

Oracle® Cloud

Using the ArcGIS (ESRI) Adapter with Oracle Integration 3



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About This Content

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

Audience

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

Documentation Accessibility

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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.
<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 ArcGIS (ESRI) Adapter

Review the following topics to learn about the ArcGIS (ESRI) 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:

- [ArcGIS \(ESRI\) Adapter Capabilities](#)
- [ArcGIS \(ESRI\) Adapter Restrictions](#)
- [What Application Version Is Supported?](#)
- [Workflow to Create and Add an ArcGIS \(ESRI\) Adapter Connection to an Integration](#)

ArcGIS (ESRI) Adapter Capabilities

The ArcGIS (ESRI) Adapter (short for Arc Geographical Information System) enables you to integrate an ArcGIS Online (AGOL) application that exposes data by ArcGIS services with Oracle Integration. In addition, the ArcGIS (ESRI) Adapter enables you to integrate on-premises (ArcGIS Enterprise) applications, which expose ArcGIS REST APIs, with Oracle Integration using the connectivity agent. You can configure the ArcGIS (ESRI) Adapter as a trigger or an invoke connection in an integration in Oracle Integration.

The ArcGIS (ESRI) Adapter provides the following capabilities:

- Supports CRUD operations (create, update, delete, and query) on the feature service module.
- ArcGIS Enterprise and ArcGIS Online support the ArcGIS Generate Token Flow as the security policy for accessing an endpoint using a connectivity agent.
- ArcGIS Online facilitates the ArcGIS Generate Token Flow and OAuth Authorization code credentials for public gateway access.
- ArcGIS Online supports point, multipoint, polyline, and polygon geometries for geographic information, while ArcGIS Enterprise supports point, polyline, and polygon geometries.
- The trigger connection functionality in ArcGIS Online supports the OAuth Authorization Code Policy and HMAC security policy, while ArcGIS Enterprise supports the API Key Validation security policy.

The ArcGIS (ESRI) Adapter is one of many predefined adapters included with Oracle Integration. See the Adapters page in the Oracle Help Center.

ArcGIS (ESRI) Adapter Restrictions

Note the following ArcGIS (ESRI) Adapter restrictions.

- ArcGIS Enterprise does not support multipoint geometry in geographic information.
- Product migration is not supported, meaning that migration between platforms such as ArcGIS Online and ArcGIS Enterprise, or vice versa, is not available.

- The OAuth Authorization Code Credentials security policy is not supported with agent connectivity.
- During trigger configuration, the test connection always succeeds even with invalid keys for the ArcGIS API Key Validation Enterprise security policy, but it fails during Webhook manual registration.
- For ArcGIS Enterprise trigger configuration, manual webhook registration is required and only the Feature Service module is supported.
- Trigger connection configuration does not support access types for endpoint access.

① Note

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

What Application Version Is Supported?

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

Workflow to Create and Add an ArcGIS (ESRI) Adapter Connection to an Integration

You follow a very simple workflow to create a connection with an adapter and include the connection in an integration in Oracle Integration.

This table lists the workflow steps for both adapter tasks and overall integration tasks, and provides links to instructions for each step.

Step	Description	More Information
1	Decide where to work	<ul style="list-style-type: none"> • Work in a project (see why working with projects is preferred in <i>Using Integrations in Oracle Integration 3</i>). • Work outside a project.
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 ArcGIS (ESRI) Adapter Connection
3	Create the integration. When you do this, you add trigger (source) and invoke (target) connections to the integration.	Understand Integration Creation and Best Practices in <i>Using Integrations in Oracle Integration 3</i> and Add the ArcGIS (ESRI) Adapter Connection to an Integration
4	Map data between the trigger connection data structure and the invoke connection data structure.	Map Data in <i>Using Integrations in Oracle Integration 3</i>
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).	Manage Lookups in <i>Using Integrations in Oracle Integration 3</i>

