

## **Oracle® Cloud Adapter**

Using Oracle Cloud Adapter for SuccessFactors

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# Preface

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*Using Oracle Cloud Adapter for SuccessFactors* describes how to configure the SuccessFactors Adapter as a connection in an integration in Oracle SOA Suite.

This section consists of the following topics:

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

## Audience

*Using Oracle Cloud Adapter for SuccessFactors* User Guide is intended for those who wish to use the Adapter for integrating Applications with SuccessFactors.

## Related Resources

For more information, see these Oracle resources:

- *Developing SOA Applications with Oracle SOA Suite*
- *Administering Oracle SOA Suite and Oracle Business Process Management Suite*
- *Administering Oracle Service Bus*
- *Understanding Technology Adapters*

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>oldface</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.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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# Introduction to the SuccessFactors Adapter

This section introduces the SuccessFactors Adapter.

This chapter consists of the following sections:

- [Oracle Cloud Adapter for SuccessFactors](#)
- [What Application Version Does the SuccessFactors Adapter Support?](#)
- [Installing the Cloud Adapters](#)
- [Performing Postinstallation Configuration Tasks](#)
- [Disabling Hostname Verification](#)
- [Obtaining the Authentication Credentials](#)
- [Unsupported Features](#)

## Oracle Cloud Adapter for SuccessFactors

The Oracle Cloud Adapter for SuccessFactors enables you to create an integration with SuccessFactors cloud-based human capital management (HCM) software using the Software as a Service (SaaS) model.

The Oracle Cloud Adapter for SuccessFactors supports SFAPI (SuccessFactors API) exposed by the SuccessFactors application. Hence, giving exposure to only the business objects that can be accessed via SFAPI.

The Oracle Cloud Adapter for SuccessFactors is one of the many predefined adapters included with Oracle SOA Suite. The SuccessFactors adapter is configured as an external reference in Oracle SOA Suite. For more information, see [Configuring Oracle Cloud Adapter for SuccessFactors Properties](#).

## What Application Version Does the SuccessFactors Adapter Support?

The SuccessFactors Adapter is compatible with SuccessFactors version SFAPI 1.2 as well as 1.1.

## Installing the Cloud Adapters

See the README.txt available with the patch for instructions on installing the cloud adapters.

After you complete the adapter installation, perform the tasks described in [Performing Postinstallation Configuration Tasks](#).

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**Note:** For information about supported versions and platforms, see the release certification matrix at Supported System Configurations.

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## Performing Postinstallation Configuration Tasks

You must perform post-installation configuration tasks after installing the cloud adapters.

For information about post-installation configuration tasks, see the *Oracle Cloud Adapters Postinstallation Configuration Guide*.

## Disabling Hostname Verification

By default, the WebLogic Server Configuration Wizard sets **Hostname Verification** to be a **Hostname Verifier** when creating the Oracle SOA Suite and Oracle Service Bus domains. **Hostname Verification** must be set to **None** for the Oracle Cloud Adapter for SuccessFactors to work. To disable hostname verification, follow the steps mentioned below:

1. Log in to the Oracle WebLogic Server Administration Console.
2. Under **Domain >Environment >Servers**, double-click the server name.
3. Click the **SSL** tab.
4. Under **Advanced**, update **Hostname Verification** to **None**.
5. Save the change.

## Obtaining the Authentication Credentials

Obtain the user name and password that are required for creating the Credential Store Framework (CSF) authentication key in Oracle JDeveloper and Oracle Enterprise Manager Fusion Middleware Control from your SOA domain administrator. These credentials are required for most cloud adapters. For the Oracle Cloud Adapter for SuccessFactors, the credentials require three properties (companyID, username, and password).

## Unsupported Features

- The Oracle Cloud Adapter for SuccessFactors cannot be configured as exposed service.
- The Oracle Cloud Adapter for SuccessFactors does not support Odata API exposed by SuccessFactors.

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# Understanding Oracle Cloud Adapter for SuccessFactors Features

This chapter consists of the following topics:

- [Prerequisites for Creating a Connection](#)
- [Designing an Integration with the Adapter Configuration Wizard](#)
- [Monitoring Your Application During Runtime](#)
- [Uploading an SSL Certificate](#)

## Prerequisites for Creating a Connection

You must satisfy the following prerequisite to create a connection with the SuccessFactors Adapter:

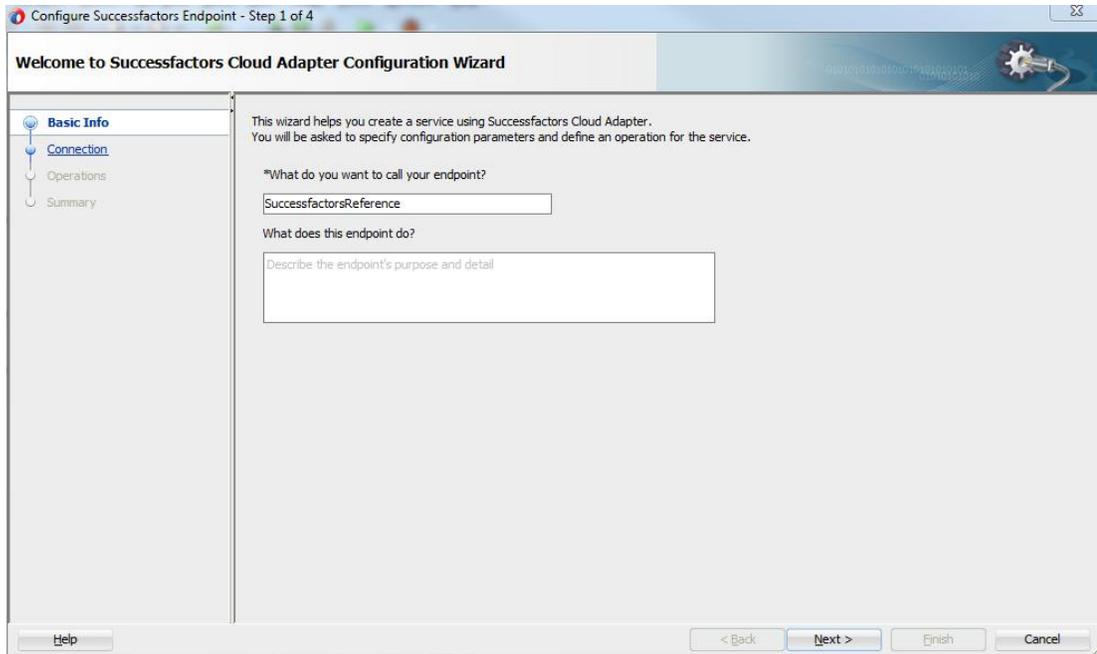
- Purchase a subscription to SuccessFactors. When you subscribe, you receive a company ID, username, and password. The information is required to configure the connection page of the SuccessFactors Adapter configuration wizard for establishing a connection to the SuccessFactors Application. The Connections page includes an SFAPIWSDL location (WSDL URL). This WSDL location represents your API endpoint, which depends on where your SuccessFactors instance is located. It can be in one of several data centers. Contact your SuccessFactors representative if you are unsure of which data center to use.

