

# Oracle® Cloud

## Using the Workday 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.

## Topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Diversity and Inclusion](#)
- [Related Resources](#)
- [Conventions](#)

## Audience

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

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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
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	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 Workday Adapter

Review the following conceptual topics to learn about the Workday 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:

- [Workday Adapter Capabilities](#)
- [What Application Version Is Supported?](#)
- [Workday Adapter Use Cases](#)
- [Workflow to Create and Add a Workday Adapter Connection to an 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](#).

## Workday Adapter Capabilities

The Workday Adapter enables you to create an integration with Workday in Oracle Integration.

Workday is a SAAS-based human capital management system that also supports financial management systems for organizations.

Workday can be the one system for all your organizational activities such as recruiting, payroll, finance, inventory, and so on. The Workday Public API, Reporting API, and Workday Integration platform play the major roles in integrating the Workday Adapter with third-party applications. The Workday Adapter supports all these services at a single gateway. The Workday Adapter handles complexities such as understanding different SOAP web services, presenting all modules, services, and operations, and executing reports about different Workday modules.

The Workday Adapter enables nontechnical developers to build integration solutions from Workday to other applications without dealing with complexities such as different APIs.

The Workday Adapter provides the following capabilities:

- Supports connecting to private resources that are in your virtual cloud network (VCN) with a private endpoint. See [Connect to Private Resources in Provisioning and Administering Oracle Integration 3](#) and [Configure the Endpoint Access Type](#). This type of connection does not use the connectivity agent.
- Supports Reports as a Service (RaaS) to use a custom report to execute and retrieve data.

- Connects your on-premises financial system with Workday Human Capital Management (HCM) cloud.
- Browses different Workday modules with little effort.
- Gets the right operation with a detailed description in the user interface to assist you in building integrations rapidly.
- Checks the reports accessible to you and selects them and exports the data from Workday.
- Gets the data from an existing Enterprise Interface Builder (EIB) integration to your financial system.
- Exports the bulk data from Workday through the Workday Adapter. This is easy and enables you to synchronize the same data with different SaaS and on-premises applications within the same business flow.
- Provisions from Workday to other resources of your organization.
- Supports the latest API version to ensure that you always use the latest Workday functionality.

The Workday Adapter is one of many predefined adapters included with Oracle Integration. You can configure the Workday Adapter as a target connection in an integration in Oracle Integration.

## What Application Version Is Supported?

For information about which application version is supported by this adapter, see the [Connectivity Certification Matrix](#).

## Workday Adapter Use Cases

Common use cases for the Workday Adapter are as follows:

- Employee onboarding to Salesforce, SAP, and other applications.
- Background data checks from an external system to Workday.
- Workday payroll and pay slip data export to an external payroll system.
- Organization assignment data synchronization from an external system to Workday.

## Workflow to Create and Add a Workday Adapter Connection to an Integration

Follow a workflow to create a connection with an adapter and include the connection in an integration in Oracle Integration.



Step	Description	More Information
1	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.	<a href="#">Create a Workday Adapter Connection</a>
2	Create the integration. When you do this, you add trigger and invoke connections to the integration.	Understand Integration Creation and Best Practices in <i>Using Integrations in Oracle Integration 3</i> and <a href="#">Add the Workday Adapter Connection to an Integration</a>
3	Map data between the trigger connection data structure and the invoke connection data structure.	Map Data in <i>Using Integrations in Oracle Integration 3</i>
4	(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 <i>Using Integrations in Oracle Integration 3</i>
5	Activate the integration.	Manage Integrations in <i>Using Integrations in Oracle Integration 3</i>
6	Monitor the integration on the dashboard.	Monitor Integrations During Runtime in <i>Using Integrations in Oracle Integration 3</i>
7	Track payload fields in messages during runtime.	Assign Business Identifiers for Tracking Fields in Messages and Track Integration Instances in <i>Using Integrations in Oracle Integration 3</i>
8	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in <i>Using Integrations in Oracle Integration 3</i>

# 2

## Create a Workday 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](#)
- [Create a Connection](#)
- [Upload a Certificate to Connect with External Services](#)

## Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the Workday Adapter.

- [Enable Functional Areas](#)
- [Create a Workday User Account](#)
- [Mandatory Policies](#)
- [Assign a Domain Policy](#)
- [Obtain the Workday Hostname and Tenant Name from the Sandbox User Interface](#)
- [Register an API Client to Use the Authorization Code Credentials Security Policy](#)

### Enable Functional Areas

The following functional areas must be enabled in the Workday application to use the Workday Human Capital Management and Workday Financial Management products in the Adapter Endpoint Configuration Wizard.

