Oracle® Cloud

Using the Oracle Service Cloud (RightNow) Adapter with Oracle Integration
Oracle Cloud Using the Oracle Service Cloud (RightNow) Adapter with Oracle Integration,
E85495-10

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Primary Author: Oracle Corporation

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Preface

This guide describes how to configure the Oracle Service Cloud (RightNow) Adapter as a connection in an integration in Oracle Integration.

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

Topics

• Audience
• Documentation Accessibility
• Related Resources
• Conventions

Audience

This guide is intended for developers who want to use the Oracle Service Cloud (RightNow) Adapter in integrations in Oracle Integration.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Resources

See these Oracle resources:
Conventions

The following text conventions are used in this document:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><em>italic</em></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td><code>monospace</code></td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
Understand the Oracle Service Cloud (RightNow) Adapter

Review the following conceptual topics to learn about the Oracle Service Cloud (RightNow) 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 Service Cloud (RightNow) Adapter Capabilities
• What Application Version Is Supported?
• Workflow to Create and Add an Oracle Service Cloud (RightNow) Adapter Connection to an Integration

Oracle Service Cloud (RightNow) Adapter Capabilities

The Oracle Service Cloud (RightNow) Adapter enables you to create an integration with an Oracle Service Cloud (RightNow) application.

Note:
The Oracle Service Cloud (RightNow) Adapter was known as the Oracle RightNow Cloud Adapter in previous releases.

Oracle Service Cloud (RightNow) applications enable organizations to combine web, social network, and contact center customer experiences into a unified, cross-channel service solution in Oracle Cloud. Oracle Service Cloud (RightNow) provides the following benefits:

• Integrates easily with the Oracle Service Cloud (RightNow) application’s WSDL file to produce a simplified, integration-centric WSDL.

• Generates automatic mapping to the exposed business object or event subscription that you select during adapter configuration:
  – Business object: Represents a self-contained business document that can be acted upon by the integration. An integration can send requests to create a new record for that business object. They can send a request either to update or delete an existing record for a business object. Integrations can also send requests to retrieve information about one or more records representing that business object.
  – Event subscription: Represents an event document to which you subscribe when the Oracle Service Cloud (RightNow) Adapter is configured in the trigger (source) direction. The event subscription is raised by the Oracle Service Cloud (RightNow) application.
• Supports the RightNow Object Query Language (ROQL) to query metadata information when the Oracle Service Cloud (RightNow) Adapter is configured in the invoke direction.

• Supports custom attributes (new Oracle Service Cloud (RightNow) concept custom attributes and custom fields with the default c package) in business objects to make use of the Oracle Service Cloud (RightNow) application’s support for custom attributes. Note the following details:
  – Custom attributes and custom fields are visible in a hierarchal structure in the Oracle Mapper. For example, assume you create an integration in which you select the **Contact** business object on the Request page of the Adapter Endpoint Configuration Wizard. If you then go to the Oracle Mapper, and expand the **Contact** element, an element called **ContactCustomFields** is displayed. If you expand this element, you see that custom attributes are visible in a hierarchal structure in the tree. Custom attributes are also visible as part of custom packages in the Oracle Mapper.
  – If you have a prebuilt integration from an earlier release of Oracle Integration that contained business objects that now support custom attributes, those attributes are now visible in the Oracle Mapper after you regenerate the artifacts for the integration. However, they are not displayed in a hierarchal structure, but rather the flat structure of previous releases (not under any package). See Regenerating a WSDL File for Integrations.
  – Custom attributes are also visible in the generated artifacts that you can download by selecting **Actions > Export** on the page of an integration, such as in the generated WSDL file.

• Automatically handles security policy details required to connect to the Oracle Service Cloud (RightNow) application.

• Provides standard error handling capabilities.

• Enables you to perform CRUD (create, get, update, and destroy) operations against business objects in the Oracle Service Cloud (RightNow) application.

• Enables you to upload a file as an attachment to Oracle Service Cloud (RightNow).

• Enables you to download a file as an attachment from Oracle Service Cloud (RightNow) to Oracle Integration. After the file is downloaded, the Oracle Service Cloud (RightNow) Adapter exposes the file reference in the mapper for use by other adapters for further processing. The following functionality is supported:
  – You can download a single file at a time.
  – You can download any file from Oracle Service Cloud (RightNow).
  – The downloaded file is exposed to you as a virtual file system (VFS) file reference.

[Video]

[Video]
What Application Version Is Supported?

For information about which application version is supported by this adapter, see the Oracle Integration Adapters Certification Matrix under section Oracle Integration Adapters Certification at the top of the page:

Oracle Integration Adapters Certification Matrix

Workflow to Create and Add an Oracle Service Cloud (RightNow) 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.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>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.</td>
<td>Create an Oracle Service Cloud (RightNow) Adapter Connection</td>
</tr>
<tr>
<td>2</td>
<td>Create the integration. When you do this, you add trigger and invoke connections to the integration.</td>
<td>Create Integrations and Add the Oracle Service Cloud (RightNow) Adapter Connection to an Integration</td>
</tr>
<tr>
<td>3</td>
<td>Map data between the trigger connection data structure and the invoke connection data structure.</td>
<td>Map Data of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>4</td>
<td>(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).</td>
<td>Manage Lookups of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>5</td>
<td>Activate the integration.</td>
<td>Manage Integrations of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>6</td>
<td>Monitor the integration on the dashboard.</td>
<td>Monitor Integrations of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>7</td>
<td>Track payload fields in messages during runtime.</td>
<td>Assign Business Identifiers for Tracking Fields in Messages and Manage Business Identifiers for Tracking Fields in Messages of Using Integrations in Oracle Integration</td>
</tr>
<tr>
<td>8</td>
<td>Manage errors at the integration level, connection level, or specific integration instance level.</td>
<td>Manage Errors of Using Integrations in Oracle Integration</td>
</tr>
</tbody>
</table>
Create an Oracle Service Cloud (RightNow) Adapter Connection

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

Topics:
- Prerequisites for Creating a Connection
- Create a Connection
- Upload an SSL Certificate
- Refresh Integration Metadata

Prerequisites for Creating a Connection

You must satisfy the following prerequisites to create a connection with the Oracle Service Cloud (RightNow) Adapter:

- Subscribe to Oracle Service Cloud (RightNow). This action enables you to create an Oracle Service Cloud (RightNow) user account with the correct privileges. You specify this user account when creating an Oracle Service Cloud (RightNow) Adapter connection on the Connections page. See Oracle Service Cloud. See Configure Connection Security.

