# Oracle® Cloud

# Using the Oracle Fusion Field Service Adapter with Oracle Integration 3

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Oracle Cloud Using the Oracle Fusion Field Service Adapter with Oracle Integration 3,

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# Contents

## 4 Troubleshoot the Oracle Fusion Field Service Adapter

# About This Content

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

### Audience

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

### Documentation Accessibility

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

### Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

### 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. |

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# Understand the Oracle Fusion Field Service Adapter

Review the following conceptual topics to learn about the Oracle Fusion Field Service 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:**



> **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 Fusion Field Service Adapter Capabilities

Use the Oracle Fusion Field Service Adapter to create an Oracle Fusion Field Service application integration.

The Oracle Fusion Field Service Adapter provides service agents with access to the information they need to be successful in the field, connects field agents with on premise teams, and reduces the time to correct issues by getting the right person to the right place at the right time. The Oracle Fusion Field Service Adapter supports bidirectional data transfers; field service orders (outbound) are sent and progress updates (inbound) are received.

The Oracle Fusion Field Service Adapter provides these benefits:

- Acts as a single management interface for Oracle Fusion Field Service.
- Integrates Oracle Fusion Field Service with other cloud applications.
- Allows customized operations to meet the unique requirements of your organization.
- Provides tools for error reporting and review.
- Provides a standard adapter life cycle, controlled runtime environment, and monitoring capabilities.
- Supports artifact regeneration. When a new custom property is added in Oracle Fusion Field Service, you can view it in the mapper for an existing integration by selecting **Refresh endpoints**.

  See Refresh Endpoints for Integrations in *Using Integrations in Oracle Integration 3*.

- Supports connecting to private resources that are in your virtual cloud network (VCN) private subnet with a private endpoint. See Connect to Private Resources in *Provisioning and Administering Oracle Integration 3* and Configure the Endpoint Access Type.

You can configure the Oracle Fusion Field Service Adapter as a trigger or invoke connection in an integration in Oracle Integration. The Oracle Fusion Field Service Adapter is one of many predefined adapters included with Oracle Integration. See the Adapters page in the Oracle Help Center.

# What Application Version Is Supported?

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

# About Oracle Fusion Field Service Adapter Use Cases

This scenario describes the interaction between the Oracle Fusion Field Service and an application that receives and processes alerts for municipal services.

- A municipal employee receives an alert on the municipal services monitoring application indicating that there is a natural gas leak near a busy downtown intersection.
- The municipal employee creates a work order to dispatch a service team to the site. All details necessary to locate the natural gas leak are included in the work order.
- The municipal employee saves and submits the work order on the municipal services monitoring application.
- The work order is sent to the Oracle Fusion Field Service Adapter.
- The Oracle Fusion Field Service Adapter creates a matching activity in Oracle Fusion Field Service and returns the activity identifier to the municipal services monitoring application to allow the progress of the work order to be monitored.
- Oracle Fusion Field Service assigns the activity to the service team.
- The lead Engineer for the service team uses the mobile Oracle Fusion Field Service application to review the work order and identify the location of the natural gas leak.
- The service team repairs the natural gas leak and the lead Engineer uses the mobile Oracle Fusion Field Service application to change the status of the work order to *completed*.
- Oracle Fusion Field Service sends an activity completed notice for the work order to Oracle Fusion Field Service Adapter.
- The Oracle Fusion Field Service Adapter forwards the activity completed notice for the work order to the municipal services monitoring application.
- The municipal services monitoring application identifies the work order as *resolved* and it is closed.

# Workflow to Create and Add an Oracle Fusion Field Service 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 | Decide where to work | • Work in a project (see why working with projects is preferred in *Using Integrations in Oracle Integration 3*).<br>• Work outside a project. |
| 2 | Create an Oracle Fusion Field Service user type with API access and associate a new or existing user with the user type. | Prerequisites for Creating a Connection |
| 3 | 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. | Create an Oracle Fusion Field Service Adapter Connection |
| 4 | Create the integration. When you do this, you add source and target connections to the integration. | Creating Integrations and Add the Oracle Fusion Field Service Adapter Connection to an Integration |
| 5 | Map data between the source connection data structure and the target connection data structure. | Mapping Data in *Using Integrations in Oracle Integration 3* |
| 6 | (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). | Managing Lookups in *Using Integrations in Oracle Integration 3* |
| 7 | Activate the integration. | Managing Integrations in *Using Integrations in Oracle Integration 3* |
| 8 | Monitor the integration on the dashboard. | Monitoring Integrations During Runtime in *Using Integrations in Oracle Integration 3* |
| 9 | Track payload fields in messages during runtime. | Assigning Business Identifiers for Tracking Fields in Messages and Track Integration Instances in *Using Integrations in Oracle Integration 3* |
| 10 | Manage errors at the integration level, connection level, or specific integration instance level. | Managing Errors in *Using Integrations in Oracle Integration 3* |

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# Create an Oracle Fusion Field Service 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

These are the prerequisites for creating a connection with the Oracle Fusion Field Service Adapter.



### Manage Permissions and Restrictions for the Selected User Types

You must manage permissions and restrictions for the selected Oracle Fusion Field Service user types.

See Configure User Types in *Administering Oracle Fusion Field Service*.

### Create an Application

If you want to call REST or SOAP APIs from a third-party application, you must register the third-party application in Oracle Field Service. You can also select the authentication service to use to authenticate the application and the specific APIs for your application to use.

> **Note**
>
> This information only applies to Oracle Field Service environments. You can verify whether you have Oracle Field Service or Oracle Fusion Field Service, by signing in and checking the About page.

See Create an Application in *Administering Oracle Fusion Field Service*.

# Add and Manage an Oracle Integration Application

You must add an Oracle Integration application to integrate Oracle Fusion Field Service with other applications. Once completed, you can perform management tasks on the Oracle Integration application.

| To... | See... |
|---|---|
| Add an Oracle Integration application | Add an Oracle Integration Application |
| Modify existing endpoint configurations in an Oracle Integration application | Modify an Oracle Integration Application |
| Delete an Oracle Integration application | Delete an Oracle Integration Application |
| View an Oracle Integration application details, such as its status and the data transfer success rate | View an Oracle Integration Application Details |

# Perform Prerequisites to Use the OAuth Authorization Code Security Policy

You must perform prerequisites in Oracle Fusion Field Service and the Oracle Cloud Console to use the OAuth Authorization Code security policy with the Oracle Fusion Field Service Adapter.

- Configure Oracle Fusion Field Service
- Configure Oracle Cloud Infrastructure Identity and Access Management
- Create an Oracle Fusion Field Service Adapter Connection with the OAuth Authorization Code Security Policy

## Configure Oracle Fusion Field Service

You must configure Oracle Fusion Field Service to use the OAuth Authorization Code security policy with the Oracle Fusion Field Service Adapter.