- **Common Financial Management**
- **Recruiting**
- **Staffing**

Follow these steps to enable the functional areas:

1. Log in to the Workday application.
2. Search for the **Maintain Functional Areas** task in the search box.
3. Select the **Enabled** checkbox for the **Common Financial Management**, **Recruiting**, and **Staffing** functional areas.
4. Click **OK**, then click **Done**.
5. Search for **Activate Pending Security Policy Changes** in the search box.
6. On the Activate Pending Security Policy Changes page, enter your comments in the **Comments** field, and click **OK**.
7. Select the **Confirm** checkbox, and click **OK**.

## Create a Workday User Account

You must have an existing Workday integration system user account. A user account is required to provide the credentials necessary to create the connection and integration. Create the Workday integration system user with the **Integration System security group (Unconstrained)** group.



### Note:

See the [Mandatory Policies](#) tables for lists of all domain policies that are required to connect to Oracle Integration and view the operations, reports, and Enterprise Interface Builder (EIB).

**Custom Security Group:** Create a custom security group for the integration user. This group should include authorizations based on the customer requirement, such as web service operations, task, report, and EIB. Ensure that the custom security group is assigned to the integration system user (ISU).

ISU\_SOADEMOEVENT\_Group

This is the security group created to assign specific authorizations to the user. Permissions given to this group are based on the customer requirement.

1. Log in to the Workday application.
2. Search for the task **Create Integration System User**.
3. Set the username and password.
4. Search for the task **Create Security Group**.
5. Select the type as **Integration System security group (Unconstrained)**.
6. Set the group name and press **Enter**.
7. Select the integration system username from the dropdown list to assign the user to that group.

## Mandatory Policies

- **Design-Time:** The minimum Workday authorizations/policies required to create the Workday endpoint during the design phase where you select desired Workday services and reports based on the business use case. These policies are categorized as design-time authorization (configuration) in the following tables.
- **Run-Time:** The minimum Workday authorization/policies required for running the created integration after activation and during the execution. These policies are categorized as runtime authorization (configuration) in the following tables.

## Workday Public Web Service (Runtime Configuration)

To access any specific web service, you must have the related domain policy access. See [Assign a Domain Policy](#).

**Table 2-1 EIB (Design-time Configuration)**

Operation	Domain Policy	Functional Area
View Only	Integration Build	Integration
Get Only	Integration Process	Integration

**Table 2-2 EIB (Runtime Configuration)**

Operation	Domain Policy	Functional Area
View Only	Integration Build	Integration
Get Only	Integration Process	Integration
Get and Put	Integration Event	Integration

In case of EIB (design time), you must have Integration Process domain policy access to see all integration systems.

For EIB (run time), you must have Integration Event domain policy access to launch the integration and create the integration events. To create integration events, the PUT permission is required for this domain policy.

The integration build is required to access the View Web Service Operations Security Groups report to check the tasks and actions assigned to the user.

In addition, the ISU must have access to the data source of the report being used as a data source in EIB. See [Assign a Domain Policy](#).

**Table 2-3 RAAS (Design-Time Configuration)**

Operation	Domain Policy	Functional Area
View Only	Manage: All Custom Reports	System

**Table 2-4 RAAS (Runtime Configuration)**

Operation	Domain Policy	Functional Area
View Only	Manage: All Custom Reports	System

In case of RAAS, the integration system user (ISU) must have access to the Manage: All Custom Reports domain policy that is mandatory to see all custom reports (shared or owned by the user) and execute in Oracle Integration. In addition, ISU must have access to Reports Data Source. See [Assign a Domain Policy](#).

 **Note:**

Ensure the following properties are set for your Workday EIB to be visible in the Adapter Endpoint Configuration Wizard.

- Data source type must be set to **Custom Report**.
- MIME type must be set to **CSV**.

Ensure the following properties are set for your Workday RaaS report to be visible in the Adapter Endpoint Configuration Wizard.

- The report type must be set to **Advanced** or **Search**.
- The report must be enabled as a **Web Service**.
- The report must be **shared** with or **owned** by the Oracle Integration user.

### Assign a Domain Policy

Assign Get access for the Get Worker web service or Put access for the Put School Type web service.

1. Log in to the Workday application.
2. Search for the **View Security for Securable Item** in the search box.
3. Enter the web service name in the **Securable Item** field that you need to access, and click **OK**.
4. On the results page, click **View Security** for the specific task that you need to evaluate.
5. Click the ellipsis icon (...) for the specific security policy and navigate to **Domain > Edit Security Policy Permissions**.
6. Add a new row in the **Integration Permissions** section, search for the security group, and select the **Get/Put** checkbox to assign the permission.
7. Click **OK**.
8. On the Activate Pending Security Policy Changes page, enter your comments, and click **OK**.
9. Select the **Confirm** checkbox, and click **OK**.