- Obtain the necessary Oracle Service Cloud (RightNow) service catalog service WSDL URL. This WSDL can include support for both business objects and event subscriptions. See Obtain the Oracle Service Cloud (RightNow) WSDL. See Configure Connection Properties.

- To exchange events, you must perform a number of configuration steps. For an example of how to exchange events between Oracle Service Cloud (RightNow) and another application, see Enable Event Subscriptions in the Oracle Service Cloud (RightNow) Adapter.

- If you create an integration in which a trigger Oracle Service Cloud (RightNow) Adapter connection selects a business object, you must create a custom event handler PHP script or use a SOAP client to invoke the integration.

Obtain the Oracle Service Cloud (RightNow) WSDL

You must obtain the Oracle Service Cloud (RightNow) WSDL. Only the standard WSDL is supported. The partner WSDL is not supported.

The standard WSDL can include support for both business objects and event subscriptions. This enables you to receive either a business object or an event subscriptions as a request from the Oracle Service Cloud (RightNow) application. Event subscriptions are supported only if the Oracle Service Cloud (RightNow)
application version is equal to or greater than version 15.5 (May 2015 release). Otherwise, only business objects are visible for selection in the configuration wizard.

To obtain the standard WSDL:

Note:

Note the following details:

- For event subscriptions in Oracle Service Cloud (RightNow) release 17.8, use only Oracle Service Cloud (RightNow) WSDL version 1.3.
- Permissions for the Public SOAP API must be enabled for the user account to enable use of the Oracle Service Cloud (RightNow) Connect Web Services for SOAP API. Permissions for the Public SOAP API enable staff members with this profile to access the public SOAP API through account or session authentication.
- The Oracle Service Cloud (RightNow) Adapter does not support a partner WSDL/generic WSDL. Therefore, the following URL is not supported.

https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl=generic

1. Collect the following details from your Oracle Service Cloud (RightNow) Cx Account:
   - Host
   - Interface name
   - User name and password

2. Open your web browser and enter the following URL to obtain the standard WSDL, replacing the host name and interface details as appropriate.
<table>
<thead>
<tr>
<th>For Oracle Service Cloud (RightNow) Sites On...</th>
<th>The Following Format Enables the Adapter To Access...</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2017 versions or earlier</td>
<td>• The latest version of the Oracle Service Cloud (RightNow) WSDL:</td>
</tr>
<tr>
<td></td>
<td>https://host_name/cgi-bin/</td>
</tr>
<tr>
<td></td>
<td>interface.cfg/services/soap?wsdl</td>
</tr>
<tr>
<td></td>
<td>For example:</td>
</tr>
<tr>
<td></td>
<td><a href="https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl">https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl</a></td>
</tr>
<tr>
<td></td>
<td>• The WSDL pertaining to a specific API version. This format is recommended to protect your integrations from being impacted by backwards incompatible changes that can be introduced by a new API version.</td>
</tr>
<tr>
<td></td>
<td><a href="https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl=typed">https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl=typed</a></td>
</tr>
<tr>
<td></td>
<td>For example:</td>
</tr>
<tr>
<td></td>
<td><a href="https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl=typed_v1.3">https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl=typed_v1.3</a></td>
</tr>
<tr>
<td>For Oracle Service Cloud (RightNow) Sites On...</td>
<td>The Following Format Enables the Adapter To Access...</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>August 2017 versions or later</td>
<td>• The latest version of the Oracle Service Cloud (RightNow) WSDL:</td>
</tr>
<tr>
<td></td>
<td><a href="https://host_name/services/soap/connect/soap?wsdl">https://host_name/services/soap/connect/soap?wsdl</a></td>
</tr>
<tr>
<td></td>
<td>For example:</td>
</tr>
<tr>
<td></td>
<td>• The WSDL pertaining to a specific API version. This format is recommended to protect your integrations from being impacted by backwards incompatible changes that can be introduced by a new API version:</td>
</tr>
<tr>
<td></td>
<td><a href="https://host_name/services/soap/connect/soap?wsdl=typed">https://host_name/services/soap/connect/soap?wsdl=typed</a></td>
</tr>
<tr>
<td></td>
<td>For example:</td>
</tr>
</tbody>
</table>
Note:

The URL format that existed prior to August 2017 continues to work provided that you explicitly specify the API version. For example, any Oracle Service Cloud (RightNow) connections created in Oracle Integration using the following URL format continue to work even after the Oracle Service Cloud (RightNow) site is upgraded to August 2017 or later:

https://integration-test.rightnowdemo.com/cgi-bin/
integration_test.cfg/services/soap?wsdl=typed_v1.3

Any Oracle Service Cloud (RightNow) connections created with the following format without the specific API version do not work when the Oracle Service Cloud (RightNow) site is upgraded to August 2017 or later:

https://host_name/cgi-bin/interface.cfg/services/soap?wsdl

The Oracle Service Cloud (RightNow) connection URL must be modified to either of the following formats:

https://host_name/services/soap/connect/soap?wsdl=typed

https://integration-test.rightnowdemo.com/cgi-bin/
integration_test.cfg/services/soap?wsdl=typed

For example:

https://integration-test.rightnowdemo.com/services/soap/connect/
soap?wsdl=typed_v1.3

https://integration-test.rightnowdemo.com/cgi-bin/
integration_test.cfg/services/soap?wsdl=typed_v1.3

Enable Event Subscriptions in the Oracle Service Cloud (RightNow) Adapter

Before you can subscribe to events with the Oracle Service Cloud (RightNow) Adapter, you must perform a series of configuration tasks.

