Oracle® Public Cloud Machine

Using the Oracle E-Business Suite Adapter

Release 16.1.2

Part No. E74324-01

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Contents

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Preface

Intended Audience

Welcome to Release 16.1.2 of the *Oracle Public Cloud Machine Using the Oracle E-Business Suite Adapter.*

Using the Oracle E-Business Suite Adapter describes how to configure the Oracle E-Business Suite Adapter as a connection in an integration in Oracle Integration Cloud Service.

Using the Oracle E-Business Suite Adapter is intended for users who want to create, activate, and monitor application integrations for Oracle E-Business Suite.

See Related Information Sources on page viii for more Oracle E-Business Suite product information.

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Structure

1 Getting Started with the Oracle E-Business Suite Adapter
2 Setting Up and Creating an Oracle E-Business Suite Adapter Connection
3 Creating an Integration

Related Information Sources

For more information, see these Oracle resources:

- **Using Oracle Integration Cloud Service**

  This book describes how to use Oracle Integration Cloud Service to integrate your applications.

- **Using the Oracle Mapper**

  This book describes how to use the mapper to map source data structures to target data structures.

- **Getting Started with Oracle Cloud**

  This book introduces you to cloud concepts and describes how you can request a trial subscription or purchase a subscription for an Oracle Cloud service. In addition, this book describes how to add users, change passwords, and access service consoles.

- **Managing and Monitoring Oracle Cloud**

  This book describes how to manage and monitor your Oracle Cloud services, manage your subscriptions, user accounts, contacts and notifications.

Additionally, refer to the following Oracle E-Business Suite documentation, available in the Oracle E-Business Suite Documentation Web Library on the Oracle Technology Network. See http://docs.oracle.com/cd/E26401_01/index.htm for the latest Release 12.2 documentation or http://docs.oracle.com/cd/E18727_01/index.htm for the latest Release 12.1 documentation. Most documents are available in PDF and HTML formats.

Oracle E-Business Suite Integrated SOA Gateway User's Guide

This guide describes the high level service enablement process, explaining how users can browse and view the integration interface definitions and services residing in Oracle Integration Repository.

Oracle E-Business Suite Integrated SOA Gateway Implementation Guide

This guide explains how integration administrators can manage and administer the Web service activities for integration interfaces including native packaged integration interfaces, composite services (BPEL type), and custom integration interfaces. It also describes how to invoke Web services from Oracle E-Business Suite by employing the Oracle Workflow Business Event System, and how to manage Web service security, configure logs, and monitor SOAP messages.

Oracle E-Business Suite Integrated SOA Gateway Developer's Guide

This guide describes how integration developers can perform end-to-end service integration activities. These include orchestrating discrete Web services into meaningful end-to-end business processes using business process execution language (BPEL), and deploying BPEL processes at run time.

This guide also explains how to invoke Web services using the Service Invocation Framework. This includes defining Web service invocation metadata, invoking Web services, and testing the Web service invocation.

Oracle E-Business Suite Concepts

This book is intended for all those planning to deploy Oracle E-Business Suite Release 12.2, or contemplating significant changes to a configuration. After describing the Oracle E-Business Suite architecture and technology stack, it focuses on strategic topics, giving a broad outline of the actions needed to achieve a particular goal, plus the installation and configuration choices that may be available.

Oracle E-Business Suite Security Guide

This guide contains information on a comprehensive range of security-related topics, including access control, user management, function security, data security, and auditing. It also describes how Oracle E-Business Suite can be integrated into a single sign-on environment.

Oracle E-Business Suite Maintenance Guide

This guide explains how to patch an Oracle E-Business Suite system, describing the adop patching utility and providing guidelines and tips for performing typical patching operations. It also describes maintenance strategies and tools that can help keep a system running smoothly.

Oracle E-Business Suite User's Guide

This guide explains how to navigate, enter and query data, and run concurrent requests using the user interface (UI) of Oracle E-Business Suite. This guide also includes information on setting user profiles and customizing the UI.

Do Not Use Database Tools to Modify Oracle E-Business Suite Data

Oracle STRONGLY RECOMMENDS that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify

Oracle E-Business Suite data using anything other than Oracle E-Business Suite, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

1

Getting Started with the Oracle E-Business Suite Adapter

This chapter covers the following topics:

- About the Oracle E-Business Suite Adapter
- Common Terminologies
- Concepts and Features
- Typical Task Flow for Using the Oracle E-Business Suite Adapter

About the Oracle E-Business Suite Adapter

The Oracle E-Business Suite Adapter is one of many predefined adapters included with Oracle Integration Cloud Service allowing you to securely connect and use Oracle E-Business Suite services in integrations in Oracle Integration Cloud Service. It not only provides the connectivity between Oracle E-Business Suite and other cloud-based applications, but also significantly simplifies the complexity of typical integration experiences. Through the Oracle E-Business Suite Adapter, you can quickly integrate your systems with desired Oracle E-Business Suite services in the cloud, as well as monitor and manage the integrations when needed.

