

Oracle® Cloud

Using the Oracle Field Service Adapter with Oracle Integration



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

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Contents

Preface

Audience	v
Documentation Accessibility	v
Related Resources	v
Conventions	vi

1 Understand the Oracle Field Service Adapter

Oracle Field Service Adapter Capabilities	1-1
What Application Version Is Supported?	1-2
About Oracle Field Service Adapter Use Cases	1-2
Workflow to Create and Add an Oracle Field Service Adapter Connection to an Integration	1-3

2 Create an Oracle Field Service Adapter Connection

Prerequisites for Creating a Connection	2-1
Create an Oracle Field Service User Account	2-1
Get the Client ID/Client Secret from the Oracle Field Service Application	2-5
Enable Event Publishing from Oracle Field Service to Oracle Integration	2-5
For Oracle Field Service Releases Prior to 18c	2-5
For Oracle Field Service Releases 18c and Later	2-6
Migrate to Oracle Field Service Version 19c	2-10
Create a Connection	2-11
Configure Connection Properties	2-12
Configure Connection Security	2-12
Test the Connection	2-13
Upload an SSL Certificate	2-13

3 Add the Oracle Field Service Adapter Connection to an Integration

Basic Info Page	3-1
What You Can Do from the Basic Info Page	3-2

What You See on the Basic Info Page	3-2
Invoke Operations Page	3-3
Trigger Events Page	3-5
Trigger Events Filter Selection Page	3-8
Summary Page	3-9

4 Troubleshoot the Oracle Field Service Adapter

Deactivate an Integration to Delete Event Subscriptions	4-1
Connectivity Issue Between Oracle Field Service (Source) and Oracle Integration	4-2
Filter Expression Syntax	4-2
Activity Event Fields	4-4
Inventory Event Fields	4-5
Configuration Issue Between Oracle Field Service (Source) and Oracle Integration	4-6

Preface

This guide describes how to configure the Oracle Field Service Adapter as a connection in an integration in Oracle Integration.

Note:

The information in this guide applies to all of your Oracle Integration instances. It doesn't matter which edition you're using, what features you have, or who manages your cloud environment. You'll find what you need here, including notes about any differences between the various flavors of Oracle Integration when necessary.

Topics

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

Audience

This guide is intended for developers who want to use the Oracle Field Service 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
<http://cloud.oracle.com>
- *Using Integrations in Oracle Integration*
- *Using the Oracle Mapper with Oracle Integration*

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.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Understand the Oracle Field Service Adapter

Review the following conceptual topics to learn about the Oracle 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:

- [Oracle Field Service Adapter Capabilities](#)
- [What Application Version Is Supported?](#)
- [About Oracle Field Service Adapter Use Cases](#)
- [Workflow to Create and Add an Oracle Field Service Adapter Connection to an Integration](#)

Note:

There are overall service limits for Oracle Integration. A service limit is the quota or allowance set on a resource. See [Service Limits](#).

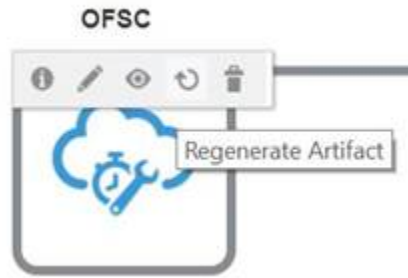
Oracle Field Service Adapter Capabilities

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

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

The Oracle Field Service Adapter provides these benefits:

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



See Regenerating a WSDL File for Integrations in *Using Integrations in Oracle Integration*.

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

See [Connectivity Certification Matrix](#).

About Oracle Field Service Adapter Use Cases

This scenario describes the interaction between the Oracle 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 Field Service Adapter.
- The Oracle Field Service Adapter creates a matching activity in Oracle 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 Field Service assigns the activity to the service team.
- The lead Engineer for the service team uses the mobile Oracle 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 Field Service application to change the status of the work order to *completed*.