## Designing an Integration with the Adapter Configuration Wizard

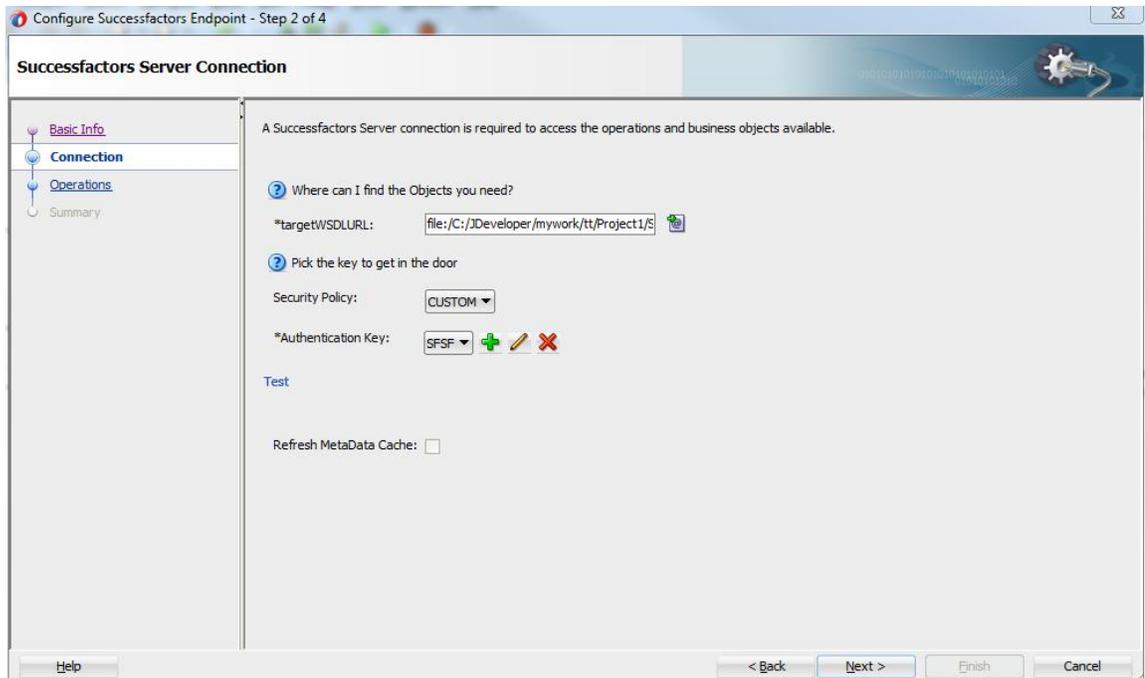
You use the Adapter Configuration Wizard to include the Oracle Cloud Adapter for SuccessFactors in a SOA composite application or an Oracle Service Bus business service.

The Adapter Configuration Wizard consists of configuration pages that enable you to select Operation and Object. The required artifacts are generated after the wizard completion. These artifacts are utilized in runtime to communicate with the SuccessFactors application. You can configure the adapter in the External References (outbound).

The **Basic Info** page prompts you to enter a meaningful name and optional description.



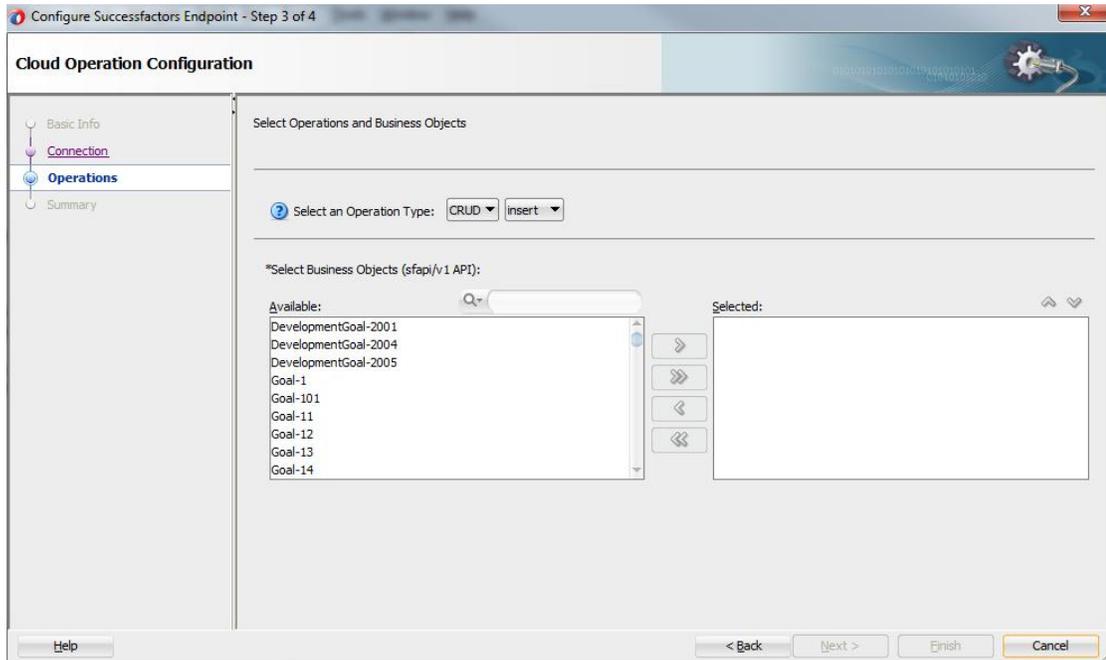
The **Connection** page prompts you to specify the WSDL URL (for example <https://salesdemo4.successfactors.com/sfapi/v1/soap12?wsdl>), the security policy and authentication key to use. The authentication key is created by clicking the **Add** icon to specify the key name, Successfactors companyId, user name, and password. You must also specify these same values in Oracle Enterprise Manager Fusion Middleware Control. For instructions, see the *Oracle Cloud Adapters Postinstallation Configuration Guide*.



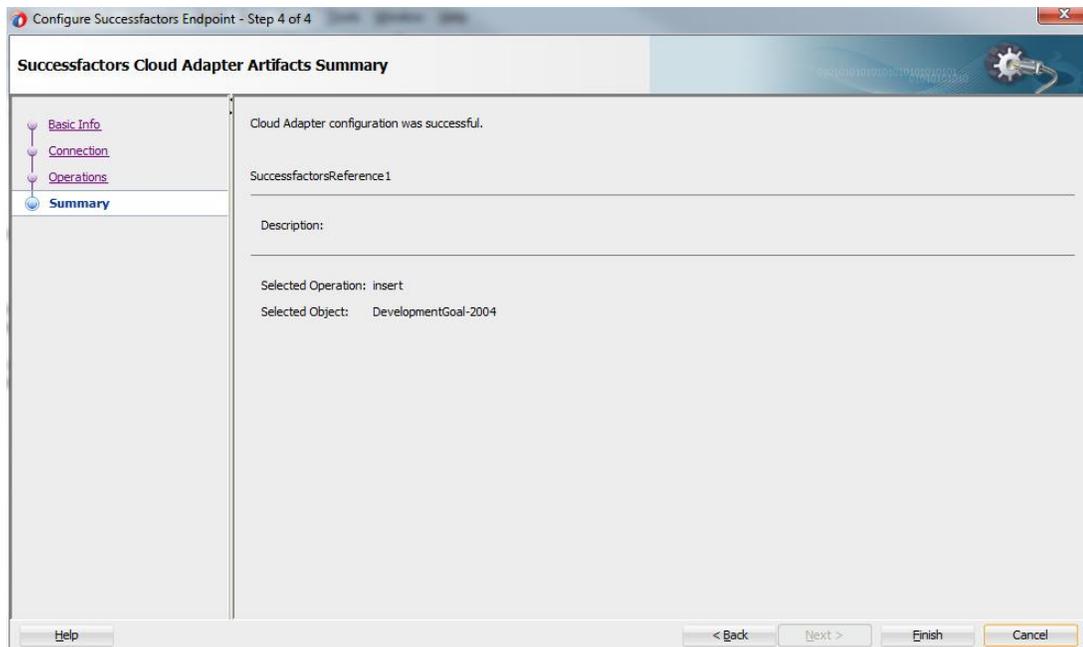
The **Operations** page prompts you to select the **Operation Type**, **Operation Name** and the **business object** on which the specified operation is to be applied.

