

# Oracle® Cloud

## Using the Oracle SOA Suite Adapter with Oracle Integration 3



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# Preface

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



## Note:

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

## Topics:

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

## Audience

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

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <https://www.oracle.com/corporate/accessibility/>.

### Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <https://support.oracle.com/portal/> or visit [Oracle Accessibility Learning and Support](#) if you are hearing impaired.

## Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation.

We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

## Related Resources

See these Oracle resources:

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

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	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 SOA Suite Adapter

Review the following conceptual topics to learn about the Oracle SOA Suite 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 SOA Suite Adapter Capabilities](#)
- [Oracle SOA Suite Adapter Restrictions](#)
- [What Application Version Is Supported?](#)
- [Workflow to Create and Add an Oracle SOA Suite Adapter Connection to an Integration](#)

## Oracle SOA Suite Adapter Capabilities

The Oracle SOA Suite Adapter enables you to create an integration that invokes REST and SOAP services in on-premises Oracle SOA Suite Oracle SOA Suite, on-premises Oracle Service Bus, Oracle SOA Cloud Service, or Oracle SOA Suite on Marketplace in Oracle Cloud Infrastructure.

The Oracle SOA Suite Adapter provides the following benefits:

- Provides connectivity to the following components:
  - On-premises Oracle SOA Suite and Oracle Service Bus
  - Standalone, on-premises Oracle SOA Server
  - Standalone, on-premises Oracle Service Bus
  - Oracle SOA Suite or Oracle Service Bus in Oracle SOA Cloud Service
  - Oracle SOA Suite on Marketplace in Oracle Cloud Infrastructure
- Supports the following SOAP- and REST-based integrations:
  - SOAP services exposed by SOA composite applications
  - SOAP services exposed by Oracle Service Bus projects
  - REST services with defined schemas (except those that are end-to-end JSON-based) exposed by SOA composite applications
  - REST services with defined schemas (except native) exposed by Oracle Service Bus projects
- Supports the following SOAP services:
  - Synchronous
  - One-way (notification)
  - Asynchronous services as one-way invocations only. Callbacks are currently not supported.

- Supports patched version 12.2.1.3 and onwards of Oracle SOA Suite, Oracle Service Bus, and Oracle SOA Cloud Service. See [Prerequisites for Creating a Connection](#).
- Supports the following connectivity:
  - Requires use of the connectivity agent when connecting to servers hosted on-premises
  - Does not require use of the connectivity agent when connecting to servers hosted in Oracle SOA Cloud Service
- Supports configuration of standard and custom SOAP and HTTP headers while integrating with a SOAP-based SOA composite application or Oracle Service Bus proxy service. Header support is available only for new connections created with the February 2021 release of Oracle Integration. Connections created prior to this release do not include this functionality.
- Supports configuration of standard and custom HTTP headers while integrating with a REST-based SOA composite application or Oracle Service Bus proxy service. Header support is available only for new connections created with the May 2021 release of Oracle Integration. Connections created prior to this release do not include this functionality.
- Supports services protected by the following OWSM policies through basic authentication or user name password token, as needed:
  - oracle/http\_basic\_auth\_over\_ssl\_service\_policy
  - oracle/wss\_username\_token\_over\_ssl\_service\_policy
  - oracle/wss\_http\_token\_over\_ssl\_service\_policy
  - oracle/wss\_username\_token\_service\_policy
  - oracle/wss\_http\_token\_service\_policy
  - oracle/wss\_saml\_bearer\_or\_username\_token\_service\_policy
  - oracle/wss\_saml\_or\_username\_token\_service\_policy
  - oracle/wss\_saml\_or\_username\_token\_over\_ssl\_service\_policy
  - oracle/multi\_token\_over\_ssl\_rest\_service\_policy
  - oracle/multi\_token\_rest\_access\_over\_ssl\_service\_policy
  - oracle/multi\_token\_cg\_sso\_over\_ssl\_rest\_service\_policy
  - oracle/multi\_token\_sso\_over\_ssl\_rest\_service\_policy
  - oracle/multi\_token\_rest\_access\_service\_policy
  - oracle/multi\_token\_rest\_service\_policy
  - oracle/multi\_token\_sso\_rest\_service\_policy
  - oracle/multi\_token\_cg\_sso\_rest\_service\_policy
  - oracle/wss\_saml\_bearer\_or\_username\_token\_service\_policy
  - oracle/wss\_saml\_or\_username\_token\_service\_policy
  - oracle/wss\_saml\_or\_username\_token\_over\_ssl\_service\_policy

The Oracle SOA Suite Adapter is one of many predefined adapters included with Oracle Integration. You can configure the Oracle SOA Suite Adapter as an invoke connection in an integration in Oracle Integration.