- Verify the Ability to Publish Business Events
- Display All Configuration Parameters Associated with Data Synchronization
- Enable Data Synchronization Functionality
- Set the IP Range for Incoming Messages (This step is optional)
- Set the Credentials to Use for Incoming Requests
- Set the Credentials to Use for Outgoing Requests
Verify the Ability to Publish Business Events

This integration is designed to work with Oracle Service Cloud (RightNow) Release 15.8.

To verify the ability to publish business events:

1. Log in to the Oracle Service Cloud (RightNow) application as a user with administrator privileges.
2. In the navigation pane, click Configuration > Site Configuration > Configuration Settings.

   A search page is displayed.
3. In the Configuration Base section, select only the Site option.
4. In the Key field, enter a wildcard string such as EVENT%.
5. Click Search.

   This search returns all strings beginning with EVENT.

   If several configuration parameters beginning with EVENT_ are displayed (for example, EVENT_NOTIFICATION_ENABLED), the functionality to publish events is available in this version of the Oracle Service Cloud (RightNow) application.

Display All Configuration Parameters Associated with Data Synchronization

1. Ensure that the following configuration parameters are displayed:
   - EVENT_NOTIFICATION_ENABLED
   - EVENT_NOTIFICATION_MAPI_SEC_IP_RANGE
   - EVENT_NOTIFICATION_MAPI_USERNAME
   - EVENT_NOTIFICATION_MAPI_PASSWD
   - EVENT_NOTIFICATION_SUBSCRIBER_USERNAME
   - EVENT_NOTIFICATION_SUBSCRIBER_PASSWD

Enable Data Synchronization Functionality

To enable data synchronization functionality:

By default (that is, on a newly-provisioned Oracle Service Cloud (RightNow) instance), the data synchronization functionality is not enabled. It must be manually enabled (if necessary).

1. From the Results page, select EVENT_NOTIFICATION_ENABLED.

   EVENT_NOTIFICATION_ENABLED is a boolean parameter. It is the global switch that controls whether business events from Oracle Service Cloud (RightNow) are published to other (external) applications. The default value is No, meaning that events are not published to external applications.

2. In the EVENT_NOTIFICATION_ENABLED tab, select Yes from the Required list.
3. Click the Save & Close button.
Set the IP Range for Incoming Messages (This step is optional)

By default, the configuration parameter
**EVENT_NOTIFICATION_MAPI_SEC_IP_RANGE** is empty. This parameter enables incoming messages to be accepted only if coming from a specific IP address. This is an optional parameter. If not set, no IP restrictions are enforced and requests from any IP address are accepted. If the parameter has even one value (that is, not null), only requests from the specified IP address are accepted. To limit the addresses from which requests are accepted, enter them as comma-separated values.

1. From the list of configuration parameters, click the item named **EVENT_NOTIFICATION_MAPI_SEC_IP_RANGE**.
2. On the page that is displayed, enter the list of IP addresses as comma-separated values.
3. Click the **Save & Close** button.

Set the Credentials to Use for Incoming Requests

The **EVENT_NOTIFICATION_MAPI_USERNAME** and **EVENT_NOTIFICATION_MAPI_PASSWD** parameters store the credentials used by external applications while invoking Oracle Service Cloud (RightNow) web services for subscription requests or transactional requests. Both parameters have no default values; you must specify values for each.

**Note:**

You must specify a user name that does **not** correlate with an existing (actual) user. If you specify an actual user name, you receive an error message that includes details similar to the following:

Fault String : Invalid Field While processing Contact- >ExternalReference(string). Fault Details :

When Oracle Integration asks for the credentials to communicate with Oracle Service Cloud (RightNow), it uses those associated with **EVENT_NOTIFICATION_MAPI_USERNAME** and **EVENT_NOTIFICATION_MAPI_PASSWD** to send messages to Oracle Service Cloud (RightNow).

- **EVENT_NOTIFICATION_MAPI_USERNAME** stores the user name specified in the header of incoming requests.
- **EVENT_NOTIFICATION_MAPI_PASSWD** stores the password associated with the user name specified. The password is stored in encrypted format.

1. From the list of configuration parameters, click **EVENT_NOTIFICATION_MAPI_USERNAME**.
2. Specify the username and save the changes.
3. Specify the password for **EVENT_NOTIFICATION_MAPI_PASSWD** and save the changes.
Set the Credentials to Use for Outgoing Requests

The \texttt{EVENT\_NOTIFICATION\_SUBSCRIBER\_USERNAME} and \texttt{EVENT\_NOTIFICATION\_SUBSCRIBER\_PASSWD} parameters store the credentials used by Oracle Service Cloud (RightNow) while sending event notifications to the external subscriber. Neither parameter has a default value; you must specify values for each.

- The \texttt{EVENT\_NOTIFICATION\_SUBSCRIBER\_USERNAME} stores the user name to use in the event notification message sent to the external application subscribed to the event.
- \texttt{EVENT\_NOTIFICATION\_SUBSCRIBER\_PASSWD} stores the password associated with the user name specified. The password is stored in encrypted format.

1. From the list of configuration parameters, click \texttt{EVENT\_NOTIFICATION\_SUBSCRIBER\_USERNAME}.
2. Specify the username and save the changes. Ensure that the user is defined in Oracle Integration.
3. Specify the password for \texttt{EVENT\_NOTIFICATION\_SUBSCRIBER\_PASSWD}.
4. Save the changes.

Create a Connection

The first step in creating an integration is to create the connections to the applications with which you want to share data.

1. In the navigation pane, click \texttt{Integrations}, then click \texttt{Connections}.
2. Click \texttt{Create}.

\begin{quote}
\textbf{Note:}

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

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

The Create Connection — Select Adapter dialog is displayed.

3. Select an adapter from the dialog. You can also search for the type of adapter to use by entering a partial or full name in the \texttt{Search} field, and clicking \texttt{Search}.