1. Synchronize the users from the external identity storage to Oracle Fusion Field Service.
2. In the Field Service Manage interface, click **Configuration** and select **Applications**.
3. In the left pane, select the application to configure the token service.
4. Under **General info**, ensure that the **Active** checkbox is selected.
5. From the **Token service** list, select **External**.
6. Under **Authentication Settings**, select the **Authentication using external access token** checkbox.
7. Click **Upload** and upload your external token service's signing key certificate.
8. Authenticate the REST API with the external token service.

## Configure Oracle Cloud Infrastructure Identity and Access Management

You must create two confidential applications in Oracle Cloud Infrastructure Identity and Access Management to use the OAuth Authorization Code security policy with the Oracle Fusion Field Service Adapter.

- Create a Resource Server Confidential Application
- Create an Oracle Fusion Field Service API Client Confidential Application

### Create a Resource Server Confidential Application

1. Sign in to the Oracle Cloud Console.
2. In the navigation pane, click **Identity & Security**.
3. Click **Domains**.
4. Select your compartment.
5. Click the identity domain.
6. In the menu bar, click **Integrated applications**.
7. Click **Add application**.
8. Select **Confidential Application**, then click **Launch workflow**.
9. Enter a name (for example, `OFS Resource Server App`).
10. Enter a description (for example, `OFS Resource Server App`).
11. Click **Submit**.
12. Click the **OAuth configuration** tab, then the **Edit OAuth configuration** subtab.
13. In the **Resource server configuration** section, select **Configure this application as a resource server now**.
14. In the **Configure application APIs that need to be OAuth protected** section, select **86400** from the **Access token expiration (seconds)** list.
15. Click the **Allow token refresh** toggle.
16. In the **Refresh token expiration (seconds)** list, select **604800**.
17. In the **Primary audience** field, enter the Oracle Fusion Field Service instance name.
18. Click the **Add scope** toggle, then click **Add**.
19. Provide the scope value as follows:

    ```
    /REST_application_id_For_IAM
    ```

    You get this value when you define the REST application ID for the new application. See Configure Oracle Fusion Field Service.
20. Provide a display name and description, then click **Add**.
21. Click **Submit**.

### Create an Oracle Fusion Field Service API Client Confidential Application

1. Click **Add application**.
2. Select **Confidential Application**, then click **Launch workflow**.
3. Enter a name (for example, `OFS API Client`) and description.
4. Click **Submit**.
5. Click the **OAuth configuration** tab, then the **Edit OAuth configuration** subtab.
6. In the **Client configuration** panel, select **Configure this application as a client now**.
7. Select **Refresh token** and **Authorization code** in the **Allowed grant types** section.

8. In the **Redirect URL** field, enter the URL for post-authentication redirection.

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

9. For **Client type**, ensure that **Confidential** is selected.
10. Scroll down to the **Token issuance policy** section.
11. Select **Confidential** in the **Authorized resources** section.
12. Click the **Add Resources** toggle.
13. Click **Add scope**, then click **Add**.
14. Provide the scope value as follows:

    *OFS_Instance_Name/REST_application_ID_For_IDCS*

15. Provide a display name and description, then click **Add**.
16. Click **Submit**.
17. In the **General Information** section, note the client ID and client secret values. These values are required for the third-party application that is communicating with the identity domain.

## Create an Oracle Fusion Field Service Adapter Connection with the OAuth Authorization Code Security Policy

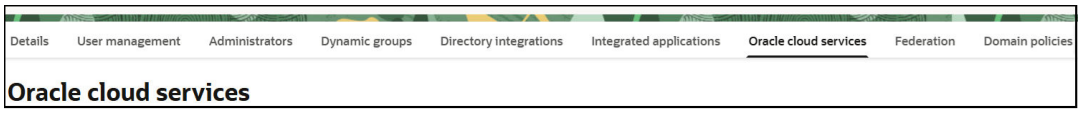
After creating the two confidential applications in the Oracle Cloud Console and configuring Oracle Fusion Field Service, you can create an Oracle Fusion Field Service Adapter connection with the OAuth Authorization Code security policy.

See Configure Connection Security.

# Perform Prerequisites to Use the OAuth Client Credentials Security Policy

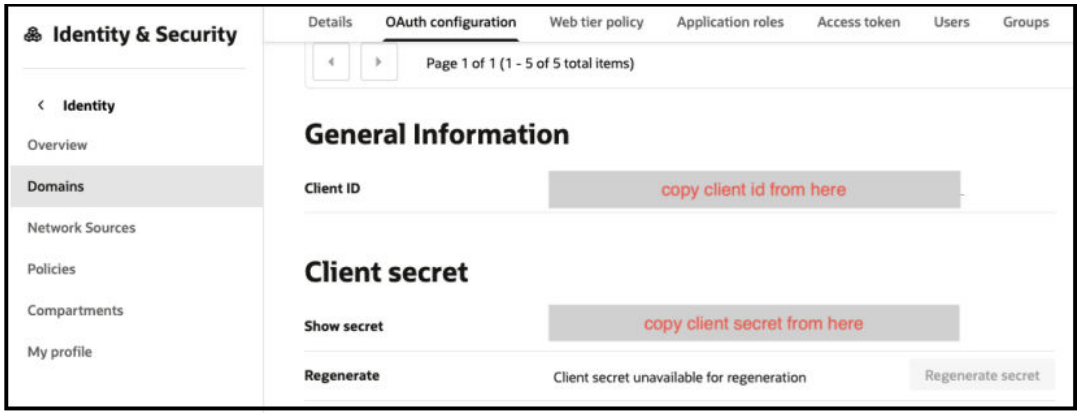
You must perform prerequisites in the Oracle Cloud Console to use the OAuth Client Credentials security policy with the Oracle Fusion Field Service Adapter.

1. Log in to the Oracle Cloud Console with your identity domain administrator credentials.
2. In the navigation pane, click **Identity & Security**.
3. Click **Domains**.
4. Select your compartment.
5. Select the identity domain.
6. In the menu bar, click **Oracle cloud services**.




7. Select **Field Service** from the list.
8. Select **OAuth Configuration** and scroll down to the **General Information** section.
9. Copy the **Client ID** and **Client secret** values.

You specify these values when you configure the OAuth Client Credentials security policy on the Connections page.




# Create a Connection

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

> **Note**
>
> You can also create a connection in the integration canvas. See Define Inbound Triggers, Outbound Invokes, and Actions.