The Oracle E-Business Suite Adapter in Oracle Integration Cloud Service leverages the functionality of Oracle E-Business Suite Integrated SOA Gateway (ISG), as shown in the following diagram, to provide the access of Oracle E-Business Suite REST services.

> **Note:** The Oracle E-Business Suite Adapter in Oracle Integration Cloud Service allows you to connect to Oracle E-Business Suite Release 12.1.3, Release 12.2.3, Release 12.2.4, and Release 12.2.5.
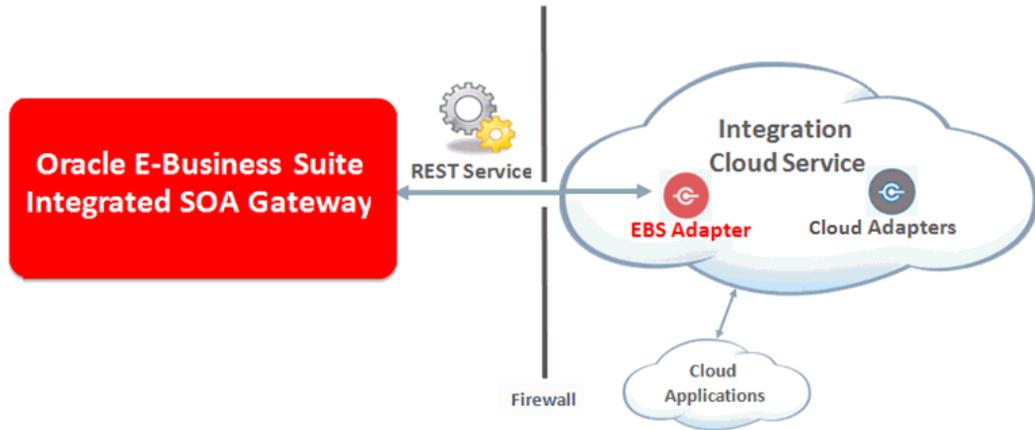
When the connection to Oracle E-Business Suite through the Oracle E-Business Suite Adapter is successfully established, a list of serviceable APIs from Oracle E-Business Suite licensed products and product families is automatically synchronized from the connected Oracle E-Business Suite instance and displayed in Oracle Integration Cloud Service. You can then use these REST service metadata to build the integrations for your needs.

Common Terminologies

To better understand the concept of the Oracle E-Business Suite Adapter in Oracle Integration Cloud Service, the following common terminologies are explained in this section.

Integration Repository

Integration Repository is an essential component in Oracle E-Business Suite Integrated SOA Gateway. It is the centralized repository that contains numerous interface endpoints within the Oracle E-Business Suite.

When the connection to Oracle E-Business Suite is successfully established, Oracle E-Business Suite service metadata will be retrieved from the Integration Repository and imported to Oracle Integration Cloud Service. You can then create an integration by selecting a desired Oracle E-Business Suite service as a target.

Oracle E-Business Suite Integrated SOA Gateway

Oracle E-Business Suite Integrated SOA Gateway provides the functionality to expose integration interfaces published in the Integration Repository as SOAP and REST based web services.

Oracle E-Business Suite users with appropriate privileges can deploy these integration interfaces as REST services and manage the service life cycle activities through the Integration Repository. Once the REST services are available, you can use them for integrations.

The Oracle E-Business Suite Adapter in turn provides the access to these REST services

in the cloud for integrations.

Representational State Transfer (REST)

REST is an architecture principle in which the web services are viewed as resources and can be uniquely identified by their URLs. The key characteristic of a REST service is the explicit use of HTTP methods (GET, POST, PUT, and DELETE) to denote the invocation of different operations.

Please note that POST is the only supported method for PL/SQL REST services that are available in this release.

HTTP Basic Authentication Security

HTTP Basic Authentication security is the only supported security for REST services in this release.

When an HTTP client application tries to access an Oracle E-Business Suite REST service, user credentials (username/password) should be provided as input data in HTTP header as part of the REST request message. The username and password will be used for authentication and authorization.

From the perspective of the Oracle E-Business Suite Adapter in the cloud, username and password information is provided when creating the connection for Oracle E-Business Suite. This credential information is then passed from Oracle Integration Cloud Service to Oracle E-Business Suite at runtime.

Concepts and Features

Key Features

The Oracle E-Business Suite Adapter in Oracle Integration Cloud Service (ICS) serves as a connection tool for you to access Oracle E-Business Suite services in the cloud. It has the following key features:

- It provides seamless connection between Oracle E-Business Suite and Oracle Integration Cloud Service.