- Oracle Field Service sends an activity completed notice for the work order to Oracle Field Service Adapter.
- The Oracle 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 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	Create an Oracle Field Service 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 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 Adapter Connection to an Integration
4	Map data between the source connection data structure and the target connection data structure.	Mapping Data of <i>Using Integrations in Oracle Integration</i>
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 of <i>Using Integrations in Oracle Integration</i>
6	Activate the integration.	Managing Integrations of <i>Using Integrations in Oracle Integration</i>
7	Monitor the integration on the dashboard.	Monitoring Integrations of <i>Using Integrations in Oracle Integration</i>
8	Track payload fields in messages during runtime.	Assigning Business Identifiers for Tracking Fields in Messages and Managing Business Identifiers for Tracking Fields in Messages of <i>Using Integrations in Oracle Integration</i>
9	Manage errors at the integration level, connection level, or specific integration instance level.	Managing Errors of <i>Using Integrations in Oracle Integration</i>

2

Create an Oracle 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](#)
- [Create a Connection](#)
- [Upload an SSL Certificate](#)

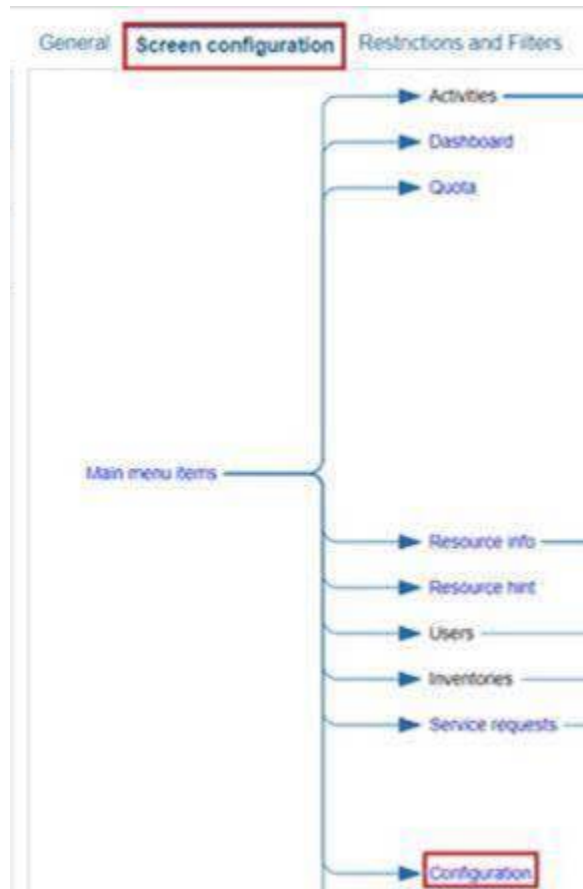
Prerequisites for Creating a Connection

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

- [Create an Oracle Field Service User Account](#)
- [Get the Client ID/Client Secret from the Oracle Field Service Application](#)
- [Enable Event Publishing from Oracle Field Service to Oracle Integration](#)
- [Migrate to Oracle Field Service Version 19c](#)

Create an Oracle Field Service User Account

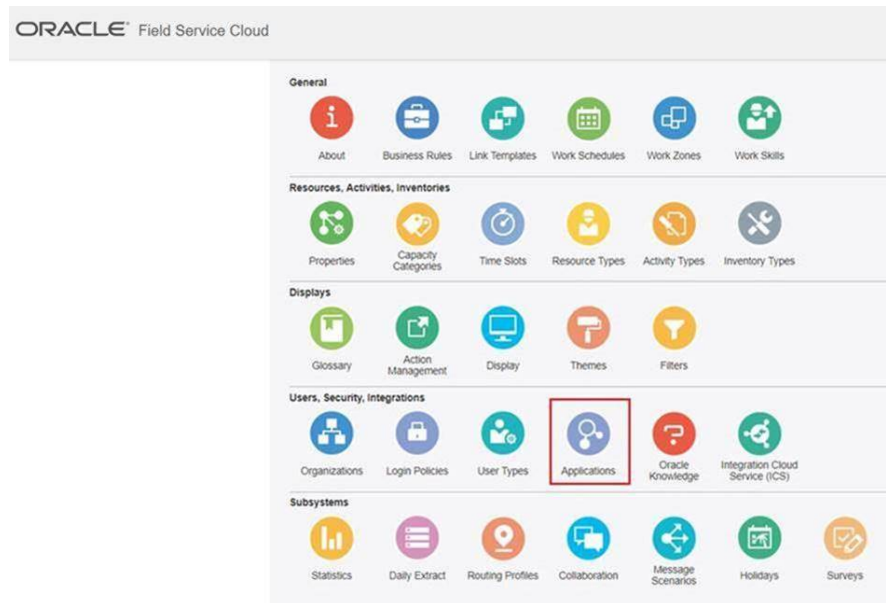
1. Log in to Oracle Field Service.
2. Click **Configuration** in the upper right.
3. Click **User Types** in the Users and Security area.
4. Add a new user type or select an existing user type in the left pane.
5. Enable API access for the user type based on the Oracle Field Service Adapter version you are using:
 - a. If using Oracle Field Service Adapter version 17.2.x or later:
 - i. Navigate to **Configuration > User Types** and select the required user type.
 - ii. Navigate to the **Screen configuration** tab, and open the **Configuration** context under **Main Menu Items**.