To create a connection in Oracle Integration:

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. 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.
3. Enter the information that describes this connection.

| Element | Description |
|---|---|
| **Name** | Enter a meaningful name to help others find your connection when they begin to create their own integrations. |
| **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** | Select the role (direction) in which to use this connection.<br>**Note**: *Only* the roles supported by the adapter you selected are displayed for selection. Some adapters support all role combinations (trigger, invoke, or trigger and invoke). Other adapters support fewer role combinations.<br>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.<br>For example, assume you configure a connection for the Oracle Service Cloud (RightNow) Adapter as only an **invoke**. Dragging the adapter to a **trigger** section in the integration produces an error. |
| **Keywords** | Enter optional keywords (tags). You can search on the connection keywords on the Connections page. |
| **Description** | Enter an optional description of the connection. |
| **Share with other projects** | **Note**: This field only appears if you are creating a connection in a project.<br>Select to make this connection publicly available in other projects. Connection sharing eliminates the need to create and maintain separate connections in different projects.<br>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.<br>See Add and Share a Connection Across a Project. |

4. Click **Create**.

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

5. Follow the steps to configure a connection.
   The connection property and connection security values are specific to each adapter. Your connection may also require configuration with an access type such as a private endpoint or an agent group.

6. Test the connection.

# Configure Connection Properties

Enter connection information so your application can process requests.

1. Go to the **Properties** section.
2. Enter the URL used to connect to your application and process requests in the **Connection URL** field.

   For production, the URL format is as follows:

   `https://instance_name.fs.ocs.oraclecloud.com`

   For examples of the URL format, see REST API for Oracle Fusion Field Service Cloud Service.

   For development and testing, use the URL provided by Oracle when your Oracle Fusion Field Service instance is provisioned.
3. Enter the instance ID in the **Instance ID** field.

   The instance ID is provided by Oracle when your Oracle Fusion Field Service instance is provisioned.

# Configure Connection Security

Select the security policy and define the user credentials for the connection. User authentication restricts access to authorized users.

1. Go to the **Security** section.
2. Select a security policy.

| Selected Security Policy | Fields |
|---|---|
| **Client Credentials** | • **Client Id**: Enter the registered client application key.<br>• **Client Secret**: Enter the registered client application secret.<br>• **Confirm Client Secret**: Reenter the registered client application secret.<br>See Create an Application. |

| Selected Security Policy | Fields |
|---|---|
| **OAuth Authorization Code** (Recommended) | • **Client ID**: Enter the client identifier issued to the client during the registration process. See Create an Oracle Fusion Field Service API Client Confidential Application.<br>• **Client Secret**: Enter the client secret. See Create an Oracle Fusion Field Service API Client Confidential Application.<br>• **Authorization Code URI**: Enter the URI from which to request the authorization code.<br>• **Access Token URI**: Enter the URI to use for the access token.<br>• **Scope**: (Optional) 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.<br>• **Client Authentication**: (Optional) Configure OAuth flows with client authentication. This is similar to the Postman user interface feature for configuring client authentication.<br>– **Send client credentials as basic auth header**: Pass the client ID and client secret in the header as basic authentication.<br>– **Send client credentials in body**: Pass the client ID and client secret in the body as form fields.<br>• **Use PKCE (Proof Key for Code Exchange)** — Select **Yes** to optionally enable the PKCE extension for the OAuth authorization code flow. When enabled, Oracle Integration generates and includes the code challenge and code verifier in the authorization and token requests, respectively. The code challenge method used is always S256. PKCE adds an additional layer of security to the authorization flow for servers that support it.<br>For information on PKCE, see What is PKCE?.<br>• **Provide Consent**: Click to test the connection. The connection is only successful after you click the **Provide Consent**. Configuring all the details alone is not sufficient. |

| Selected Security Policy | Fields |
|---|---|
| **OAuth Client Credentials** | • **Access Token URI** — The URL from which to obtain the access token.<br>• **Client Id** — The client identifier issued to the client during the registration process.<br>• **Client Secret** — The client secret.<br>• **Scope** — 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.<br>• **Auth Request Media Type** — The format of the data you want to receive. This is an optional parameter that can be kept blank.<br>• **Client Authentication** — You can optionally configure OAuth flows with client authentication. This is similar to the Postman user interface feature for configuring client authentication.<br>– **Send client credentials as basic auth header**: Pass the client ID and client secret in the header as basic authentication.<br>– **Send client credentials in body**: Pass the client ID and client secret in the body as form fields. |
| **Basic Authentication** | • **Username**: Enter the name of a user with access to the destination web service.<br>• **Password**: Enter the password.<br>• **Confirm Password**: Re-enter the password.<br>See Manage Permissions and Restrictions for the Selected User Types. |

# 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

1. Go to the **Access type** section.
2. Select the option for accessing your endpoint.

| Option | This Option Appears If Your Adapter Supports ... |
|---|---|
| **Public gateway** | Connections to endpoints using the public internet. |

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

### Ensure Private Endpoint Configuration is Successful

- To connect to private endpoints, you must complete prerequisite tasks in the Oracle Cloud 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**.

## 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:<br>• **Validate and Test**: 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.<br>• **Test**: Connects to the WSDL URL and performs a syntax check on the WSDL. No requests are sent to the operations exposed in the WSDL. |

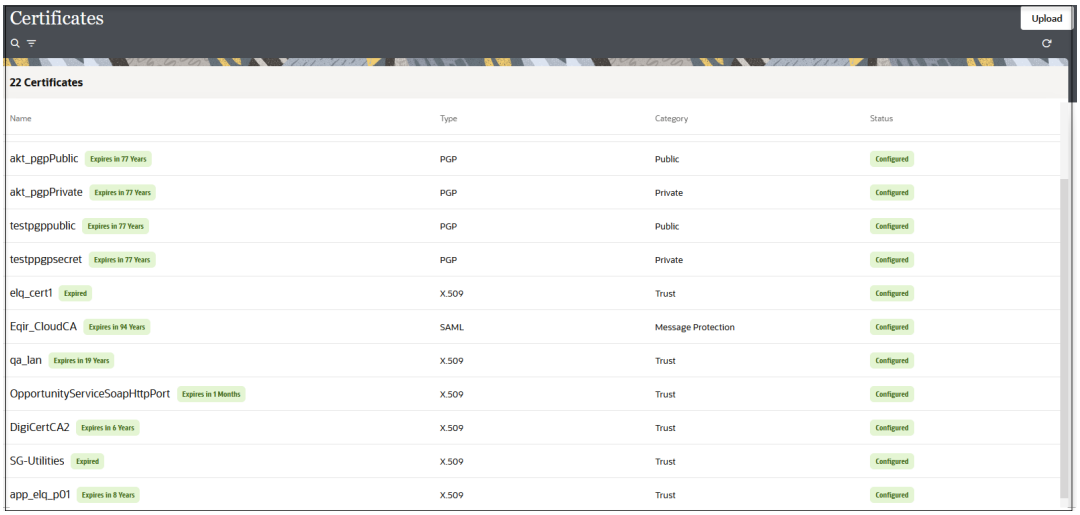
2. Wait for a message about the results of the connection test.
   - If the test was successful, then the connection is configured properly.
   - If the test failed, then edit the configuration details you entered. Check for typos and verify URLs and credentials. Continue to test until the connection 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 certificate expiration date, status, and type. 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**.

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# Add the Oracle Fusion Field Service Adapter Connection to an Integration

When you drag the Oracle Fusion Field Service Adapter into the trigger or invoke area of an integration, the Adapter Endpoint Configuration Wizard appears. This wizard guides you through configuration of the Oracle Fusion Field Service Adapter endpoint properties.