Step	Description	More Information
6	Activate the integration.	Activate an Integration in <i>Using Integrations in Oracle Integration 3</i>
7	Monitor the integration on the dashboard.	Monitor Integrations During Runtime in <i>Using Integrations in Oracle Integration 3</i>
8	Track payload fields in messages during runtime.	Assign Business Identifiers for Tracking Fields in Messages and Track Integration Instances in <i>Using Integrations in Oracle Integration 3</i>
9	Manage errors at the integration level, connection level, or specific integration instance level.	Manage Errors in <i>Using Integrations in Oracle Integration 3</i>

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Create an ArcGIS (ESRI) Adapter Connection

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

Topics:

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

Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the ArcGIS (ESRI) Adapter:

- Know the ArcGIS base URL.
For example:

- Enterprise:

```
https://host:port/webadaptername
```

- Online:

```
https://host/orgId/arcgis
```

If the user has configured the web adapter, the web adapter name can be used. The user can also provide the web adapter name as `arcgis`.

- Understand the ArcGIS Generate Token Flow.
 - If you are using the ArcGIS Generate Token Flow security policy, you must have the ArcGIS Enterprise portal credentials or ArcGIS Server credentials to complete the necessary fields on the Connections page.
 - Know the Access Token URI.
- The generate token operation creates an access token in exchange for user credentials, allowing clients to access secured ArcGIS Server services. This request must be made over HTTPS using the POST method, with user credentials included in the body of the POST request. See [Generate token flow](#).
- Understand the OAuth security policies.
If you are using one of the OAuth security policies, you must have already registered your client application to complete the necessary fields on the Connections page.

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

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

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

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

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

- For ArcGIS Enterprise trigger configuration, webhook registration must be performed manually. See [Create webhooks](#).


Create a Connection

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

Note

You can also create a connection in the integration canvas. See [Define Inbound Triggers, Outbound Invokes, and Actions](#).

To create a connection in Oracle Integration:

1. Decide where to start:
 - Work in a project (see why working with projects is preferred).
 - a. In the navigation pane, click **Projects**.
 - b. Select the project name.
 - c. Click **Integrations** .
 - d. In the **Connections** section, click **Add** if no connections currently exist or **+** if connections already exist. The Create connection panel opens.
 - Work outside a project.
 - a. In the navigation pane, click **Design**, then **Connections**.
 - b. Click **Create**. The Create connection panel opens.
2. Select the adapter to use for this connection. To find the adapter, scroll through the list, or enter a partial or full name in the **Search** field.
3. Enter the information that describes this connection.

Element	Description
Name	Enter a meaningful name to help others find your connection when they begin to create their own integrations.

Element	Description
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	<p>Select the role (direction) in which to use this connection.</p> <p>Note: <i>Only</i> the roles supported by the adapter you selected are displayed for selection. Some adapters support all role combinations (trigger, invoke, or trigger and invoke). Other adapters support fewer role combinations.</p> <p>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.</p> <p>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.</p>
Keywords	Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
Description	Enter an optional description of the connection.
Share with other projects	<p>Note: This field only appears if you are creating a connection in a project.</p> <p>Select to make this connection publicly available in other projects. Connection sharing eliminates the need to create and maintain separate connections in different projects.</p> <p>When you configure an adapter connection in a different project, the 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.</p> <p>See Add and Share a Connection Across a Project.</p>

4. Click **Create**.

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

5. Follow the steps to configure a connection.

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

6. Test the connection.

Configure Connection Properties

Enter connection information so your application can process requests.

1. Go to the **Properties** section.
2. Specify the following details.

Element	Description
Base URL	Enter the base URL. See Prerequisites for Creating a Connection .
ArcGIS Products	Select the product in the list. <ul style="list-style-type: none"> • ArcGIS Enterprise • ArcGIS Online

Configure Connection Security

Configure security for your ArcGIS (ESRI) Adapter connection.

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

Security Policy	Field
ArcGIS Generate Token Flow (In the invoke (outbound) direction, this security policy supports both ArcGIS Enterprise and ArcGIS Online products.)	<ol style="list-style-type: none"> Access Token URI - Enter the authorization server that generates the access token. See Prerequisites for Creating a Connection. Username - Enter the case-sensitive user name of the user. Password - Enter the password of the user.