- iii. Click the **Click to add** button at the bottom left.
- iv. In the Add Action dialog, search for **Applications** and add it.
- v. Give **Read Write** permissions to the **Applications** action.



- vi. Navigate to the Configuration page and note that the applications are available under the **Users, Security, Integrations** section.



- vii. Open the **Configuration > Applications** page.
- viii. Click the **+** button (at the top left) and add a new application.
- ix. Select the newly added application.
- x. Select the **Active** check box under the **General info** section.

General info

Name:	API Access
Application ID:	api_access
Active:	<input checked="" type="checkbox"/>
Token service:	OFSC ▼

- xi. Click **Add New** in the **API Access** section.
- xii. Select the required APIs and click **Submit**. Core API, Capacity API, and Metadata API are needed for using all Oracle Field Service Adapter Oracle Integration features.
- xiii. In the **API access** section, click the hamburger menu against each API and select **Available entities**.

API access + Add new

Core API
Entities are not configured

Available entities
Remove access

Additional restrictions

Allow access only to certain resources

Allow access only for certain IP-addresses

- xiv. In the Available entities dialog, select the required permissions for the entities and click **Submit**.
- xv. Click the **Save** button at the bottom right to save the application.

 **Note:**

If using Oracle Field Service Adapter version 19c or later, the remaining steps (5.a.xvi through 6) in this section are *not* required.

- xvi. Navigate to **Configuration > User Types**.
 - xvii. Select the required user type.
 - xviii. In the **General** tab, check **Allow legacy access via API using user login and password**.
 - xix. Select the required application from the **API access permissions are configured using selected application** dropdown list.
 - xx. Click **Save**.
 - xxi. Use the username/password of a user, with the newly configured user type, to configure the Oracle Field Service Adapter connection in Oracle Integration.
- b. If using Oracle Field Service Adapter versions *prior* to 17.2.x:
- i. Select **Allow access via API** in the **Access** settings area of the **General** tab.
 - ii. Click the **API access** tab.
 - iii. Select the **Core API** check box.
 - iv. Click **Core API** and select **ReadWrite** for the objects that the user type can modify.
 - v. Select **ReadWrite** for **Business Events** and **Collaboration Events**.
 - vi. Click **Save**.
6. Associate a user with the user type:
- a. Open the **Users** page.
 - b. Select a bucket from the **Resource** tree.

- c. To associate a new user, click **Add new** and select the appropriate user type along with the other required details. Click **Ok**.
- d. To associate an existing user, select the check box next to the user, click **Set User type**, and select the appropriate user type. Click **Ok**.

Get the Client ID/Client Secret from the Oracle Field Service Application

To configure the **Client Credentials** security policy on the Connections page, you must first obtain the client ID and client secret.

1. Log in to Oracle Field Service.
2. Select **Configuration**.
3. Click **Applications** in the **Users, Security, Integrations** area.
4. Select the application used in **User Types** for the integrator role.
5. Check the following option to see the application used for the integration:
 - a. Select **User Types** under **Configuration**.
 - b. Use the application name displayed next to the **API access permissions are configured using selected application** configuration.
6. Select the **Authenticate using Client ID/Client Secret** option under **Authentication** settings.
7. Click **Show Client ID / Client secret** to see the details.

Enable Event Publishing from Oracle Field Service to Oracle Integration

The steps to follow to enable event publishing from Oracle Field Service to Oracle Integration are based on your version of Oracle Field Service. This configuration enables Oracle Field Service to act as a data trigger to Oracle Integration.