The Create New Connection dialog is displayed.

4. Enter the information to describe the connection.

- Enter a meaningful name to help others find your connection when they begin to create their own integrations. The name you enter is automatically added in capital letters to the \texttt{Identifier} field. If you modify the identifier name, do not include a blank space (for example, \texttt{Sales Opportunity}).
• Select the role (direction) in which to use this connection (trigger, invoke, or both). Only the roles supported by this 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, then try to drag the adapter into the section you did not select, you receive an error (for example, configure an Oracle Service Cloud (RightNow) Adapter as only an invoke, but drag the adapter to the trigger section).

• Enter an optional description of the connection.

5. Click Create.

Your connection is created and you are now ready to configure connection details, such as email contact, connection properties, security policies, connection login credentials, and (for certain connections) agent group.

Add a Contact Email

From the Connection Administrator section of the connection, you can add a contact email address for notifications.

1. In the Email Address field, enter an email address to receive email notifications when problems occur.

2. In the upper right corner, click Save.

Configure Connection Properties

Enter connection information so your application can process requests.

1. Click Configure Connectivity.

The Connection Properties dialog is displayed.
2. In the **WSDL URL** field, specify the WSDL to use in this integration. For example:

   For May 2017 versions or earlier:
   
   https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl
   
   https://integration-test.rightnowdemo.com/cgi-bin/integration_test.cfg/services/soap?wsdl=typed_v1.3
   
   For August 2017 versions or later
   
   https://integration-test.rightnowdemo.com/services/soap/connect/soap?wsdl
   
   
   https://integration-test.rightnowdemo.com/services/soap/connect/soap?wsdl=typed_v1.4

   See [Obtain the Oracle Service Cloud (RightNow) WSDL](#).

3. Click **OK**.

4. Configure connection security.

### Configure Connection Security

Configure security for your Oracle Service Cloud (RightNow) Adapter connection by selecting the security policy and security token.

1. Click **Configure Credentials**.

2. Enter your login credentials:
   
   a. In the **Security Policy** field, select the security policy. Only the Username Password Token policy is supported. It cannot be deselected.
   
   b. Enter a username and password to connect to the database.

3. Click **OK**.

### Test the Connection

Test your connection to ensure that it is successfully configured.

1. In the upper right corner of the page, click **Test**.

2. If your adapter connection uses a WSDL, you are prompted to select the type of connection testing to perform:
   
   - **Validate and Test**: Performs a full validation of the WSDL, including processing of the imported schemas and WSDLs. Complete validation can take several minutes depending on the number of imported schemas and WSDLs. No requests are sent to the operations exposed in the WSDL.
• **Test**: Connects to the WSDL URL and performs a syntax check on the WSDL. No requests are sent to the operations exposed in the WSDL. If successful, the following message is displayed and the progress indicator shows 100%.

Connection *connection_name* was tested successfully.

3. If your connection was unsuccessful, an error message is displayed with details. Verify that the configuration details you entered are correct.

4. When complete, click **Save**, then click **Close**.

# Upload an SSL Certificate

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

To upload an SSL certificate:

1. In the navigation pane, click **Integrations**, then click the `< arrow next to Designer**.

2. Click **Settings > Certificates**.

   All certificates currently uploaded to the trust store are displayed in the Certificates dialog. The **Filter By > Type** list displays the following details:
   - **Preinstalled**: Displays the certificates automatically installed in Oracle Integration. These certificates cannot be deleted.
   - **Uploaded**: Displays the certificates uploaded by individual users. These certificates can be deleted and updated.

   You can also search for certificates in the **Search** field. The search results are limited to a maximum of ten records sorted by name for performance and usability reasons. To ensure that your search results are more granular, enter as much of the certificate name as possible.

3. Click **Upload** at the top of the page.

4. In the Upload Certificate dialog box, select the certificate type. Each certificate type enables Oracle Integration to connect with external services.
   - **Trust Certificate**: Use this option to upload a trust certificate.
     a. Enter a unique alias for the certificate.
     b. Click **Browse**, then select the trust file (for example, `.cer` or `.crt`) to upload.
   - **Message Protection Certificate**: Use this option to upload a keystore certificate with SAML token support. Create, read, update, and delete (CRUD) operations are supported on this type of certificate.
     a. Enter a unique alias for the certificate.
     b. Click **Browse**, then select the certificate file (.cer or .crt) to upload.
   - **Identity Certificate**: Use this option to upload a certificate for two-way SSL communication.
a. Click **Browse**, then select the keystore file (.jks) to upload.

b. Enter the password of the keystore being imported.

c. Enter the comma-separated list of aliases from the keystore being imported.

d. Enter the comma-separated list of passwords corresponding to key aliases.

e. If you want to display the passwords in clear text, select **Show Key Password(s)**. This enables you to ensure that you are correctly entering a list of keystore passwords.

5. Click **Upload**.

6. Click the certificate name to view details such as the subject of the certificate, the issuer of the certificate, the date the certificate was issued, and the date the certificate expires.

---

### Refresh Integration Metadata

You can manually refresh the currently-cached metadata available to adapters that have implemented metadata caching. Metadata changes typically relate to customizations of integrations, such as adding custom objects and attributes to integrations. There may also be cases in which integrations have been patched, which results in additional custom objects and attributes being added. This option is similar to clearing the cache in your browser. Without a manual refresh, a staleness check is only performed when you drag a connection into an integration. This is typically sufficient, but in some cases you may know that a refresh is required. For these cases, the **Refresh Metadata** menu option is provided.

To refresh integration metadata:

---

**Note:**

The **Refresh Metadata** menu option is only available with adapters that have implemented metadata caching.

1. In the navigation pane, click **Integrations**, then click **Connections**.

2. Locate the connection to refresh.

3. From the menu at the right, select **Refresh Metadata**.

A message is displayed indicating that the refresh was successful.