- It leverages Oracle E-Business Suite Integrated SOA Gateway to provide Oracle E-Business Suite REST services.

- It provides Oracle E-Business Suite services as a target connection when creating an integration in Oracle Integration Cloud Service.

- It supports Oracle seeded and custom PL/SQL APIs as REST Services.

- It supports HTTP Basic Authentication security for REST services.

- It allows you to access and use Oracle E-Business Suite deployed REST-based services.

> **Note:** If a REST service is not deployed, it cannot be used for integration. When such a service is selected for an integration, "Not Deployed" is shown as the service status and a warning message appears indicating that you need to contact an Integration Administrator in Oracle E-Business Suite to deploy the service through Oracle Integration Repository before using it.

- It allows you to monitor and manage integration activities with Oracle E-Business Suite services.

Typical Task Flow for Using the Oracle E-Business Suite Adapter

The following table describes the typical task flow of using the Oracle E-Business Suite Adapter in Oracle Integration Cloud Service:

Task	Description	More Information
Prerequisites	Before using the Oracle E-Business Suite Adapter, you must perform setup tasks to ensure the appropriate user privileges and required features are in place and the Oracle E-Business Suite Adapter is ready for creating integrations in Oracle Integration Cloud Service.	Setting Up the Oracle E-Business Suite Adapter, page 2-1
1	Create an Oracle E-Business Suite connection. Establish the connection between Oracle E-Business Suite and Oracle Integration Cloud Service through the Oracle E-Business Suite Adapter.	Creating an Oracle E-Business Suite Connection with the Oracle E-Business Suite Adapter, page 2-4
2	Test the Oracle E-Business Suite connection. Ensure that you can successfully connect to the Oracle E-Business Suite instance you specified.	Testing an Oracle E-Business Suite Connection, page 2-9

Task	Description	More Information
3	Create the integration. Add the Oracle E-Business Suite Adapter as an invoke (target) connection while creating the integration.	• Creating an Integration with the Oracle E-Business Suite Adapter, page 3-1 • Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page 4-1
4	Create mappings between the trigger (source) and invoke (target) data structures in the integration. (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).	Creating Mappings and Lookups, page 5-1
5	Activate the integration. Once an integration is created with the required data mappings between the source and target connections, you can activate the integration to use it at runtime.	Activating an Integration, page 6-1
6	Monitor the integration on the dashboard.	Monitoring and Managing Integrations, page 6-1

Task	Description	More Information
7	Track payload fields in messages during runtime.	• Assigning Business Identifiers for Tracking Fields in Messages, Developing Integration Cloud Services chapter, *Oracle Cloud Using Oracle Integration Cloud Service* • Managing Business Identifiers for Tracking Fields in Messages, Administering Integration Cloud Service chapter, *Oracle Cloud Using Oracle Integration Cloud Service*
8	Manage errors at the integration level, connection level, or specific integration instance level.	• Managing Errors, Administering Integration Cloud Service chapter, *Oracle Cloud Using Oracle Integration Cloud Service* • Error Messages, page A-1 - error messages while testing the connection and creating the integration with Oracle E-Business Suite Adapter as an invoke (target) at the design time

To better understand how to use the Oracle E-Business Suite Adapter as an invoke (target) connection in an integration, see An Example of Using the Oracle E-Business Suite Adapter, page 7-1.

2

Setting Up and Creating an Oracle E-Business Suite Adapter Connection

This chapter covers the following topics:

- Setting Up the Oracle E-Business Suite Adapter
- Creating an Oracle E-Business Suite Connection with the Oracle E-Business Suite Adapter
- Testing an Oracle E-Business Suite Connection

Setting Up the Oracle E-Business Suite Adapter

Perform the following steps to set up the Oracle E-Business Suite Adapter:

1. Configure Oracle E-Business Suite Integrated SOA Gateway REST services.

   Oracle E-Business Suite Integrated SOA Gateway is an essential component for the Oracle E-Business Suite Adapter in Oracle Integration Cloud Service. It is the path to access all Oracle E-Business Suite REST services that you can use for business integration in the cloud.

   If you have not configured Oracle E-Business Suite Integrated SOA Gateway, follow the setup and configuration steps described in the following documents:

   - For Oracle E-Business Suite 12.2

     Refer to Section B: Configuring Oracle E-Business Suite REST Services, *Installing Oracle E-Business Suite Integrated SOA Gateway, Release 12.2*, My Oracle Support Knowledge Document 1311068.1.

     Ensure that you apply the latest patches for REST services in Document 1311068.1.

   - For Oracle E-Business Suite 12.1.3

     Ensure that you configure Oracle E-Business Suite Integrated SOA Gateway to

enable the REST service features. If Oracle E-Business Suite Integrated SOA Gateway is not configured, follow the setup tasks as described in My Oracle Support Knowledge Document 556540.1 to configure Oracle E-Business Suite Integrated SOA Gateway Release 12.1.3.

