Oracle® Cloud

Using the Oracle Enterprise Performance Management Cloud Adapter with Oracle Integration 3

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Oracle Cloud Using the Oracle Enterprise Performance Management Cloud Adapter with Oracle Integration 3,

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Contents

Preface

This guide describes how to configure this adapter as a connection in an integration in Oracle Integration.

> **Note:**
>
> The use of this adapter may differ depending on the features you have, or whether your instance was provisioned using Standard or Enterprise edition. These differences are noted throughout this guide.

Topics:

Audience

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

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit `https://support.oracle.com/portal/` or visit `Oracle Accessibility Learning and Support` if you are hearing impaired.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and

the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Resources

See these Oracle resources:

- Oracle Cloud at `http://cloud.oracle.com`
- *Using Integrations in Oracle Integration 3*
- *Using the Oracle Mapper with Oracle Integration 3*
- Oracle Integration documentation on the Oracle Help Center.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Understand the Oracle Enterprise Performance Management Cloud Adapter

Learn about using the Oracle Enterprise Performance Management Cloud Adapter as a connection in integrations and review the typical workflow for integration tasks.

Topics:

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

Oracle Enterprise Performance Management Cloud Adapter Capabilities

Use the Oracle Enterprise Performance Management Cloud Adapter in an integration to connect Task Manager in Oracle Enterprise Performance Management Cloud to on-premise and cloud applications.

Automate financial close and tax close tasks, and monitor events in cloud and on-premise applications with Task Manager in:

- Oracle Tax Reporting Cloud
- Oracle Financial Consolidation and Close Cloud
- Oracle Planning and Budgeting Cloud

What Application Version Is Supported?

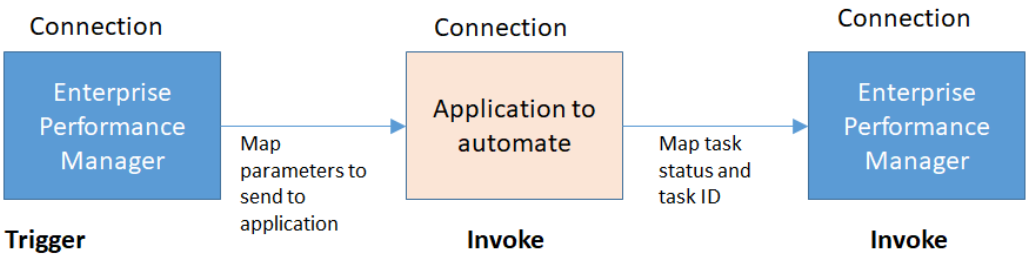
For information about which application version is supported by this adapter, see the Connectivity Certification Matrix.

Process Automation Integration Pattern and Use Case

Use Task Manager with Oracle Integration to invoke a business operation in another application. For example, post something on Facebook when a scheduled activity happens in Task Manager.

Integration Pattern

Create an orchestrated integration in Oracle Integration.



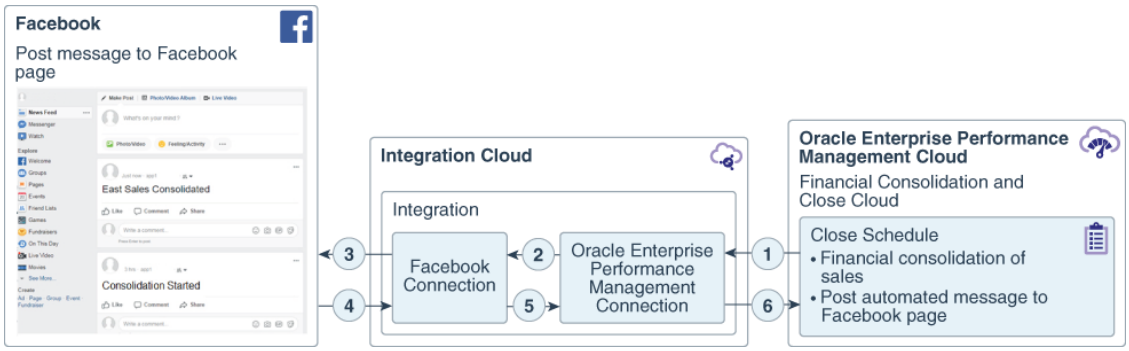
Design the integration:

- Add an Enterprise Performance Management connection as the trigger so that the integration can be triggered by Task Manager.
- Add a connection to the application that you want to automate as an invoke.
- Add an Enterprise Performance Management connection as an invoke to send status back to Task Manager.

Use Case: Post a Message on Facebook when Financial Close Completes

Let's assume that every time a financial close task has been completed in Task Manager, you want to post a message to your company's Facebook page to indicate that the sales have been consolidated.

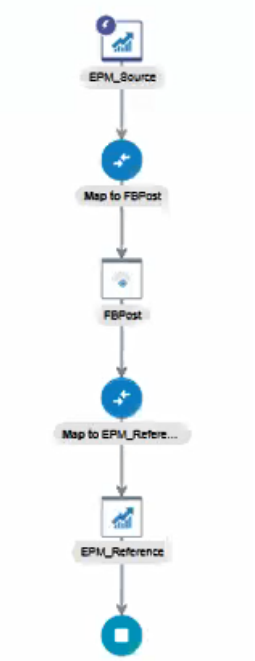
You can do this by building an integration in Oracle Integration with an Enterprise Performance Management connection and a Facebook connection. In Task Manager, you set up a scheduled task to do financial consolidation of sales. When financial consolidation of sales is complete, the integration is triggered.