**Operation type and Operations Supported:**

- **CRUD:** Displays the insert, upsert, update, and delete operations that can be performed on SuccessFactors business objects. The **Available** section contains the business objects which support the selected operation. Select the operation name and the business object on which to perform the operation.
- **SFQL (SuccessFactors Query Language):** Enables you to define an SFQL-based query to send a request for querying a particular business object and retrieve the respective object's information. If you select this option, the page is refreshed to display a text box for entering a query.



The **Summary** page displays your selections for the outbound direction.



The following artifacts are created for each adapter instance in the Applications window in Oracle JDeveloper:

- WSDL file: Only the standard WSDL file type is supported.
- JCA file: Contains the internal implementation details used by the adapter during runtime. It contains the different interaction and connection properties used by the adapter. When application configuration is complete, you can deploy the application from Oracle JDeveloper to the runtime environment.

For information about the details to specify in the fields of the wizard pages, see [Configuring Oracle Cloud Adapter Connection and CSF Key Properties](#).

## Monitoring Your Application During Runtime

This section describes the design time and runtime aspects of using the Oracle Cloud Adapter for SuccessFactors. You use the runtime part of the adapter for delivering the information generated during design time to the service endpoint. You can monitor your SOA composite application or Oracle Service Bus business service from Oracle Enterprise Manager Fusion Middleware Control. You can also test your Oracle Service Bus business service from Oracle Service Bus Console.

## Uploading an SSL Certificate

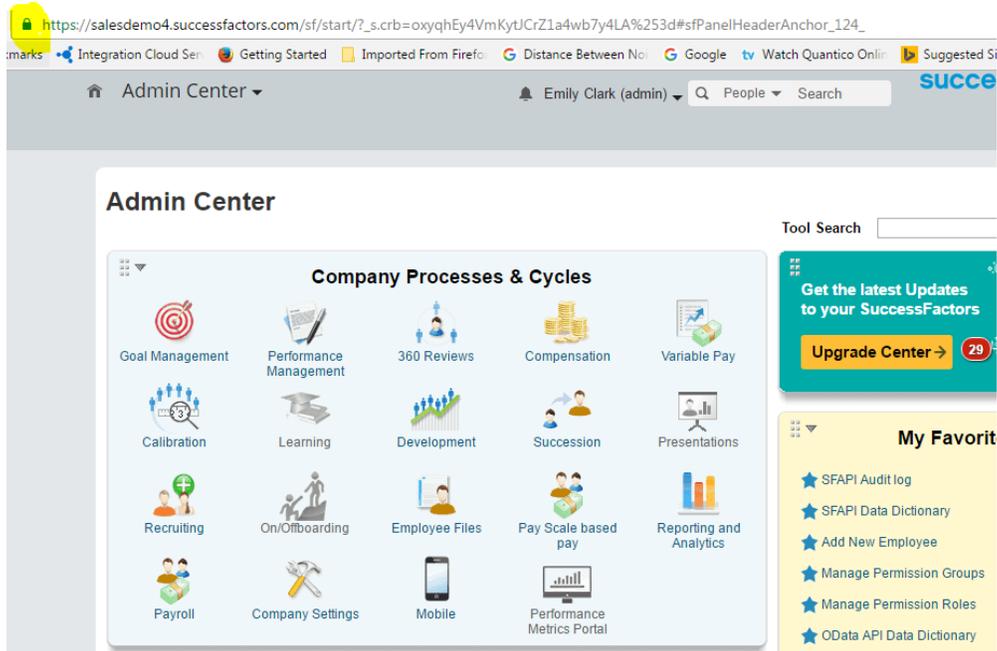
Certificates are used to validate outbound SSL connections. If you make an SSL connection in which the root certificates do not exist in Oracle SOA Servers, an exception is thrown. In that case, you must upload the appropriate certificates. A certificate enables Oracle SOA to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle SOA Servers.

## Generating SuccessFactors Certificate

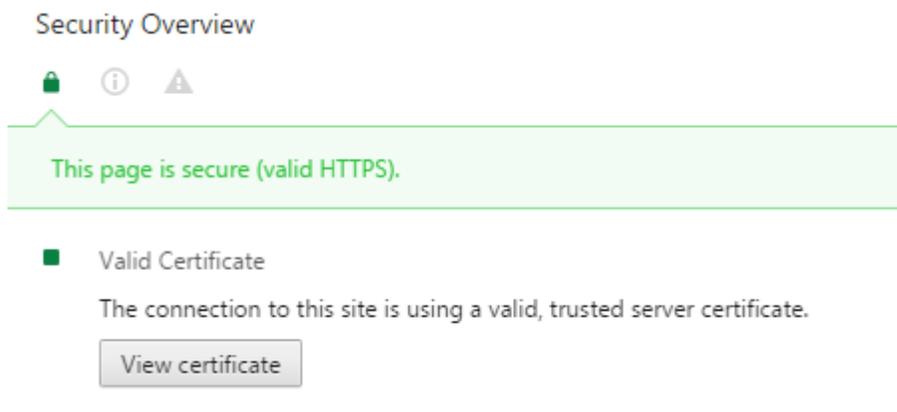
The SuccessFactors Client certificate has to be downloaded from the SuccessFactors application user interface. This certificate has to be imported into the server for successful handshaking with SuccessFactors. The Oracle Cloud Adapter for SuccessFactors uses two-way SSL when interacting with SuccessFactors and hence requires this certificate. On the WebLogic server, these certificates are required to be imported.

To download the certificate, use the following procedure:

1. Log in to the SuccessFactors using a valid user companyId, username and password.



2. Click on the **lock** icon as indicated in the above figure. A small window will pop up. Click on the **view certificates** as indicated in the figure below.