If Oracle E-Business Suite Integrated SOA Gateway is already configured in your instance, then apply these REST service patches in the sequence as described in My Oracle Support Knowledge Document 1998019.1 to enable the REST service features.

2. Configure access to Oracle E-Business Suite services.

To access Oracle E-Business Suite services in Oracle Integration Cloud Service, Oracle E-Business Suite services must be accessible from Integration Cloud Service in either of the following ways:

- These services are deployed in an environment set up in a DMZ (DeMilitarized Zone) configuration so that Oracle E-Business Suite REST services are publicly accessible through the Internet.

  For DMZ configuration instructions in Oracle E-Business Suite, see *Oracle E-Business Suite Release 12.2 Configuration in a DMZ*, My Oracle Support Knowledge Document 1375670.1.

- If your Oracle E-Business Suite is not set up in a DMZ configuration, these services must be accessible through Oracle Integration Cloud Service agent framework.

  For information about creating agent groups as well as downloading the agent installer from Oracle Integration Cloud Service and executing the installer to install the on-premises agent in your local environment, see the Managing Agent Groups and the On-Premises Agent section in the Developing Integration Cloud Services chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

  Please note that the on-premises agent should not be installed in an Oracle E-Business Suite instance. Instead, it should be installed in a separate machine.

3. Deploy the required REST services in Oracle E-Business Suite.

To use Oracle E-Business Suite REST services for integrations, ensure that you have performed the following tasks:

- Deploy the Metadata Provider/Integration Repository service

  The Metadata Provider/Integration Repository service is an API that fetches a list of services available for integration. To integrate these Oracle E-Business Suite services, you must deploy the "Metadata Provider" API as a REST service.

  You can search the Metadata Provider API from the Integration Repository, and

then select the Metadata Provider API from the search results to display the interface details page.

Please note that you must enter "**provider**" as the service alias name for the Metadata Provider API and select the **GET** HTTP method check boxes for **ALL** the methods contained in the API before deploying it as a REST service.

> **Important:** If the Metadata Provider API is not deployed as a REST service with **GET** HTTP method and "**provider**" as the service alias, the Oracle E-Business Suite Adapter in Oracle Integration Cloud Service will not work as expected.

- Deploy business function related APIs as Oracle E-Business Suite REST services

  If you want to integrate or use Oracle E-Business Suite integration interfaces in the cloud, you must first deploy these interface definitions as Oracle E-Business Suite REST services.

  For example, to process a sales order in Oracle E-Business Suite, you must deploy a PL/SQL API Sales Order Service (OE_INBOUND_INT) as a REST service first so that you can use this deployed Sales Order Service REST service in Oracle Integration Cloud Service through the Oracle E-Business Suite Adapter.

For information on deploying REST services, see Deploying REST Web Services, Administering Native Integration Interfaces and Services chapter, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

4. Grant the required user privileges.

   To use Oracle E-Business Suite REST services through the Oracle E-Business Suite Adapter in Oracle Integration Cloud Service, ensure that an Oracle E-Business Suite user has privileges to:

   - Access the Metadata Provider/Integration Repository service

     Allowing the access of the "Metadata Provider" API enables the user to browse Oracle E-Business Suite services in the cloud through the Oracle E-Business Suite Adapter.

   - Access or execute desired Oracle E-Business Suite APIs and services

     To protect application data from unauthorized access or execution, you must grant the user the interface access privileges for the REST services provided through Oracle E-Business Suite Integrated SOA Gateway.

   The Oracle E-Business Suite user credentials should be used to create an Oracle E-Business Suite connection in Oracle Integration Cloud Service. For example, if you plan to use an Oracle E-Business Suite user hrmanager from Oracle

Integration Cloud Service to "create employee" in Oracle E-Business Suite, you need to:

- Create a security grant on all the methods contained in the Metadata Provider API to the `hrmanager` Oracle E-Business Suite user.

- Create a security grant on the "Create Employee" method in the Employee API to the `hrmanager` Oracle E-Business Suite user.

- Use the `hrmanager` user credentials while creating Oracle E-Business Suite connection in Oracle Integration Cloud Service.

At runtime, the username and password information provided through the connection of the Oracle E-Business Suite Adapter will be passed to Oracle E-Business Suite for user authentication for the service being invoked in an integration.

For information on creating security grants for REST services, see Managing Grants for Interfaces with Support for SOAP and REST Web Services, Administering Native Integration Interfaces and Services chapter, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

For information on creating Oracle E-Business Suite connection, see: Creating an Oracle E-Business Suite Connection, page 2-4.