Security Policy	Field
OAuth Authorization Code Credentials (In the invoke (outbound) direction, this security policy supports ArcGIS Online products.)	<ul style="list-style-type: none"><li data-bbox="943 222 1446 306">a. OAuth Client ID - Enter the client identifier issued to the client during the registration process.<li data-bbox="943 327 1398 380">b. OAuth Client secret - Enter the client secret.<li data-bbox="943 401 1422 485">c. Authorization code URI - Enter the URI from which to request the authorization code.<li data-bbox="943 506 1468 558">d. Access token URI - Enter the URI to use for the access token.<li data-bbox="943 579 1414 632">e. If you want to enable the PKCE security extension, expand Optional security.<li data-bbox="943 653 1468 1020">f. From the Use PKCE (Proof Key for Code Exchange) list, select Yes to optionally enable the PKCE extension for the OAuth authorization code flow. When enabled, Oracle Integration generates and includes the code challenge and code verifier in the authorization and token requests, respectively. The code challenge method used is always S256. PKCE adds an additional layer of security to the authorization flow for servers that support it. For information on PKCE, see What is PKCE?.

Security Policy	Field
<p>ArcGIS Online OAuth Authorization Code Policy and HMAC (In the trigger (inbound) direction, this security policy supports OAuth Authorization Code Policy and HMAC for ArcGIS Online products.)</p>	<ul style="list-style-type: none"> a. OAuth Client ID - Enter the client identifier issued to the client during the registration process. b. OAuth Client secret - Enter the client secret. c. Authorization code URI - Enter the URI from which to request the authorization code. d. Access token URI - Enter the URI to use for the access token. e. Shared Secret - Enter a meaningful name or key. You can include English alphabetic characters, numbers, underscores, and hyphens. f. Client Identifier - Enter the client identifier issued to the client during the registration process. <p>When configuration is complete, perform the following steps:</p> <ul style="list-style-type: none"> a. Click Provide Consent to test the OAuth flow. b. If the Oracle Integration and Oracle Fusion Applications identity domain users are different, log in to the respective instance when prompted. Note: You are not prompted to log in if these users are the same. c. Return to the Connections page and click Test.
<p>ArcGIS API Key Validation Enterprise (In the trigger (inbound) direction, this policy supports OAuth Authorization Code Policy and HMAC for ArcGIS Enterprise products.)</p>	<ul style="list-style-type: none"> a. Signature Key - Enter a meaningful name or key. You can include English alphabetic characters, numbers, underscores, and hyphens. b. Client Identifier - Enter the client secret. The client identifier is issued to the client during the registration. process.

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

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

Option	This Option Appears If Your Adapter Supports ...
Public gateway	Connections to endpoints using the public internet.
Connectivity agent	<p>Connections to on-premises endpoints through the connectivity agent.</p> <ol style="list-style-type: none"> Click Associate agent group. The Associate agent group panel appears. Select the agent group, and click Use. <p>To configure an agent group, you must download and install the on-premises connectivity agent. See Download and Run the Connectivity Agent Installer and About Creating Hybrid Integrations Using Oracle Integration in <i>Using Integrations in Oracle Integration 3</i>.</p>

Test the Connection

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

- 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	<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.


- 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.
- When complete, click **Save**.

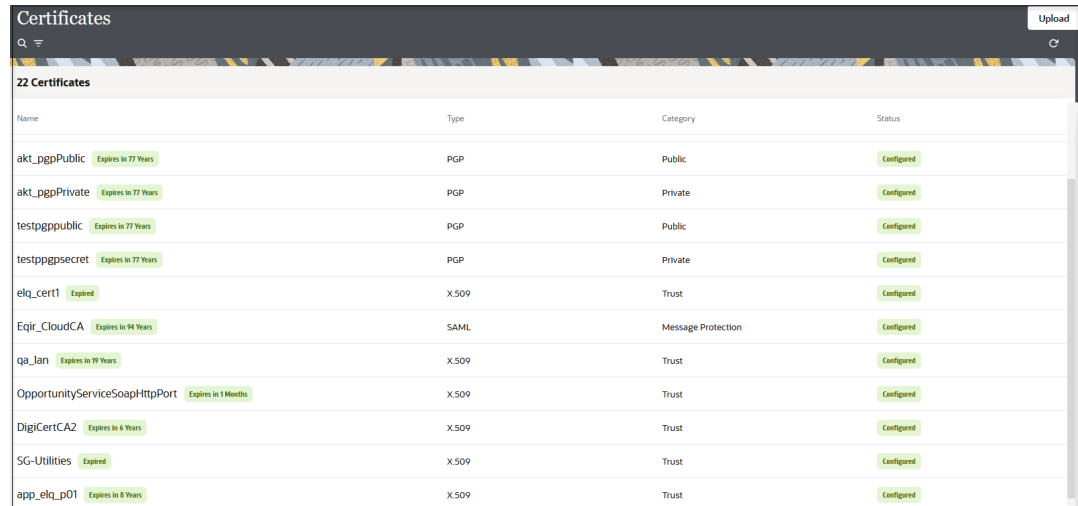
Upload a Certificate to Connect with External Services