These topics describe the wizard pages that guide you through configuration of the Oracle Fusion Field Service Adapter as a trigger or invoke in an integration.

**Topics:**



## Basic Info Page

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

| Element | Description |
|---|---|
| **What do you want to call your endpoint?** | 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:<br>• No blank spaces (for example, `My Inbound Connection`)<br>• No special characters (for example, `#;83&` or `righ(t)now4`) except underscores and hyphens<br>• No multibyte characters |
| **What does this endpoint do?** | Enter an optional description of the connection's responsibilities. For example:<br>`This connection receives an inbound request to synchronize account information with the cloud application.` |

# Invoke Operations Page

Enter the business object and the operations to perform in Oracle Fusion Field Service.

| Element | Description |
|---|---|
| **Select Entity** | Select the business object's entity. An entity is a core business object that represents a key component in the application. Entities are foundational building blocks used to model business processes and store information relevant to field service operations.<br>• Activities<br>• Booking<br>• Calendars<br>• Catalogs<br>• Events<br>• Folders<br>• Inventories<br>• Resources<br>• Service Requests<br>• Users<br>The entity you select impacts the business objects available for selection in the **Select Business Object** field. |

| Element | Description |
|---|---|
| **Select Business Object** | Select the business object in Oracle Fusion Field Service on which you want to operate when running an integration that uses this endpoint. When configured as an invoke, the Oracle Fusion Field Service Adapter supports operations on these business objects.<br>Select the business objects under the entity **Activities**:<br>• **Activity**<br>• **Activity Actions**<br>• **Activity Search**<br>• **Bulk Update**<br>• **Capacity Categories**<br>• **Customer Inventories**<br>• **Deinstalled Inventories**<br>• **File Property**<br>• **Linked Activities**<br>• **Required Inventories**<br>• **Required Preference**<br>Select the business objects under the entity **Calendars**:<br>• **Calendars**<br>Select the business objects under the entity **Catalogs**:<br>• **Catalogs**<br>Select the business objects under the entity **Events**:<br>• **Events**<br>Select the business objects under the entity **Daily Extract**:<br>• **Daily Extract**<br>Select the business objects under the entity **Inventories**:<br>• **File Property**<br>• **Inventory**<br>• **Inventory Actions**<br>Select the business objects under the entity **Resources**:<br>• **Assigned Locations**<br>• **Inventories**<br>• **Locations**<br>• **Resource Actions**<br>• **Resources**<br>• **Routes**<br>Select the business objects under the entity **Service Requests**:<br>• **File Property**<br>• **Service Requests**<br>Select the business objects under the entity **Users**:<br>• **File Property**<br>• **Users** |
| **Select Operation** | Select the operation that you want Oracle Integration to invoke when running an integration that uses this endpoint.<br>• **Activity**: See Operation Activity<br>• **Calendars**: See Operation Calendars<br>• **Catalogs**: See Operation Catalogs<br>• **Events**: See Operation Events<br>• **Folders**: See Operation Folders<br>• **Inventories**: See Operation Inventories<br>• **Resources**: See Operation Resources<br>• **Service Requests**: See Operation Service Requests<br>• **Users**: See Operation Users |

# Operation Activity

The following Activity operations are supported.

- Business Object Activity for the Entity Activities
- Business Object Activity for the Entity Activities Actions
- Business Object Activity for the Entity Activity Search
- Business Object Activity for the Entity Bulk Update
- Business Object Activity for the Entity Capacity Categories
- Business Object Activity for the Entity Customer Inventories
- Business Object Activity for the Entity Deinstalled Inventories
- Business Object Activity for the Entity File Property
- Business Object Activity for the Entity Installed Inventories
- Business Object Activity for the Entity Linked Activities
- Business Object Activity for the Entity Required Inventories
- Business Object Activity for the Entity Required Preference

### Business Object Activity for the Entity Activities

Select the operations under the business object **Activity** for the entity **Activities**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/activities/{activityId}** | Delete an activity |
| **get /rest/ofscCore/v1/activities** | Get Activities |
| **get /rest/ofscCore/v1/activities/{activityId}** | Get an Activity |
| **get /rest/ofscCore/v1/activities/{activityId}/multidaySegments** | Get individual segments of a segmentable activity |
| **patch /rest/ofscCore/v1/activities/{activityId}** | Update an Activity |
| **post /rest/ofscCore/v1/activities** | Create an activity |

### Business Object Activity for the Entity Activities Actions

Select the operations under the business object **Activity** for the entity **Activities Actions**.

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/cancel** | Cancel an activity |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/complete** | Complete an activity |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/delay** | Delay an activity |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/enroute** | Update the activity status to enroute |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/move** | Move an activity |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/notDone** | Update the activity status to notdone |

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/reopen** | Reopen an activity |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/start** | Start an activity |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/startPrework** | Start prework |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/stopTravel** | Change activity status from enroute to pending |
| **post /rest/ofscCore/v1/activities/{activityId}/custom-actions/suspend** | Suspend an activity |

### Business Object Activity for the Entity Activity Search

Select the operations under the business object **Activity** for the entity **Activity Search**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/activities/custom-actions/search** | Search for activities |

### Business Object Activity for the Entity Bulk Update

Select the operations under the business object **Activity** for the entity **Bulk Update**.

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/activities/custom-actions/bulkUpdate** | Bulk update activities |

### Business Object Activity for the Entity Capacity Categories

Select the operations under the business object **Activity** for the entity **Capacity Categories**.

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/activities/{activityId}/capacityCategories** | Get capacity categories of activity |

### Business Object Activity for the Entity Customer Inventories

Select the operations under the business object **Activity** for the entity **Customer Inventories**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/activities/{activityId}/customerInventories** | Get customer inventories |
| **post /rest/ofscCore/v1/activities/{activityId}/customerInventories** | Create a customer inventory |

### Business Object Activity for the Entity Deinstalled Inventories

Select the operations under the business object **Activity** for the entity **Deinstalled Inventories**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/activities/{activityId}/deinstalledInventories** | Get deinstalled inventories |

### Business Object Activity for the Entity File Property

Select the operations under the business object **Activity** for the entity **File Property**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/activities/{activityId}/{propertyLabel}** | Get a file property |
| **delete /rest/ofscCore/v1/activities/{activityId}/{propertyLabel}** | Delete a file property |
| **put /rest/ofscCore/v1/activities/{activityId}/{propertyLabel}** | Set a file property |

### Business Object Activity for the Entity Installed Inventories

Select the operations under the business object **Activity** for the entity **Installed Inventories**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/activities/{activityId}/installedInventories** | Get installed inventories |