# Oracle SOA Suite Adapter Restrictions

Note the following Oracle SOA Suite Adapter restrictions.

- Callbacks in SOAP services exposed by SOA composite applications and Oracle Service Bus projects are not supported. For this reason, the Oracle Web Services Manager (OWSM) oracle/wsaddr\_policy security policy is ignored.
- The following SOAP features are not supported:
  - Two-way SSL
  - Specifying the TLS version to use
- Request/response media types other than any form of XML/JSON are not supported.
- End-to-end JSON-based REST services exposed by SOA composite applications are not supported.
- Native REST services exposed by Oracle Service Bus projects are not supported.

## Note:

There are overall service limits with 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 Oracle SOA Suite 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	Access Oracle Integration.	Go to <a href="https://instance_name/ic/home">https://instance_name/ic/home</a> .
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.	<a href="#">Create an Oracle SOA Suite Adapter Connection</a>

Step	Description	More Information
3	Create the integration. When you do this, you add trigger (source) and invoke (target) connections to the integration.	Create Integrations in <i>Using Integrations in Oracle Integration 3</i> and <a href="#">Add the Oracle SOA Suite Adapter Connection to an Integration</a> .
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>
6	Activate the integration.	Activate Integrations 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>

# 2

## Create an Oracle SOA Suite Adapter Connection

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

### Topics

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

## Prerequisites for Creating a Connection

Satisfy the following prerequisites specific to your environment to create a connection with the Oracle SOA Suite Adapter:

- [Install a Patch \(If Using Oracle SOA Suite or Oracle Service Bus 12.2.1.3\)](#)
- [Know Oracle SOA Suite or Oracle Service Bus Instance Details](#)
- [Create a User for Cloud-to-On-Premises Integrations](#)
- [Install the Connectivity Agent](#)

### Install a Patch (If Using Oracle SOA Suite or Oracle Service Bus 12.2.1.3)

The Oracle SOA Suite Adapter is supported with patched version 12.2.1.3 and version 12.2.1.4 of Oracle SOA Suite and Oracle Service Bus. To obtain the necessary patch for 12.2.1.3, visit [support.oracle.com](http://support.oracle.com):

- For 12.2.1.3 Oracle SOA Suite, install patch 29952023. Log in to [Oracle Support Services](#) and search for patch 29952023. Apply this patch to enable integration support from Oracle Integration to Oracle SOA Suite. On applying the patch successfully, the Oracle SOA Suite Adapter can browse and invoke SOA SOAP and REST services that are deployed in the Oracle SOA Suite environment.
- For 12.2.1.3 Oracle Service Bus, install patch 29963582. Log in to [Oracle Support Services](#) and search for patch 29963582. Apply this patch to enable integration support from Oracle Integration to Oracle Service Bus. On applying the patch successfully, the Oracle SOA Suite Adapter can browse and invoke Oracle Service Bus proxy services that are deployed in the Oracle Service Bus environment.

### Know Oracle SOA Suite or Oracle Service Bus Instance Details

- Know the URL where the Oracle SOA Suite or Oracle Service Bus instance is accessible. You are prompted to specify this URL on the Connections page.

- Know the Oracle SOA Suite or Oracle Service Bus username and password. You are prompted to specify these credentials on the Connections page.
  - For Oracle SOA Suite, the user must be part of the `Operators` group and have the `SOAOperator` role.
  - For Oracle Service Bus, the user must be part of the `Deployers` group.