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

If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception error is thrown. In that case, you must upload the appropriate certificate. A

certificate enables Oracle Integration to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration.

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



Name	Type	Category	Status
akt_pgpPublic <small>Expires in 77 Years</small>	PGP	Public	Configured
akt_pgpPrivate <small>Expires in 77 Years</small>	PGP	Private	Configured
testpgppublic <small>Expires in 77 Years</small>	PGP	Public	Configured
testpgpsecret <small>Expires in 77 Years</small>	PGP	Private	Configured
elq_cert1 <small>Expired</small>	X.509	Trust	Configured
Eqir_CloudCA <small>Expires in 94 Years</small>	SAML	Message Protection	Configured
qa_lan <small>Expires in 99 Years</small>	X.509	Trust	Configured
OpportunityServiceSoapHttpPort <small>Expires in 1 Months</small>	X.509	Trust	Configured
DigiCertCA2 <small>Expires in 6 Years</small>	X.509	Trust	Configured
SG-Utilities <small>Expired</small>	X.509	Trust	Configured
app_elq_p01 <small>Expires in 8 Years</small>	X.509	Trust	Configured

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

Digital Signature

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

1. Click **Browse** to select the digital certificate. The certificate must be an X509Certificate. This certificate provides inbound RSA signature validation. See *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 ArcGIS (ESRI) Adapter Connection to an Integration

When you drag the ArcGIS (ESRI) Adapter into the trigger or invoke area of an integration, the Adapter Endpoint Configuration Wizard is invoked. This wizard guides you through configuration of the ArcGIS (ESRI) Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the ArcGIS (ESRI) Adapter as a trigger or an invoke in an integration.

Topics:

- [Trigger Basic Info Page](#)
- [Trigger Configuration Page](#)
- [Invoke Basic Info Page](#)
- [Invoke Configuration Page](#)
- [Summary Page](#)

Trigger Basic Info Page

Specify a name and module on the Basic Info page for each trigger connection 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: <ul style="list-style-type: none">• 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
Select Module	Supports the Feature service module, which is selected by default. By default, the Subscribe to Feature Service Webhook is enabled.

Trigger Configuration Page

Configure the details on the Configuration page based on the product selected on the Connections page.

ArcGIS Online

Element	Description
Selected ArcGIS Product	Select the folder name if the service is published inside any folder other than the <code>root</code> directory.
Service Name	Select the name of the service on which to perform the selected action.
Select the changes types	Displays the options based on the selection of the service name. You can select the available options as per the requirements.

ArcGIS Enterprise

Element	Description
Service Name	Displays the type of ArcGIS product selected on the Connections page.

Invoke Basic Info Page

Specify a name, description, and action type 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 hyphens in the name. You can't include the following characters: <ul style="list-style-type: none"> No blank spaces (for example, <code>My Inbound Connection</code>) No special characters (for example, <code>#;83&</code> or <code>right)now4</code>) except underscores and hyphens No multibyte characters
Select Module	Supports the Feature service module, which is selected by default.
Action	Select the action name to filter. The feature service module supports the following actions: <ul style="list-style-type: none"> Retrieve Feature Service Data Add Features to a Layer Update Features in a Layer Delete Features in a Layer Retrieve Layer Data Retrieve Contingent Values Retrieve Field Groups Retrieve Single Feature Query Data Elements Query Contingent Values Edit Features on a Layer Retrieves Estimates of a Layer Query Top Features of the Layer Query Feature Service Layer

Invoke Configuration Page

Configure the details on the Configuration page based on the product selected in the Connections page.