Step	Description
1	A financial consolidation of sales task completes in Task Manager and triggers the task to post an automated message to Facebook. The task to post an automated message to Facebook triggers the integration in Oracle Integration.
2	The integration triggers a post operation in Facebook through the Facebook connection.
3	A message is posted to Facebook.
4	Facebook sends a response to the integration through the Facebook connection.
5	The integration maps the Facebook response to Oracle Enterprise Performance Management Cloud to update task status.
6	The integration sends the task status update to Task Manager in Oracle Enterprise Performance Management Cloud.

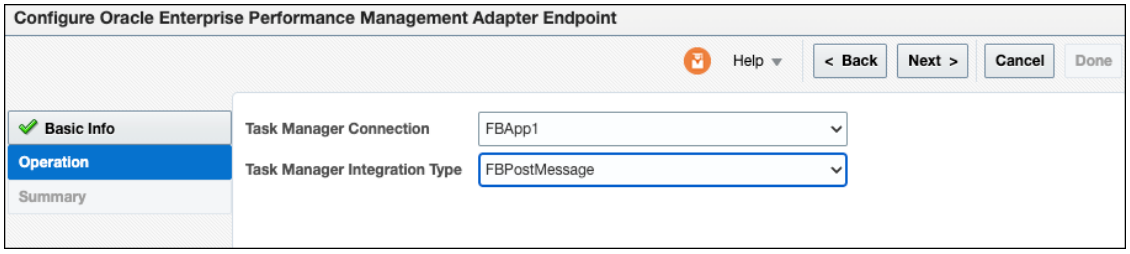
Integration in Oracle Integration

Create an App Driven Orchestration in Oracle Integration.



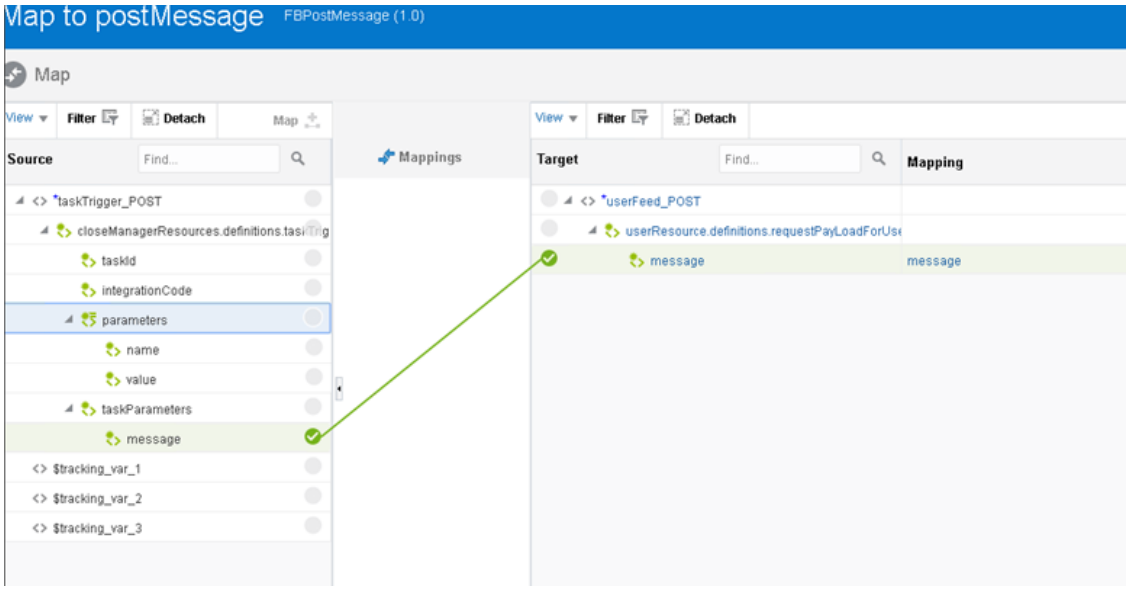
Add the Oracle Enterprise Performance Management Cloud connection you created in Oracle Integration as the trigger and configure the connection in the integration:

- **Task Manager Connection** is the connection to the application for which you want to automate tasks. You created this connection in Task Manager.
- **Task Manager Integration Type** is the integration you created in Task Manager to connect to your application. In the example, this application is Facebook.



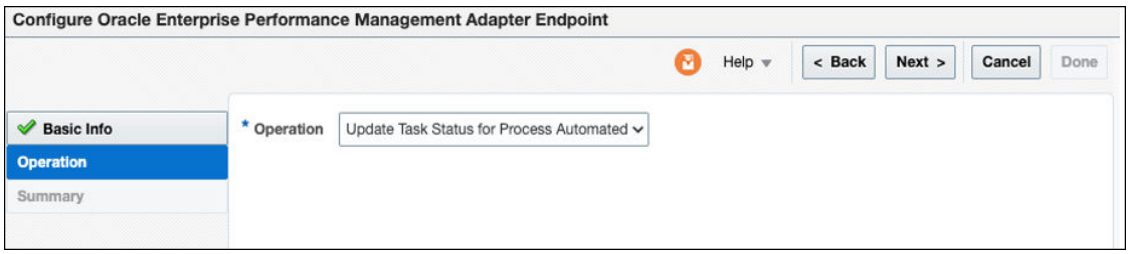
Configure the mapping fromOracle Enterprise Performance Management Cloud to Facebook:

- Map the message parameter from Task Manager to Facebook.