Additional Setup Tasks for an SSL-Enabled Oracle E-Business Suite Environment

If your Oracle E-Business Suite instance is SSL enabled, to access the Oracle E-Business Suite instance from the cloud, import additional certificates into Oracle Integration Cloud Service.

For information on uploading certificate, see Uploading an SSL Certificate, Creating Connections, Developing Integration Cloud Services chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

Creating an Oracle E-Business Suite Connection with the Oracle E-Business Suite Adapter

Prerequisites

Before establishing an Oracle E-Business Suite connection using the Oracle E-Business Suite Adapter in Oracle Integration Cloud Service, you must complete the required setup tasks and apply the latest patches for enabling the Oracle E-Business Suite REST services provided through Oracle E-Business Suite Integrated SOA Gateway.
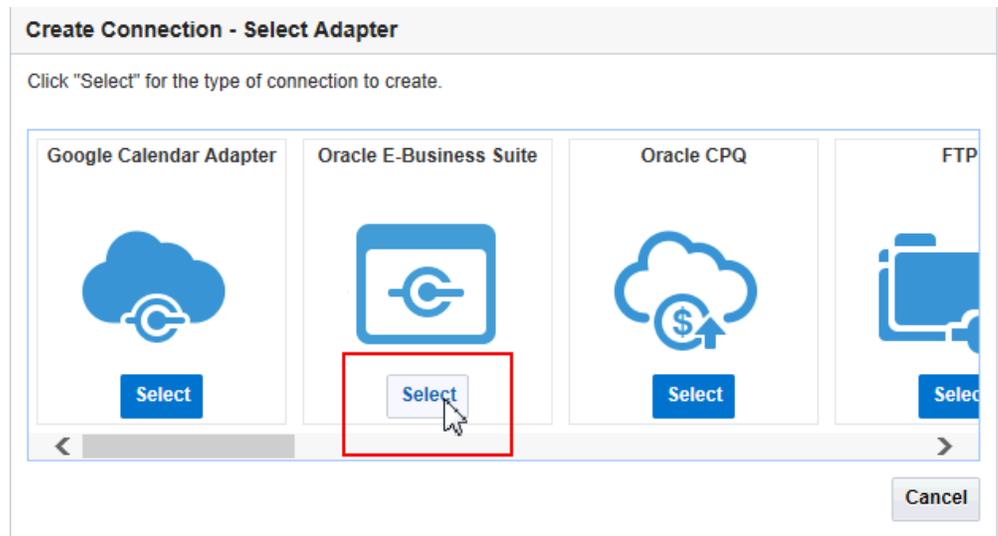
For setup information, see Setting Up the Oracle E-Business Suite Adapter, page 2-1.

Creating an Oracle E-Business Suite Connection

Once you have successfully logged in to Oracle Integration Cloud Service (

`http://<servername>:<portnumber>/ics`) through a web browser, the home page appears.

1. Click **Connections**.

2. Click **Create New Connection**.

3. In the Create Connection - Select Adapter dialog appears. Click the **Select** button for the Oracle E-Business Suite Adapter.

The New Connection - Information dialog appears. Enter the following information for your connection:

- **Connection Name:** Specify a unique name for your connection.

- **Identifier:** Enter a unique identifier for your Oracle E-Business Suite connection.

- **Version:** The version information is automatically populated for your connection.

- **Description:** Enter description information for your connection.

Click **Create** to create the connection.

4. Enter additional connection details by specifying the following information:

- Email Address: Enter an administrator's email address to receive notifications if problems or changes occur in this connection.

- Connection Properties: Click **Configure Connectivity** to open the Connection Properties dialog where you enter a URL (`http://<ebs host name>:<port>`) to connect to an Oracle E-Business Suite instance.

  Please note that this URL address is where the Oracle E-Business Suite services are deployed and can be publicly accessible either through DMZ configuration or the Oracle Integration Cloud Service agent framework. See the step about configuring the access to Oracle E-Business Suite services, as described in Setting Up the Oracle E-Business Suite Adapter, page 2-1.

Click **OK** to save your work.

- Security: Click **Configure Credentials** to open the Credentials dialog. Specify security policy, username, and password information to access the Oracle E-Business Suite instance you specified earlier in the Connection Properties dialog.

  The user name specified here should be granted the privileges to access and execute the Oracle E-Business Suite APIs and services. See the step about granting the required user privileges, as described in Setting Up the Oracle E-Business Suite Adapter, page 2-1.

  > **Note:** HTTP Authentication is the only security policy supported in this release.


Click **OK** to save your work.

- Agent Group: Click **Configure Agents** to display the Select an Agent group dialog. A list of available agent groups is automatically populated for your selection.

  Select a desired agent group, such as EBS, and click **Use** to enable the selection.

  The selected agent group serves as a channel for communication between

Oracle E-Business Suite and Oracle Integration Cloud Service.