### Business Object Activity for the Entity Linked Activities

Select the operations under the business object **Activity** for the entity **Linked Activities**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/activities/{activityId}/linkedActivities** | Delete all activity links |
| **post /rest/ofscCore/v1/activities/{activityId}/linkedActivities** | Create an activity link |
| **get /rest/ofscCore/v1/activities/{activityId}/linkedActivities** | Get activity links |
| **delete /rest/ofscCore/v1/activities/{activityId}/linkedActivities/{linkedActivityId}/linkTypes/{linkType}** | Delete an activity link |
| **get /rest/ofscCore/v1/activities/{activityId}/linkedActivities/{linkedActivityId}/linkTypes/{linkType}** | Get activity link details |
| **put /rest/ofscCore/v1/activities/{activityId}/linkedActivities/{linkedActivityId}/linkTypes/{linkType}** | Replace an activity link |

### Business Object Activity for the Entity Required Inventories

Select the operations under the business object **Activity** for the entity **Required Inventories**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/activities/{activityId}/requiredInventories** | Delete required inventories of an activity |

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/activities/{activityId}/requiredInventories** | Get required inventories of an activity |
| **put /rest/ofscCore/v1/activities/{activityId}/requiredInventories** | Set required inventories for an activity |

### Business Object Activity for the Entity Required Preference

Select the operations under the business object **Activity** for the entity **Required Preference**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/activities/{activityId}/resourcePreferences** | Delete resource preferences of an activity |
| **get /rest/ofscCore/v1/activities/{activityId}/resourcePreferences** | Get resource preferences of an activity |
| **put /rest/ofscCore/v1/activities/{activityId}/resourcePreferences** | Set resource preferences of an activity |

## Operation Calendars

The following Calendars operations are supported.

### Business Object Calenders for the Entity Calendars

Select the operations under the business object **Calenders** for the entity **Calendars** .

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/calendars** | Get calendars |

## Operation Catalogs

The following Catalogs operations are supported.

### Business Object Catalogs for the Entity Catalogs

Select the operations under the business object **Catalogs** for the entity **Catalogs**.

| Operation | Description |
|---|---|
| **delete_/catalogs/{catalog}/{language}/{itemLabel}** | Remove a catalog item |
| **put_/catalogs/{catalog}/{language}** | Create a catalog |
| **put_/catalogs/{catalog}/{language}/{itemLabel}** | Create or update a catalog item |

## Operation Events

The following Events operations are supported.

### Business Object Events for the Entity Events

Select the operations under the business object **Events** for the entity **Events**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/events** | Get events |
| **get /rest/ofscCore/v1/events/subscriptions** | Get subscriptions |
| **post /rest/ofscCore/v1/events/subscriptions** | Create a subscription |
| **delete /rest/ofscCore/v1/events/subscriptions/{subscriptionId}** | Delete a subscription |
| **get /rest/ofscCore/v1/events/subscriptions/{subscriptionId}** | Get subscription details |

# Operation Folders

The following Folders operations are supported.

### Business Object Folders for the Entity Daily Extract

Select the operations under the business object **Folders** for the entity **Daily Extract**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/folders/dailyExtract/folders** | Get daily extract dates |
| **get /rest/ofscCore/v1/folders/dailyExtract/folders/{dailyExtractDate}/files** | Get a list of daily extract files for a date |
| **get /rest/ofscCore/v1/folders/dailyExtract/folders/{dailyExtractDate}/files/{dailyExtractFilename}** | Get a daily extract file |

# Operation Inventories

The following Inventories operations are supported.

- Business Object Inventories for the Entity File Property
- Business Object Inventories for the Entity Inventory
- Business Object Inventories for the Entity Inventory Actions

### Business Object Inventories for the Entity File Property

Select the operations under the business object **Inventories** for the entity **File Property**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/inventories/{inventoryId}/{propertyLabel}** | Delete a file property |
| **get /rest/ofscCore/v1/inventories/{inventoryId}/{propertyLabel}** | Get a file property |
| **put /rest/ofscCore/v1/inventories/{inventoryId}/{propertyLabel}** | Set a file property |

### Business Object Inventories for the Entity Inventory

Select the operations under the business object **Inventories** for the entity **Inventory**.

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/inventories** | Create inventories |
| **delete /rest/ofscCore/v1/inventories/{inventoryId}** | Delete an Inventory |
| **get /rest/ofscCore/v1/inventories/{inventoryId}** | Get an inventory |
| **patch /rest/ofscCore/v1/inventories/{inventoryId}** | Update an inventory |

### Business Object Inventories for the Entity Inventory Actions

Select the operations under the business object **Inventories** for the entity **Inventory Actions**.

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/inventories/{inventoryId}/custom-actions/deinstall** | Deinstall an inventory |
| **post /rest/ofscCore/v1/inventories/{inventoryId}/custom-actions/install** | Install an inventory |
| **post /rest/ofscCore/v1/inventories/{inventoryId}/custom-actions/undoDeinstall** | Undo deinstall an inventory |
| **post /rest/ofscCore/v1/inventories/{inventoryId}/custom-actions/undoInstall** | Undo install an inventory |

# Operation Resources

The following Resources operations are supported.

- Business Object Resources for the Entity Assigned Locations
- Business Object Resources for the Entity File Property
- Business Object Resources for the Entity Inventories
- Business Object Resources for the Entity Locations
- Business Object Resources for the Entity Resource Actions
- Business Object Resources for the Entity Resources
- Business Object Resources for the Entity Routes
- Business Object Resources for the Entity Users
- Business Object Resources for the Entity Work Schedules
- Business Object Resources for the Entity Work skills
- Business Object Resources for the Entity Work Zones

### Business Object Resources for the Entity Assigned Locations

Select the operations under the business object **Resources** for the entity **Assigned Locations**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/resources/{resourceId}/assignedLocations** | Get assigned locations |
| **put /rest/ofscCore/v1/resources/{resourceId}/assignedLocations** | Set assigned locations |

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/resources/{resourceId}/assignedLocations/{date}** | Delete assigned locations |

### Business Object Resources for the Entity File Property

Select the operations under the business object **Resources** for the entity **File Property**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/resources/{resourceId}/{propertyLabel}** | Delete a file property |
| **get /rest/ofscCore/v1/resources/{resourceId}/{propertyLabel}** | Get a file property |
| **put /rest/ofscCore/v1/resources/{resourceId}/{propertyLabel}** | Set a file property |

### Business Object Resources for the Entity Inventories

Select the operations under the business object **Resources** for the entity **Inventories**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/resources/{resourceId}/inventories** | Get resource inventories |
| **post /rest/ofscCore/v1/resources/{resourceId}/inventories** | Create a resource inventory |
| **post /rest/ofscCore/v1/resources/{resourceId}/inventories/{inventoryId}/custom-actions/install** | Install an inventory |

### Business Object Resources for the Entity Locations

Select the operations under the business object **Resources** for the entity **Locations**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/resources/{resourceId}/locations** | Get resource locations |
| **post /rest/ofscCore/v1/resources/{resourceId}/locations** | Create a resource location |
| **delete /rest/ofscCore/v1/resources/{resourceId}/locations/{locationId}** | Delete a resource location |
| **get /rest/ofscCore/v1/resources/{resourceId}/locations/{locationId}** | Get a resource location |
| **patch /rest/ofscCore/v1/resources/{resourceId}/locations/{locationId}** | Update a resource location |