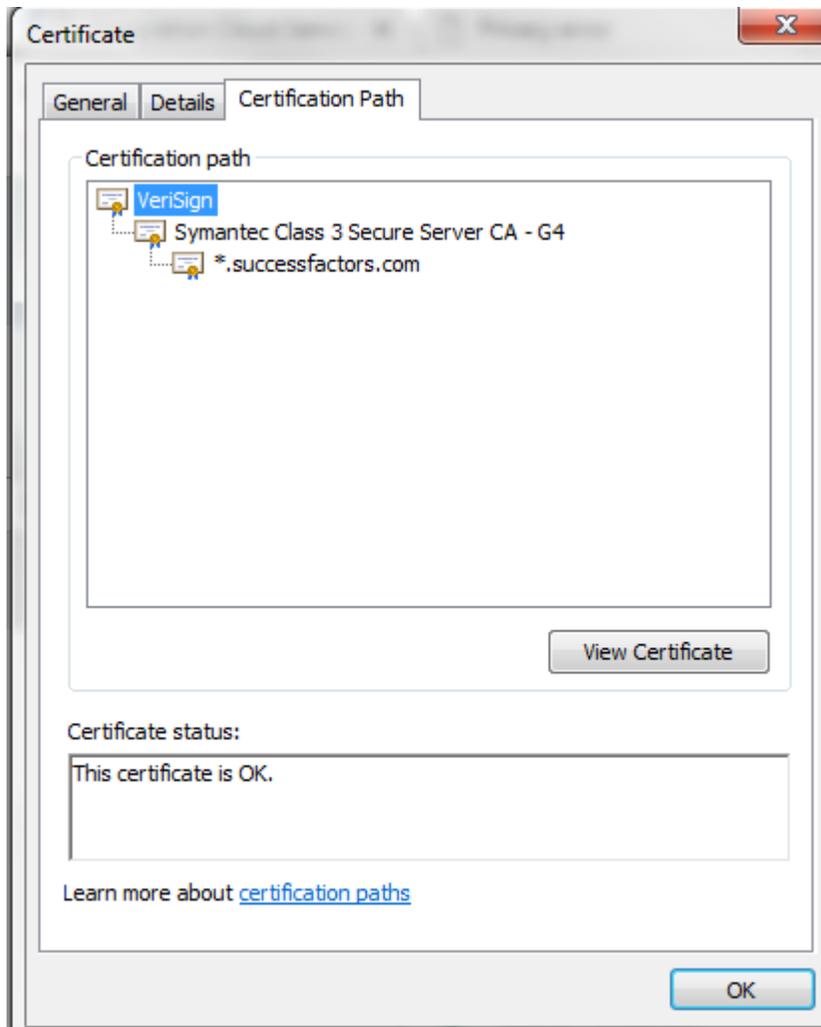


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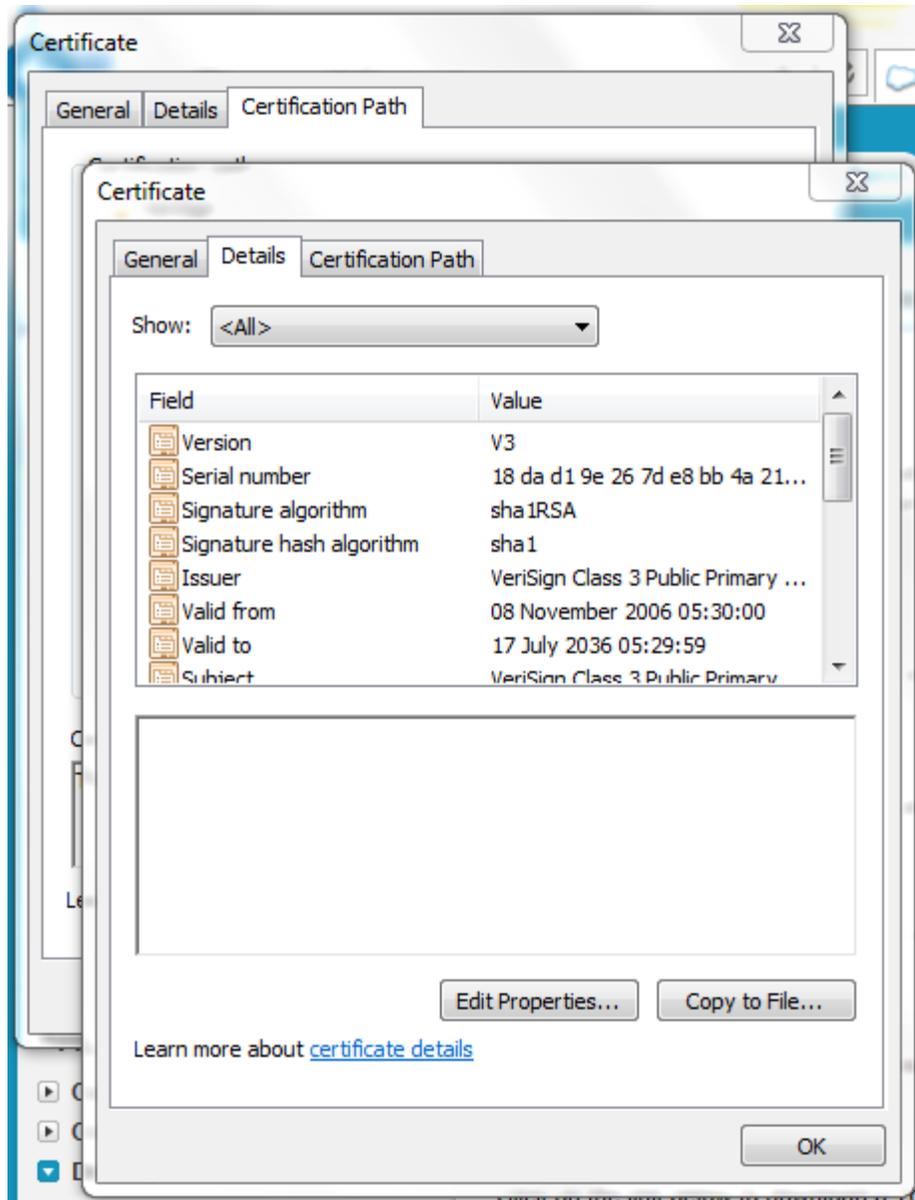
**Note:** Here, Google Chrome is used for demonstration. Experience may differ if you will be using other browser or other version of internet explorer. But idea here is to click on security lock to fetch the certificate information.

