Oracle® Cloud

Using the Oracle Field Service Cloud Adapter with Oracle Integration 3

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Contents

4 Troubleshoot the Oracle Field Service Cloud Adapter

Preface

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

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

Topics:

Audience

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

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

Related Resources

See these Oracle resources:

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

Conventions

The following text conventions are used in this document:

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

1

Understand the Oracle Field Service Cloud Adapter

Review the following conceptual topics to learn about the Oracle Field Service Cloud 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 Field Service Cloud Adapter Capabilities

Use the Oracle Field Service Cloud Adapter to create a Field Service application integration.

The Oracle Field Service Cloud 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 Field Service Cloud Adapter supports bidirectional data transfers; field service orders (outbound) are sent and progress updates (inbound) are received.

The Oracle Field Service Cloud Adapter provides these benefits:

- Acts as a single management interface for Oracle Field Service Cloud.
- Integrates Oracle Field Service Cloud 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 Field Service Cloud, you can view it in the mapper for an existing integration by clicking the Oracle Field Service Cloud Adapter and selecting **Regenerate Artifact**.

  See Regenerating a WSDL File 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.

The Oracle Field Service Cloud Adapter is one of many predefined adapters included with Oracle Integration. You can configure the Oracle Field Service Cloud Adapter as a 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.

About Oracle Field Service Cloud Adapter Use Cases

This scenario describes the interaction between the Oracle Field Service Cloud 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 Field Service Cloud Adapter.
- The Oracle Field Service Cloud Adapter creates a matching activity in Oracle Field Service Cloud and returns the activity identifier to the municipal services monitoring application to allow the progress of the work order to be monitored.
- Oracle Field Service Cloud assigns the activity to the service team.
- The lead Engineer for the service team uses the mobile Oracle Field Service Cloud 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 Field Service Cloud application to change the status of the work order to *completed*.
- Oracle Field Service Cloud sends an activity completed notice for the work order to Oracle Field Service Cloud Adapter.
- The Oracle Field Service Cloud 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 Field Service Cloud 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 an Oracle Field Service Cloud user type with API access and associate a new or existing user with the user type.	Prerequisites for Creating a Connection
2	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 Field Service Cloud Adapter Connection
3	Create the integration. When you do this, you add source and target connections to the integration.	Creating Integrations and Add the Oracle Field Service Cloud Adapter Connection to an Integration
4	Map data between the source connection data structure and the target connection data structure.	Mapping Data in *Using Integrations in Oracle Integration 3*
5	(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*
6	Activate the integration.	Managing Integrations in *Using Integrations in Oracle Integration 3*
7	Monitor the integration on the dashboard.	Monitoring Integrations During Runtime in *Using Integrations in Oracle Integration 3*
8	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*
9	Manage errors at the integration level, connection level, or specific integration instance level.	Managing Errors in *Using Integrations in Oracle Integration 3*

2

Create an Oracle Field Service Cloud Adapter Connection

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

Topics:

Prerequisites for Creating a Connection

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

Manage Permissions and Restrictions for the Selected User Types

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

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

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.

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

Add and Manage an Oracle Integration Application

You must add an Oracle Integration application to integrate Oracle 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

To...	See...
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

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
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 (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 **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.

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

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.
2. Enter the URL used to connect to your application and process requests in the **Field Service API URL** field.

   For production, the URL format is as follows:

