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Preface

This guide describes how to configure the Oracle NetSuite 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 NetSuite 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>monospace</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 NetSuite Adapter

Review the following conceptual topics to learn about the Oracle NetSuite 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 NetSuite Adapter Capabilities
- Oracle NetSuite Adapter Restrictions
- What Application Version Is Supported?
- Workflow to Create and Add an Oracle NetSuite Adapter Connection to an Integration

Oracle NetSuite Adapter Capabilities

The Oracle NetSuite Adapter enables you to create an integration with a NetSuite application.

NetSuite is a SaaS-based application for business management. The NetSuite platform includes ERP, CRM, PSA, and e-commerce capabilities. To integrate users, NetSuite provides a platform called SuiteCloud that consists of cloud development tools and infrastructure. The SuiteTalk component of the SuiteCloud framework enables integration of NetSuite with other on-premises or cloud solutions.

While SuiteTalk provides the ability to access NetSuite data and business processes through an XML-based API, it requires skills such as Microsoft .NET or Java to build integrations with it. The Oracle NetSuite Adapter addresses these requirements by providing a no-coding approach for building integrations with NetSuite. This enables users who are not professional developers to build integrations with NetSuite.

The Oracle NetSuite Adapter provides the following features:
- Quickly and easily connect on-premises systems and applications with NetSuite.
- Rapidly integrate with both cloud applications and with existing on-premises business systems.
- Automate the process for discovering NetSuite’s web service WSDLs based on the user account.
- Eliminate the need to work with complex polymorphic data objects by elevating NetSuite records.
- Display records based on NetSuite’s categorization.
- Provide available contextual information about business objects and operations to the developer at design time.
- Provide secured invocation to NetSuite’s web services by adhering to the role-based permission structure enforced in NetSuite in a transparent fashion.
• Provide a standard adapter life cycle, controlled runtime environment, and monitoring capabilities.

• Map values of custom fields exposed by any business object while invoking the Oracle NetSuite Adapter. See Map Values for Custom Fields in the Mapper.

• Use the comprehensive search capabilities to search for required records in the NetSuite application. The following types of search are supported.
  – Searching on selected business objects.
  – Searching on selected business objects and the fields of related objects.
  – Searching on selected business objects and the fields of related objects, and defining the fields you require in your response.
  – Invoking a saved search. You can also define the fields you require in your response. You can modify the response columns and add criteria on top of the existing search options.

You can also search for custom records.

You can also define page size and paginate through the search results for any of the search types.


• Perform CRUD operations on custom records in an integration. Custom records are dynamic and customizable building blocks that enable you to create custom fields, lists, and special links with other NetSuite records and transactions. You can use custom records to create a process or functionality that is not available out-of-the-box in NetSuite. The custom records are displayed as elements for mapping in the mapper.

• Provide support for configuring an Oracle NetSuite Adapter connection to use token-based authentication (also known as TBA). Token-based authentication allows you to generate secure, revocable, and nonexpiring tokens for integration clients to use when connecting to Oracle NetSuite. The end user credentials are never exposed and the password does not expire. Because a token is only used by a single application, it provides visibility into which applications are connecting to Oracle NetSuite and control for revoking access. The HMAC_SHA256 algorithm is supported. For existing integrations, you can switch to token-based authentication by updating the connection and re-activating the integration. While updating the connection, you must use the same WSDL as in the existing integration..

Oracle NetSuite Adapter Restrictions

Note the following Oracle NetSuite Adapter restrictions.

• Custom record restrictions:
  – Regeneration is not currently supported. To add new fields to a record, edit the record through the Adapter Endpoint Configuration Wizard.
  – Internal ID detection for standard objects is not supported.
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 NetSuite 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.