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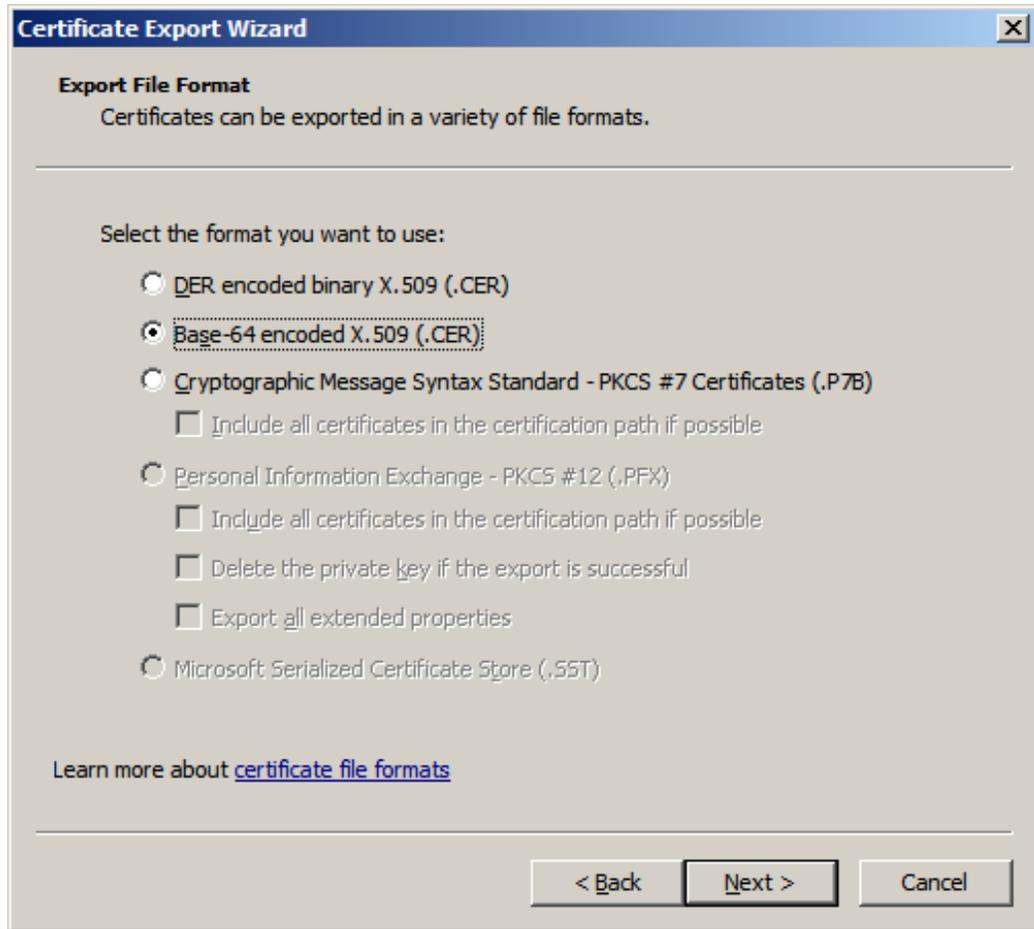
3. After clicking on the view certificates another window pops up providing the details of the certificate. Open the **Certification Path** tab and select VeriSign as shown in the screenshot below. The **View Certificate** button would be enabled, click the same to view certificate details.



4. A new page opens above the existing page, open the **Details** tab and click on **Copy to File** button.



5. Now, Certificate Export wizard opens. Click on next button and select **Base-64 encoded X.509 (.CER)** option.



6. Click **Next** and browse to the location where you want to save the certificate. Provide an appropriate name to the certificate file and save it.
7. Double-click and open the Saved certificate.
8. Follow the same procedure for remaining two certificate paths.
9. Import the downloaded certificates into your application server, and configure your application server to request the client certificate. The application server then checks that the certificates used in the SSL/TLS handshake matches the one you downloaded.

## Importing SuccessFactors Certificate using Keytool

1. Provide a suitable location on your system to save the certificates authority. You would now add these certificates to Keystore.
2. Make sure that KSS for demo is disabled.
3. To disable KSS, go to the WebLogic console (<http://url:port/console/>).
4. Click on Domain → Security → Advanced page and unselect “Use KSS for Demo”.
5. Click **Save**.
6. To know the WebLogic server’s trust Keystore location: On the home page, proceed to **Servers** under **Environment** subsection.

7. Select the Admin server out of the list of servers displayed.
8. Proceed to the **Keystores** tab, as shown in the figure below.



9. Under **Keystores** tab, select the **Demo Trust Keystore** path. This is the path where our keystore resides.
10. It would be of the form {Middleware\_Home}/wlsserver/server/lib. Next, you need to import this certificate from the authority into WebLogic server's trust store.
11. If you are using a window based system, use a command prompt to navigate to the path mentioned in the above step.
12. At this path, run the following keytool command:

```
keytool -import -trustcacerts -alias SuccessfactorsCA -file
<Filename with location> -keystore DemoTrust.jks -storepass
DemoTrustKeyStorePassPhrase
```

For e.g., assuming downloaded certificate is kept at the location as mentioned in the step 8 and name of the certificate is *Successfactors.cer* then keytool command would look like:

```
keytool -import -trustcacerts -alias SuccessfactorsCA -file
Successfactors.cer -keystore DemoTrust.jks -storepass
DemoTrustKeyStorePassPhrase
```

13. A message **Certificate was added to keystore** is displayed, which confirms the successful import of the certificate. If you get a 'Certificate already exists in the Keystore message', enter 'Y'(yes) and proceed to import the certificate.
14. You can verify the same by enlisting all the certificates using the following command:
15. 

```
keytool -list -keystore DemoTrust.jks -storepass
DemoTrustKeyStorePassPhrase
```
16. The newly imported certificate appears as part of existing certificates in the keystore.
17. Follow the steps for 12 to 14 for other two certificates.

```
[oracle@JCADEVU2 lib]$ keytool -list -keystore DemoTrust.jks
Enter keystore password:

Keystore type: JKS
Keystore provider: SUN

Your keystore contains 7 entries

salesforceca, Mar 13, 2014, trustedCertEntry,
Certificate fingerprint (SHA1): B1:8D:9D:19:56:69:BA:0F:78:29:51:75:66:C2:5F:42:2A:27:71:04
salesforceca1, Mar 13, 2014, trustedCertEntry,
Certificate fingerprint (SHA1): 5D:EB:8F:33:9E:26:4C:19:F6:68:6F:5F:8F:32:B5:4A:4C:46:B4:76
certgenca, Mar 23, 2002, trustedCertEntry,
Certificate fingerprint (SHA1): E2:CB:88:9D:C5:09:F9:0A:AA:0D:3C:F6:75:7B:5F:1D:2B:A1:F7:F0
wlsdemocanew2, Jan 25, 2003, trustedCertEntry,
Certificate fingerprint (SHA1): 4E:FB:1D:2F:58:EA:D4:0C:FC:2A:86:91:2D:43:4F:C1:79:D0:A6:4E
wlsdemocanew1, Jan 25, 2003, trustedCertEntry,
Certificate fingerprint (SHA1): 84:13:A2:63:D6:74:75:3B:25:15:6F:62:8C:18:79:87:62:5B:9A:0C
wls-certgenca, Jan 25, 2003, trustedCertEntry,
Certificate fingerprint (SHA1): F8:5D:49:A4:12:54:78:C7:BA:42:A7:14:3E:06:F5:1E:A0:D4:C6:59
wls-certgenca, Dec 2, 2012, trustedCertEntry,
Certificate fingerprint (SHA1): CA:61:71:5B:64:6B:02:63:C6:FB:83:B1:71:F0:99:D3:54:6A:F7:C8
```

18. Restart the server to bring the modifications made in the previous steps into effect.

---

# Designing SOA Composite Applications

This section describes how to design a SOA composite application with the Oracle Cloud Adapter for SuccessFactors. This chapter consists of the following topics:

- [Creating a SOA Composite Application](#)
- [Adding an Adapter to a SOA Composite Application as a Reference](#)
- [Completing Design of a SOA Composite Application](#)

## Creating a SOA Composite Application

This section provides an overview of how to create a SOA composite application in which to include the adapter as an exposed service or external reference.

1. Start Oracle JDeveloper.
2. From the **File** menu, select **New >Application**.
3. In the New Gallery dialog, select **SOA Application** from the **Items** list, then click **OK**. The SOA Create SOA Application wizard is displayed.
4. Specify an application name, and click **Next**.
5. Specify a project name, and click **Next**.
6. Select **Composite with BPEL Process**, and click **Finish**.