- [For Oracle Field Service Releases Prior to 18c](#)
- [For Oracle Field Service Releases 18c and Later](#)

For Oracle Field Service Releases Prior to 18c

Follow these steps to enable event publishing to Oracle Integration from releases of Oracle Field Service prior to 18c.

1. Log in to the Oracle Field Service Manage application.
2. Click **Configuration** > **Oracle Integration (OI)**. The Oracle Integration (OI) page is displayed.
3. Click **Add new**. The Add Oracle Integration (OI) Access dialog is displayed.
4. Enter the following details, then click **Add**.

Element	Description
End Point Label	Enter a human-readable name/description for the application for which you are creating the integration. This field is for user information only.
ICS Domain	<p>Enter the host name of your Oracle Integration instance.</p> <p>For example, assume your integration URL is as follows:</p> <pre>https://integration- a12345.integration.us7.oracleclo ud.com/integration/flowsvc/ ofsccloudadapter/NAME/v01/</pre> <p>For this field, set the Oracle Integration domain to the host name only:</p> <pre>integration- a12345.integration.us7.oracleclo ud.com</pre>
ICS Username	<p>Enter the username that you use for logging into Oracle Integration.</p> <p>This username and its password are used to authenticate with Oracle Integration when Oracle Field Service starts sending events to an Oracle Integration instance.</p>
ICS Password/Confirm Password	Enter the Oracle Integration password, then enter it a second time to confirm.

The integration details are displayed on the Oracle Integration (OI) page. You can modify or delete the configuration from this location.

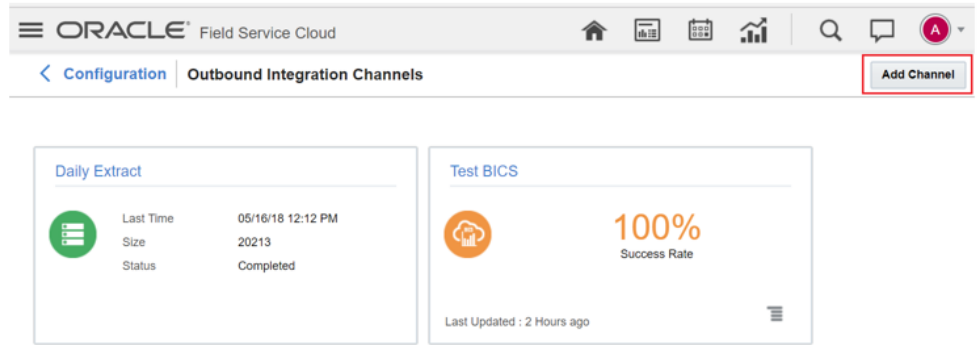
For Oracle Field Service Releases 18c and Later

Follow these steps to enable event publishing to Oracle Integration from Oracle Field Service Release 18c and later.

Add an Oracle Integration Channel

You can add an Oracle Integration channel using the Outbound Integration Channels configuration page.

1. Navigate to the Configuration page.
2. Click **Outbound Integration**.
3. On the Outbound Integration Channels page, click **Add Channel**.



The Add Channels dialog shows the options to add a new channel.

4. On the Add Channels dialog, provide the following details to create an Oracle Integration channel:

 **Note:**

To update the values in this dialog, contact the Oracle Integration administrator.

Element	Description
Channel Type	Select Integration Cloud Service from the drop down list. Note that selecting Integration Cloud Service is applicable for configuring Oracle Integration.
Name	Enter the channel name to be displayed.

Element	Description
Host	<p>Enter the host name or the address of the Oracle Integration database server. For example, assume your integration URL is as follows:</p> <pre>https://integration- a12345.integration.us7.oracleclo ud.com/integration/ flowsvc/ofsccloudadapter/ NAME/v01/</pre> <p>For this field, set the Oracle Integration domain to the host name only:</p> <pre>integration- a12345.integration.us7.oracleclo ud.com</pre> <p>Note: This URL is case sensitive on the Oracle Field Service side. The correct case must be given for the hostname, otherwise the event flow does not occur. See Configuration Issue Between Oracle Field Service (Source) and Oracle Integration.</p>
User Name	<p>Enter the user name to access the Oracle Integration database. The user must have permissions such as CREATE TABLE, ALTER TABLE, DROP TABLE, and INSERT records.</p>
Password and Confirm Password	<p>Provide the password to access the Oracle Integration database, then enter it a second time.</p>

- Click **OK**. The new channel is updated to the Outbound Integration Channels page. The Oracle Integration channel is updated (which is displayed as **ICS**) on the Outbound Integration Channels page.