Metadata refresh for connection "connection_type" has been initiated successfully.
Add the Oracle Service Cloud (RightNow) Adapter Connection to an Integration

When you drag the Oracle Service Cloud (RightNow) Adapter into the trigger or invoke area of an integration, the Adapter Endpoint Configuration Wizard appears. This wizard guides you through the configuration of the Oracle Service Cloud (RightNow) Adapter endpoint properties.

These topics describe the wizard pages that guide you through configuration of the Oracle Service Cloud (RightNow) Adapter as a trigger or invoke in an integration.

Topics:

• Basic Info Page
• Trigger Request Page
• Trigger Response Page
• Invoke Operation Page
• Summary Page

Basic Info Page

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

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What do you want to call your endpoint?</strong></td>
<td>Provide a meaningful name so that others can understand the responsibilities of this connection. You can include English alphabetic characters, numbers, underscores, and dashes in the name. You cannot include the following:</td>
</tr>
<tr>
<td></td>
<td>• Blank spaces (for example, My Inbound Connection)</td>
</tr>
<tr>
<td></td>
<td>• Special characters (for example, #;83 or righ(t)now4)</td>
</tr>
<tr>
<td></td>
<td>• Multibyte characters</td>
</tr>
<tr>
<td><strong>What does this endpoint do?</strong></td>
<td>Enter an optional description of the connection's responsibilities. For example: This connection receives an inbound request to synchronize account information with the cloud application.</td>
</tr>
</tbody>
</table>
Trigger Request Page

Enter the Oracle Service Cloud (RightNow) Adapter trigger request values for your integration. The values you specify start the integration.

- Select to receive a business object as a request from the Oracle Service Cloud (RightNow) application. This selection invokes the integration.
- Select to receive an event subscription as a request from the Oracle Service Cloud (RightNow) application. This selection invokes the integration. Event subscriptions are supported only if the Oracle Service Cloud (RightNow) application version is equal to or greater than release 15.5 (May 2015). Otherwise, only business objects are supported.

**Note:**

The Oracle Service Cloud (RightNow) application has a limit of 20 subscriptions for every available event subscription. For example, you can build a maximum of 20 integrations, with all subscribing to the Customer Created Event integration and 20 integrations subscribing to the Contact Destroy Event integration. If you create a 21st integration for the same event subscription, this may lead to errors during integration activation.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Configure a Request</strong></td>
<td>Select the endpoint configuration option by choosing a business object or event subscription.</td>
</tr>
<tr>
<td></td>
<td>- <strong>With Business Objects</strong>: Select to display a list of business objects.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Event Subscription</strong>: Select to display a list of event subscriptions to which to subscribe.</td>
</tr>
<tr>
<td><strong>Select a Business Object</strong> (is displayed if <strong>With Business Objects</strong> is selected)</td>
<td>Select the business object from the Oracle Service Cloud (RightNow) application to receive as a request that starts the integration.</td>
</tr>
<tr>
<td><strong>Filter by object name</strong> (is displayed if <strong>With Business Objects</strong> is selected)</td>
<td>Enter the initial letters to filter the display of business objects. You can also select a filter type:</td>
</tr>
<tr>
<td></td>
<td>- <strong>All</strong>: Displays all objects.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Custom</strong>: Displays objects you created. These business objects are identified by special icons. The naming convention is a combination of the package name and object name joined by a &quot;.&quot;. For example, if there is a custom object package called CO and an object named PurchaseProduct, the wizard displays the custom object as CO.PurchaseProduct.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Standard</strong>: Displays business objects delivered as part of the standard Oracle Service Cloud (RightNow) application.</td>
</tr>
</tbody>
</table>
Select Event
(is displayed if Event Subscription is selected)

Select the event subscription from the Oracle Service Cloud (RightNow) application. This event is received as a request that starts the integration.

Note: Only the Organization, Contact, and Incident business objects are supported for event subscriptions in this release.

Event Name Filter
(is displayed if Event Subscription is selected)

Enter the initial letters to filter the display of business events.

Trigger Response Page

Enter the Oracle Service Cloud (RightNow) Adapter trigger response values for your integration.

- Immediate (synchronous) response: A response business object is immediately returned as output. You select Immediate as the response type on the Response page and select the business object as part of the response to the client. (See Table 3-1 for instructions.)

- Delayed (asynchronous) response: A callback service to which to route the callback is exposed. You select Delayed as the response type on the Response page and select the operation and business object that comprise a successful callback response, a failed callback response, or both. (See Table 3-2 for instructions.)

- No response is required: You select None on the Response page because a response is not required. (See Table 3-3 for instructions.)

The Response page looks as follows:
The following table describes the fields available if an immediate (synchronous) response is required.

Table 3-1 Response Type — Immediate (Synchronous) Response is Required

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Type</td>
<td>Select <strong>Immediate</strong> for the Oracle Service Cloud (RightNow) application to wait until a response is received from the integration. This is also known as the request and response message exchange pattern. This is the default selection.</td>
</tr>
</tbody>
</table>
| Filter by object name | Enter the initial letters to filter the display of business objects. You can also select a filter type:  
  - **All**: Displays all objects.  
  - **Custom**: Displays objects you created. These business objects are identified by special icons. The naming convention is a combination of the package name and object name joined by a ".". For example, if there is a custom object package called CO and an object named PurchaseProduct, the wizard displays the custom object as CO.PurchaseProduct.  
  - **Standard**: Displays business objects delivered as part of the standard Oracle Service Cloud (RightNow) application. |
| Select a Business Object | Select the business object for the integration to send as a response document to the Oracle Service Cloud (RightNow) application. |

The following table describes the fields available if a delayed (asynchronous) callback response is required. You can configure a successful callback response, a failed callback response, or both.