 **Note:**

If there is more than one domain policy, select them one by one and assign the policies. After assigning the policies, activate all of them at once.

Follow these steps to assign a domain policy to Get access on the Report Data Source:

1. Log in to the Workday application.
2. Search for the **View Custom Report** task in the search box.

3. Enter the report name in the **Custom Report** field that you need to access, and click **OK**.
4. In the **Data Source** field, click the ellipsis icon (...) next to the data source and navigate to **Security > View Security**.
5. In the **Domain** column, click the eclipse icon (...) for the specific security policy and navigate to **Domain > Edit Security Policy Permissions**.
6. Add a new row in the **Integration Permissions** section, search for the security group to which you need to provide access, and select the **Get/Put** checkbox to assign the permission.
7. Click **OK**.
8. On the Activate Pending Security Policy Changes page, enter your comments, and click **OK**.
9. Select the **Confirm** checkbox, and click **OK**.

 **Note:**

If there is more than one domain policy, select them one by one and assign the policies. After assigning the policies, activate all of them at once.

### Obtain the Workday Hostname and Tenant Name from the Sandbox User Interface

When you create your Workday Adapter connection on the Connections page, you must specify the following details:

- Workday hostname
- Tenant name

The following steps describe how to obtain this information.

To obtain the Workday hostname:

1. Log in to the Workday sandbox or production instance.
2. Search for **Public Web Service** in the search box.
3. Select **Public Web Service** from the search results.
4. Under **Actions**, click the **Web Services** list and select **View WSDL**.

The WSDL file is opened for viewing.

5. Scroll down to the end to find the hostname value assigned to the `location` element. The Workday hostname value appears. For example:

```
location="https://hostname/ccx/....)"
```

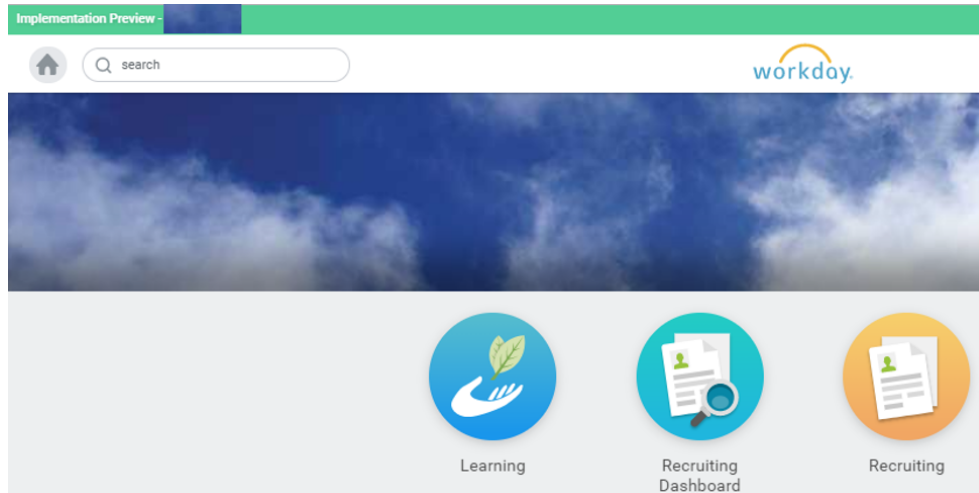
6. Copy and save the Workday hostname value from the `location` element. For example:

```
wd5-impl-services1.workday.com
```

To obtain the tenant name from the sandbox:

1. Log in to the Workday sandbox.

2. On the first page, find the tenant details appearing in the upper left corner of the page. The tenant details follow the Sandbox Type – Tenant Name format.



### Register an API Client to Use the Authorization Code Credentials Security Policy

To generate the client ID and client secret, you must register an API client in Workday.

1. Log in to the Workday application.
2. Search for `API Client` in the search box.
3. Click the **Register API Client** task.
4. In the **Client Name** field, enter a client name.
5. In the **Client Grant Type** field, select **Authorization Code Grant**.
6. Select the **Enforce 60 Minute Access Token Expiry** checkbox.
7. In the **Access Token Type** field, select **Bearer**.
8. In the **Redirection URI** field, enter the redirect URI in the following format:

```
https://OIC_instance_URL/icsapis/agent/oauth/callback
```

9. In the **Scope (Functional Areas)** field, select the scopes in accordance with the operation you need to execute.
10. Select the **Include Workday Owned Scope** checkbox.
11. Click **OK**. The client ID and client secret are displayed.
12. Copy the client ID and client secret for your API client. You'll need to enter those values on the Connections page when you configure security for your Workday Adapter connection in Oracle Integration. See [Configure Connection Security](#).
13. Click **Done**.

