integration properties have been updated successfully.

3. Run the **Oracle Primavera AWS SQS ProjectSync** integration flow to extract project details from Oracle Primavera Cloud.

   a. In the Integrations section of the project workspace, click **Actions** ⋯ on the **Oracle Primavera AWS SQS ProjectSync** integration flow, then select **Run**.

      The Configure and run page is displayed, where you can specify a value for the project id (available projects in Oracle Primavera Cloud to be extracted) in the schedule parameter.

   b. On the Configure and run page, click **Run**.

      You've now successfully submitted the integration for execution. The recipe now extracts the project details from Oracle Primavera Cloud and publishes the same to Amazon SQS.

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

4. Run the **AWS SQS PostgreSQL DB ProjectSync** integration flow to consume the messages from Amazon SQS and update PostgreSQL.

   a. In the Integrations section of the project workspace, click **Actions** ⋯ on the **AWS SQS PostgreSQL DB ProjectSync** integration flow, then select **Run**.

b. On the Configure and run page, click **Run**.

   You've now successfully submitted the integration for execution. The recipe now consumes messages from Amazon SQS and updates PostgreSQL.

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

5. Monitor the running of the integration flows 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.
6. Log in to your PostgreSQL instance and check if the project details are populated in the database table.
   a. In the left navigation pane, right-click the **primavera_projects_tab** table.
   b. Select **View/Edit Data**.
   c. Click **All Rows**.

**Related Documentation**

- *Using the Oracle Primavera Cloud Adapter with Oracle Integration 3*
- *Using the PostgreSQL Adapter with Oracle Integration 3*