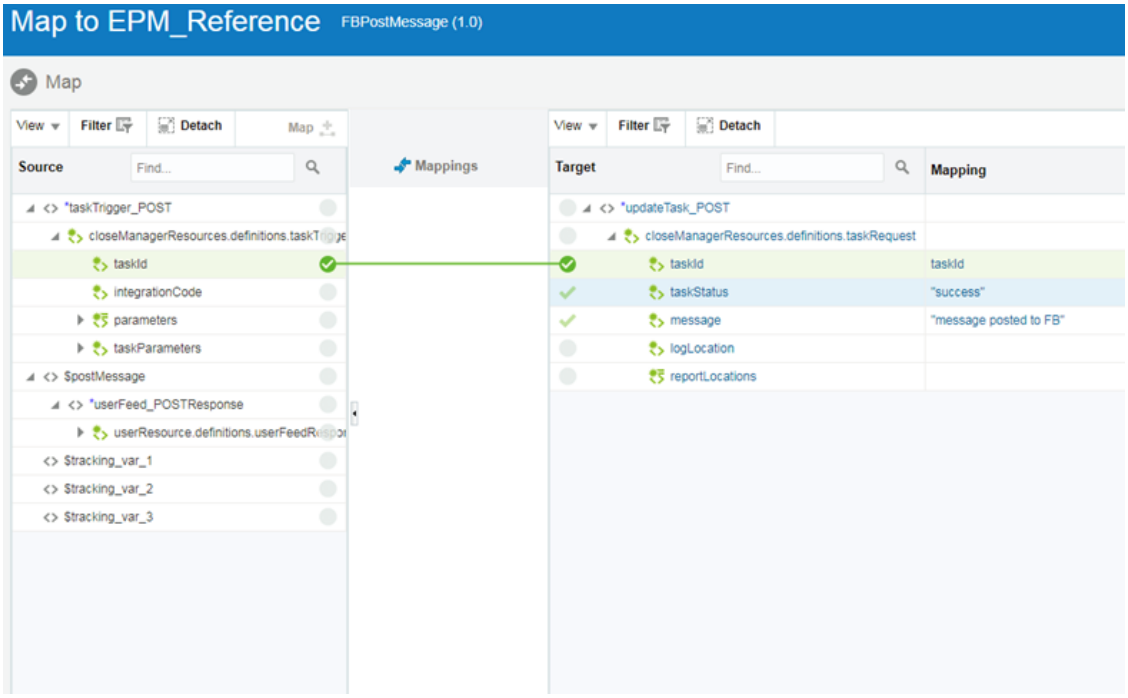
Add the Oracle Enterprise Performance Management Cloud connection you created in Oracle Integration as an invoke to send task status back to Task Manager:

- In **Operation**, select **Update Task Status for Process Automation**.



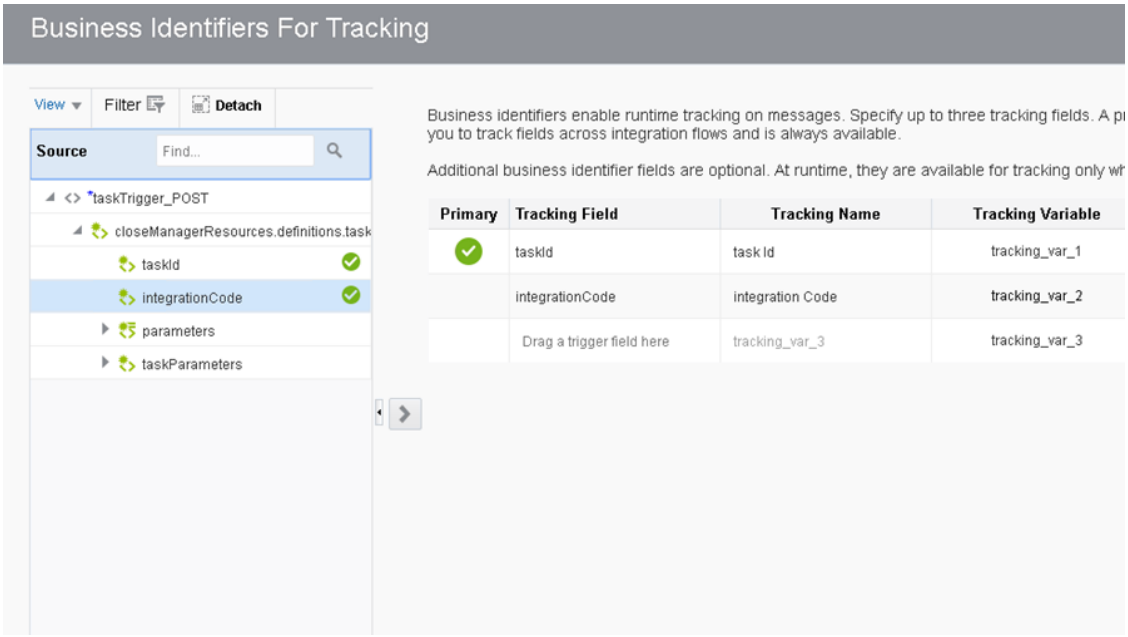
Configure the mapping from Facebook to Oracle Enterprise Performance Management Cloud to update task status:

- Make sure you map the **taskId**. This is very important to update the task status back to Task Manager.
- Make sure you indicate the state of the **taskStatus**. Valid values are: **success**, **fail**, **abort**, **warning**.
- Also specify the message to send back to Task Manager. In this example, the message is "`message posted`".



Enable tracking

- When editing the integration, select **Tracking** from the menu in the upper right corner and track the **taskId** and **IntegrationCode** fields for debugging. You can also add fields from **taskParameters** if desired.