<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 NetSuite 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 NetSuite 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 NetSuite Adapter Connection

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

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

Prerequisites for Creating a Connection

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

- Users that have the Administrator and Full Access roles should not be used with the Oracle NetSuite Adapter.
- Creation of custom field types and custom record types is a one time task and must be performed in the Oracle NetSuite application. Once created, the custom record types are available for selection on the Operations page of the Adapter Endpoint Configuration Wizard.
- If you want to use the NetSuite Authentication policy, you must satisfy several prerequisites. See the Oracle NetSuite Help Center.
- If you want to use token-based authentication with the Oracle NetSuite Adapter, you must satisfy several prerequisites described in the Oracle NetSuite Help Center. See Requirements for Using Token-Based Authentication. To access the Oracle NetSuite Help Center, you must have an Oracle NetSuite account. Once inside the application, you can also access the Oracle NetSuite Help Center by clicking the Help link in the upper-right corner of any page. When you satisfy these prerequisites, you receive the following information that is required for creating a connection to use token-based authentication on the Connections page:
  - Consumer key
  - Consumer secret
  - Token
  - Token secret
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 Integrations, then click Connections.
2. Click Create.

![Note:]

You can also create a connection in the integration canvas of:
- An orchestrated integration (See Define Inbound Triggers and Outbound Invokes.)
- A basic routing integration (See Add a Trigger (Source) Connection.)

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 Search field, and clicking 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 Identifier field. If you modify the identifier name, do not include a blank space (for example, 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**

You can add an optional contact email address for notifications.

1. In the **Email Address** field, enter an optional email address. You do not receive automatic notifications at this address.
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 URL to use in this integration:

   ```plaintext
   https://webservices.netsuite.com/wsd1/NetSuite_application_version/netsuite.wsdl
   ```
where NetSuite_application_version is the version of the NetSuite application. For example:

https://webservices.netsuite.com/wsd1/v2014_2_0/netsuite.wsdl

https://webservices.netsuite.com/wsd1/v2015_1_0/netsuite.wsdl

The web services may or may not be hosted at the above location. The adapter can programatically determine the correct URL for the web services. NetSuite hosts customer accounts in multiple locations. For example:

- webservices.netsuite.com
- webservices.na1.netsuite.com

3. Click OK.
4. Configure connection security.

Configure Connection Security

Configure security for your Oracle NetSuite Adapter connection by selecting the security policy and providing the login credentials.

1. Click Configure Credentials.
2. Select the security policy.
3. If the NetSuite Authentication policy is selected:
   a. Enter the following information. You must satisfy several prerequisites. See Prerequisites for Creating a Connection.
      • Email Address — Enter the email address that serves as the user name.
      • Account — Enter the account.
      • Role — Enter the role ID received from NetSuite, and not the role name. Role-based access control ensures that users can only use data and application functionality that is related to their responsibilities.
      • Password — Enter the password.
      • Confirm Password — Reenter the password.
      • Application Id — Enter the application ID received from NetSuite. This is a mandatory field starting with the 2015_02 version of the NetSuite WSDL.
4. If the Token-Based Authentication policy is selected:
   a. Enter the following values. You must obtain these values before you can complete these fields. See Prerequisites for Creating a Connection. The tokens do not expire. If the token is revoked or a new token is generated, you must update the provided values.
      • Consumer Key — Enter the consumer key for the integration record in Oracle NetSuite.
      • Consumer Secret — Enter the consumer secret for the integration record in Oracle NetSuite.
      • Confirm Consumer Secret — Re-enter the consumer secret.
• Token — Enter the token ID provided by Oracle NetSuite.
• Token Secret — Enter the token secret provided by Oracle NetSuite.
• Confirm Token Secret — Re-enter the token secret.
• Account ID — Enter your Oracle NetSuite account identifier.

5. 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.

   If your adapter connection uses a WSDL, a dialog is displayed that prompts you to select the type of connection testing to perform. Otherwise, this step is not applicable.

   a. Select the 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.

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

3. 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.
Add the Oracle NetSuite Adapter
Connection to an Integration

When you drag the Oracle NetSuite 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 NetSuite Adapter endpoint properties.

These topics describe the wizard pages that guide you through configuration of the Oracle NetSuite Adapter as a trigger or invoke in an integration.