Table 3-2 Response Type — Delayed (Asynchronous) Response is Required

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| Response Type         | Select **Delayed** to configure a successful callback response, a failed callback response, or both.  
  This enables you to configure the operation and business objects that you want the Oracle Service Cloud (RightNow) application to process as part of a successful callback response, failed callback response, or both. |
Table 3-2  (Cont.) Response Type — Delayed (Asynchronous) Response is Required

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| Successful Response/Failed Response | Select the type of callback to configure. After configuring one type of callback (for example, successful), you can configure the other type (for example, failed).  
  • **Successful Response**: Select to configure the operation and business objects that you want the Oracle Service Cloud (RightNow) application to process as part of a successful callback response sent by the integration.  
  • **Failed Response**: Select to configure the operation and business objects that you want the Oracle Service Cloud (RightNow) application to process as part of a failed callback response sent by the integration. |
| Select an Operation Type | Select the type of create, read, update, and delete (CRUD) operation to perform on the business object. Only CRUD is currently available for selection. CRUD represents functions implemented in relational database applications. Each letter maps to a standard SQL statement, HTTP method, or DDS operation. The following CRUD operations are supported:  
  • Create  
  • Destroy  
  • Update |
| Filter By object name | Enter the initial letters to filter the display of business objects. You can also select a filter type:  
  • **All**: Displays all objects.  
  • **Custom**: Displays objects you created. These business objects are identified by special icons. The naming convention is a combination of the package name and object name joined by a ".". For example, if there is a custom object package called CO and an object named PurchaseProduct, the wizard displays the custom object as CO.PurchaseProduct.  
  • **Standard**: Displays business objects delivered as part of the Oracle Service Cloud (RightNow) application. |
| Select Business Objects (Service Version API) | Select the business objects for the integration to send as a response document to the Oracle Service Cloud (RightNow) application. |
| Your Selected Business Objects | Displays the selected business objects. |

The following table describes the fields available if no response is required.
**Table 3-3  Response Type — No Response is Required**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Type</td>
<td>Select None.</td>
</tr>
<tr>
<td>Select Business Object</td>
<td>If you select None, this section is hidden.</td>
</tr>
</tbody>
</table>

**Invoke Operation Page**

Enter the Oracle Service Cloud (RightNow) invoke operation values for your integration.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select an Operation Mode</td>
<td>Select the operation mode in which to define business objects:</td>
</tr>
<tr>
<td></td>
<td>• Single Operation: Select to configure a single operation.</td>
</tr>
<tr>
<td></td>
<td>• Batch Operation: Select to configure multiple operations in a batch. This</td>
</tr>
<tr>
<td></td>
<td>enables you to run multiple operations in a defined sequence.</td>
</tr>
<tr>
<td></td>
<td>Selecting this option refreshes the page to display an option for the</td>
</tr>
<tr>
<td></td>
<td>following:</td>
</tr>
<tr>
<td></td>
<td>– Click to add an operation to the List: Click to create a list of batch</td>
</tr>
<tr>
<td></td>
<td>operations and their business objects. The operations are performed in</td>
</tr>
<tr>
<td></td>
<td>the order in which they appear in the list (from top to bottom). When</td>
</tr>
<tr>
<td></td>
<td>complete, click OK.</td>
</tr>
<tr>
<td></td>
<td>When you complete invoke Oracle Service Cloud (RightNow) Adapter configuration</td>
</tr>
<tr>
<td></td>
<td>and click Next to access the Summary page, you can perform the following</td>
</tr>
<tr>
<td></td>
<td>batch operation tasks:</td>
</tr>
<tr>
<td></td>
<td>– Edit icon: Click to edit an operations row in the table or change the</td>
</tr>
<tr>
<td></td>
<td>order of batch operations.</td>
</tr>
<tr>
<td></td>
<td>– Delete icon: Click to delete a selected operation row in the table.</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Select an Operation Type</td>
<td>Select the type of operation to perform on the business objects in an Oracle Service Cloud (RightNow) application:</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: You can select CRUD business operations or query objects such as QueryCSV (tabular query) or QueryObject. However, if you want to access other operations exposed by Oracle Service Cloud (RightNow) such as GetFileData, use the SOAP Adapter or REST Adapter.</td>
</tr>
</tbody>
</table>

- **CRUD**: Represents the create, read, update, delete, or destroy operations to perform on Oracle Service Cloud (RightNow) business objects. Each letter maps to a standard SQL statement, HTTP method, or DDS operation. Select the CRUD operation to perform on the business object: Create, Destroy, Get, or Update.

  If you select Create or Update, you can select a business object that supports file attachments. This enables you to upload files to Oracle Service Cloud (RightNow).

- **File Attachment**: Select to download a file as an attachment from Oracle Service Cloud (RightNow) to Oracle Integration. After selecting File Attachment, you are prompted to select the business object from which to download the file attachment in the Select a Business Object you would like to download the attachment from table. After the file is downloaded, the Oracle Service Cloud (RightNow) Adapter exposes the file reference in the mapper for use by other adapters for further processing.

- **ROQL**: (RightNow Object Query Language) enables you to define an ROQL-based query to send as a request to perform in the Oracle Service Cloud (RightNow) application. If you select this option, the page is refreshed to display a field for entering a query.

  - **ROQL query statement**: Enter a valid ROQL query in the field. For example:

    ```sql
    SELECT contacts FROM organization WHERE name = 'RightNow'
    ```

    Use the **Find** field to search for an entry in the ROQL query and the **Go to Line** field to go to a specific line in the ROQL query.

    The query can include custom fields and parameters.

  - **Parameter Bindings**: Displays any parameter bindings included in the specified query. For
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>example, orgId</td>
<td>is a parameter in the following query:</td>
</tr>
<tr>
<td>SELECT Organization FROM Organization WHERE id = &amp;orgId</td>
<td></td>
</tr>
</tbody>
</table>

Enter a query with a parameter and click the **Refresh** icon to the right of **Parameter Bindings**. This displays a text box in which to enter a test value for the parameter.

- **Test My Query**: Click to fully validate the query against the Oracle Service Cloud (RightNow) application. Query results are displayed. If errors occur, you receive results about how to correct the query.

If you do not fully validate your query by pressing this button, it is still validated when you press **Next**, but with potential limitations based on how the query is written. See [Write Fully-Validated ROQL Query Statements](#).