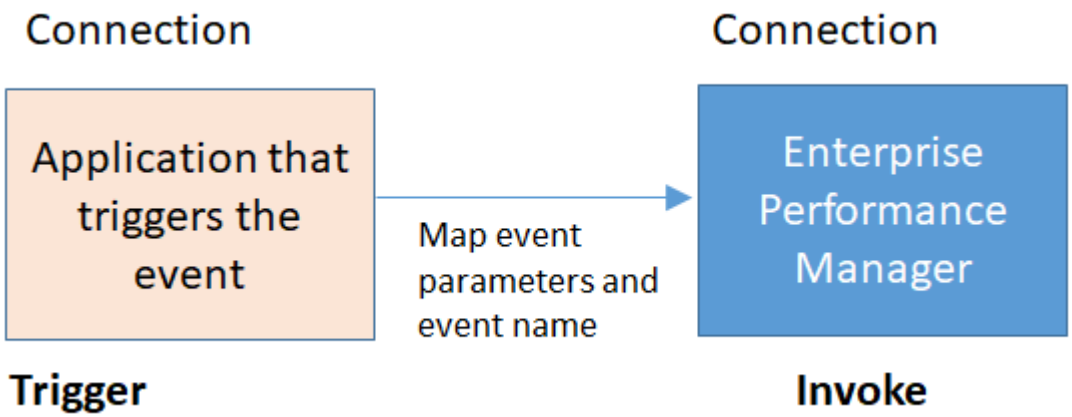


Event Monitoring Integration Pattern and Use Case

Use Task Manager with Oracle Integration to monitor events in another application that resides on-premise or on the Cloud. For example, whenever a General Ledger period closes in Oracle E-Business Suite, you want to retrieve specific data and send it to Task Manager.

Integration Pattern

Create an orchestrated integration in Oracle Integration.

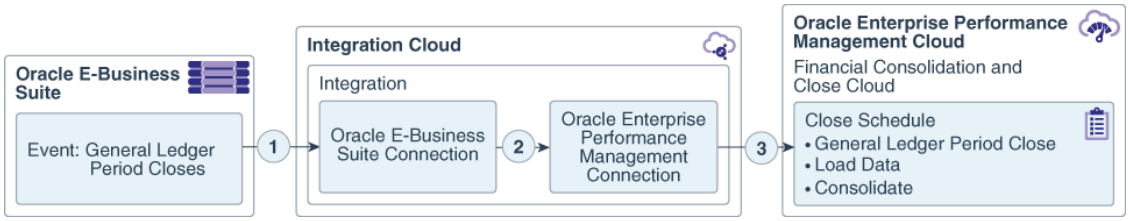


Design the integration so that:

- The application from which the event is triggered is the trigger.
- The Enterprise Performance Management connection is an invoke to send notification of the event back to Task Manager.

Use Case: Monitor Events in Other Applications

For example, build an integration in Oracle Integration with an Oracle E-Business Suite connection and an Enterprise Performance Management connection. Whenever a General Ledger Period closes in Oracle E-Business Suite, the integration is triggered and data is sent back to Task Manager.

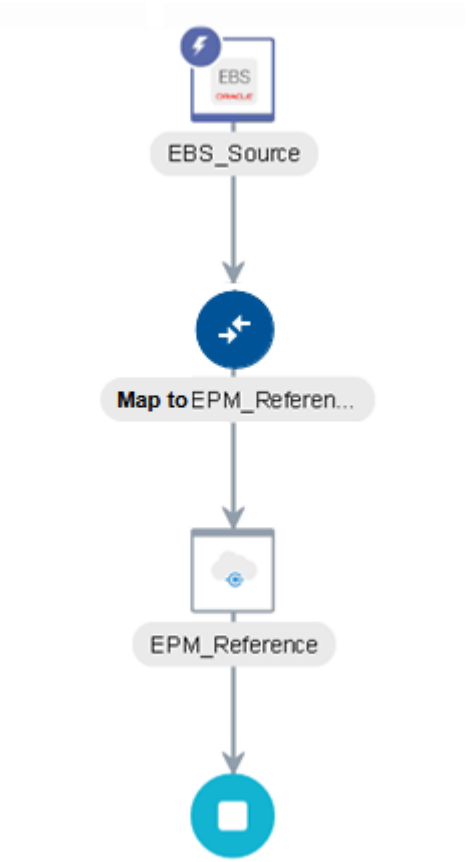


Step	Description
1	A General Ledger Period closes in Oracle E-Business Suite triggering the integration in Oracle Integration.

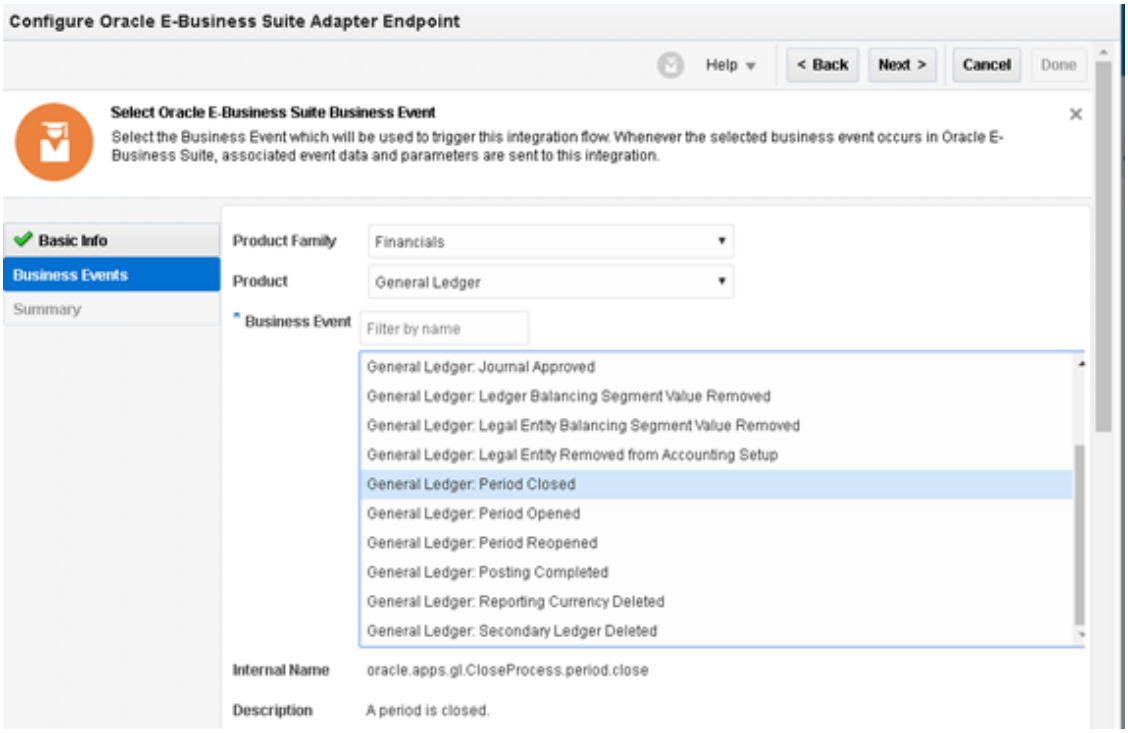
Step	Description
2	The integration maps data and parameters from Oracle E-Business Suite to Oracle Enterprise Performance Management Cloud.
3	The integration sends data and parameters from Oracle E-Business Suite to Task Manager in Oracle Enterprise Performance Management Cloud.