Modify Oracle Integration Channel Details

You can modify the existing endpoint configurations for the Oracle Integration channel.

- Navigate to the Configuration page.
- Click **Outbound Integration**.
- On the Outbound Integration Channels page, select the Oracle Integration channel (which is displayed as **ICS**) to edit.
- Click the **Properties** icon and select **Modify**. The Edit Channel dialog shows the options to edit the selected channel.
- Edit the following details as necessary:

Element	Description
Name	Edit the channel name to be displayed.
Host	<p>Edit the host name or the address of the Oracle Integration database server. For example, assume your integration URL is as follows:</p> <pre>https://integration- a12345.integration.us7.oracleclo ud.com/integration/ flowsvc/ofsccloudadapter/ NAME/v01/</pre> <p>For this field, edit the Oracle Integration domain to the host name only:</p> <pre>integration- a12345.integration.us7.oracleclo ud.com</pre> <p>Note: This URL is case sensitive on the Oracle Field Service side. The correct case must be given for the hostname, otherwise the event flow does not occur. See Configuration Issue Between Oracle Field Service (Source) and Oracle Integration.</p>
User	Edit the user name to access the Oracle Integration database. The user must have permissions such as CREATE TABLE, ALTER TABLE, DROP TABLE, and INSERT records.
Password and Confirm Password	Edit the password to access Oracle Integration database, then enter it a second time.

6. Click **OK**.

Delete an Existing Oracle Integration Channel

You can delete Oracle Integration (ICS) channels from the Outbound Integration Channels page.

1. On the Outbound Integration Channels page, select the Oracle Integration (ICS) channel to delete.
2. Click the properties icon and then click **Delete**.



Note:

Deleting an Oracle Integration channel (which is displayed as **ICS**) deletes the channel configurations from Oracle Field Service.

3. In the Delete Confirmation dialog, click **OK**.

View Oracle Integration Channel Details

You can view the Oracle Integration channels using the Outbound Integration Channels page.

1. On the Outbound Integration Channels page, a newly created Oracle Integration (ICS) channel appears as follows:
The channel status indicates that the data transfer has not yet started. After the data transfer starts for the selected channel, the status show the time at which the last update occurred.

ICS



Data transfer has not been started



The data transmission success rate is the percentage of successfully transferred data (data transmission success rate = (total number of events successfully transferred / total events selected)).

Migrate to Oracle Field Service Version 19c

When migrating to Oracle Field Service version 19c, the following changes to the authentication method are recommended:

- Users of Oracle Integration versions prior to 19.3.1 that use Basic Authentication should change the username and password to the client ID and client secret combination. Do this because username and password-based authentication has been deprecated in Oracle Field Service and integrations authenticated using the username and password do not work.
- It is recommended that users of Oracle Integration version 19.3.1 and above change their security policy to OAuth. Use the client ID and client secret and re-activate their integration for the migration. OAuth functionality is available with the **Client Credentials** selection on the Connections page. See [Configure Connection Security](#).

Create a Connection

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

To create a connection in Oracle Integration:

1. In the left navigation pane, click **Home > Integrations > Connections**.
2. Click **Create**.

Note:

You can also create a connection in the integration canvas of:

- An orchestrated integration (See Define Inbound Triggers and Outbound Invokes.)
- A basic routing integration (See Add a Trigger (Source) Connection.)

3. In the Create Connection — Select Adapter dialog, 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 and click



Search.

4. In the Create Connection dialog, enter the information that describes this connection.

What is it called?

The Name can be changed later. The Identifier can be set only now and it must be unique.

* Name

* Identifier

Keywords

Select what role this connection will play in integrations.

* Role

Description

1024 characters left

- a. Enter a meaningful name to help others find your connection when they begin to create their own integrations. The name you enter is automatically added in capital letters to the **Identifier** field. If you modify the identifier name, don't include blank spaces (for example, SALES OPPORTUNITY).
- b. Enter optional keywords (tags). You can search on the connection keywords on the Connections page.

- c. 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, let's say 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.
 - d. Enter an optional description of the connection.
5. Click **Create**.
Your connection is created. You're now ready to configure the connection details, such as connection properties, security policies, connection login credentials, and (for certain connections) agent group.