### Create a User for Cloud-to-On-Premises Integrations

To create a user that can create cloud-to-on-premises integrations for Oracle Service Bus in a SOA and Service Bus domain:

1. Log in to the OracleWebLogic Server Console with the Admin credentials.
2. Go to **Security Realms > myrealm**.
3. Click the **Users and Groups** tab.
4. Click **New** to create a new user.
5. Configure the group for the new user, and select **Operators** and **Deployers**.
6. Log in to Oracle Enterprise Manager Fusion Middleware Control with the Admin credentials.
7. Click **WebLogic Domain > Security > Application Roles**.
8. Select the application stripe **soa-infra** from the dropdown.
9. Click **Search application roles**.
10. Select **SOAOperator**, and click **Edit**.
11. Click **Add** to assign the new user this role.
12. On the Add Principal page, select **Type** as the **User** from the dropdown list and click **Search roles**.
13. Select this new user and click **OK** to assign the **SOAOperator**.

To create a user that can create cloud-to-on-premises integrations for Oracle SOA Suite in a standalone SOA domain:

1. Log in to the OracleWebLogic Server Console with the Admin credentials.
2. Go to **Security Realms > myrealm**.
3. Click the **Users and Groups** tab.
4. Click **New** to create a new user.
5. Configure the group for the new user, and select **Operators**.
6. Log in to Oracle Enterprise Manager Fusion Middleware Control with the Admin credentials.
7. Click **WebLogic Domain > Security > Application Roles**.
8. Select the application stripe **soa-infra** from the dropdown.
9. Click **Search application roles**.
10. Select **SOAOperator**, and click **Edit**.
11. Click **Add** to assign the new user this role.
12. On the Add Principal page, select **Type** as the **User** from the dropdown and click **Search roles**.

13. Select this new user and click **OK** to assign the **SOAOperator** role.

To create a user that can create cloud-to-on-premises integrations for Oracle Service Bus in a standalone Service Bus domain:

1. Log in to the OracleWebLogic Server Console with the Admin credentials.
2. Go to **Security Realms > myrealm**.
3. Click the **Users and Groups** tab.
4. Click **New** to create a new user.
5. Configure the group for the new user, and select **Deployers**.

### Install the Connectivity Agent

Install the connectivity agent if the Oracle SOA Suite/Oracle Service Bus URL is not directly accessible from Oracle Integration (for example, if deployed on-premises or behind a firewall). The connectivity agent is *not* required if the Oracle SOA Suite or Oracle Service Bus URL is publicly accessible (for example, if using Oracle SOA Cloud Service). See Download and Run the Connectivity Agent Installer and About Connectivity Agents and Integrations Between On-Premises Applications and Oracle Integration in *Using Integrations in Oracle Integration 3*.

## Create a Connection

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

To create a connection in Oracle Integration:

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

### Note:

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

3. In the Create connection panel, select the adapter to use for this connection. To find the adapter, scroll through the list, or enter a partial or full name in the **Search** field.
4. Enter the information that describes this connection.

Element	Description
<b>Name</b>	Enter a meaningful name to help others find your connection when they begin to create their own integrations.
<b>Identifier</b>	Automatically displays the name in capital letters that you entered in the <b>Name</b> field. If you modify the identifier name, don't include blank spaces (for example, SALES OPPORTUNITY).

Element	Description
<b>Role</b>	<p>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.</p> <p>For example, assume you configure a connection for the Oracle Service Cloud (RightNow) Adapter as only an <b>invoke</b>. Dragging the adapter to a <b>trigger</b> section in the integration produces an error.</p>
<b>Keywords</b>	Enter optional keywords (tags). You can search on the connection keywords on the Connections page.
<b>Description</b>	Enter an optional description of the connection.
<b>Share with other projects</b>	<p><b>Note:</b> This field only appears if you are creating a connection in a project.</p> <p>Select to make this connection publicly available in other projects. Connection sharing eliminates the need to create and maintain separate connections in different projects.</p> <p>When you configure an adapter connection in a different project, the <b>Use a shared connection</b> field is displayed at the top of the Connections page. If the connection you are configuring matches the same type and role as the publicly available connection, you can select that connection to reference (inherit) its resources.</p> <p>See Add and Share a Connection Across a Project.</p>

5. Click **Create**.

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

## Configure Connection Properties

Enter connection information so your application can process requests.

1. Go to the **Properties** section.
2. In the **SOA or Service Bus URL** field, specify the URL where the Oracle SOA Suite or Oracle Service Bus instance is accessible. Based on the server topology, this can be the load balancer, Oracle Traffic Director (OTD), cluster frontend, or managed server URL. For example:

*protocol://host:port*

Connectivity troubleshooting information is provided. See [Troubleshoot Connectivity Issues](#).