Integration in Oracle Integration

Create an App Driven Orchestration in Oracle Integration.

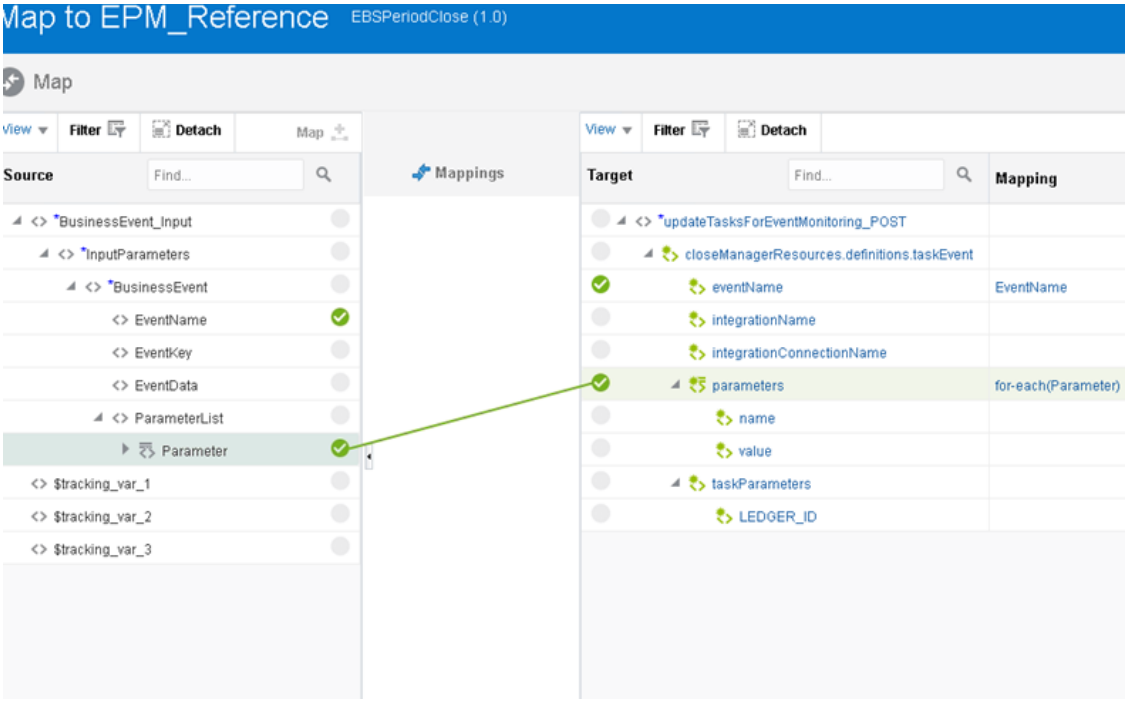


Configure the other application parameters in the integration. For example, in Oracle E-Business Suite:



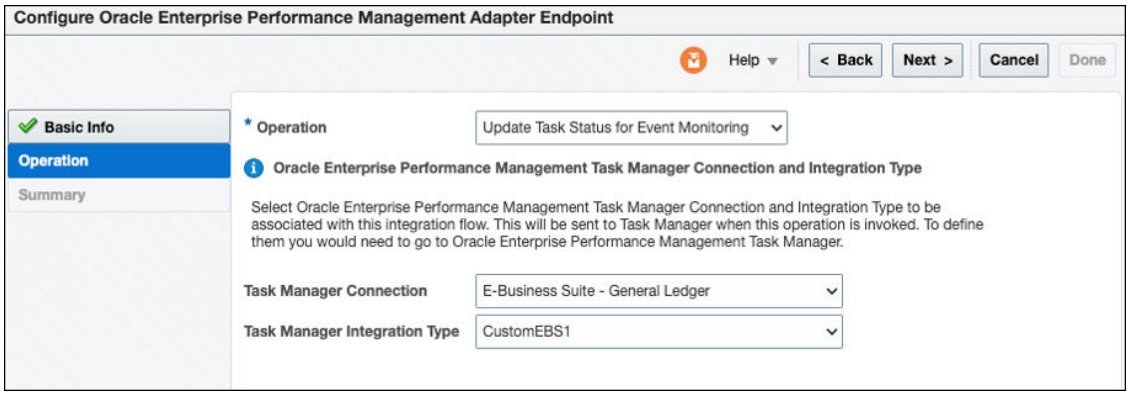
Configure the mapping in the integration:

- Ensure you map the **Event Name** to the event name in Task Manager. This is needed for Task Manager to identify the event.
- Map all parameters in the application to the parameter array in Task Manager so that all required event data is sent back to Task Manager.