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

Invoke Operation Page

Enter the Oracle NetSuite Adapter invoke operation values for your integration.
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select an Operation Type</td>
<td>Select the type of operation to perform on the business object:</td>
</tr>
<tr>
<td></td>
<td>• Basic</td>
</tr>
</tbody>
</table>
| | – Add: Adds a record into the system.  
| | – Delete: Deletes a record from the system.  
| | – Get: Queries the system for a record.  
| | – Update: Updates an existing record in the system. |
| | • Miscellaneous |
| | Select a specific operation. If you select Miscellaneous, you do not need to select a business object (the Select Business Objects table is not visible).  
| | – GetBudgetExchangeRate: Gets and filters data related to the budget exchange rate.  
| | – GetConsolidatedExchangeRate: Gets and filters all data related to the consolidated exchange rate.  
| | – GetCurrencyRate: Gets and filters the current currency rate.  
| | – GetItemAvailability: Retrieves the inventory availability for a given list of items.  
| | – GetPostingTransactionSummary: Retrieves a summary of the actual data in an account. |
| | • Search: Define a search criteria based on the fields of a selected business object. The list of available business objects is refreshed based on your selection. The following types of search criteria are supported:  
| | – Search on selected Business Object.: Select a business object and define search criteria based on the fields of the object.  
| | – Search on selected Business Object and related objects.: Search on a business object and the fields of any related business objects.  
| | – Search on selected Business Object and related objects. Also select columns to return.: Search on a business object and the fields of any related business objects. You can also define the columns (fields) you require in your response. If you select this option and click Next, the Search Configuration page is displayed for you to select the response columns you require in your search results.  
| | – Invoke a Saved Search. Also select columns to return.: Create a saved search that can be invoked. You can modify the response columns and add criteria on top of the existing saved search criteria. If you select this option and click Next, the Search Configuration page is displayed for you to select the response columns you require in your search results. |

Filter by object name | Type the initial letters to filter the display of business objects.  
Select Business Objects | Select the business object to use.  
Select the business object or custom record type to use. Select CustomRecord or All to show custom record types. Custom record types are appended with an asterisk.  
Your Selected Business Objects | Displays the selected business objects.  
Displays the selected business objects or custom record types.
### Processing Options

Select this link to enable and disable certain aspects of NetSuite cloud application server-side processing when performing an operation.

- **Treat Warning As Error:**
  If selected, the endpoint treats all warning messages that are displayed by the NetSuite cloud application as errors.

- **Ignore Read Only Fields:**
  If selected, the endpoint ignores read-only fields during any requests.

- **Return Sublist values in Search Results:** If selected, returns any sublist values contained in the search results.

- **Insert record on Update if not Exist:**
  If selected, a record is inserted if one does not exist. This option is only displayed if the **Update** operation type is selected.

- **Search Page Size:** Select the number of search results to return on a single page. The minimum value is 5 and the maximum value is 1000.

---

### Invoke Search Configuration Page

Configure the Oracle NetSuite Adapter search configuration values for your integration.

**Topics**

- **Search Configuration Page**
- **Search Response Column Selection Page**

---

### Search Configuration Page

Select the associated business objects (subobjects) and fields to receive as part of the search operation response.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Object</strong></td>
<td>Displays the business object selected on the Operations page.</td>
</tr>
<tr>
<td><strong>Click to Add Response Columns</strong></td>
<td>Click to select the response columns for the search to invoke.</td>
</tr>
<tr>
<td><strong>Select Response Columns</strong></td>
<td>Displays the response columns (fields) you added by selecting</td>
</tr>
</tbody>
</table>

**Click to Add Response Columns.** Click \(\mathbb{D}\) to add more fields to the selected response business object.
Search Response Column Selection Page

Select the fields or associated business objects and their fields.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Sub Object</td>
<td>Select the basic fields of the business object you selected on the Operations page or select any associated business objects and their fields. Once you select the fields for a business object and click <strong>OK</strong>, that business object is no longer displayed in the Response Sub Object list.</td>
</tr>
<tr>
<td>Filter by field name</td>
<td>Begin entering letters to filter the display of field names.</td>
</tr>
<tr>
<td>Select the Fields</td>
<td>Select the appropriate fields and click &gt;&gt;.</td>
</tr>
<tr>
<td>Your Selected Fields</td>
<td>Displays the selected fields.</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. 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. 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 NetSuite Adapter