Configure Connection Properties

Enter connection information so your application can process requests.

1. Go to the **Connection 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 is <https://api.etadirect.com>. For development and testing, use the URL provided by Oracle when your Oracle 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 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
Basic Authentication	<ul style="list-style-type: none"> • Username: Enter the name of a user with access to the destination web service. • Password: Enter the password. • Confirm Password: Re-enter the password. <p>See Create an Oracle Field Service User Account.</p>


Selected Security Policy	Fields
Client Credentials	<ul style="list-style-type: none"> • 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. <p>See Get the Client ID/Client Secret from the Oracle Field Service Application.</p>

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 connection uses a Web Services Description Language (WSDL) file.

If Your Connection...	Then...
Doesn't use a WSDL	The test starts automatically
Uses a WSDL	<p>A dialog prompts you to select the type of connection testing to perform:</p> <ul style="list-style-type: none"> • 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, verify URLs and credentials, and download the diagnostic logs for additional details. Continue to test until the connection is successful.
3. When complete, click **Save**, then click 

Upload an SSL Certificate

Certificates are used to validate outbound SSL connections. If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception 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.

To upload an SSL certificate:

1. In the left navigation pane, click **Home > Settings > Certificates**.

All certificates currently uploaded to the trust store are displayed in the Certificates dialog. The



link enables you 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.

Certificates Upload			
6 Certificates			
Installed By: User			
Name	Type	Category	Status
mykey3 Expires in 1 month	X.509	Identity	Configured
mykey2 Expired	X.509	Identity	Configured
recent1596867745048 Expires in 4 years	X.509	Trust	Configured
recent1596863610817 Expires in 4 years	X.509	Trust	Configured
recent1596857607511 Expires in 4 years	X.509	Trust	Configured
recent1596857416600 Expires in 4 years	X.509	Trust	Configured

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

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.
 - 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.
 - c. Click **Upload**.

3

Add the Oracle Field Service Adapter Connection to an Integration

When you drag the Oracle 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 Field Service Adapter endpoint properties.

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

Topics:

- [Basic Info Page](#)
- [Invoke Operations Page](#)
- [Trigger Events Page](#)
- [Trigger Events Filter Selection Page](#)
- [Summary Page](#)

Basic Info Page

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

Element	Description
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 dashes in the name. You cannot include the following: <ul style="list-style-type: none">• Blank spaces (for example, My Inbound Connection)• Special characters (for example, #;83& or righ(t)now4)• 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.

What You Can Do from the Basic Info Page

You can specify the following values on the Basic Info page. The Basic Info page is the initial wizard page that is displayed whenever you drag an adapter to the section of the integration canvas supported by your adapter.

- Specify a meaningful name.
- Specify a description of the responsibilities.

What You See on the Basic Info Page

The following table describes the key information on the Basic Info page.

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 dashes in the name. You cannot include the following: <ul style="list-style-type: none">• Blank spaces (for example, My Inbound Connection)• Special characters (for example, #;83& or righ(t)now4)• 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.

Element	Description
Select Business Object	<p>Selects the business object in Oracle Field Service on which you want to operate when running an integration that uses this endpoint. When configured as an invoke, the Oracle Field Service Adapter supports operations on these business objects:</p> <ul style="list-style-type: none">• Activity• Activity Booking• Activity Inventory• Activity Link• Activity Resource Preference• Calendar• Inventory• Parts Catalog• Required Inventory• Resource• User

Element	Description
Select Operation	<p>Selects the operation that you want Oracle Integration to invoke when running an integration that uses this endpoint.</p> <p>These operations are available for the Activity business object:</p> <ul style="list-style-type: none">• 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 <p>This operation is available for the Activity Booking business object:</p> <ul style="list-style-type: none">• Get Activity Booking <p>These operations are available for the Activity Inventory business object:</p> <ul style="list-style-type: none">• Create Customer Inventory• Get Customer Inventories• Get Deinstalled Inventories• Get Installed Inventories <p>These operations are available for the Activity Link business object:</p> <ul style="list-style-type: none">• Create Activity Link• Delete Activity Link• Get Activity Link Details• Get Activity Links• Replace Activity Link <p>These operations are available for the Activity Resource Preference business object:</p> <ul style="list-style-type: none">• Delete Resource Preferences Of Activity• Get Resource Preferences Of Activity• Set Resource Preferences Of Activity <p>This operation is available for the Calendar business object:</p> <ul style="list-style-type: none">• Get Calendars <p>These operations are available for the Inventory business object:</p> <ul style="list-style-type: none">• Create Inventory• Deinstall Inventory• Delete Inventory• Get File Property• Get Inventory• Install Inventory• Set File Property• Undo Deinstall Inventory