See [Specify QueryCSV Statements When Configuring the Oracle Service Cloud (RightNow) Adapter as an Invoke](#).

<table>
<thead>
<tr>
<th>Filter by object name</th>
<th>Enter the initial letters of an object name to display a range of objects. You can also select a filter type:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All</strong>: Displays all objects.</td>
<td></td>
</tr>
<tr>
<td><strong>Custom</strong>: Displays objects you created. These business objects are identified by special icons. The naming convention is a combination of the package name and object name joined by a <code>.</code>: For example, if there is a custom object package called CO and an object named PurchaseProduct, the wizard displays the custom object as CO.PurchaseProduct.</td>
<td></td>
</tr>
<tr>
<td><strong>Standard</strong>: Displays business objects delivered as part of the Oracle Service Cloud (RightNow) application.</td>
<td></td>
</tr>
</tbody>
</table>

| Select Business Objects (Service Now Version API) | Select a single business object or multiple business objects from the Oracle Service Cloud (RightNow) application. The selected operation acts upon these business objects. The Oracle Service Cloud (RightNow) API version that is displayed is based on the Oracle Service Cloud (RightNow) application version to which you are connected. When you complete invoke operation configuration, the selected operation and business objects are defined in the integration-centric WSDL file. |

<p>| Your Selected Business Objects | Displays the selected business objects. |</p>
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing Options</td>
<td>Select to enable aspects of server-side processing. By default, no options are selected. When complete, click OK.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Suppress External Events</strong>: Select to prevent the Oracle Service Cloud (RightNow) application from processing any external events raised after the completion of create, update, or delete operations.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Suppress Rules</strong>: Select to prevent business rules from running after the completion of create, update, or delete operations. Business rules are tools for simplifying and automating common business tasks. See the Oracle Service Cloud (RightNow) documentation for more information.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Suppress Response</strong>: Select to prevent the CRUD Create operation from returning a response ID. If this check box is disabled, the Create operation returns an ID of the created object.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Commit After</strong>: Select to group multiple operations in a single transaction. At runtime, when a set of operations in a batch is defined as part of a single operation, the Commit After action is sent after the last operation in that transaction boundary. When an operation from the subset of the batch operation fails, it is handled by throwing a fault to the client. This option is only available with batch operations.</td>
</tr>
</tbody>
</table>

## Summary Page

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

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary</td>
<td>Displays a summary of the configuration values you defined on previous pages of the wizard.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>To return to a previous page to update any values, click the appropriate tab in the left panel or click Back. Click Cancel to cancel your configuration details.</td>
</tr>
</tbody>
</table>
Implement Common Patterns Using the Oracle Service Cloud (RightNow) Adapter

You can use the Oracle Service Cloud (RightNow) Adapter to implement the following common patterns.

Topics:
- Specify QueryCSV Statements When Configuring the Oracle Service Cloud (RightNow) Adapter as an Invoke
- Upload File Attachments to Oracle Service Cloud (RightNow)
- Map Downloaded File Attachments

Specify QueryCSV Statements When Configuring the Oracle Service Cloud (RightNow) Adapter as an Invoke

You can use the Oracle Service Cloud (RightNow) Adapter to execute tabular QueryCSV statements in Oracle Service Cloud (RightNow). You can use QueryCSV only when configuring the Oracle Service Cloud (RightNow) Adapter as an invoke.

Specifying a QueryCSV Statement

1. Add an Oracle Service Cloud (RightNow) Adapter as an invoke in an integration. This starts the Adapter Endpoint Configuration Wizard.
2. On the Basic Info page, specify a name and optional description, then click Next.
3. From the Select an Operation Type list on the Operations page, select ROQL.
4. Select QueryCSV from the dropdown list.
5. Specify a query in the editor using the following syntax:

   SELECT field list from primary object [WHERE condition expression]

where:

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>field list</td>
<td>Specifies a list of one or more fields, separated by commas. The field specified must be a simple field (one with a scalar type). If the SELECT statement ends at a primary object, subobject, or relationship object, a fault is generated.</td>
</tr>
<tr>
<td>Syntax</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>primary object</td>
<td>Specifies the type of object you want to query.</td>
</tr>
<tr>
<td>condition expression</td>
<td>The WHERE clause determines the rows and values against which to filter in</td>
</tr>
<tr>
<td></td>
<td>the specified field list. If unspecified, the query retrieves all the rows</td>
</tr>
</tbody>
</table>
• You can use the `USE` keyword in a query. For example, you can define `USE` to query a different database:

```
USE OPERATIONAL; SELECT id, name.first, name.last FROM Contact WHERE ID = 3
```

• You can use a regular expression in a query. For example:

```
SELECT id FROM CO.MyObject WHERE LookupName REGEXP '^TEST.*$
```

• Field expressions and logical operators that are supported in Oracle Service Cloud (RightNow) are also supported in QueryCSV. For example:

```
SELECT ID FROM Contact WHERE Contact.Name.First like 'Chris' AND Contact.Address.City='Bozeman'
```

• You can use an alias to make the query more readable:

```
SELECT O.Name FROM Organization O
```

### Unsupported Features

• The `DESCRIBE` query is not supported. For example:

```
DESCRIBE Contact.Emails.EmailList
```

• Queries with `*` are not supported. For example:

```
SELECT RoqlInformation.Concurrency.*, RoqlInformation.Maxjoinsize.* FROM SystemInformation;
```

• Merging of more then one query is not supported. For example:

```
SELECT id, name.first, name.last FROM Contact WHERE ID=3; SELECT id, createdTime,updatedTime FROM Incident WHERE ID= 1;
```

• Chaining is not supported. For example:

```
SELECT ID as '@MyID' FROM Contact WHERE Organization = @MyOrg LIMIT 1
```

• Functions are not supported. For example:

```
select sysdate(), select date_add(date, units, interval, round); select curAdminUser()
```

### Fault Scenarios

Poorly written queries may not execute. When poorly written queries fail to execute, a SOAP fault is returned that contains one of the following messages based on the query supplied:

• Poor performing query - aborting
Poor performing query - blocked
Poor performing query - too many rows examined
Poor performing query - too much time taken
Current site configuration settings prevent execution of ROQL queries with the REGEXP operator
Too many ROQL queries with the REGEXP operator are running concurrently. Try again later

See Invoke Operation Page.