For information on setting up agent groups, refer to Creating an Agent Group, Managing Agent Groups and the On-Premises Agent section in the Developing Integration Cloud Services chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.
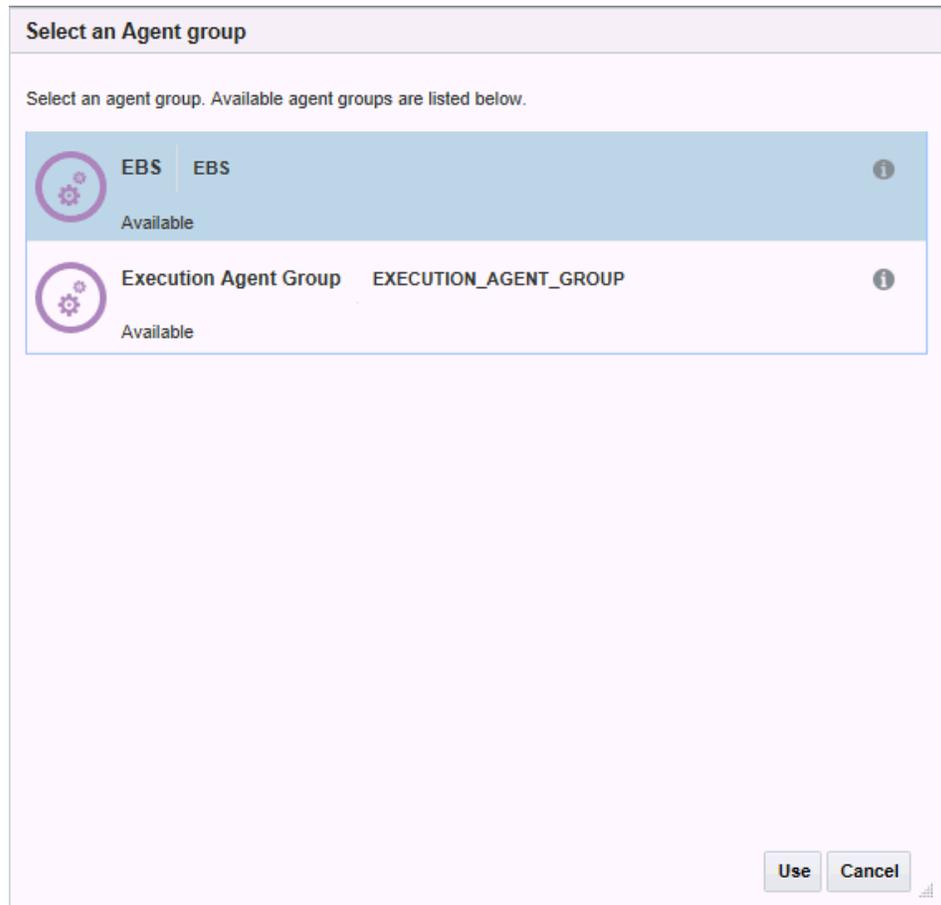
After you specify the required connection information, the "EBS_Connection" connection detail page is displayed.
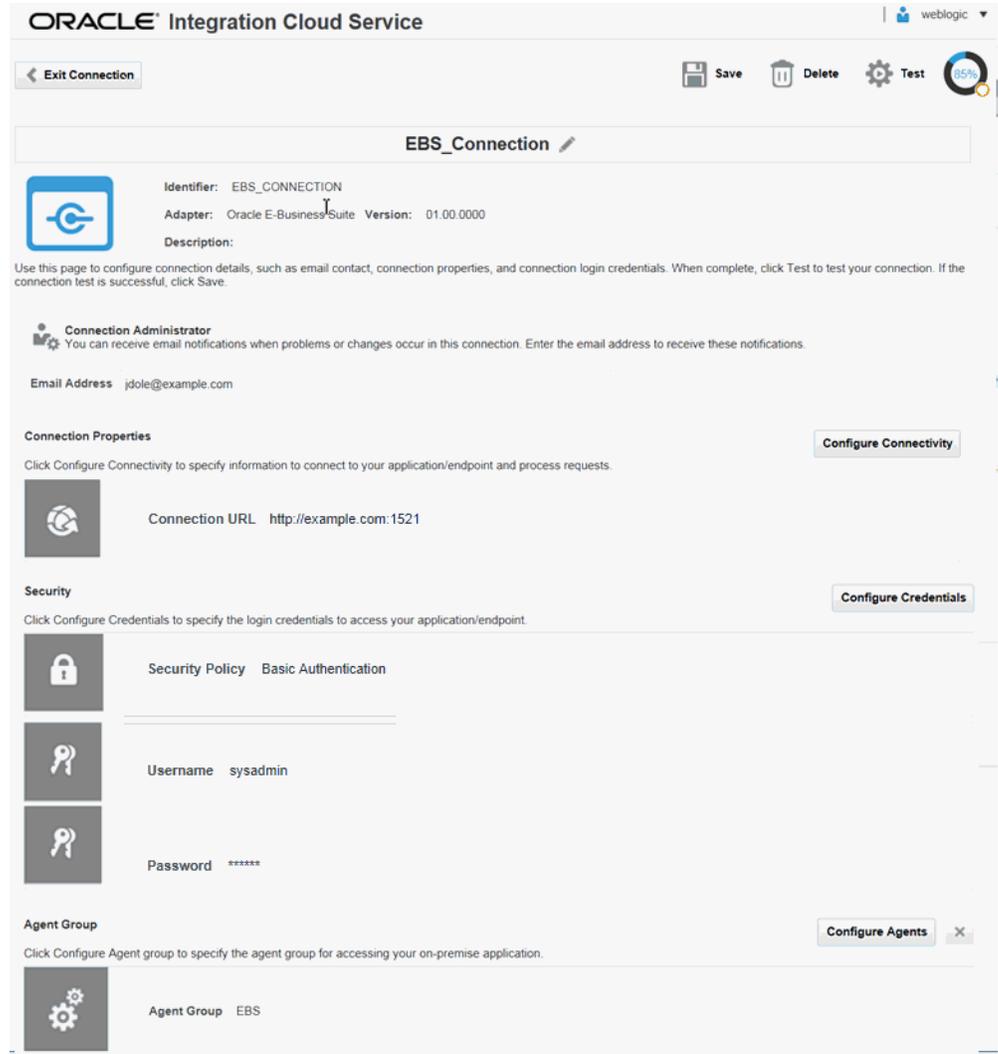
5. Click **Save** to save your connection.