## Create a Connection

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

To create a connection in Oracle Integration:

1. In the navigation pane, click **Design**, then **Connections**.
2. Click **Create**.

 **Note:**

You can also create a connection in the integration canvas. See Define Inbound Triggers and Outbound Invokes.

3. In the Create connection panel, 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.
4. Enter the information that describes this connection.

Element	Description
<b>Name</b>	Enter a meaningful name to help others find your connection when they begin to create their own integrations.
<b>Identifier</b>	Automatically displays the name in capital letters that you entered in the <b>Name</b> field. If you modify the identifier name, don't include blank spaces (for example, SALES OPPORTUNITY).
<b>Role</b>	Select the role (direction) in which to use this connection (trigger, invoke, or both). Only the roles supported by the adapter are displayed for selection. 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 <b>invoke</b> . Dragging the adapter to a <b>trigger</b> section in the integration produces an error.
<b>Keywords</b>	Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
<b>Description</b>	Enter an optional description of the connection.



Element	Description
<b>Share with other projects</b>	<p><b>Note:</b> This field only appears if you are creating a connection in a project.</p> <p>Select to make this connection publicly available in other projects. Connection sharing eliminates the need to create and maintain separate connections in different projects.</p> <p>When you configure an adapter connection in a different project, the <b>Use a shared connection</b> 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 <a href="#">Add and Share a Connection Across a Project</a>.</p>

5. Click **Create**.

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

## Configure Connection Properties

Enter connection information so your application can process requests.

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

The Connection Properties dialog is displayed. The information to specify was obtained when you completed the Workday Adapter prerequisites. See [Prerequisites for Creating a Connection](#).

2. In the **Hostname** field, enter the host name of the Workday server.

3. In the **Tenant Name** field, provide the tenant name.

4. In the **Web Service Version** field, enter the Workday web service APIs version. If you do not provide the version, the default version (for example, v31.0) is applied.

The value in the **Web Service Version** field is used in the following manner in different scenarios:

- Creation of a new integration: While creating a new integration using the Workday Adapter, the version available on the Connection page of the Workday Adapter (user-provided or default) is used.
- Editing an integration:
  - The user-provided version on the Connection page is used, if present.
  - Otherwise, the version on which the Workday Adapter endpoint was originally configured is used (in this case, the Workday Adapter extracts the original version).

**Note:** If you do not provide any value on the Connection page, then when editing, the integration default version (v31.0) is *not* used.
- Regeneration of the adapter endpoint: The version on which the Workday Adapter endpoint was originally configured is used (in this case, the Workday Adapter extracts the original version).

- Activation of the integration: The version on which the Workday Adapter endpoint was originally configured is used (in this case, the Workday Adapter extracts the original version).
5. In the **URL Prefix** field, enter the prefix of your Workday instance URL in the following format:

```
host-prefix.workday.com
```

For example, if you log in to Workday using the following URL:

```
https://impl.workday.com/wday/authgwy/tenant_name/login.html?redirect=n
```

For this example, enter `impl.workday.com` in the **URL Prefix** field.

 **Note:**

You must provide the URL prefix to use the Authorization Code Credentials security policy. The **URL Prefix** field is not marked with an asterisk (\*). This incorrectly implies that this field is not mandatory. This field is mandatory if you want to use the Authorization Code Credentials security policy.

## Configure Connection Security

Configure security for your Workday Adapter connection.

1. Go to the **Security** section.

The **Security Policy** field is displayed. Only the **Workday Username Token Policy** is supported. It cannot be deselected.

2. Enter a username authorized to access the Workday account and the password. Section “Creating a Workday User Account” of [Prerequisites for Creating a Connection](#) describes the integration user and roles. You can also assign the admin role named Security Admin to the user.

 **Note:**

- You must provide the client ID and client secret values to use the Authorization Code Credentials security policy. These fields are not marked with an asterisk (\*). This incorrectly implies that these field are not mandatory. These fields are mandatory if you want to use the Authorization Code Credentials security policy.
- The username and password are only used to retrieve web service metadata. The Workday Adapter does not use them for any other purpose.

3. In the **Client Id** field, enter the client ID that you obtained while registering an API client. See [Prerequisites to Use the Authorization Code Credentials Security Policy](#).

4. In the **Client Secret** field, enter the client secret key that you obtained while registering an API client. See [Prerequisites to Use the Authorization Code Credentials Security Policy](#).

## Configure the Endpoint Access Type

Configure access to your endpoint. Depending on the capabilities of the adapter you are configuring, options may appear to configure access to the public internet, to a private endpoint, or to an on-premises service hosted behind a fire wall.