   ```
   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 Field Service Cloud instance is provisioned.
3. Enter the instance ID in the **Instance ID** field.

   The instance ID is provided by Oracle when your Oracle Field Service Cloud 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
Basic Authentication	• **Username**: Enter the name of a user with access to the destination web service. • **Password**: Enter the password. • **Confirm Password**: Re-enter the password. See Manage Permissions and Restrictions for the Selected User Types.
Client Credentials	• **Client Id**: Enter the registered client application key. • **Client Secret**: Enter the registered client application secret. • **Confirm Client Secret**: Reenter the registered client application secret. See Create an Application.

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 ...
Public gateway	Connections to endpoints using the public internet.
Private endpoint	Connections to endpoints using a private virtual cloud network (VCN). **Note**: 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* 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 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: • **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. • **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.

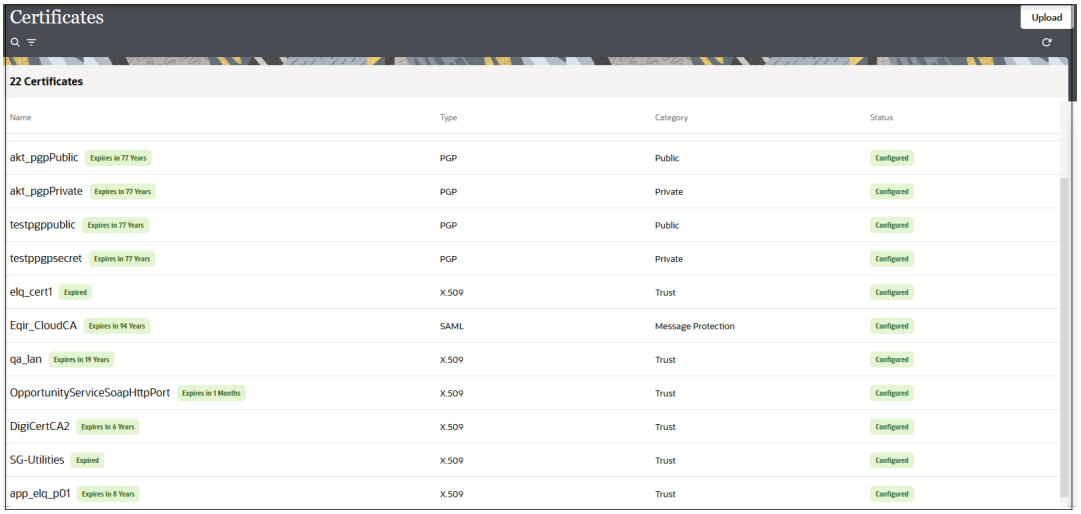
2. Wait for a message about the results of the connection test.
   - If the test was successful, then the connection is configured properly.
   - If the test failed, then edit the configuration details you entered. Check for typos and verify URLs and credentials. Continue to test until the connection 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 name, certificate expiration date, status, type, category, and installation method (user-installed or system-installed). Certificates installed by the system cannot be deleted.



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

Digital Signature

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

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

X.509 (SSL transport)

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

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

iii. Enter the password of the keystore being imported.

c. Click **Upload**.

SAML (Authentication & Authorization)

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

PGP (Encryption & Decryption)

1. Select a certificate category. Pretty Good Privacy (PGP) provides cryptographic privacy and authentication for communication. PGP is used for signing, encrypting, and decrypting files. You can select the private key to use for encryption or decryption when configuring the stage file action.
   a. **Private**: Uses a private key of the target location to decrypt the file.
      i. Click **Browse**, then select the PGP file to upload.
      ii. Enter the PGP private key password.
   b. **Public**: Uses a public key of the target location to encrypt the file.
      i. Click **Browse**, then select the PGP file to upload.
      ii. In the **ASCII-Armor Encryption Format** field, select **Yes** or **No**.
         - **Yes** shows the format of the encrypted message in ASCII armor. ASCII armor is a binary-to-textual encoding converter. ASCII armor formats encrypted messaging in ASCII. This enables messages to be sent in a standard messaging format. This selection impacts the visibility of message content.
         - **No** causes the message to be sent in binary format.
      iii. From the **Cipher Algorithm** list, select the algorithm to use. Symmetric-key algorithms for cryptography use the same cryptographic keys for both encryption of plain text and decryption of cipher text. The following supported cipher algorithms are FIPS-compliant:
         - AES128
         - AES192
         - AES256
         - TDES
   c. Click **Upload**.

Signing key

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

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

3

Add the Oracle Field Service Cloud Adapter Connection to an Integration

When you drag the Oracle Field Service Cloud 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 Field Service Cloud Adapter endpoint properties.

These topics describe the wizard pages that guide you through configuration of the Oracle Field Service Cloud 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: • No blank spaces (for example, `My Inbound Connection`) • No special characters (for example, `#;83&` or `righ(t)now4`) except underscores and hyphens • No multibyte characters
What does this endpoint do?	Enter an optional description of the connection's responsibilities. For example: `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 Field Service Cloud.

Element	Description
Select Business Object	Selects the business object in Oracle Field Service Cloud on which you want to operate when running an integration that uses this endpoint. When configured as an invoke, the Oracle Field Service Cloud Adapter supports operations on these business objects: • Activity • Activity Booking • Activity Inventory • Activity Link • Activity Resource Preference • Calendar • Inventory • Parts Catalog • Required Inventory • Resource • User