### Business Object Resources for the Entity Resource Actions

Select the operations under the business object **Resources** for the entity **Resource Actions**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/resources/custom-actions/lastKnownPositions** | Get last known positions of resources |
| **get /rest/ofscCore/v1/resources/custom-actions/resourcesInArea** | Get resources in area |

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/resources/custom-actions/findMatchingResources** | Find matching resources |
| **post /rest/ofscCore/v1/resources/custom-actions/findResourcesForUrgentAssignment** | Find resources for urgent assignment |
| **post /rest/ofscCore/v1/resources/custom-actions/setPositions** | Set positions for resources |

### Business Object Resources for the Entity Resources

Select the operations under the business object **Resources** for the entity **Resources**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/resources/{resourceId}/plan** | Get work plans for a resource |
| **get /rest/ofscCore/v1/resources** | Get resources |
| **get /rest/ofscCore/v1/resources/{resourceId}** | Get a resource |
| **get /rest/ofscCore/v1/resources/{resourceId}/children** | Get child resources |
| **get /rest/ofscCore/v1/resources/{resourceId}/descendants** | Get resource descendants |
| **get /rest/ofscCore/v1/resources/{resourceId}/findNearbyActivities** | Find nearby activities |
| **get /rest/ofscCore/v1/resources/{resourceId}/plans** | Get work plans for a resource |
| **get /rest/ofscCore/v1/resources/{resourceId}/positionHistory** | Get position history of a resource |
| **patch /rest/ofscCore/v1/resources/{resourceId}** | Update a resource |
| **post /rest/ofscCore/v1/resources/{resourceId}/plans** | Create work plan for a resource |
| **put /rest/ofscCore/v1/resources/{resourceId}** | Create a resource |

### Business Object Resources for the Entity Routes

Select the operations under the business object **Resources** for the entity **Routes**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/resources/{resourceId}/routes/{date}** | Get a resource route |
| **post /rest/ofscCore/v1/resources/{resourceId}/routes/{date}/custom-actions/activate** | Activate a resource route |
| **post /rest/ofscCore/v1/resources/{resourceId}/routes/{date}/custom-actions/deactivate** | Deactivate a resource route |

### Business Object Resources for the Entity Users

Select the operations under the business object **Resources** for the entity **Users**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/resources/{resourceId}/users** | Unset users |

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/resources/{resourceId}/users** | Get resource users |
| **put /rest/ofscCore/v1/resources/{resourceId}/users** | Set users |

### Business Object Resources for the Entity Work Schedules

Select the operations under the business object **Resources** for the entity **Work Schedules**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/resources/{resourceId}/workSchedules/{scheduleItemId}** | Delete a work schedule item |
| **get /rest/ofscCore/v1/resources/{resourceId}/workSchedules** | Get work schedules |
| **get /rest/ofscCore/v1/resources/{resourceId}/workSchedules/calendarView** | Get a calendar |
| **post /rest/ofscCore/v1/resources/{resourceId}/workSchedules** | Set a work schedule |

### Business Object Resources for the Entity Work skills

Select the operations under the business object **Resources** for the entity **Work skills**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/resources/{resourceId}/workSkills/{workSkill}** | Delete a work skill |
| **get /rest/ofscCore/v1/resources/{resourceId}/workSkills** | Get work skills |
| **post /rest/ofscCore/v1/resources/{resourceId}/workSkills** | Set work skills |

### Business Object Resources for the Entity Work Zones

Select the operations under the business object **Resources** for the entity **Work Zones**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/resources/{resourceId}/workZones/{workZoneItemId}** | Delete a resource work zone item |
| **get /rest/ofscCore/v1/resources/{resourceId}/workZones** | Ge resource work zones |
| **post /rest/ofscCore/v1/resources/{resourceId}/workZones** | Set a resource work zone |

## Operation Service Requests

The following Service Requests operations are supported.

- Business Object Service Requests for the Entity File Property
- Business Object Service Requests for the Entity Service Requests

### Business Object Service Requests for the Entity File Property

Select the operations under the business object **Service Requests** for the entity **File Property**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/serviceRequests/{requestId}/{propertyLabel}** | Get a file property |

### Business Object Service Requests for the Entity Service Requests

Select the operations under the business object **Service Requests** for the entity **Service Requests**.

| Operation | Description |
|---|---|
| **get /rest/ofscCore/v1/serviceRequests/{requestId}** | Get a service request |
| **post /rest/ofscCore/v1/serviceRequests/** | Create a service request |

## Operation Users

The following Users operations are supported.

- Business Object Users for Entity File Property
- Business Object Users for the Entity Users

### Business Object Users for Entity File Property

Select the operations under the business object **Users** for the entity **File Property**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/users/{login}/{propertyLabel}** | Delete a file property |
| **get /rest/ofscCore/v1/users/{login}/{propertyLabel}** | Get a file property |
| **put /rest/ofscCore/v1/users/{login}/{propertyLabel}** | Set a file property |

### Business Object Users for the Entity Users

Select the operations under the business object **Users** for the entity **Users**.

| Operation | Description |
|---|---|
| **delete /rest/ofscCore/v1/users/{login}** | Delete a user |
| **delete /rest/ofscCore/v1/users/{login}/collaborationGroups** | Delete collaboration groups |
| **get /rest/ofscCore/v1/users** | Get users |
| **get /rest/ofscCore/v1/users/{login}** | Get a user |
| **get /rest/ofscCore/v1/users/{login}/collaborationGroups** | Get collaboration groups |
| **patch /rest/ofscCore/v1/users/{login}** | Update a user |

| Operation | Description |
|---|---|
| **post /rest/ofscCore/v1/users/{login}/collaborationGroups** | Add collaboration groups |
| **put /rest/ofscCore/v1/users/{login}** | Create a user |

# Trigger Events Page

Select the business object and associated events to send as a trigger request to Oracle Integration and then from Oracle Integration to the invoke endpoint.