ArcGIS Enterprise

Element	Description
Service Folder Name	Select the folder name if the service is published inside any folder other than the <code>root</code> directory.
Service Name	Select the name of the service on which to perform the selected action.

ArcGIS Online

Element	Description
Service Name	Select the name of the service on which to perform the selected action.

① Note

Based on the selected action on the Basic Info Page, you must choose certain mandatory or optional fields that appear on the Configuration page.

- The mandatory fields for a few selected actions such as Layer ID, Feature ID, Top Filter, and Layers.
- The optional fields for a few selected actions such as Geometry Type, Compact Format, and Domain Dictionaries.

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 Go back.</p> <p>To cancel your configuration details, click Cancel.</p>

4

Implement Common Patterns Using the ArcGIS (ESRI) Adapter

You can use the ArcGIS (ESRI) Adapter to implement the following common pattern.

Topics:

- [Synchronize ArcGIS Features as Activities in Oracle Field Service](#)

Synchronize ArcGIS Features as Activities in Oracle Field Service

The ArcGIS (ESRI) Adapter provides seamless synchronization of features created in ArcGIS to appear as activities in Oracle Field Service, ensuring a consistent data mapping and workflow integration.

This use case provides an overview of creating features with REST-based integrations with multiple invoke connections in ArcGIS and subsequently reflecting the same feature as an activity in Oracle Field Service.

The following adapters and their operations are used in this use case:

- ArcGIS (ESRI) Adapter trigger connection: Captures the feature creation event in ArcGIS and triggers the integration.
- REST Adapter invoke connections:
 - **Extract Changes:** Tracks changes in ArcGIS.
 - **Status URL:** Checks the status of the feature creation.
 - **Result URL:** Retrieves complete feature details, including object ID, geometry, and more.

This implementation pattern provides an overview of the steps.

1. Create an ArcGIS (ESRI) Adapter trigger connection and REST Adapter and Oracle Fusion Field Service Adapter invoke connections in Oracle Integration.
2. Create an application integration.
3. Drag an ArcGIS (ESRI) Adapter into the integration as a trigger connection.
4. Configure the ArcGIS endpoint as follows:
 - a. On the Basic Info page, provide an endpoint name.
 - b. Select the required trigger details to capture feature creation events.
 - c. Review and confirm your selections on the Summary page.
5. Add REST Adapter invoke connections for data retrieval:
 - a. Drag REST Adapter connections into the integration canvas to configure the following invokes:

- **Extract Changes:** Retrieves updates from ArcGIS.
- **Status URL:** Tracks the status of the feature creation.

Note

The result URL is triggered only after the status URL confirms a status of Completed.

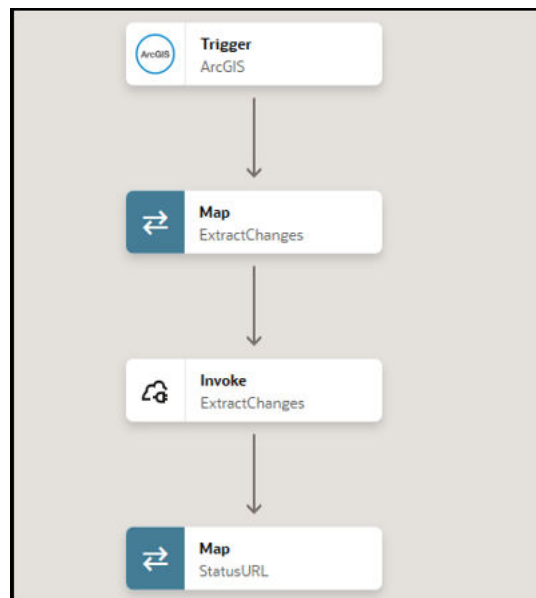
- **Result URL:** Fetches complete feature details, including object ID and geometry.
- b. Configure each REST Adapter endpoint appropriately.