- [Select the Endpoint Access Type](#)
- [Ensure Private Endpoint Configuration is Successful](#)

### Select the Endpoint Access Type

Select the option for accessing your endpoint.

Option	This Option Appears If Your Adapter Supports ...
<b>Public gateway</b>	Connections to endpoints using the public internet.
<b>Private endpoint</b>	Connections to endpoints using a private virtual cloud network (VCN). <b>Note:</b> To connect to private endpoints, you must complete prerequisite tasks in the Oracle Cloud Infrastructure Console. Failure to do so results in errors when testing the connection. See <i>Connect to Private Resources in Provisioning and Administering Oracle Integration 3</i> and <i>Troubleshoot Private Endpoints in Using Integrations in Oracle Integration 3</i> .

### Ensure Private Endpoint Configuration is Successful

- To connect to private endpoints, you must complete prerequisite tasks in the Oracle Cloud Infrastructure Console. Failure to do so results in errors when testing the connection. See *Connect to Private Resources in Provisioning and Administering Oracle Integration 3*.
- When configuring an adapter on the Connections page to connect to endpoints using a private network, specify the fully-qualified domain name (FQDN) and *not* the IP address. If you enter an IP address, validation fails when you click **Test**.
- IPSec tunneling and FastConnect are not supported for use with private endpoints.

## Test the Connection

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

1. In the page title bar, click **Test**. What happens next depends on whether your adapter connection uses a Web Services Description Language (WSDL) file. Only some adapter connections use WSDLs.


If Your Connection...	Then...
Doesn't use a WSDL	The test starts automatically and validates the inputs you provided for the connection.
Uses a WSDL	A dialog prompts you to select the type of connection testing to perform: <ul style="list-style-type: none"> <li>• <b>Validate and Test:</b> Performs a full validation of the WSDL, including processing of the imported schemas and WSDLs. Complete validation can take several minutes depending on the number of imported schemas and WSDLs. No requests are sent to the operations exposed in the WSDL.</li> <li>• <b>Test:</b> Connects to the WSDL URL and performs a syntax check on the WSDL. No requests are sent to the operations exposed in the WSDL.</li> </ul>

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**.

## 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.

Name	Type	Category	Status
akt_ppgPublic <small>Expires in 77 Years</small>	PGP	Public	Configured
akt_ppgPrivate <small>Expires in 77 Years</small>	PGP	Private	Configured
testppgpublic <small>Expires in 77 Years</small>	PGP	Public	Configured
testppgsecret <small>Expires in 77 Years</small>	PGP	Private	Configured
elq_cert1 <small>Expired</small>	X.509	Trust	Configured
Eqir_CloudCA <small>Expires in 94 Years</small>	SAML	Message Protection	Configured
qa_lan <small>Expires in 77 Years</small>	X.509	Trust	Configured
OpportunityServiceSoapHttpPort <small>Expires in 1 Months</small>	X.509	Trust	Configured
DigiCertCA2 <small>Expires in 4 Years</small>	X.509	Trust	Configured
SG-Utilities <small>Expired</small>	X.509	Trust	Configured
app_elq_p01 <small>Expires in 8 Years</small>	X.509	Trust	Configured

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 [Implement Digital Signature Validation \(RSA\) 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**.

# 3

## Add the Workday Adapter Connection to an Integration

When you drag the Workday Adapter into the invoke area of an integration, the Adapter Endpoint Configuration Wizard appears. This wizard guides you through configuration of the Workday Adapter endpoint properties.

These topics describe the wizard pages that guide you through configuration of the Workday Adapter as an invoke in an integration. The Workday Adapter cannot be used as a trigger in an integration.

### Topics:

- [Basic Info Page](#)
- [Actions Page](#)
- [Service Selection Page](#)
- [Operations Page](#)
- [RaaS Services Page](#)
- [Summary Page](#)

### Basic Info Page

You can enter a name and description on the Basic Info page of each adapter in your integration.

Element	Description
<b>What do you want to call your endpoint?</b>	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: <ul style="list-style-type: none"><li>• No blank spaces (for example, My Inbound Connection)</li><li>• No special characters (for example, #;83&amp; or righ(t)now4) except underscores and hyphens</li><li>• No multibyte characters</li></ul>
<b>What does this endpoint do?</b>	Enter an optional description of the connection's responsibilities. For example:  <code>This connection receives an inbound request to synchronize account information with the cloud application.</code>

### Actions Page

Specify the action to execute in the Workday application.



Element	Description
<b>Query Information</b>	Select to request business objects such as employee records, benefits, and others through use of the get and find operations.
<b>Create, Update or Delete Information</b>	Select to perform operations such as employee onboarding, data synchronization, and others.
<b>Import Bulk Data into Workday</b>	Select to perform operations such as importing multiple records for payroll, time sheets, and others using the import operation.
<b>Extract Bulk Data From Workday</b>	Select to extract bulk data from Workday such as payroll records, time sheets, and others using the import operation.