## Configure Connection Security

Configure security for your Oracle SOA Suite Adapter connection by specifying the user credentials.

1. Go to the **Security** section.
2. Specify the username and password.

Note that:

- For Oracle SOA Suite, the user must be part of the `Operators` group and have the `SOAOperator` role.
- For Oracle Service Bus, the user must be part of the `Deployers` group.

If Oracle SOA Suite or Oracle Service Bus must be accessed through the connectivity agent, see [Configure the Endpoint Access Type](#). If you are using the Oracle SOA Suite Adapter to connect with on-premises Oracle SOA Suite or Oracle Service Bus, you must install the connectivity agent and configure the agent group.

## 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

Select the option for accessing your endpoint.

Option	This Option Appears If Your Adapter Supports ...
<b>Public gateway</b>	Connections to endpoints using the public internet.
<b>Connectivity agent</b>	<p>Connections to on-premises endpoints through the connectivity agent.</p> <ol style="list-style-type: none"> <li>1. Click <b>Associate agent group</b>. The Associate agent group panel appears.</li> <li>2. Select the agent group, and click <b>Use</b>.</li> </ol> <p>To configure an agent group, you must download and install the on-premises connectivity agent. See <a href="#">Download and Run the Connectivity Agent Installer</a> and <a href="#">About Creating Hybrid Integrations Using Oracle Integration in <i>Using Integrations in Oracle Integration 3</i></a>.</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 adapter connection uses a Web Services Description Language (WSDL) file. Only some adapter connections use WSDLs.


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

2. Wait for a message about the results of the connection test.
  - If the test was successful, then the connection is configured properly.
  - If the test failed, then edit the configuration details you entered. Check for typos and verify URLs and credentials. Continue to test until the connection is successful.
3. When complete, click **Save**.

## Upload a Certificate to Connect with External Services

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

If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception error is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle Integration to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration.

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



Name	Type	Category	Status
akt_pgppublic	PGP	Public	Configured
akt_pgpprivate	PGP	Private	Configured
testpgppublic	PGP	Public	Configured
testpgppsecret	PGP	Private	Configured
elq_cert1	X.509	Trust	Configured
Eqir_CloudCA	SAML	Message Protection	Configured
qa_lan	X.509	Trust	Configured
OpportunityServiceSoapHttpPort	X.509	Trust	Configured
DigiCertCA2	X.509	Trust	Configured
SG-Utilities	X.509	Trust	Configured
app_elq_p01	X.509	Trust	Configured

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

### Digital Signature

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

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

### X.509 (SSL transport)

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

 **Note:**

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

- iii. Enter the password of the keystore being imported.
- c. Click **Upload**.

**SAML (Authentication & Authorization)**

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

**PGP (Encryption & Decryption)**

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

### Signing key

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

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

# 3

## Add the Oracle SOA Suite Adapter Connection to an Integration

When you drag the Oracle SOA Suite Adapter into the invoke area of an integration, the Adapter Endpoint Configuration Wizard is invoked. This wizard guides you through configuration of the Oracle SOA Suite Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the Oracle SOA Suite Adapter as an invoke in an integration. The Oracle SOA Suite Adapter cannot be configured as a trigger in an integration.

### Topics

- [Basic Info Page](#)
- [Invoke Operations Page](#)
- [Invoke Resource Configuration Page](#)
- [Invoke Headers Page](#)
- [Invoke Request-Headers Page](#)
- [Invoke Response-Headers Page](#)
- [Summary Page](#)

## Basic Info Page

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

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

## Invoke Operations Page

Select the SOAP or REST service exposed by on-premises Oracle SOA Suite, on-premises Oracle Service Bus, or Oracle SOA Cloud Service with which to integrate.

- [SOA Services](#)
- [Oracle Service Bus Services](#)

### SOA Services

The Operations page provides two options for selecting services exposed by on-premises Oracle SOA Suite or Oracle SOA Cloud Service. Each selection is based on the URL you provided on the Connections page:

- If both SOA and Oracle Service Bus are accessible on this connection.
- If only SOA server is accessible on this connection.