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

Topics:

• Search for Oracle NetSuite Business Objects
• Map Values for Custom Fields in the Mapper
• Retrieve a Specific Custom Field from a NetSuite Response

Search for Oracle NetSuite Business Objects

You can configure a NetSuite search operation in the Adapter Endpoint Configuration Wizard.

The following types of search operations are supported:

• Search on a Selected Business Object
• Search on a Selected Business Object and Related Objects
• Search with a Saved Search
• Search on a Selected Business Object and Related Objects and Selecting Columns to Return
• Paginate Through the Search Results

Note:

NetSuite provides documentation about supported mapping values. See SearchDateFieldOperator.

Search on a Selected Business Object

You can perform a search on the fields of a selected business object. The following use case provides an example of how to perform a search operation using the fields of a selected business object in an orchestrated integration.

• On the Operations page of the Adapter Endpoint Configuration Wizard, Search on selected Business Object and the business object (for this example, Customer (known as the basic business object)) are selected. This is the simplest search criteria. For this example, no processing options (for example, to return sublist values on search results) and no fields of associated business objects (known as subobjects) of Customer are selected, although they can be.
• In the mapper, search criteria can be defined. The fields of the Customer business object are displayed in the target tree. There are no associated business objects and fields because none were selected during configuration in the Adapter Endpoint Configuration Wizard.

• You can expand one or more fields and define search criteria by mapping the searchValue and operator. Based on the field type, one or more searchValue elements and operators can be required. For this example, search criteria are defined using the first name of the Customer object and specifying that it must contain ICSNetSuite.

• A for-each action can be configured to individually read the search results of customer records (status of search, total records returned, page size, total pages, page index, search ID, and record list).
The `recordList` is expanded to show that the **Customer** business object is returned. A looping repeating element can be run against **Customer**.

### Search on a Selected Business Object and Related Objects

You can search on a selected business object and related objects. This type of search enables you to:

- Search a business object using the associated business object fields as search filters.
- Search a business object using a combination of business object fields and associated business object fields as search filters.

The following use case provides an example of this type of search criteria configuration in an orchestrated integration.

- On the Operations page of the Adapter Endpoint Configuration Wizard, **Search on selected Business Object and related objects** and the business object (for this example, **Customer**) are selected.
In the mapper, search criteria can be defined. The fields of the **Customer** (basic) business object and all associated business objects are displayed in the target tree.

You can define search filters on the basic business object and any associated business objects. For this example, a search is performed on a customer name that includes **ICSNetSuite** with an associated opportunity that has a status of either of two values: **inProgress** or **issuedEstimate**.
• A for-each action can be configured to return the search results of customer records (status of search, total records returned, page size, total pages, page index, search ID, and record list). This is the same response as in the basic search.

The `recordList` is expanded to show that the `Customer` business object is returned. A looping repeating element is run against `Customer`.

• A log action can be configured to return the first name and last name of the customer and concatenate them. This is the same configuration as in the basic search.

`concat (firstName, lastName)`
Search with a Saved Search

You can perform saved searches. This type of search enables you to perform searches that reference:

- An existing saved search.
- An existing saved search in which you override the existing search return columns with new search return columns.
- An existing saved search in which you provide additional search filter criteria on top of the criteria already specified in the saved search.

The following use case provides an example of saved search criteria configuration in an orchestrated integration.

- On the Operations page of the Adapter Endpoint Configuration Wizard, **Invoke a Saved Search. Also select columns to return** and the business object (for this example, **Customer**) are selected.

- On the Summary page of the Adapter Endpoint Configuration Wizard, the saved searches for the specific business object (**Customer**) are displayed.

- When **Test Search** is clicked, the response column results selected for the business object of this search are verified. This type of configuration enables you to perform a search that references an existing saved search.