## Service Selection Page

Select the target Workday product and module to execute in the Workday application.

Element	Description
<b>Select a Workday Product</b>	Select one of the following targets: <ul style="list-style-type: none"> <li>• <b>Human Capital Management:</b> Select to perform create, update, delete, and get operations on HCM Workday Business Services data.</li> <li>• <b>Financial Management:</b> Select to perform create, update, delete, and get operations on Financial Workday Business Services data.</li> </ul>
<b>Select the Workday module to integrate with</b>	If you selected <b>Human Capital Management:</b> <ul style="list-style-type: none"> <li>• <b>Human Resources</b></li> <li>• <b>Workforce Planning</b></li> <li>• <b>Recruiting</b></li> <li>• <b>Talent</b></li> </ul> If you selected <b>Financial Management:</b> <ul style="list-style-type: none"> <li>• <b>Revenue Management</b></li> <li>• <b>Inventory</b></li> <li>• <b>Cash Management</b></li> <li>• <b>Financial Management</b></li> <li>• <b>Professional Services Automation</b></li> <li>• <b>Resource Management</b></li> </ul>

## Operations Page

Specify the business operation to execute in the Workday application.

Element	Description
<b>Click to Show Actual Operation Names</b>	Select to view the actual names of the operations.
<b>Use Common Header</b>	Select to receive descriptor values in the response.
<b>Operations</b>	Select the operation to perform. The operations that are displayed are based on the Workday action you selected on the Actions page and the Workday module you selected on the Service Selection page.

## RaaS Services Page

Specify the Workday RaaS or EIB report for your integration.

Select a report type in the **Select the type of Workday Reports** section.

- **Reports as a Service (Custom Reports):** Select to use a custom report to execute and retrieve data.
- **Enterprise Interface Builder (EIB-based Reports):** Select to use an EIB-based report to execute and retrieve data.

If you select **Reports as a Service (Custom Reports)**, the following fields are displayed:

Element	Description
<b>Workday Report as a Service (RaaS)</b>	Select the specific reports.

If you select **Enterprise Interface Builder (EIB-based Reports)**, the following fields are displayed:

Element	Description
<b>Select one of the following operations</b>	<ul style="list-style-type: none"> <li>• <b>Launch an EIB Integration:</b> This operation launches an EIB configured at Workday and retrieves reports in CSV format. The result of this operation is the creation of an integration event and the processing of the integration.</li> <li>• <b>Monitor EIB Integration Progress:</b> This operation monitors the execution of an EIB and identifies the status of EIB execution for further processing.</li> <li>• <b>Download file generated by EIB integration:</b> This is the last operation to download the file generated from the outcome of EIB execution. This operation requires the Workday drive location of the generated file that is available from the <b>Monitor EIB Integration Progress</b> operation.</li> </ul>
<b>Description</b>	Displays a description of the selected operation.
<b>Available EIB Integrations</b>	Search for the available EIB integration. This section is displayed if you selected <b>Launch an EIB Integration</b> .

## Summary Page

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

Element	Description
<b>Summary</b>	<p>Displays a summary of the configuration values you defined on previous pages of the wizard.</p> <p>The information that is displayed can vary by adapter. For some adapters, the selected business objects and operation name are displayed. For adapters for which a generated XSD file is provided, click the XSD link to view a read-only version of the file.</p> <p>To return to a previous page to update any values, click the appropriate tab in the left panel or click <b>Go back</b>.</p> <p>To cancel your configuration details, click <b>Cancel</b>.</p>

# 4

## Implement Common Patterns Using the Workday Adapter

You can use the Workday Adapter to implement the following common patterns.

### Topics:

- [Maintain the Records of a New Employee](#)
- [Process RaaS Reports that Support the Delivery of Data in CSV Format](#)
- [Retrieve Custom Reports in CSV Format Using RaaS](#)

### Maintain the Records of a New Employee

When a new employee is recruited and enters the organization, data and records for that employee must be maintained. For example, their qualifications:

- Work experience
- Personal details

To configure the Workday Adapter to use Workday web services:

1. Add the Workday Adapter as an invoke connection in an integration.  
This starts the Adapter Endpoint Configuration Wizard.
2. On the Basic Info page, specify a name and an optional description, then click **Next**.
3. On the Workday Actions page, select **Query Information**, then click **Next**.
4. On the Service Selection page, select **Human Capital Management** from the **Select a Workday Product** list.
5. On the Operations page, select **Get Workers** from the **Operations** list, and click **Next**.
6. In the mapper, perform the required mappings, save, and close the integration.
7. Activate the integration and test the endpoint generated. The URL is displayed in a banner at the top of the Integrations page.