Element	Description
<b>Select to connect to SOA/Service Bus</b>	This field is displayed if both Oracle SOA Suite and Oracle Service Bus are accessible from the URL you specified in the <b>SOA or Service Bus URL</b> field on the Connections page. <ul style="list-style-type: none"> <li>• <b>SOA:</b> Select to connect to Oracle SOA Suite or Oracle SOA Cloud Service.</li> <li>• <b>Service Bus:</b> Select to connect to standalone Oracle Service Bus or the Oracle Service Bus version included with Oracle SOA Suite.</li> </ul>
<b>This endpoint connects to: SOA</b>	This read-only field is displayed if only Oracle SOA Suite is accessible from the URL you specified in the <b>SOA or Service Bus URL</b> field on the Connections page.
<b>Select a partition</b>	Select the partition to explore. Partitions are separate sections of your SOA Infrastructure that enable you to logically group SOA composite applications for ease of management. All partitions on the SOA server for which the user has privileges are displayed.
<b>Select a SOA composite</b>	Select a composite to view the services that it exposes.
<b>Select a Service</b>	Select a service with which to integrate. <ul style="list-style-type: none"> <li>• If a SOAP web service is selected, the port and operations available are listed below. If this service includes only a single port or operation, they are automatically selected for use. If it includes multiple ports or operations, select the ones to use in this integration.</li> <li>• If a RESTful web service is selected, a message is displayed asking you to proceed to the Resource Configuration page for further configurations.</li> </ul>

Element	Description
<b>Port</b>	This field is displayed when a SOAP service is selected. If the service contains a single port, it is displayed as a text field and selected by default. If the service WSDL contains multiple ports, they are displayed in a drop-down list.
<b>Operation</b>	This field is displayed when a SOAP service and port are selected. If the port selected above contains a single operation, it is displayed as a text field and selected by default. If the port contains multiple operations, they are displayed in a drop-down list.

### Service Bus Services

The Operations page provides two options for selecting services exposed by Oracle Service Bus. Each selection is based on the URL you provided on the Connections page:

- If both SOA and Oracle Service Bus are accessible on this connection.
- If only Oracle Service Bus is accessible on this connection.

Element	Description
<b>Select to connect to SOA/Service Bus</b>	This field is displayed if both Oracle SOA Suite and Oracle Service Bus are accessible from the URL you specified in the <b>SOA or Service Bus URL</b> field on the Connections page. <ul style="list-style-type: none"> <li>• <b>SOA:</b> Select to connect to Oracle SOA Suite or Oracle SOA Cloud Service.</li> <li>• <b>Service Bus:</b> Select to connect to Oracle Service Bus or Oracle SOA Cloud Service.</li> </ul>
<b>This endpoint connects to: Service Bus</b>	This read-only field is displayed if only Oracle Service Bus is accessible from the URL you specified in the <b>SOA or Service Bus URL</b> field on the Connections page.
<b>Select a Service Bus project</b>	Select the project to view the services that it exposes.
<b>Select a Service</b>	Select a service with which to integrate. <ul style="list-style-type: none"> <li>• If a SOAP web service is selected, the operation details are displayed in the section below the services list (operation, request object, response object, message exchange pattern).</li> <li>• If a RESTful web service is selected, a message is displayed asking you to proceed to the Resource Configuration page for further configurations.</li> </ul>

## Invoke Resource Configuration Page

Shows the supported REST resource, verb, request and response content types, and query parameters. REST services that are end-to-end JSON-based are not supported. This page is only displayed if you selected a REST service on the Operations page.

Element	Description
<b>Select a resource</b>	Displays the resource of the selected REST service. If more than one resource is supported, a dropdown list is displayed.
<b>Select an HTTP verb</b>	Displays the HTTP verb of the selected REST service. If more than one verb is supported, a dropdown list is displayed.
<b>Request Content Type</b>	Displays the request content type of the selected REST service. The available selections are received from the metadata of the target service. As long as they are any form of XML/JSON, they appear as selections. If more than one type is supported, a dropdown list is displayed. You can change this selection.
<b>Response Content Type</b>	Displays the response content type of the selected REST service. If more than one type is supported, a dropdown list is displayed. You can change this selection.
<b>Query Parameters</b>	Enter letters to filter the display of query parameters.
<b>Available Query Parameters</b>	Displays the available query parameters. Select appropriate parameters to use.
<b>Selected Query Parameters</b>	Displays the selected query parameters.

## Invoke Headers Page

Select to configure headers for the endpoint.