Success! Note that it is likely that not every Response Column configured in the saved search would have been retrieved. Hence it is advised to check the below panel and manually add any missing response columns as required.
You can also override the return columns of the existing saved search with new search return columns.

- By selecting **Click to Add Response Columns** on the Search Configuration page, the page is refreshed for selecting additional business objects and their fields. You can also click **** to edit an existing business object and its fields.
- An additional associated business object (**Partner**) and field for that object (**billAddress**) are selected.

- The Search Configuration page shows the new response column that overrides the response columns of the saved search. In a saved search, you do not need to define any additional mappings. This means that saved search criteria defined at the application level is used for that particular search.
In the for-each action, only selected response columns appear in the response. Therefore, the Partner business object and billAddress field that were added to override the saved search do not appear.

You only define mapping if you want to perform an existing saved search in which you provide additional search filter criteria on top of the criteria already specified in the saved search.

• On the Search Configuration page for the saved search, **Click to Add Response Columns** is selected.
• The **BillingAccount** associated business object and **billingSchedule** and **currency** fields are selected.

![Image](image1.png)

• The for-each action shows the newly-added **BillingAccount** associated business object in the list of responses.

![Image](image2.png)

• An additional mapper can be added to the integration in which more search criteria can be defined. For example, you can define criteria for the **BillingAccount** associated business object and **billingSchedule** and **currency** fields.

**Search on a Selected Business Object and Related Objects and Selecting Columns to Return**

You can perform a search on a selected business object and related objects and select the columns to return.

The following use case provides an example of this type of search criteria configuration in an orchestrated integration.

• On the Operations page, **Search on selected Business Object and related objects. Also select columns to return** and the business object (for this example, **Customer**) are selected.
• On the Search Configurations page, the **Customer** object is displayed as part of the saved search. To specify the response columns to return, **Click to Add Response Columns** is selected.

• The **status** response column is selected for the **Opportunity** associated business object.
• The **Customer** business object and **Opportunity** associated business object are then displayed.

- In the mapper, mappings can be defined on the fields of the **Customer** basic business object and associated subobjects. For this example, fields have been defined on the fields of the **Customer** basic business object.

- A for-each action can be configured to return the response business objects selected on the Search Configuration page. The search results of the **Customer** business object (first name and last name) and **Opportunity** associated business object (status) are displayed.
Paginate Through the Search Results

You can paginate the display of search results for any of the search criteria.

The following use case provides an example of an orchestrated integration configured to display five records per page of search results.

The LoopOverPages while action loops over all the pages. Within the loop, a LoopOverRecords for-each action is configured to loop over the records per page of search results.

- On the Operations page of the Adapter Endpoint Configuration Wizard, Search on selected Business Object and the business object (for this example, Customer) are selected.
- The Processing Options link on the Operations page is selected. The Search Page Size value is set to 5 to display five records per page of search results.
In the **InitializeVariables** assign action, three variables must be created and initialized with values (preferably a value of 1): **PageIndex**, **SearchId**, and **TotalPages**. The **PageIndex** value must be less than or equal to the **TotalPages** value. If not, the Oracle NetSuite Adapter is not invoked and the for-each loop that paginates through the search results does not run.

A **LoopOverPages** while action is configured to loop over the search results while the **PageIndex** value is less than or equal to the **TotalPages** value.

In the **LoopOverRecords** for-each action, **totalPages**, **pageIndex**, and **searchId** are used to paginate through the search results.
In the `AssignVariables` assign action before the loop ends, the `pageIndex` value returned from the search is incremented by one each time. The search ID from the response is mapped to `searchId`. The total number of pages from the response is mapped to `totalPages`.

In the mapper, the `$pageIndex` and `$searchId` variables must be mapped to the `searchId` and `pageIndex` values that are part of the request.
Map Values for Custom Fields in the Mapper

While invoking the Oracle NetSuite Adapter to create, retrieve, or update any record in the Oracle NetSuite application, you can map values for the custom field types exposed by that particular business object in the mapper.