Testing an Oracle E-Business Suite Connection

After creating an Oracle E-Business Suite connection with the Oracle E-Business Suite Adapter, you can test it by clicking **Test** to test the availability of the Oracle E-Business Suite instance you entered earlier.

Once you have successfully tested and established the connection to the Oracle E-Business Suite instance, a list of serviceable APIs from Oracle E-Business Suite licensed products and product families will be imported from the connected instance to Oracle Integration Cloud Service.

3

Creating an Integration

Creating an Integration Using an Oracle E-Business Suite Adapter Connection

Integrations use the adapter connections you created to your applications, and define how information is shared between those applications. This chapter describes how to create an integration using an Oracle E-Business Suite Adapter connection.

Perform the following steps to create an integration:

1. In the Integration Cloud Service toolbar, click **Designer**.

2. On the Designer Portal, click **Integrations**.

3. In the Integrations page, click **Create New Integration**.

   The Create Integration - Select a Pattern dialog appears.
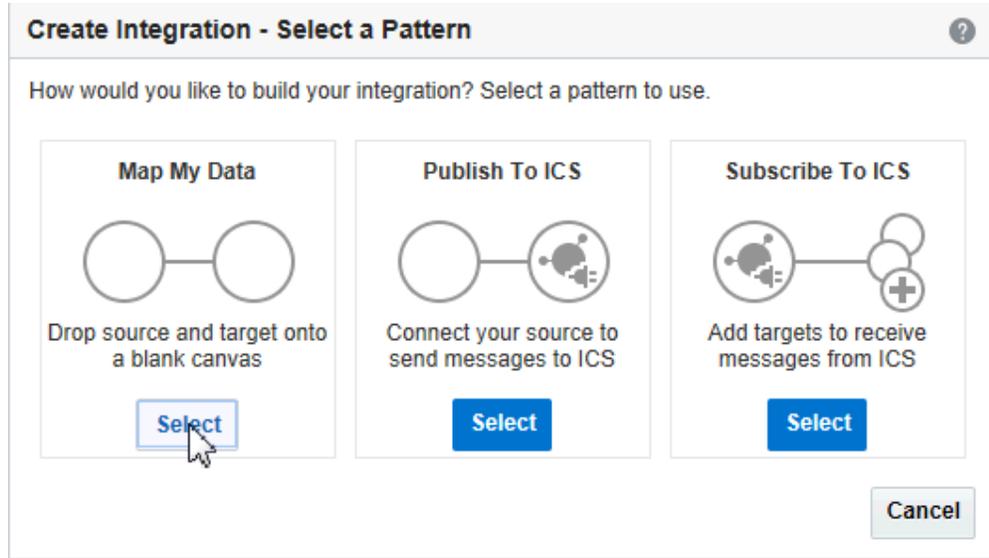
4. Click **Select** for the "Map My Data" integration pattern to create an integration with a blank source and target.