Upload File Attachments to Oracle Service Cloud (RightNow)

You can upload file attachments to Oracle Service Cloud (RightNow) with the Oracle Service Cloud (RightNow) Adapter.

This section provides a high-level overview of how to upload a file attachment. Note the following restrictions:

- You cannot send the same file to multiple objects in the same invoke connection. Instead, use multiple invoke connections in the orchestrated integration.
- You cannot send the same file in multiple operations in the same invoke connection. Instead, use multiple invoke connections in the orchestrated integration.
- Oracle Service Cloud (RightNow) has a known issue with uploading file attachments in custom business objects. This issue also impacts the ability of the Oracle Service Cloud (RightNow) Adapter to upload file attachments in a custom object.

1. Create and design an integration.
2. Add an Oracle Service Cloud (RightNow) Adapter as an invoke connection in the integration.
   This invokes the Adapter Endpoint Configuration Wizard.
3. On the Operations page, select the CRUD operation type.
4. Select Create or Update.
5. Select a business object that supports file attachments.
6. Complete the Adapter Endpoint Configuration Wizard.
7. In the mapper, configure source to target element mapping to upload the file to Oracle Service Cloud (RightNow). For this example, the attachmentReference source element is mapped to the Data target element and the partName source element is mapped to the FileName target element.
8. Complete integration design.

9. Activate and invoke the integration. The file attachment is sent to Oracle Service Cloud (RightNow).

Map Downloaded File Attachments

You can download a file as an attachment from Oracle Service Cloud (RightNow) to Oracle Integration. Oracle Service Cloud (RightNow) Adapter exposes the file reference in the mapper for use by other adapters for further processing.

This section provides an overview of the steps to perform in the Adapter Endpoint Configuration Wizard and the mapper.

1. Add an Oracle Service Cloud (RightNow) Adapter invoke connection to an integration.

2. On the Operations page of the Adapter Endpoint Configuration Wizard, select **File Attachment** to download a file as an attachment from Oracle Service Cloud (RightNow) to Oracle Integration.

3. Select the business object from which to download the file attachment.

4. Complete the configuration in the Adapter Endpoint Configuration Wizard.

5. In the request mapper, map the object ID from which you want to download the attachment and the file ID of the file.
6. In the response mapper, perform the mapping. The file download looks as follows. The `attachmentReference` in the response contains the VFS file reference of the file downloaded from Oracle Service Cloud (RightNow) to Oracle Integration.
Troubleshoot the Oracle Service Cloud (RightNow) Adapter

Review the following topics to learn about troubleshooting issues with the Oracle Service Cloud (RightNow) Adapter.

Topics:

• Oracle Service Cloud Adapter Fails to Update an Email
• Write Fully-Validated ROQL Query Statements
• Events Are Not Exchanged Between Oracle Service Cloud (RightNow) and Oracle Sales Cloud
• Custom Field Mapping Fails During Runtime in Oracle Service Cloud (RightNow) to Oracle Sales Cloud Integrations

Additional integration troubleshooting information is provided. See Troubleshoot Oracle Integration in Using Integrations in Oracle Integration.

Oracle Service Cloud Adapter Fails to Update an Email

In v1.3 of the Oracle Service Cloud WSDL, the update action on an email address was treated as an upsert operation. In v1.4 of the WSDL, a formal upsert action has been added to replicate this behavior, while the update action only works if the entry exists in the system.

Write Fully-Validated ROQL Query Statements

When you create an ROQL query statement on the Operations page of the Adapter Endpoint Configuration Wizard, you can fully validate your statement by pressing Test My Query. There is no limitation on this validation and this ensures that the query works correctly during runtime.

If you do not press Test My Query and instead click Next to go to the Summary page in the wizard, your statement is validated internally and errors are reported that prevent you from proceeding further. However, this internal validation has a limitation in that the query is only validated up to the WHERE clause. For example, if you create the following query:

```
SELECT id, contact.name.first FROM contact WHERE id=&val
```

validation is only performed on the portion of the query before the WHERE clause:
However, if you arrange the query as follows:

```
SELECT id, contact.name.first FROM contact WHERE id=1
```

the entire query is fully validated.

**Events Are Not Exchanged Between Oracle Service Cloud (RightNow) and Oracle Sales Cloud**

If you have configured and activated an integration between Oracle Service Cloud (RightNow) and Oracle Sales Cloud, but Oracle Service Cloud (RightNow) does not invoke the integration after a record is created, ensure that you set `EVENT_NOTIFICATION_ENABLED` to `YES` in the Oracle Service Cloud (RightNow) application.

For more information, see [Enable Event Subscriptions in the Oracle Service Cloud (RightNow) Adapter](#).

**Custom Field Mapping Fails During Runtime in Oracle Service Cloud (RightNow) to Oracle Sales Cloud Integrations**

The Oracle Service Cloud (RightNow) application documentation indicates that given a Contact, the CustomFields contains a subobject `C_Contacto` that has a `SalesCloudID` field. To fetch the `SalesCloudID` using a Query or Get operation, note that the CustomFields subobject is listed in the object model as `specify to get`. This means that you must provide a hint to the system that you want that information. Provide the hint by including an empty CustomFields subobject in the Contact object you passed in as a template. This action informs the server that the object to be returned should also include all the ContactCustomFields. You can do this with any subobject that is listed as `specify-to-get`.

In Oracle Integration, the behavior is slightly different. In the GetContact request mapper, set a value to `ContactCustomFields.C_Contacto.SalesCloudID` (for example, `SalesCloudID=1`). This step ensures a complete CustomFields return as part of the response.

If you follow this step and retry, it works.