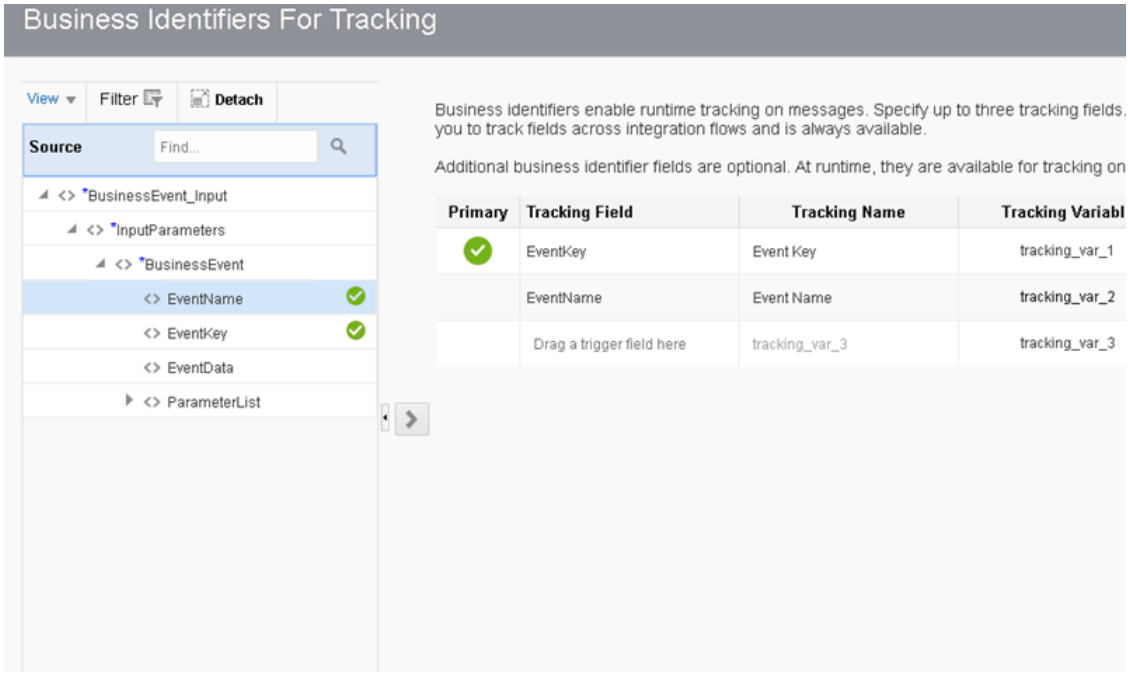
Configure the Oracle Enterprise Performance Management Cloud connection in the integration:

- Ensure the **Operation** is **Update Task Status for Event Monitoring**
- **Task Manager Connection** and **Task Manager Integration Type** are the connections and integrations you configured in Task Manager



Enable tracking

- When editing the integration, select **Tracking** from the menu in the upper right corner and track the **EventKey** and **EventName** fields for debugging.



At a Glance: Workflow to Integrate with Oracle Enterprise Performance Management Cloud

Follow a 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 adapter tasks and overall integration tasks, and provides links to instructions for each step.

Step	Description	More Information
1.	In Oracle Enterprise Performance Management Cloud, configure Task Manager for your integration.	Prerequisites for Creating a Connection Identify: • Oracle Integration URL and administrator user name and password with which to connect • Oracle Enterprise Performance Management Cloud URL and port number, and administrator user name and password with which to connect
2.	Design your integration.	Identify the type of integration you want to create: process automation or event monitoring. • Process Automation Integration Pattern and Use Case • Event Monitoring Integration Pattern and Use Case
3.	In Oracle Integration, create connections for applications that you want to integrate.	Create a Connection to Oracle Enterprise Performance Management Cloud and Task Manager
4.	In Oracle Integration, create your integration.	Create Application-Driven Orchestrated Integrations
5	In Oracle Integration, activate your integration.	Activate an Integration
6.	In Oracle Enterprise Performance Management Cloud, in Task Manager, check that the integration is enabled.	In Task Manager, select **Manage Integrations**.
7.	In Oracle Enterprise Performance Management Cloud, in Task Manager, create a schedule and task.	1. In Task Manager, select **Manage Integrations**. 2. Select **Manage Schedules**, and create a new schedule. 3. Create a new task and add it to the schedule. 4. Trigger the integration in Oracle Integration: • For process automation: – Open the schedule and trigger the task that triggers the integration in Oracle Integration • For event monitoring: a. Open the schedule. b. In the application for which you want to monitor the event, trigger the event. c. Wait for the task to be completed.
8	In Oracle Integration, monitor the integration on the dashboard.	In the navigation pane, click **Observability**, then **Dashboards**.
9	Debug and troubleshoot your integration.	View errors and the activity stream: 1. 2. In the navigation pane, click **Observability**, then **Errors**. 3. Hover your cursor over the instance you want to troubleshoot, and click **View Details** to open the Activity Stream pane. 4. If shown, click **Open Details** to view a detailed error message log.

2

Create an Oracle Enterprise Performance Management Cloud Adapter Connection

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

Topics:

Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the Oracle Enterprise Performance Management Cloud Adapter

Topics:

Configure Task Manager to Work with Oracle Integration

To create connections in Oracle Integration, you need to configure Task Manager to work with Oracle Integration.

For detailed instructions, see the Oracle Enterprise Performance Management Cloud documentation Creating Custom Integrations. Here's a summary:

Task Manager Configuration Summary

In Oracle Enterprise Performance Management Cloud, in Task Manager:

1. **Create a Connection**. In **Task Manager**, select **Manage Integrations**, **Manage Connections**, then **New**.
   - Make sure the following fields are checked:
     - **Enabled**
     - **Cloud**
2. **Create an integration for the connection**. In **Task Manager**, select **Manage Integrations**, **New Integration**, and select **Process Automation** or **Event Monitoring** as the type.