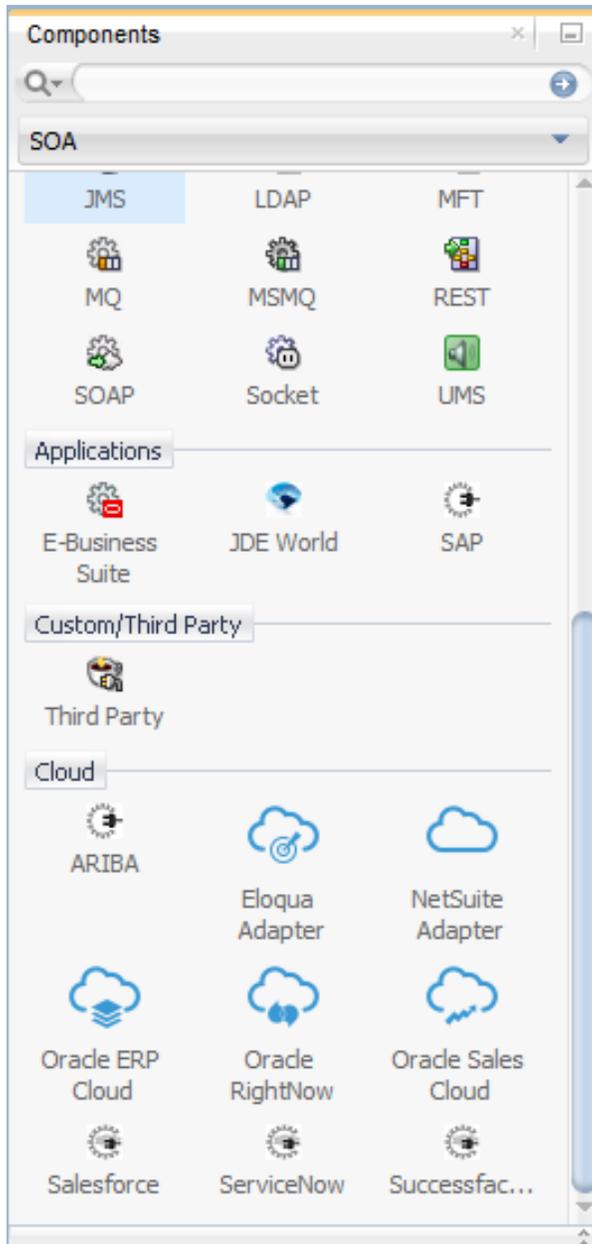
The SOA composite application is displayed for designing in the SOA Composite Editor.

## Adding an Adapter to a SOA Composite Application as a Reference

You can add an Oracle Cloud Adapter for SuccessFactors to a SOA composite application as an outbound (target) reference to the **External References** swimlane in Oracle JDeveloper.

1. Go to the Component Palette in your SOA composite application.
2. Go to the **Cloud** section under **Custom/Third Party**.

The adapters are displayed.



3. To create an outbound (target) reference, drag the adapter to the External References swimlane, and see the following sections that describe the wizard pages for configuring the adapter.
  - [Configuring Basic Information Properties](#)
  - [Configuring Oracle Cloud Adapter Connection and CSF Key Properties](#)
  - [Configuring Oracle Cloud Adapter for SuccessFactors Target Operations Properties](#)
  - [Reviewing Configuration Values on the Summary Page](#)

## Completing Design of a SOA Composite Application

This section provides an overview of how to complete design of your SOA composite application and deploy the application.

1. Design the remaining contents of your SOA composite application. For example:
  - Connect the BPEL process to the adapter. For this example, the BPEL process is connected to the adapter as an external reference.
  - Design the contents of the BPEL process. For example:
    - a) Double-click the BPEL process.
    - b) Add and configure an invoke activity to invoke the adapter.
    - c) Add and configure assign activities to copy the contents of one variable to another when sending and receiving messages to and from the adapter.
    - d) Add and configure other activities, as appropriate.

When complete, view the SOA composite application in the SOA Composite Editor.

For specific information about creating and designing SOA composite applications, see *Developing SOA Applications with Oracle SOA Suite*.

2. Deploy the SOA composite application:
  - a) In the navigator, right-click the project and select **Deploy>projectname**.
  - b) Follow the steps in the deployment wizard to deploy the SOA composite application to the application server.

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# Designing Oracle Service Bus Business Services

This section describes how to design an Oracle Service Bus business service with the adapter in Oracle JDeveloper. This chapter consists of the following topics:

- [Creating an Oracle Service Bus Business Service](#)
- [Adding an Adapter to a Business Service as a Reference](#)
- [Completing Design of an Oracle Service Bus Business Service](#)

## Creating an Oracle Service Bus Business Service

This section provides an overview of how to create an Oracle Service Bus business service in which to include the adapter in Oracle JDeveloper.

1. Start Oracle JDeveloper.
2. From the **File** menu, select **New >Application**.
3. In the New Gallery dialog, select **Service Bus Application** from the **Items** list, then click **OK**.
4. Specify an application name, and click **Next**.
5. Specify a project name.
6. Select **Service Bus**, and click **Finish**.

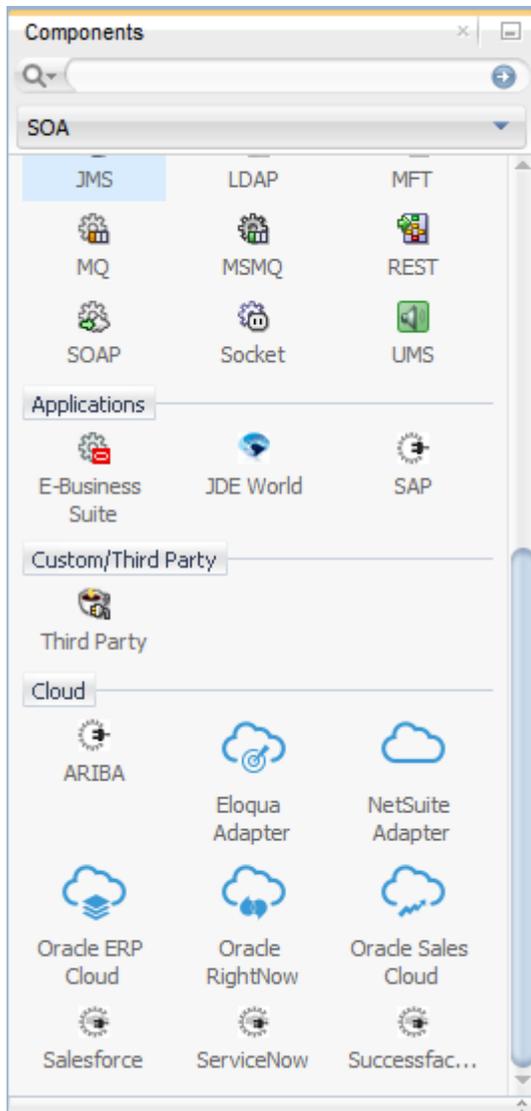
The Oracle Service Bus business service is displayed for designing in the Oracle Service Bus Overview Editor.

## Adding an Adapter to a Business Service as a Reference

You can add the adapter to an Oracle Service Bus business service as an outbound(target) external service to the **External Services** swimlane in Oracle JDeveloper.