Element	Description
<b>Configure Headers</b>	Select <b>No</b> or <b>Yes</b> . If you select <b>Yes</b> , the page is refreshed to show the types of headers available for selection.

Element	Description
<b>Do you want to configure headers for this Endpoint?</b>	<p>Select the necessary check boxes to enable header configuration on the Request-Headers and Response-Headers pages of the wizard. Select the headers to send with the payload. Header selections are automatically chosen based on the WSDL provided on the Connections page.</p> <p>The headers available for selection are based on the service you selected on the Operations page.</p> <p>For SOAP web services (SOAP header check boxes are non-editable):</p> <ul style="list-style-type: none"> <li>• <b>Request Headers</b> <ul style="list-style-type: none"> <li>– SOAP Headers</li> <li>– Custom SOAP Headers</li> <li>– Standard HTTP Headers</li> <li>– Custom HTTP Headers</li> </ul> </li> <li>• <b>Response Headers</b> <ul style="list-style-type: none"> <li>– SOAP Headers</li> <li>– Custom SOAP Headers</li> <li>– Standard HTTP Headers</li> <li>– Custom HTTP Headers</li> </ul> </li> </ul> <p>For RESTful web services:</p> <ul style="list-style-type: none"> <li>• <b>Request Headers</b> <ul style="list-style-type: none"> <li>– Standard HTTP Headers</li> <li>– Custom HTTP Headers</li> </ul> </li> <li>• <b>Response Headers</b> <ul style="list-style-type: none"> <li>– Standard HTTP Headers</li> <li>– Custom HTTP Headers</li> </ul> </li> </ul>

## Invoke Request-Headers Page

You can configure and view SOAP and HTTP request header parameters for a SOAP web service or HTTP request header parameters for a RESTful web service. The headers that are displayed are based on your selections made on the Header page. The headers you select are applied to the request object.

### SOAP Web Services

Element	Description
<b>SOAP Headers</b>	View the SOAP headers contained in the WSDL file of the selected SOAP service. SOAP headers cannot be edited.
<b>Custom SOAP Headers</b>	<p>Click <b>Choose File</b> to upload the XML schema file from which to select custom SOAP headers to be configured in the integration WSDL.</p> <p>Note the following:</p> <ul style="list-style-type: none"> <li>• Only valid XSD files are supported.</li> <li>• Schema files without targetNamespaces are not supported.</li> <li>• Nested schemas are not currently supported.</li> </ul>



Element	Description
<b>Standard HTTP Headers</b>	Click the <b>Add</b> icon to add headers from the prepopulated list. Some mandatory standard HTTP headers are disabled from selection because allowing them to change may provide unexpected results (for example, authorization).
<b>Custom HTTP Headers</b>	Click the <b>Add</b> icon to add custom HTTP header names and descriptions. Note the following: <ul style="list-style-type: none"> <li>• Spaces, commas, or &lt;EOD&gt; characters are not supported in custom HTTP header names.</li> <li>• Null and duplicate HTTP header names are not supported.</li> </ul>

### RESTful Web Services

Element	Description
<b>Standard HTTP Headers</b>	Click the <b>Add</b> icon to add headers from the prepopulated list. Some mandatory standard HTTP headers are disabled from selection because allowing them to change may provide unexpected results (for example, authorization).
<b>Custom HTTP Headers</b>	Click the <b>Add</b> icon to add custom HTTP header names and descriptions. Note the following: <ul style="list-style-type: none"> <li>• Spaces, commas, or &lt;EOD&gt; characters are not supported in custom HTTP header names.</li> <li>• Null and duplicate HTTP header names are not supported.</li> </ul>

## Invoke Response-Headers Page

You can configure and view SOAP and HTTP response header parameters for a SOAP web service or HTTP response header parameters for a RESTful web service. The headers that are displayed are based on your selections made on the Header page. The headers you select are applied to the response object.

### SOAP Web Services

Element	Description
<b>SOAP Headers</b>	View the SOAP headers contained in the WSDL file of the selected SOAP service. SOAP headers cannot be edited.