Overview

Based on the type of custom field invoked, you can provide the details (internalId and scriptId) of the custom field being mapped and the value to map to that custom field. For example, DisplayOrder from the source schema is being mapped to a custom field defined by the internalId of 4567 and scriptId of custentity23.

```
customFieldList
  - DoubleCustomFieldRef extends customField
  - SelectCustomFieldRef extends customField
  - DateCustomFieldRef extends customField
  - LongCustomFieldRef extends customField
  - MultiSelectCustomFieldRef extends customField
  - BooleanCustomFieldRef extends customField

*value: DisplayOrder
*internalId: "4567"
*scriptId: "custentity23"
```

Note the following details:

- You can map the value of any custom field you may have added to your business object in Oracle NetSuite.
- Each concrete type extending a customField above is a repeating element. Therefore, any number of these types can be mapped (that is, you can repeat BooleanCustomFieldRef if you need to map two or more Boolean custom fields).
- The Oracle NetSuite Adapter does not currently discover and show the custom field directly for you to select. Therefore, you must specify scriptId and internalId for each custom field before mapping its value.
- You can obtain scriptId and internalId in the Oracle NetSuite application under the Customization > Lists, Records, & Fields subheading.

Finding internalId and scriptId for a Particular Custom Field

1. Log in to the Oracle NetSuite Application.
2. Look under Customization > Lists, Records, & Fields.
Finding Which Field Falls Under Which Custom Field Type in the Mapper

The field types you see in the mapper are mapped to the field types you see in the Type column of the Custom Entity Fields table of the Oracle NetSuite application.

<table>
<thead>
<tr>
<th>XML Schema Type</th>
<th>Custom Field Type in the Oracle NetSuite Application User Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>LongCustomFieldRef</td>
<td>Integer</td>
</tr>
<tr>
<td>DoubleCustomFieldRef</td>
<td>Decimal Number</td>
</tr>
<tr>
<td>BooleanCustomFieldRef</td>
<td>Check Box</td>
</tr>
<tr>
<td>StringCustomFieldRef</td>
<td>Free-Form Text</td>
</tr>
<tr>
<td></td>
<td>Text Area</td>
</tr>
<tr>
<td></td>
<td>Phone Number</td>
</tr>
<tr>
<td></td>
<td>E-mail Address</td>
</tr>
<tr>
<td></td>
<td>Hyperlink</td>
</tr>
<tr>
<td></td>
<td>Rich Text</td>
</tr>
<tr>
<td>DateCustomFieldRef</td>
<td>Date</td>
</tr>
<tr>
<td></td>
<td>Time of Day</td>
</tr>
<tr>
<td></td>
<td>or Date/Time (both in one field)</td>
</tr>
<tr>
<td>DateCustomFieldRef</td>
<td>List/Record</td>
</tr>
<tr>
<td>MultiSelectCustomFieldRef</td>
<td>Multiple Select</td>
</tr>
<tr>
<td></td>
<td>Document</td>
</tr>
</tbody>
</table>
Mapping Two or More Fields of the Same Type

Use the repeat element functionality in the mapper to map two or more fields of the same type (for example, Boolean).

Handling List Type Fields Such as SelectCustomField and MultiSelectCustomField

Both SelectCustomField and MultiSelectCustomField have lists associated with them.

For SelectCustomField and MultiSelectCustomField in the mapper, the value field is an object type that primarily takes two attributes:

- **typeId**: the internalId of the associated list.
- **internalId**: the internalId of an item in the associated list.

For SelectCustomField, the value element is nonrepeatable because only one item can be selected. For MultiSelectCustomField, the value is a repeatable element enabling you to select multiple items. In the following example, two items are selected for a MultiSelectCustomField.
In the previous example, the Advertising Preferences (internalId: 16 / scriptId: custentity1) custom field is mapped and provided with two selections: Mail (internalId: 3) and Phone (internalId: 4) from the associated Advertising Preferences list (typeld: 2). To get these IDs, you open the associated list in the Oracle NetSuite application by going to Customization > Lists, Records, & Fields > Lists, drilling down, and grabbing the internalId of each entry in the associated list.