1. Go to the Component Palette in your Oracle Service Bus business service.
2. Go to the **Cloud** section under **Service Bus**.

The adapters are displayed.



3. To create an outbound (target) external service, drag the adapter to the External Services swimlane, and see the following sections that describe the wizard pages for configuring the adapter:
  - [Configuring Basic Information Properties](#)
  - [Configuring Oracle Cloud Adapter Connection and CSF Key Properties](#)
  - [Configuring Oracle Cloud Adapter for SuccessFactors Target Operations Properties](#)
  - [Reviewing Configuration Values on the Summary Page](#)

# Completing Design of an Oracle Service Bus Business Service

This section provides an overview of how to complete design of your Oracle Service Bus business service and deploy the application.

1. Design the contents of your Oracle Service Bus business service. For example, to configure an Oracle Service Bus proxy service in your business service:
  - a) In the Oracle Service Bus Overview Editor, right-click the Pipeline/Split Joins lane and select **Insert>Pipeline**.
  - b) The Create Pipeline Service dialog is displayed.
  - c) Enter a name for the pipeline and select the project location, then click **Next**.
  - d) Select **WSDL** as the Service Type.
  - e) To the right of the WSDL selection, click the Browse icon to select the WSDL.
  - f) Select **Application**.
  - g) Expand Resource Chooser and select the WSDL file, then click OK.
  - h) Ensure that Expose as a Proxy Service is selected.
  - i) From the **Proxy Transport** list, select **http**, then click **Finish**.

The Pipeline component is displayed in the Oracle Service Bus Overview Editor.

- j) Connect the external service to the Pipeline component.

For more information about creating and designing an Oracle Service Bus business service, see *Developing Services with Oracle Service Bus*.

2. Open the pipeline that shows the default routing.
3. Verify the service and corresponding operation are displayed in the **Routing Properties** tab at the bottom of the dialog.

The outbound project is ready for deployment.

4. Deploy the business service.
  - a) Select the project, then select **Deploy to Service Bus Server**.
  - b) Follow the steps in the deployment wizard.

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# Configuring Oracle Cloud Adapter for SuccessFactors Properties

The following sections describe the wizard pages that guide you through configuration of the Oracle Cloud Adapter for SuccessFactors as a target in an integration. The Oracle Cloud Adapter for SuccessFactors cannot be configured as a source in an integration. This chapter consists of the following topics:

- [Configuring Basic Information Properties](#)
- [Configuring Oracle Cloud Adapter Connection and CSF Key Properties](#)
- [Configuring Oracle Cloud Adapter for SuccessFactors Operation Properties](#)
- [Reviewing Configuration Values on the Summary Page](#)

## Configuring Basic Information Properties

You can enter a name and description on the Basic Info page of each source and target adapter in your integration. This section consists of the following topics:

- [What You Can Do from the Basic Info Page](#)
- [What You See on the Basic Info Page](#)

## What You Can Do from the Basic Info Page

You can specify the following values on the source or target Basic Info page. The Basic Info page is the initial wizard page that is displayed whenever you drag an adapter to the source or target area.

- 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?	<p>Provide a meaningful name so that others can understand the connection. For example, if you are creating a source Oracle RightNowCloud connection, you may want to name it RightNowInboundDirection. You can include English alphabetic characters, numbers, underscores, and dashes in the name. You cannot include the following:</p> <ul style="list-style-type: none"><li>• Blank spaces (for example, My RightNowConnection)</li><li>• Special characters (for example, #,83&amp; or righ(t)now4)</li><li>• Multibyte characters</li></ul>
What does this endpoint do?	<p>Enter an optional description of the connection's responsibilities. For example: This connection receives an inbound request to synchronize account information with Oracle Sales Cloud.</p>

## Configuring Oracle Cloud Adapter Connection and CSF key Properties

Enter the Oracle Cloud adapter configuration connectivity and Credential Store Framework (CSF) key values for your integration. This section consists of the following topics:

- [What You Can Do from the Oracle Cloud Adapter Connection Page](#)
- [What You See on the Oracle Cloud Adapter Connection Page](#)
- [What You Can Do from the Oracle Cloud Adapter CSF Key Page](#)
- [What You See on the Oracle Cloud Adapter CSF Key Page](#)

## What You Can Do from Oracle Cloud Adapter Connection page

You can specify the following connection values for the Oracle Cloud adapter.

- Specify the WSDL URL for some adapters.
- Specify the security policy.
- Create the authentication key. A key created for one direction (for example, outbound) is also available for selection in the other direction (for example, inbound).



## What You See on the Oracle Cloud Adapter Connection Page

The following table describes the key information on the Oracle Cloud Adapter Connection page.

Element	Description
WSDL URL	Specify the WSDL. The WSDL is used to build integrations specific to your instance. You can also select the WSDL from a filesystem or another source by choosing the browser icon next to the <b>WSDL URL</b> field. Click <b>File System</b> at the top of the dialog, then browse for the WSDL.
Security Policy	Select the security policy appropriate to your environment (for example, <b>USERNAME_PASSWORD_TOKEN</b> ). <ul style="list-style-type: none"><li>• The wizard shows all policies, including those that may not be applicable. To make a correct selection, you must have a knowledge of policies. For example, you cannot select a SAML-based policy because the identity is not propagated.</li><li>• The policies you apply to the cloud adapter are unique to the cloud adapter and do not impact other endpoints in the composite.</li></ul>
Authentication Key	Select the CSF authentication key. <ul style="list-style-type: none"><li>• <b>Add</b>: Click to create a new authentication key. You must specify the key name, username, and password. To successfully deploy and administer your application, you must specify these same values in Oracle Enterprise Manager Fusion Middleware Control.</li><li>• <b>Edit</b>: Click to edit an authentication key.</li><li>• <b>Delete</b>: Click to delete an authentication key.</li></ul>
Test	Click to validate the authentication key.

## What You Can Do from the Oracle Cloud Adapter CSF Key Page

You can specify the following CSF key values for the Oracle Cloud adapter.

- CSF key name
- CompanyId for Oracle Cloud Adapter for SuccessFactors.
- Username and Password

## What You See on the Oracle Cloud Adapter CSF Key Page

The following table describes the key information on the Oracle Cloud adapter CSF Key page.

Element	Description
CSF Key Name	Specify the CSF key to enable runtime injection of credentials. The adapter uses the CSF to retrieve the username and password required for authentication with the application (for example, the Oracle Sales Cloud or Oracle HCM application). This key identifies your login credentials during design-time. To successfully deploy and administer your application, you must specify these same values in Oracle Enterprise Manager Fusion Middleware Control. For instructions, see the <i>Oracle Cloud Adapters Postinstallation Configuration Guide</i> .
CompanyID	<b>Note:</b> This field is only displayed for the Oracle Cloud Adapter for SuccessFactors.  Specify the SuccessFactorsCompanyId.
User Name	Enter the user name for connecting to your application (for example, the Oracle Sales Cloud or Oracle HCM application). Your administrator provides you with user credentials.
Password	Enter the password for connecting to your application.
Re-enter Password	Re-enter the same password a second time.