| Element | Description |
|---|---|
| **Select Business Object** | Select the business object that you want to send to the target application. The Oracle Fusion Field Service Adapter supports operations on these business objects:<br>• Activity<br>• Activity Link<br>• Activity Resource Preference<br>• Forms<br>• Inventory<br>• Required Inventory<br>• Route<br>• Resource<br>• Resource Inventory<br>• Service Request<br>• User |

| Element | Description |
|---|---|
| **Select Events** | Selects the events that you want to send to the target application.<br>These events are available for the Activity business object:<br>• Activity Created<br>• Activity Updated<br>• Activity Started<br>• Activity Suspended<br>• Activity Completed<br>• Activity Not Done<br>• Activity Canceled<br>• Activity Deleted<br>• Activity Delayed<br>• Activity Reopened<br>• Activity Prework Created<br>• Activity Moved<br>These events are available for the Activity Link business object:<br>• Activity Link Created<br>• Activity Link Deleted<br>These events are available for the Activity Resource Preference business object:<br>• Resource Preference Created<br>• Resource Preference Deleted<br>This event is available for the Forms business object:<br>• Form Submitted<br>To subscribe to a particular form, click **Configure** to display a page with a list of forms available for selection in the Oracle Fusion Field Service application.<br>These events are available for the Inventory business object:<br>• Inventory Installed<br>• Inventory Deinstalled<br>• Customer Inventory Created<br>• Customer Inventory Updated<br>• Customer Inventory Deleted<br>• Inventory Undo Install<br>• Inventory Undo Deinstall<br>These events are available for the Required Inventory business object:<br>• Required Inventory Created<br>• Required Inventory Updated<br>• Required Inventory Deleted<br>These events are available for the Resource business object:<br>• Resource Created<br>• Resource Updated<br>These events are available for the Resource Inventory business object:<br>• Resource Inventory Created<br>• Resource Inventory Deleted<br>• Resource Inventory Updated<br>These events are available for the Route business object:<br>• Route Created<br>• Route Updated<br>• Route Activated |

| Element | Description |
|---|---|
| | • Route Deactivated<br>• Route Reactivated<br>These events are available for the Service Request business object:<br>• Customer Request Created<br>• Inventory Request Created<br>• Resource Request Created<br>These events are available for the User business object:<br>• User Created<br>• User Deleted<br>• User Updated |
| **Your Selected Events** | Identifies the events that you have selected to send to the target application. If you select a different business object, the **Your Selected Events** list is cleared and you must make your selections again. |
| **Configure** | Click to add filters to the event subscription. To subscribe to a particular form |

# Trigger Events Filter Selection Page

Select the filters to add to the event subscription.

| Element | Description |
|---|---|
| **Trigger Fields** | Begin typing to filter the display of fields. |
| **Select Fields** | Select the fields to use. |
| **Your Selected Fields** | Displays the selected fields. |
| **Fields to Be Displayed Always** | Begin typing to filter the display of fields. |
| **Selected Fields** | Select the fields to always show. |
| **Your Selected Fields** | Displays the selected fields. |
| **Filter Expression** | Enter the filter expression to apply to the operation. Only events matching this filter are added to this event subscription. Filter expressions are supported with the Activity and Inventory business objects.<br>**Note**: If an invalid filter expression is specified, an error message is displayed when you attempt to activate the integration. You must correct the filter expression to activate the integration. See Filter Expression Syntax. |

# Summary Page

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

| Element | Description |
|---|---|
| **Summary** | Displays a summary of the configuration values you defined on previous pages of the wizard.<br>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.<br>To return to a previous page to update any values, click the appropriate tab in the left panel or click **Go back**.<br>To cancel your configuration details, click **Cancel**. |

4

# Troubleshoot the Oracle Fusion Field Service Adapter

Review the following topics to learn about troubleshooting issues with the Oracle Fusion Field Service Adapter.

**Topics**



## Troubleshoot Refresh Token Expiration

If the refresh token expires for the Oracle Fusion Field Service Adapter connection, the following error occurs.

```
{
 "status": 400,
 "message": "[DefaultAuthSecurityHandler] Could not refresh the access token.
The access token response
returned an unsuccessful status [400].",
 "Error": {
 "error": "invalid_grant",
 "error_description": "The token has already been consumed.",
 "ecid": "C9gaz1lIGI0000000"
 }
}
```

Perform the following steps to re-authenticate.

1. Go to the Connections page for the Oracle Fusion Field Service Adapter connection.
2. Click **Test**.

   If the connection test fails with the above error, the refresh token has expired. You must re-authenticate the authentication flow.
3. Click **Provide Consent** to re-authenticate with the Oracle Cloud Infrastructure Identity and Access Management credentials.

## Deactivate an Integration to Delete Event Subscriptions

You can deactivate an integration to prevent new messages from being processed. If you want to modify an active integration, you must deactivate it first.

1. In the navigation pane, click **Design**, then **Integrations**.
2. On the Integrations page, find the integration you want to deactivate.

   To view only active integrations, select **Active** in the list. You can also filter by integration name or integration type (prebuilt, custom, or developed) to narrow down the list.
3. In the row containing the integration you want to deactivate, click the **Active** icon to deactivate the integration.
4. Click **Deactivate** on the dialog that appears. A deactivation progress bar is displayed at the top of the dialog.
5. If the **Delete Event Subscription** option is checked, the event subscription associated with the integration is removed from the Oracle Fusion Field Service application.

> **Note**
>
> The **Delete Event Subscription** option is available with Oracle Fusion Field Service application version 18.11.11 and later.

# Connectivity Issue Between Oracle Fusion Field Service (Source) and Oracle Integration

When connecting Oracle Fusion Field Service as a source to any target system through Oracle Integration, if the integration is not triggered (inbound endpoint) and there is no entry for the integration instance in the monitoring section of Oracle Integration, it may mean that the source system messages are not reaching Oracle Integration. This may be a network connectivity issue, a fire wall IP blocking issue, or a source system configuration issue.

As an example, assume you have the following integrations:

- Integration 1: Oracle Service Cloud > Oracle Integration > Oracle Fusion Field Service
- Integration 2: Oracle Fusion Field Service > Oracle Integration > Oracle Service Cloud

Integration 1 works fine, with data flowing correctly from Oracle Service Cloud to Oracle Fusion Field Service through Oracle Integration. However, integration 2 is not triggered and no instances of failure or success are displayed in the monitoring section. In fact, no integration instances are triggered when Oracle Fusion Field Service is configured as the source application. The Oracle Fusion Field Service application is unable to invoke the Oracle Integration integration endpoint.

To resolve this issue:

- Ensure that the outbound integration channel for Oracle Integration is configured correctly.
- If the issue still persists, file a service request (SR) for Oracle Fusion Field Service with a description of the event flow issue.

# Filter Expression Syntax

If an invalid filter expression is specified on the Events Filter Selection page, an error message is displayed when you attempt to activate the integration. You must correct the filter expression to activate the integration.

Note the following event filter expression syntax guidelines:

- The filter expression must be specified as a single string.
- The filter expression must evaluate as a boolean expression.
- The filter expression must contain one or more comparison statements.
- Comparison statements must be specified in the following order:

  *field operator value*

  For example:

  ```
  activityDetails.activityType == 'Install'
  ```

  Specifying a different order is not allowed.