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Element	Description
<b>Custom SOAP Headers</b>	Click <b>Choose File</b> to upload the XML schema file from which to select custom SOAP headers to be configured in the integration WSDL. Note the following: <ul style="list-style-type: none"><li>• Only valid XSD files are supported.</li><li>• Schema files without targetNamespaces are not supported.</li><li>• Nested schemas are not currently supported.</li></ul>
<b>Standard HTTP Headers</b>	Click the <b>Add</b> icon to add headers from the prepopulated list. Some mandatory standard HTTP headers are disabled from selection because allowing them to change may provide unexpected results (for example, authorization).
<b>Custom HTTP Headers</b>	Click the <b>Add</b> icon to add custom HTTP header names and descriptions. Note the following: <ul style="list-style-type: none"><li>• Spaces, commas, or &lt;EOD&gt; characters are not supported in custom HTTP header names.</li><li>• Null and duplicate HTTP header names are not supported.</li></ul>

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### RESTful Web Services

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Element	Description
<b>Standard HTTP Headers</b>	Click the <b>Add</b> icon to add headers from the prepopulated list. Some mandatory standard HTTP headers are disabled from selection because allowing them to change may provide unexpected results (for example, authorization).
<b>Custom HTTP Headers</b>	Click the <b>Add</b> icon to add custom HTTP header names and descriptions. Note the following: <ul style="list-style-type: none"><li>• Spaces, commas, or &lt;EOD&gt; characters are not supported in custom HTTP header names.</li><li>• Null and duplicate HTTP header names are not supported.</li></ul>

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## Summary Page

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

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

# 4

## Implement Common Patterns Using the Oracle SOA Suite Adapter

You can use the Oracle SOA Suite Adapter to implement the following common patterns.

### Topics:

- [Map Standard and Custom HTTP Header Values in the Mapper](#)

## Map Standard and Custom HTTP Header Values in the Mapper

Once endpoint creation is complete in the Adapter Endpoint Configuration Wizard, you can map values for headers and payloads in the mapper.

### SOAP Web Services

In both the request and response structure in the integration schema:

- Payloads are available under the **Body** element.
- SOAP headers are available under the **Headers > SOAPHeaders** element.
- HTTP headers are available under the **Headers > HTTPHeaders** element.

### RESTful Web Services

In both the request and response structure in the integration schema:

- The standard HTTP headers are found under the **HTTPHeaders > StandardHTTPHeaders** element.
- The custom HTTP headers are found under the **HTTPHeaders > CustomHTTPHeaders** element.

# 5

## Troubleshoot the Oracle SOA Suite Adapter

Review the following topics to learn about troubleshooting issues with the Oracle SOA Suite Adapter.

### Topic

- [Troubleshoot Connectivity Issues](#)

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

## Troubleshoot Connectivity Issues

Troubleshoot connectivity issues with the Oracle SOA Suite Adapter.

### Determine the URL to Use for the SOA or Service Bus URL Field on the Connections Page

The format to specify is:

```
protocol://host:port
```

Where:

- `protocol`: Specify either HTTP or HTTPS, depending on the Oracle SOA Suite configuration.
- `host` and `port`: Specify the host and port through which the Oracle SOA Suite/Oracle Service Bus flows are accessible.
  - Check whether the Oracle SOA Suite/Oracle Service Bus flows are accessible through the following:
    - \* Load balancer host and port
    - \* Oracle Traffic Director (OTD) host and port
    - \* Cluster frontend host and port
  - In case of a standalone Oracle SOA Suite/Oracle Service Bus instance with no configured load balancer/OTD, check whether the Oracle SOA Suite/Oracle Service Bus flows are accessible through:
    - \* Managed server host and port
    - \* Administration server host and port
- Connectivity agent: Configure and use the connectivity agent if the above URL is not publicly accessible.

### SSL Handshake Issues

Check if the SSL certificate is correctly configured. Here are a few resources that can help:

- Oracle SOA Suite (on-premises) SSL configuration steps:
  - [Configuring SSL \(12.2.1.4 | 12.2.1.3\)](#) in *Administering Oracle SOA Suite and Oracle Business Process Management Suite*
- Oracle SOA Cloud Service SSL configuration steps:
  - [Configure SSL for an Oracle SOA Cloud Service Instance](#) in *Administering Oracle SOA Cloud Service*
- Oracle SOA Suite on Marketplace SSL configuration steps:
  - [Set Up Oracle SOA Suite to Use CA-Verified SSL Certificates \(without load balancer\)](#) in Oracle SOA Suite on Marketplace