## Configuring Oracle Cloud Adapter for SuccessFactors Operation Properties

Enter the Oracle Cloud Adapter for SuccessFactors target operation values for your integration. This section consists of the following topics:

- [What You Can Do from the Oracle Cloud Adapter for SuccessFactors Operations Page](#)
- [What You See on the Oracle Cloud Adapter for SuccessFactors Operations Page](#)

## What You Can Do from the Oracle Cloud Adapter for SuccessFactors Operations Page

You can specify the following target operation values for the Oracle Cloud Adapter for SuccessFactors:

- Select operation type
- Select operation name
- Select business objects

## What You See on Oracle Cloud Adapter for SuccessFactors Operations Page

The following table describes the information that is visible on the Oracle Cloud Adapter for SuccessFactors Operations page.

Element	Description
<p><b>Select an Operation Type</b></p>	<p>Select the type of operation to perform on the business objects in an Oracle SuccessFactors application:</p> <p><b>CRUD:</b> Displays the <b>insert</b>, <b>upsert</b>, <b>update</b>, and <b>delete</b> operations to perform on SuccessFactors business objects. Select the operation and the business object on which to perform the operation.</p> <p><b>SFQL:</b> (SuccessFactors Query Language) enables you to define an SFQL-based query to send a request for querying a particular business object and retrieve the respective object's information, if you select this option, the page is refreshed to display a text box for entering a query.</p> <p>– <b>SFQL query statement:</b> Enter a valid SFQL query in the text box. The query can include custom fields and parameters. For example:</p> <pre>SELECT guid,name FROM Goal\$7 WHERE userid = 'USR-22'</pre> <p>– <b>Binding Parameters:</b> Displays any binding parameter, if included, in the specified query. For example, 'firstname' is a parameter in the following query:</p> <pre>SELECT firstname,lastname FROM user WHERE firstname = '&amp;firstname'</pre> <p>Enter a query with a parameter and press the <b>Refresh</b> button above <b>Binding Parameters</b>. A text box in which to enter a test value for the parameter is displayed.</p> <p>– <b>Test My Query:</b> Click to validate the query against the SuccessFactors application. The query response is displayed for a successful query. If the query is invalid, you receive a response for the errors in the query.</p>
<p><b>Filter by object name</b></p>	<p>Enter the initial letters of an object name to display a range of objects. You can also select a filter type:</p>

	<ul style="list-style-type: none"> <li>• <b>All:</b> Displays all objects available for the selected operation.</li> <li>• <b>Custom:</b> Displays objects that can be created in the SuccessFactors application for the selected operation.  These business objects are identified by special icon ('-').  For example, Goal-1, DevelopmentGoal-2002.</li> <li>• <b>Standard:</b> Displays business objects delivered as part of the SuccessFactors application.</li> </ul>
<b>Select Business Objects</b> (sfapiv1 API)	Select a business object from the SuccessFactors application (multiple objects are not supported). The selected operation acts on this business object. The SuccessFactors API version that is displayed is based on the SuccessFactors Cloud application version to which you are connected.
<b>Your Selected Business Objects</b>	Displays the selected business objects.
<b>What is this Object</b>	Describes the selected business object.

## Reviewing Configuration Values on the Summary Page

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

This section consists of the following topics:

- [What You Can Do from the Summary Page](#)
- [What You See on the Summary Page](#)

### What You Can Do from the Summary Page

You can review trigger (source) or invoke (target) configuration details from the Summary page. The Summary page is the final wizard page for each adapter after you have completed your configuration.

- View the configuration details you defined for the trigger (source) or invoke (target) adapter. For example, if you have defined an inbound trigger (source) adapter with a request business object and immediate response business object, specific details about this configuration are displayed on the Summary page.
- Click **Done** if you want to save your configuration details.
- Click a specific tab in the left panel or click **Back** to access a specific page to update your configuration definitions.
- Click **Cancel** to cancel your configuration details.

## What You See on the Summary Page

The following table describes the key information on the Summary page.

Element	Description
<b>Summary</b>	Displays a summary of the trigger (source) or invoke (target) configuration values you defined on previous pages of the wizard.  To return to a previous page to update any values, click the appropriate tab in the left panel or click <b>Back</b> .



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## Managing Applications

This section describes how to monitor an Oracle SOA Suite or Oracle Service Bus application that uses the adapter from Oracle Enterprise Manager Fusion Middleware Control or Oracle Service Bus Console and how to verify results in the Oracle SuccessFactors Console.

This chapter consists of the following sections:

- [Managing the Application in Oracle Enterprise Manager Fusion Middleware Control](#)
- [Testing Oracle Service Bus Projects from Oracle Service Bus Console](#)

### Managing the Application in Oracle Enterprise Manager Fusion Middleware Control

You manage the SOA composite application or Oracle Service Bus business service that includes your adapter in Oracle Enterprise Manager Fusion Middleware Control.

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. In the navigator, expand the tree to display your SOA composite application or Oracle Service Bus business service project (for this example, a SOA composite application is selected).
3. Select the SOA composite application.
4. Click **Test**.  
The Test Web Service page is displayed.
5. Complete the fields on the page to initiate a test of your composite.
6. Click **Test Web Service**.  
Invocation results are displayed.
7. Click **Launch Flow Trace** to view the flow trace of the SOA composite application, including flow details about the adapter.

For more information about monitoring applications from Oracle Enterprise Manager Fusion Middleware Control, see *Administering Oracle SOA Suite and Oracle Business Process Management Suite* and *Administering Oracle Service Bus*.

### Testing Oracle Service Bus Business Services from Oracle Service Bus Console

You can test Oracle Service Bus business service projects from Oracle Service Bus Console.

1. Log in to Oracle Service Bus Console.
2. In the navigator under **All Projects**, open the project to test.
3. In the navigator, click the business service for that project.

4. Click the **Launch Test Console** (green arrow button) to test the outbound endpoint.

This opens a window that displays the proxy service and the operation to test.

5. Provide the input and click **Execute**.

This sends the payload to the Oracle Cloud application. The response is displayed under the **Response Document** section.

For more information about testing Oracle Service Bus business service projects, see *Administering Oracle Service Bus*.

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# Troubleshooting and Error Handling

This section describes how to troubleshoot and handle errors with the adapter.

This chapter consists of the following topics:

- [Design Time Troubleshooting and Error Handling](#)
- [Run Time Troubleshooting and Error Handling](#)

## Design Time Troubleshooting and Error Handling

### Test Connection Failure or Wizard Operation Page Does Not Open

If you receive a test connection failure on the Connection page or the Operation page does not display in the Adapter Configuration Wizard, perform the following steps:

- Log in to SuccessFactors directly and see if the credentials work and the SuccessFactors application is not down for maintenance.

### Operation Page Does Not Open Due to Out of Memory Exception

If you get Out of Memory exception while downloading Metadata, perform the following steps:

1. Go to the following path in the directory structure where Jdeveloper is installed:  
**Jdeveloper\_Home>jdeveloper>jdev>bin.**
2. Open jdev. conf and extend the Java Memory to 1GB by adding below argument at the end of the file:

```
AddVMOption -Xmx1024M
```

## Run Time Troubleshooting and Error Handling

### Handling SSL Exception

If you are getting SSL Exception in runtime with the “*unable to find valid certification path to requested target*”, check if the Certificates are added to the Oracle SOA server. Certificates are used to validate outbound SSL connections. If you make an SSL connection in which the root certificate does not exist in Oracle SOA Servers, an exception is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle SOA to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle SOA Servers.