  - Comparing field to field (`A == B`) or value to value (`1 == 1`) is not valid.
  - A field must be an alphanumeric identifier with no spaces or special characters except an underscore. Subfields are separated by a dot (`.`). For example:
    - `activityDetails.activityType`
    - `activityDetails.X_MYPROP_10`
    - *`field`*`.`*`subField`*
  - Supported comparison operators are:
    - `<`
    - `>`
    - `<=`
    - `>=`
    - `==`
    - `!=`
    - `in`
  - The value can be either a string literal, an integer literal, or an array literal of strings and integers.
    - String literals are delimited by single quotes with an escape character (~). For example:
      - `str == 'My String'`
      - `str == 'My string with ~' a quote inside'`
    - Integer literals are specified without quotes, cannot contain dots, and cannot contain leading zeroes.
      - `num == 0`
      - `num == 12345`
      - `num == -67/li>`
    - Array literals must only contain strings or only integers, and are in square brackets. Empty arrays are not allowed. Arrays are only allowed following the `in` operator.

        - `enum in [1,2,3]`
        - `enum in ['Abc','Def','Ghi']`
    - String comparisons are valid:
        - `date > '2015-06-02'`
    - String comparisons are all case insensitive:
        - `name == 'john.smith'`
        - `name == 'JOHN.SMITH'`
    - String-integer coercion occurs:
        - `num == -123`
        - `num == '-123'`
- Multiple comparison statements must be separated by a logical `and`/`or` operator.
    - `A == 1 and B == 2 or C == 3`
    - `A == 'xx' or A == 'yy'`
- Operator precedence is as follows:
    - comparison operators: `==, !=, <, >, <=, >=, in`
    - `'not'`
    - `'and', 'or'`
- Logical operators (`and`/ `or`) have the same precedence. Therefore, use parentheses to achieve precedence:
    - `A == 1 and (B == 2 or C == 3)`
- Operators are also case insensitive:
    - `(num IN [1,2,3]) OR (num < 0)`
- Any statement can be preceded by a `not` operator to negate it.
    - `not (activityType in ['IN','TC','BR'])`
    - `A == 1 and not ( B == 2 or B == 3 )`
- Whitespace that is outside strings is ignored.
- When the field being compared does not exist in the event or is null, it evaluates to an empty string. For example, the expressions `(non_existent_field == '')` and `(null_field == '')` are both true.

# Activity Event Fields

The activity event contains the following fields:

- `eventType`: The type of the event, such as `activityCreated`, `activityUpdated`, and so on.
- `applicationId`: The ID of the application that performed the operation that generated the event. It is only present if the operation was performed by an application.
- `time`: The time of the event in the UTC time standard (string). The time format is `YYYY-MM-DD HH:MM:SS`.
- `user`: The user who performed this event (string).
- `activityDetails`: A record containing the following activity-related key fields:

  - `activityId`: The identifier of the activity (integer). This is a mandatory field.
  - `resourceId`: The identifier of the resource to which the activity is assigned (string). This is a mandatory field. The field maps to the `external_id` field.
  - `date`: The date the activity is scheduled in the format `YYYY-MM-DD`. If the activity is not scheduled, the value is `NULL`.
  - `apptNumber`: This field is used by integrations to hold the external ID of the activity. The external ID is the identifier of the activity in the origin system. This is an optional field.
  - `customerNumber`: This field is used by integrations to hold the external ID of the account. The external ID is the identifier of the account in the origin system. This is an optional field.
- `activityChanges`: The list of resource fields that changed with the event. The fields have the same types and values as used in the GET, POST, and PATCH operations with a few exceptions. The time fields are in UTC.

**Example for Activity Event Filter Expression**

```
(activityDetails.activityType in ['IN','TC','BR']) AND (user != 'my_integ')
AND (activityDetails.customerName != '')
```

# Inventory Event Fields

The inventory event contains the following fields:

- `eventType`: The type of the event, such as `customerInventoryUpdated`, `customerInventoryDeleted`, `resourceInventoryCreated`, and so on.
- `applicationId`: The ID of the application that performed the operation that generated the event. It is only present if the operation was performed by an application.
- `time`: The time of the event in the UTC time standard (string). The time format is `YYYY-MM-DD HH:MM:SS`.
- `user`: The user who performed this event (string).
- `activityDetails`: A record containing the following activity-related key fields:
  - `activityId`: The identifier of the activity (integer). This is a mandatory field.
  - `resourceId`: The identifier of the resource to which the activity is assigned (string). This is a mandatory field. The field maps to the `external_id` field.
  - `date`: The date the activity is scheduled in the format `YYYY-MM-DD`. If the activity is not scheduled, the value is `NULL`.
  - `apptNumber`: This field is used by integrations to hold the external ID of the activity. The external ID is the identifier of the activity in the origin system. This is an optional field.
  - `customerNumber`: This field is used by integrations to hold the external ID of the account. The external ID is the identifier of the account in the origin system. This is an optional field.
- `inventoryDetails`: A record containing the following inventory-related key fields:
  - `inventoryId`: The identifier of the inventory (integer). This is a mandatory field.
  - `inventoryType`: One of the inventory types defined in the **Configuration** > **Inventory** types page in the Field Service Manage interface.

  - `status`: The status, such as customer, resource, installed, and deinstalled.
- `inventoryChanges`: A record containing the following inventory changed fields:
  - `inventoryId`
  - `status`
  - `inventoryType`
  - `serialNumber`
  - `quantity`
  - `exchangedInventoryId`
  - `resourceId`
  - `activityId`
  - All the custom properties of an inventory, except file properties.
- `exchanged`: The value is `true` when an inventory is created as part of the exchange operation. The `eventType` is `inventoryInstalled` or `inventoryDeinstalled`. The field is empty when the value is `false`.

**Example for inventory event filter expression**

```
(activityDetails.activityType in ['IN','TC','BR']) AND (user != 'my_integ')
AND (activityDetails.customerName != '')
AND (inventoryDetails.inventoryId == 1000)
```

# Configuration Issue Between Oracle Fusion Field Service (Source) and Oracle Integration

When connecting Oracle Fusion Field Service as a source to any target system through Oracle Integration, if the integration is not triggered (inbound endpoint) and there is no entry for the integration instance in the monitoring section of Oracle Integration, it may mean that Oracle Integration details are not configured correctly on the Oracle Fusion Field Service side.

For most cases, you need to check the *hostname* part configuration.

For example, assume your integration URL is as follows:

```
https://INTEGRATION-A12345.integration.us7.oraclecloud.com/integration/
flowsvc/
ofsccloudadapter/NAME/v01/
```

Assume the host field is configured as follows:

```
integration-a12345.integration.us7.oraclecloud.com
```

The above host name configuration is wrong and does not trigger events from Oracle Fusion Field Service.

The correct configuration is (the Oracle Integration URL case must be considered):

```
INTEGRATION-A12345.integration.us7.oraclecloud.com
```

To get the integration URL in Oracle Integration:

1. In the navigation pane, click **Design**, then **Integrations**.
2. Hover over the integration that is triggered from Oracle Fusion Field Service, then click ⋮ then **Run**.
3. On the Configure and Run page, click **Endpoint Metadata**, and check the case of the **Endpoint URL**. The same case must be configured on the host name part of the outbound integration in Oracle Fusion Field Service.