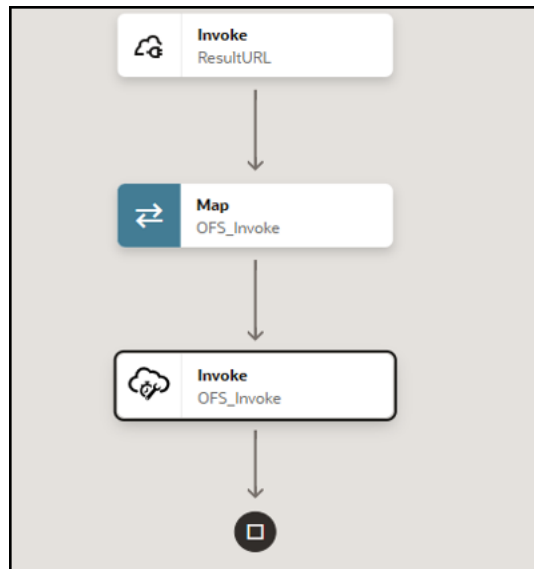
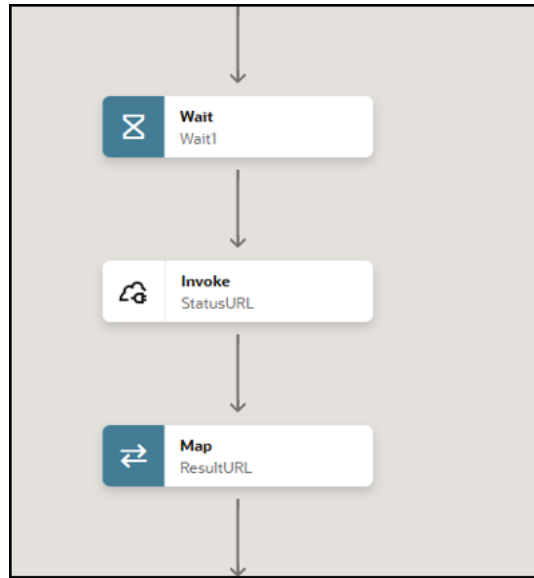
Note

Ensure that **Enforce Absolute Endpoint URI** is set to **true** for all three invoke connections.

6. Drag the Oracle Fusion Field Service Adapter into the integration as an invoke connection.
 - a. On the Basic Info page, provide a meaningful endpoint name.
 - b. On the Operations page, select the business object and operation that reflects the feature created in ArcGIS as an activity.
 - c. Review your selections on the Summary page.
7. In the mapper, perform the required mappings to align the ArcGIS data with the Oracle Field Service fields.
8. When complete, activate the integration.

When a new feature is created in ArcGIS, the integration is triggered to retrieve the feature details and map them to create a corresponding activity in Oracle Field Service. This seamless synchronization ensures data consistency across both systems.





5

Troubleshoot the ArcGIS (ESRI) Adapter

Review the following topic to learn about troubleshooting issues with the ArcGIS (ESRI) Adapter.

Topics:

- [Troubleshoot Connection Errors](#)

Troubleshoot Connection Errors

Note the following errors and troubleshooting actions when using the ArcGIS (ESRI) Adapter.

Error	Error Occurrence Scenario	Verification Steps
CASDK-0004: Failed to authenticate against the application with the credentials provided Cannot request OAuth access token.	When testing the ArcGIS (ESRI) Adapter connection on the Connections page.	Verify and provide the accurate credentials, product, and access type.
CASDK-0005: A connector specific exception was raised by the application. Invalid token	When testing the ArcGIS (ESRI) Adapter connection on the Connections page.	Verify and provide the accurate product type.
<pre>{"detail":"","status":"HTTP 500 Internal Server Error", "title":"Operation [testConnection] failed: Workflow: TestConnectionFlow, State: startState, Action: testConnOnline", "type": "https://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html#sec10.5.1"}</pre>	When testing the ArcGIS (ESRI) Adapter connection on the Connections page.	Verify and provide the valid credentials and base URL for the selected product.