All worker data is displayed.

To configure the Workday Adapter to use a synchronous Report as a Service (RaaS):

1. Add the Workday Adapter as an invoke connection in an integration. This starts the Adapter Endpoint Configuration Wizard.
2. On the Basic Info page, specify a name and optional description, then click **Next**.
3. On the Workday Actions page, select **Extract Bulk Data From Workday**, then click **Next**.
4. On the RaaS Services page, select **Reports as a Service (Custom Reports)** as the report name, then click **Next**.
5. In the mapper, perform the required mappings, save, and close the integration.

6. Activate the integration and test the endpoint generated. The URL is displayed in a banner at the top of the Integrations page.  
A file having data of the selected report is downloaded.

## Process RaaS Reports that Support the Delivery of Data in CSV Format

This section provides an overview of creating an integration that uses the **Enterprise Interface Builder (EIB-based Reports)** Workday API and its operations to retrieve reports in CSV format, monitor execution, and download the CSV file.

1. Create an orchestrated integration to be triggered by a schedule.
2. Drag a Workday Adapter connection into the integration canvas.
3. Specify the following details in the Adapter Endpoint Configuration Wizard.
  - On the Basic Info page, name the adapter (for this example, `Launch_EIB`).
  - On the Action page, select **Extract Bulk data from Workday**.
  - On the RaaS Services page, select **Enterprise Interface Builder (EIB-based Reports)** as the type of Workday report.
  - Select **Launch an EIB Integration** as the integration operation. This operation launches an EIB that is configured at Workday. It retrieves reports in CSV format. The result of this operation is the creation of an integration event along with the processing of the integration.
  - Select an EIB integration configured in Workday (for this example, `INT_SOA_CSV001` is selected).
4. Drag a second Workday Adapter connection into the integration canvas.  
Specify the following details in the Adapter Endpoint Configuration Wizard.
  - On the Basic Info page, name the adapter (for this example, `Monitor_event`).
  - On the Action page, select **Extract Bulk data from Workday**.
  - On the RaaS Services page, select **Enterprise Interface Builder (EIB-based Reports)** as the type of Workday report.
  - Select **Monitor EIB Integration Progress** as the integration operation. This operation monitors the execution of an EIB and identifies the status of EIB execution for further processing.
5. Perform mapping between the two connections.
6. Drag a third Workday Adapter connection into the integration canvas.
7. Specify the following details in the Adapter Endpoint Configuration Wizard.
  - On the Basic Info page, name the adapter (for this example, `DOWNLOAD_file`).
  - On the Action page, select **Extract Bulk data from Workday**.
  - On the RaaS Services page, select **Enterprise Interface Builder (EIB-based Reports)** as the type of Workday report.
  - Select **Download file generated by EIB integration** as the integration operation. This operation downloads the file generated from the outcome of EIB execution. This operation requires the Workday drive location for the

generated file that is available from the **Monitor EIB Integration Progress** operation.

8. Perform mapping between the two connections.
9. Drag a wait action below the first Workday Adapter (`Launch_EIB`).  
The wait action ensures that the process waits for the specified time before monitoring the progress of reports (EIB).
10. Drag a stage file action below the third Workday Adapter (`DOWNLOAD_file`). The stage file action reads the CSV format data from Oracle Integration at the downloaded location.
  - Name the action.
  - Specify the delimited data file name (for this example, `INT_SOA_Test_CSV.csv`) and directory name.
11. Drag an FTP Adapter below the stage file action to write the file to a target FTP server.
12. Specify the following details in the Adapter Endpoint Configuration Wizard.
  - Name the adapter (for this example, `FTP_Write`).
  - Select **Write File** from the **Select Operation** list. This operation writes the file to the target FTP server.
  - Select to create a new schema from a CSV file (for this example, named `INT_SOA_Test_CSV.csv`).
  - Specify an output directory and file name pattern.
13. Perform mapping between the stage file action and the FTP Adapter.

## Retrieve Custom Reports in CSV Format Using RaaS

This section provides an overview of creating an integration that uses the **Reports as a Service (Custom Reports) Workday** API and its operations to retrieve custom reports in CSV format.

To perform this operation, you create Workday Adapter and FTP Adapter connections in Oracle Integration.