Element	Description
	<ul style="list-style-type: none"> • Undo Install Inventory • Update Inventory <p>These operations are available for the Parts Catalog business object:</p> <ul style="list-style-type: none"> • Create Catalog • Create/Update Catalog Item • Delete Catalog Item <p>These operations are available for the Required Inventory business object:</p> <ul style="list-style-type: none"> • Delete Required Inventories Of Activity • Get Required Inventories Of Activity • Set Required Inventories Of Activity <p>This operation is available for the Resource business object:</p> <ul style="list-style-type: none"> • 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 <p>These operations are available for the User business object:</p> <ul style="list-style-type: none"> • 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	<p>Select the business object that you want to send to the target application. The Oracle Field Service Adapter supports operations on these business objects:</p> <ul style="list-style-type: none">• Activity• Activity Link• Activity Resource Preference• Forms• Inventory• Required Inventory• Route• Resource• Resource Inventory• Service Request• User

Element	Description
Select Events	<p>Selects the events that you want to send to the target application.</p> <p>These events are available for the Activity business object:</p> <ul style="list-style-type: none">• 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 <p>These events are available for the Activity Link business object:</p> <ul style="list-style-type: none">• Activity Link Created• Activity Link Deleted <p>These events are available for the Activity Resource Preference business object:</p> <ul style="list-style-type: none">• Resource Preference Created• Resource Preference Deleted <p>This event is available for the Forms business object:</p> <ul style="list-style-type: none">• 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 application. <p>These events are available for the Inventory business object:</p> <ul style="list-style-type: none">• Inventory Installed• Inventory Deinstalled• Customer Inventory Created• Customer Inventory Updated• Customer Inventory Deleted• Inventory Undo Install• Inventory Undo Deinstall <p>These events are available for the Required Inventory business object:</p> <ul style="list-style-type: none">• Required Inventory Created• Required Inventory Updated• Required Inventory Deleted <p>These events are available for the Resource business object:</p> <ul style="list-style-type: none">• Resource Created• Resource Updated <p>These events are available for the Resource Inventory business object:</p> <ul style="list-style-type: none">• Resource Inventory Created• Resource Inventory Deleted• Resource Inventory Updated <p>These events are available for the Route business object:</p> <ul style="list-style-type: none">• Route Created

Element	Description
	<ul style="list-style-type: none"> Route Updated Route Activated Route Deactivated Route Reactivated <p>These events are available for the Service Request business object:</p> <ul style="list-style-type: none"> Customer Request Created Inventory Request Created Resource Request Created <p>These events are available for the User business object:</p> <ul style="list-style-type: none"> 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	<p>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.</p> <p>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.</p>

Summary Page

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

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

4

Troubleshoot the Oracle Field Service Adapter

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

Topics

- [Deactivate an Integration to Delete Event Subscriptions](#)
- [Configuration Issue Between Oracle Field Service \(Source\) and Oracle Integration](#)
- [Connectivity Issue Between Oracle Field Service \(Source\) and Oracle Integration](#)
- [Filter Expression Syntax](#)

Additional integration troubleshooting information is provided. See [Troubleshoot Oracle Integration](#) in *Using Integrations in Oracle Integration*.

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 **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 application.

Note:

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

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

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

Integration 1 works fine, with data flowing correctly from Oracle Service Cloud to Oracle 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 Field Service is configured as the source application. The Oracle 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. See [Enable Event Publishing from Oracle Field Service to Oracle Integration](#).
- If the issue still persists, file a service request (SR) for Oracle 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 Field Service (Source) and Oracle Integration

When connecting Oracle 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 Field Service side.

To check the configuration:

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 below:

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

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

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

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

The steps to get the integration URL in Oracle Integration are as follows:

1. Navigate to **Designer > Integrations**, and click **How to run** for the integration that is triggered from Oracle Field Service.
2. Click **Endpoint URL** 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.