<table>
<thead>
<tr>
<th>MultiSelectCustomFieldRef extends customField</th>
</tr>
</thead>
<tbody>
<tr>
<td>*value</td>
</tr>
<tr>
<td>*internalId &quot;3&quot;</td>
</tr>
<tr>
<td>*typeld &quot;2&quot;</td>
</tr>
<tr>
<td>*value</td>
</tr>
<tr>
<td>*internalId &quot;4&quot;</td>
</tr>
<tr>
<td>*typeld &quot;2&quot;</td>
</tr>
<tr>
<td>*internalId &quot;16&quot;</td>
</tr>
<tr>
<td>*scriptId &quot;custentity1&quot;</td>
</tr>
</tbody>
</table>

Retrieval a Specific Custom Field from a NetSuite Response

To retrieve a specific custom field ID from a NetSuite response, you can specify either internalId or scriptId as an XPath filter along with a value.

This example describes how to map a custom field ID to a target element (for this example, named ICSEmailId) with the scriptId XPath filter.

1. Open the mapper.
2. Click the target element to access the Build Mappings page to assign a custom field ID (for this example, **ICSEmailId** is selected).

3. Under **customFieldList** in the response schema of the **Source** section, drag the value element of the type of custom field you want to retrieve to the **Statement** section (for this example, the **value** field of **StringCustomFieldRef** is dragged).

4. Click the **Edit** icon to show the **select** section.

5. Copy and paste the entire statement of the **select** section into a text editor such as Notepad.

   $$\text{"Netsuite/nsmpr0:getResponse/nsmpr0:CustomerResponse/nsmpr5:Customer/nsmpr6:customFieldList/nsmpr5:customField[(fn:resolve-QName(@xsi:type, .) = fn:QName('urn:core_2018_1.platform.webservices.netsuite.com', 'StringCustomFieldRef'))]@scriptId="custentity23"/nsmpr5:value" xml:id="id_58"}$$

6. Add the [@scriptId] filter with [ ] brackets and assign a custom field ID (for this example, [@scriptId="custentity23"] is added).

   $$\text{"Netsuite/nsmpr0:getResponse/nsmpr0:CustomerResponse/nsmpr5:Customer/nsmpr6:customFieldList/nsmpr5:customField[(fn:resolve-QName(@xsi:type, .) = fn:QName('urn:core_2018_1.platform.webservices.netsuite.com', 'StringCustomFieldRef'))]@[scriptId="custentity23"]/nsmpr5:value" xml:id="id_58"}$$

7. Copy the updated statement and return to the mapper.

8. Right-click the current statement and select **Input Literal**.

9. Paste the updated statement into the field.
10. Click **Save**.
The value for the custom field now appears in your response.
Troubleshoot the Oracle NetSuite Adapter

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

Topics:

- Oracle NetSuite Summary Type Column in a Saved Search Is Not Synchronizing
- Connection Testing Error Occurs When the Application ID is Not Specified

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

Oracle NetSuite Summary Type Column in a Saved Search Is Not Synchronizing

If your saved search for the Oracle NetSuite Adapter in the Adapter Endpoint Configuration Wizard includes any field defined in the Summary Type column of the Results tab of the Oracle NetSuite application, an error occurs that prevents you from proceeding with design.

This is a restriction of the NetSuite SuiteTalk API.

As a workaround, edit the saved transaction search in the Oracle NetSuite application to ensure that no Summary Type column (for example, max, min, max, sum, and others) is defined in the Results tab. The Summary Type column must be blank for all fields.

Connection Testing Error Occurs When the Application ID is Not Specified

If you do not specify a value in the Application Id field when configuring the Oracle NetSuite Adapter on the Connections page, the following error is displayed while
testing the connection. The **Application Id** field is mandatory. Ensure that you specify a value.

CASDK-0005 : A connector specific exception was raised by the application.

Application Id must be provided for wsdl endpoint versions 2015_2 onwards.