1. Create an application integration.
2. Drag a REST Adapter connection into the integration as a trigger connection.
3. Configure the REST endpoint.
4. Drag a Workday Adapter connection into the integration canvas.
5. Configure the Workday Adapter as follows:
  - a. On the Basic Info page, provide a name.
  - b. On the Action page, select **Extract Bulk Data from Workday**.
  - c. On the RaaS Services page, select **Reports as a Service (Custom Reports)** as the type of Workday report, and select a report.
  - d. On the Summary page, review your selections.
6. Perform the required mapping.
7. Drag a stage file action into the integration canvas below the Workday Adapter. The stage file action reads the CSV format data downloaded to Oracle Integration.

- a. On the Basic Info page, provide a name.
- b. On the Configure Operations page, select **Read Entire File from the Choose Stage File Operation** field.
- c. Specify the XPath for the file name in the **Specify the File Name** field.
- d. Specify the directory name in the **Specify the Directory to read from** field.
- e. On the Scheme Options page, select **Yes** in the **Do you want to specify the structure for the contents of the file?** field and select **Sample delimited document (e.g. CSV)** from the **Which one of the following choices would be used to describe the structure of the file contents?** list.
- f. On the Format Definition page, click **Choose File** and upload the CSV file to create a schema in the **Select a New File** field.
- g. Enter the record name, enter the recordset name, select the field delimiter (for example, **Comma**), and perform other required details.
- h. Review your selections on the Summary page.

 **Note:**

To process the data, users should add the required headers in the CSV file.

8. Drag an FTP Adapter below the stage file action to write the file to a target FTP server.
9. Specify the following details in the Adapter Endpoint Configuration Wizard.
  - a. On the Basic Info page, provide a name.
  - b. On the Operations page, select **Write File** from the **Select Operation** list.
  - c. Select **Binary** from the **Select a Transfer Mode** list.
  - d. Specify the output directory (target FTP server location) and file name pattern.
  - e. On the Scheme page, select **Yes** in the **Do you want to specify the structure for the contents of the file?** field and select **Sample delimited document (e.g. CSV)** from the **Which one of the following choices would be used to describe the structure of the file contents?** list.
  - f. On the File Contents-Definition page, click **Choose File** and upload the schema source file in the **Select a New File** field.
  - g. Enter the record name, enter the recordset name, select the field delimiter, and perform other required details.
  - h. Review your selections on the Summary page.
10. Perform mapping between the stage file action and the FTP Adapter. The completed integration looks as follows.





# 5

## Troubleshoot the Workday Adapter

Review the following topics to learn about troubleshooting issues with the Workday Adapter.

### Topics:

- [Common Error Messages](#)
- [Identify the Correct CSV Fields to Use in Stage File Actions in Workday EIB Integrations](#)

Additional integration troubleshooting information is provided. See Troubleshoot Oracle Integration in *Using Integrations in Oracle Integration 3* and the [Oracle Integration Troubleshooting page](#) on the Oracle Help Center.

## Common Error Messages

Note the following common Workday Adapter errors and solutions when executing Enterprise Interface Builder (EIB) and Reports as a Service (RaaS) reports.

- [Enterprise Interface Builder \(If You Can Already Launch the Enterprise Interface Builder\)](#)
- [Reports as a Service Errors](#)

## Enterprise Interface Builder (If You Can Already Launch the Enterprise Interface Builder)

Note the following Workday issues and solutions while executing Enterprise Interface Builder (EIB) reports.

### **Task Submitted is Not Authorized**

This error occurs when you do not have view access to the report data source.

**Solution:** Provide view access on the report data source to the user.

### **Current System User Does Not Have Access to Launch this Integration System**

This error occurs when you do not have view access to the report data source.

**Solution:** Share the report attached in Enterprise Interface Builder with the integration system user (ISU) user and provide view access on the report data source to the user.

## Reports as a Service Errors

Note the following Workday issues and solutions while executing Reports as a Service (RaaS) reports.

### **Task Submitted is Not Authorized**

The following error occurs when you do not have view access for the report data source.

**Solution:** Provide view access on the report data source to the user.

### **Attempt to Run a Report Where You Do Not Have Access to One or More Fields Referenced in the Report's Filters**

The following error occurs when you do not have view access for the report data source.

**Solution:** Provide the data source view access on the report field used as a filter in the report.

## Identify the Correct CSV Fields to Use in Stage File Actions in Workday EIB Integrations

You can create an integration that uses the **Enterprise Interface Builder (EIB/ Asynchronous RaaS)** Workday API and its operations to retrieve reports in CSV format, monitor execution, and download the CSV file. This type of integration uses the stage file action to read data from Oracle Integration.

To identify the correct CSV fields:

1. Log in to Workday and search for `View Custom Report`.
2. Click the custom report in the search results list.
3. Enter the report name you are using in the EIB integration as a data source and press **Enter**.
4. In the column tab of the report view, use the names in the highlighted column heading **Overriding XML Alias** as the CSV fields.