- For Parameters, specify the minimum required parameters for **Close Calendar**. These parameters are generally a subset of the parameters defined in the Oracle Integration integration.

  For example:

  – To post a message to Facebook, you can create a single parameter of type text named `message`.

  – To monitor an Oracle E-Business Suite Period Close task, you can specify a parameter with the name `Period Name`.

  It's possible to define no parameters at all in **Close Calendar**, and do it all in the Oracle Integration integration.

3. **Create a new task type**. In **Task Manager**, select **Manage Task Types**, **New Task Type**.

   Make sure you select the integration you just created in **Task Manager** in step 2.

4. **Create a connection to Oracle Integration**. In **Task Manager**, select **Manage Integrations**, **Manage Connections**, **Integration Cloud Connection**.

   - Specify the connection URL to connect to Oracle Integration. For example:

     `https://OIC_Instance_Name.integration.ocp.oraclecloud.com`

   - Specify the user name and password of the service administrator of Oracle Integration.

Register Your Client Application to Use the OAuth Resource Owner Password Credentials Security Policy

If you are using the OAuth Resource Owner Password Credentials security policy, you must already have registered your client application to complete the necessary fields on the Connections page.

Before a client application can request access to resources on a resource server, the client application must first register with the authorization server associated with the resource server.

The registration is typically a one-time task. Once registered, the registration remains valid, unless the client application registration is revoked.

At registration time, the client application is assigned a client ID and a client secret (password) by the authorization server. The client ID and secret are unique to the client application on that authorization server. If a client application registers with multiple authorization servers (for example, Facebook, Twitter, and Google), each authorization server issues its own unique client ID to the client application.

`@ref: http://tutorials.jenkov.com/oauth2/authorization.html`

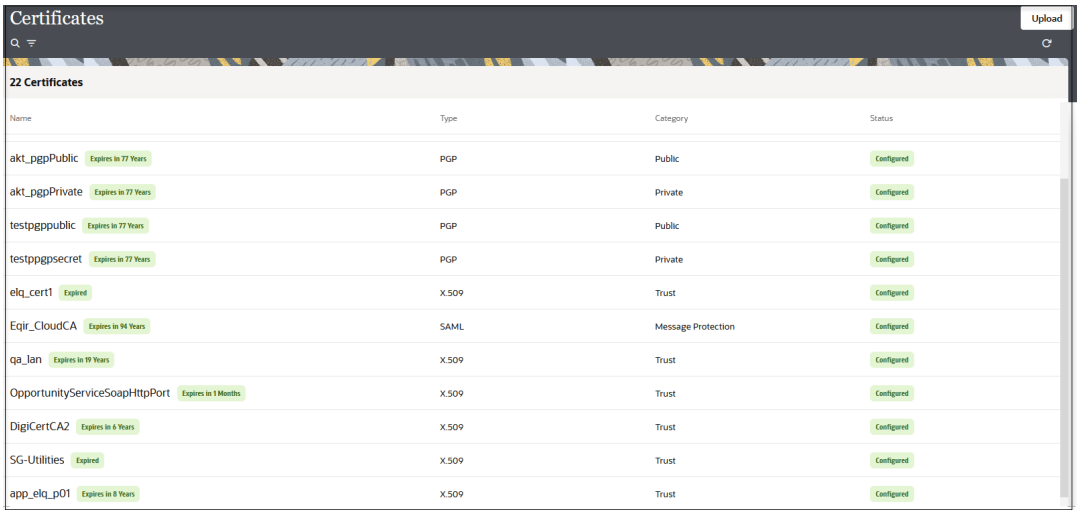
For OAuth configuration, read the provider documentation carefully and provide the relevant values.

Upload a Certificate to Connect with External Services

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

If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception error is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle Integration to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration.

1. Sign in to Oracle Integration.
2. In the navigation pane, click **Settings**, then **Certificates**.
   All certificates currently uploaded to the trust store are displayed on the Certificates page.
3. Click **Filter** to filter by name, certificate expiration date, status, type, category, and installation method (user-installed or system-installed). Certificates installed by the system cannot be deleted.



4. Click **Upload** at the top of the page.
   The Upload certificate panel is displayed.
5. Enter an alias name and optional description.
6. In the **Type** field, select the certificate type. Each certificate type enables Oracle Integration to connect with external services.
   - Digital Signature
   - X.509 (SSL transport)
   - SAML (Authentication & Authorization)
   - PGP (Encryption & Decryption)
   - Signing key

Digital Signature

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

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

X.509 (SSL transport)

1. Select a certificate category.
   a. **Trust**: Use this option to upload a trust certificate.
      i. Click **Browse**, then select the trust file (for example, `.cer` or `.crt`) to upload.
   b. **Identity**: Use this option to upload a certificate for two-way SSL communication.
      i. Click **Browse**, then select the keystore file (`.jks`) to upload.
      ii. Enter the comma-separated list of passwords corresponding to key aliases.

      > **Note:**
      >
      > When an identity certificate file (`.jks`) contains more than one private key, all the private keys must have the same password. If the private keys are protected with different passwords, the private keys cannot be extracted from the keystore.

      iii. Enter the password of the keystore being imported.
   c. Click **Upload**.

SAML (Authentication & Authorization)

1. Note that **Message Protection** is automatically selected as the only available certificate category and cannot be deselected. Use this option to upload a keystore certificate with SAML token support. Create, read, update, and delete (CRUD) operations are supported with this type of certificate.
2. Click **Browse**, then select the certificate file (`.cer` or `.crt`) to upload.
3. Click **Upload**.