Element	Description
Select Operation	Selects the operation that you want Oracle Integration to invoke when running an integration that uses this endpoint. These operations are available for the Activity business object: • Bulk Update Activity • Cancel Activity • Complete Activity • Create New Activity • Delete Activity • Get Activity • Get Activities • Get File Property • Move Activity • Not Done Activity • Search Activity • Set File Property • Start Activity • Suspend Activity • Update Activity This operation is available for the Activity Booking business object: • Get Activity Booking These operations are available for the Activity Inventory business object: • Create Customer Inventory • Get Customer Inventories • Get Deinstalled Inventories • Get Installed Inventories These operations are available for the Activity Link business object: • Create Activity Link • Delete Activity Link • Get Activity Link Details • Get Activity Links • Replace Activity Link These operations are available for the Activity Resource Preference business object: • Delete Resource Preferences Of Activity • Get Resource Preferences Of Activity • Set Resource Preferences Of Activity This operation is available for the Calendar business object: • Get Calendars These operations are available for the Inventory business object: • Create Inventory • Deinstall Inventory • Delete Inventory • Get File Property • Get Inventory • Install Inventory • Set File Property • Undo Deinstall Inventory • Undo Install Inventory • Update Inventory These operations are available for the Parts Catalog business object:

Element	Description
	• Create Catalog • Create/Update Catalog Item • Delete Catalog Item These operations are available for the Required Inventory business object: • Delete Required Inventories Of Activity • Get Required Inventories Of Activity • Set Required Inventories Of Activity This operation is available for the Resource business object: • Create Resource • Create Resource Inventory • Create Resource Location • Create Work Plan for Resource • Get File Property • Get Resource • Get Resource Assigned Locations • Get Resource Inventories • Get Resource Location • Get Resource Locations • Get Resource Users • Get Resource Work Schedules • Get Resource Work Skills • Get Resource Work Zones • Get Work Plans For Resource • Set Assigned Locations • Set File Property • Set Users • Set Work Schedule • Set Work Zone • Update Resource • Update Resource Location These operations are available for the User business object: • Get File Property • Get Users • Set File Property

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 Field Service Cloud Adapter supports operations on these business objects: • Activity • Activity Link • Activity Resource Preference • Forms • Inventory • Required Inventory • Route • Resource • Resource Inventory • Service Request • User

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

Element	Description
	• Route Deactivated • Route Reactivated These events are available for the Service Request business object: • Customer Request Created • Inventory Request Created • Resource Request Created These events are available for the User business object: • User Created • User Deleted • 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. **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. 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. To return to a previous page to update any values, click the appropriate tab in the left panel or click **Go back**. To cancel your configuration details, click **Cancel**.

4

Troubleshoot the Oracle Field Service Cloud Adapter

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

Topics

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 Field Service Cloud application.

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

Connectivity Issue Between Oracle Field Service Cloud (Source) and Oracle Integration

When connecting Oracle Field Service Cloud 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 Field Service Cloud
- Integration 2: Oracle Field Service Cloud > Oracle Integration > Oracle Service Cloud

Integration 1 works fine, with data flowing correctly from Oracle Service Cloud to Oracle Field Service Cloud 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 Field Service Cloud is configured as the source application. The Oracle Field Service Cloud 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 Field Service Cloud 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 Field Service Cloud (Source) and Oracle Integration

When connecting Oracle Field Service Cloud 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 Field Service Cloud 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 Field Service Cloud.

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 Field Service Cloud, 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 Field Service Cloud.