PGP (Encryption & Decryption)

1. Select a certificate category. Pretty Good Privacy (PGP) provides cryptographic privacy and authentication for communication. PGP is used for signing, encrypting, and decrypting files. You can select the private key to use for encryption or decryption when configuring the stage file action.
   a. **Private**: Uses a private key of the target location to decrypt the file.
      i. Click **Browse**, then select the PGP file to upload.
      ii. Enter the PGP private key password.
   b. **Public**: Uses a public key of the target location to encrypt the file.

i. Click **Browse**, then select the PGP file to upload.

ii. In the **ASCII-Armor Encryption Format** field, select **Yes** or **No**.

- **Yes** shows the format of the encrypted message in ASCII armor. ASCII armor is a binary-to-textual encoding converter. ASCII armor formats encrypted messaging in ASCII. This enables messages to be sent in a standard messaging format. This selection impacts the visibility of message content.
- **No** causes the message to be sent in binary format.

iii. From the **Cipher Algorithm** list, select the algorithm to use. Symmetric-key algorithms for cryptography use the same cryptographic keys for both encryption of plain text and decryption of cipher text. The following supported cipher algorithms are FIPS-compliant:

- AES128
- AES192
- AES256
- TDES

c. Click **Upload**.

Signing key

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

1. Select **Public** or **Private**.
2. Click **Browse** to upload a key file.
   If you selected **Private**, and the private key is encrypted, a field for entering the private signing key password is displayed after key upload is complete.
3. Enter the private signing key password. If the private signing key is not encrypted, you are not required to enter a password.
4. Click **Upload**.

Create a Connection to Oracle Enterprise Performance Management Cloud and Task Manager

The first step in creating an integration is to create the connections to the applications with which you want to share data. Create a connection to Oracle Enterprise Performance Management Cloud so that you can include it in your integration.

What you need:

- Complete the steps in Prerequisites for Creating a Connection.
- Connection URL. This is the URL that you use to connect to Task Manager in Oracle Enterprise Performance Management Cloud. For example:

  `https://`*`INSTANCE_NAME-CLOUD_ACCOUNT_NAME.EPM_CLOUD_FAMILY.DATA_CENTER_REGION`*`.ocs.oraclecloud.com`

- User name and password for the Basic Authentication security policy to connect to Oracle Enterprise Performance Management Cloud. This user account must have administrative privileges in Oracle Enterprise Performance Management Cloud.
- Register your client application to use the OAuth Resource Owner Password Credentials security policy.

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. Search for **Oracle Enterprise Performance Management Cloud**, then select it.
3. Enter the information to describe the connection, then click **Create**.

Element	Description
Name	Enter a meaningful name to help others find your connection when they begin to create their own integrations. If you need to create connections for process automation or event monitoring, you need separate connections to Oracle Enterprise Performance Management Cloud for each type.
Identifier	Automatically displays the name in capital letters that you entered in the **Name** field. If you modify the identifier name, don't include blank spaces (for example, `SALES OPPORTUNITY`).
Role	Choose both **Trigger and Invoke**. For process automation, your connection needs to be both **Trigger and Invoke**. For event monitoring, your connection can be **Invoke**.
Keywords	Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
Description	Enter an optional description of the connection.

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

4. Go to the **Properties** section.
5. From the **Service Type** drop-down list, select a type:
   - **Financial Consolidation and Close**
   - **Tax Reporting**
   - **Planning and Budgeting**
6. In the **Connection URL** field, enter the URL that you use to connect to Oracle Enterprise Performance Management Cloud. For example:

   ```
   https://INSTANCE_NAME-
   CLOUD_ACCOUNT_NAME.EPM_CLOUD_FAMILY.DATA_CENTER_REGION.ocs.oraclecloud.com
   ```

7. Go to the **Security** section, and select the security policy to use.
   - **Basic Authentication**
   - **OAuth Resource Owner Password Credentials**
8. If you select **Basic Authentication**, enter the user name and password to connect to Oracle Enterprise Performance Management Cloud. This user account must have administrative privileges in Oracle Enterprise Performance Management Cloud.
9. If you select **OAuth Resource Owner Password Credentials**, enter the following information.

Element	Description
Access Token URI	Enter the URL from which to obtain the access token.
Client ID	Enter the client identifier issued to the client during the registration process.
Client Secret	Enter the client secret.
Username	Enter the resource owner's user name.
Password	Enter the resource owner's password.

Element	Description
Scope (Optional security)	Enter the scope of the access request. Scopes enable you to specify which type of access you need. Scopes limit access for the OAuth token. They do not grant any additional permission beyond that which the user already possesses.
Auth Request Media Type (Optional security)	Enter the format of the data you want to receive.
Client Authentication (Optional security)	Optionally configure OAuth flows with client authentication. This is similar to the Postman user interface feature for configuring client authentication. • **Send client credentials as basic auth header**: Pass the client ID and client secret in the header as basic authentication. • **Send client credentials in body**: Pass the client ID and client secret in the body as form fields.

10. Click **Test**.

    If the test is not successful, you cannot add the connection to your integration. If errors are displayed, check your connection information.

11. When complete, click **Save**.

You should see your new connection with a green check mark next to it. The connection is ready to use in an integration.
For information on creating an integration with your new connection and completing configuration values, refer to:

- Process Automation Integration Pattern and Use Case
- Event Monitoring Integration Pattern and Use Case
- At a Glance: Workflow to Integrate with Oracle Enterprise Performance Management Cloud

3

Find More Information About Adapters and Integrations

Get more detailed information on available adapters and on creating and monitoring integrations.

Description	More Information
Adapters available in Oracle Integration	Adapters page in Oracle Help Center
Create and monitor integrations	*Using Integrations in Oracle Integration 3*