5. The New Integration - Information dialog appears. Enter the following information:

   - **Integration Name**: Enter a meaningful name for your integration, such as CreateOrder_EBS

   - **Identifier**: Accept the default identifier value which is the same as the integration name you entered here, but in upper case.

   - **Version**: Accept the default version number.

     Please note that integrations are identified by an identifier and version. For more information about the usage of the integration version, see *Oracle Cloud Using Oracle Integration Cloud Service*.

   - **Package Name**: Enter a new or existing package name in which to place your integration.

     For more information about package, see Managing Packages, *Oracle Cloud Using Oracle Integration Cloud Service*.

   - **Description**: Enter description information for your integration.

New Integration - Information

Enter information that describes this integration. Use a meaningful name and description to help others find and understand this integration. The Identifier and Version can be set only when the integration is created. The combination of Identifier and Version must be unique.

* Integration Name: CreateOrder_EBS
* Identifier: CREATEORDER_EBS
* Version: 01.00.0000
Package Name: Enter a new or existing package name
Description: Create a sales order in Oracle E-Business Suite

Create   Cancel

6. Click **Create** and **Save**.

4

Adding the Oracle E-Business Suite Adapter Connection to an Integration

Overview

The Oracle E-Business Suite Adapter enables you to use Oracle E-Business Suite services in your integrations. When you drag the Oracle E-Business Suite Adapter from the Connections panel into the invoke (target) area of an integration, the Adapter Endpoint Configuration Wizard is invoked. This wizard guides you through configuration of Oracle E-Business Suite Adapter endpoint properties.

Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection

Perform the following steps to add the Oracle E-Business Suite Adapter as an invoke (target) connection in your integration:

1. In the Integration Designer, drag **Oracle E-Business Suite** from the Connections panel on the right to the Target area on the canvas.

   The Configure Oracle E-Business Suite Adapter Endpoint wizard appears.

2. In the Basic Info page, enter a meaningful name for your Oracle E-Business Suite integration endpoint and description information.
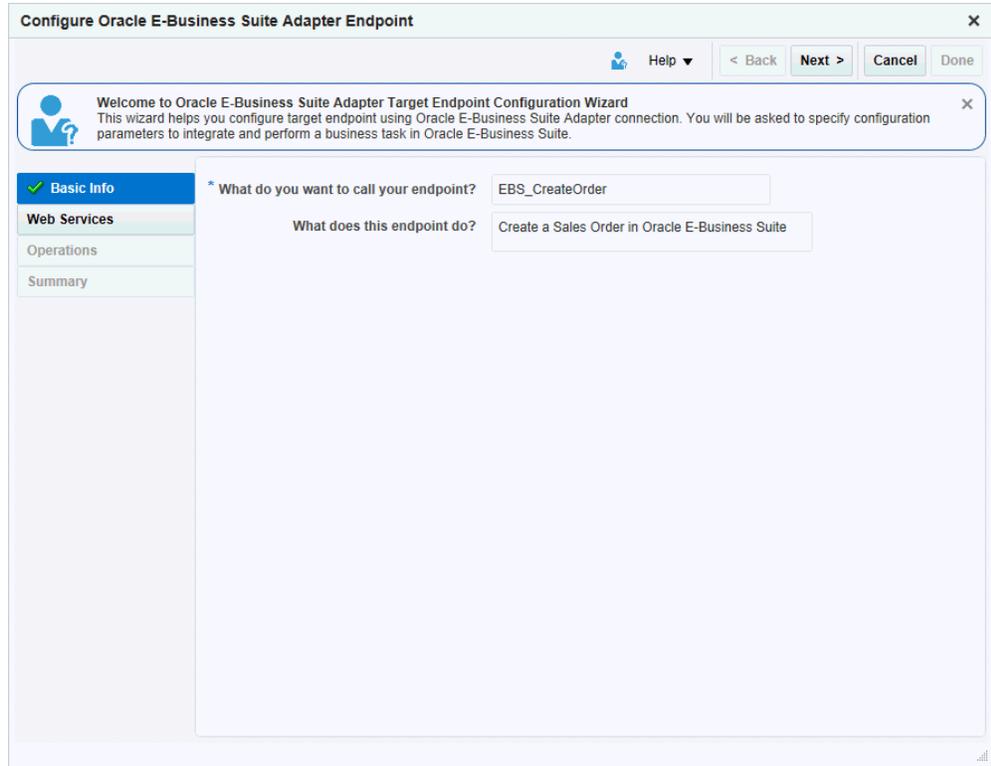
Click **Next**.

3. In the Web Services page, specify the following information for your target connection:

- Product Family: Select a desired Oracle E-Business Suite application family that you want to use for your integration. For example, Order Management Suite.

  The available Oracle E-Business Suite application families from the drop-down list are based on the Oracle E-Business Suite instance you are connecting.

- Product: Select a desired product name available from the selected product family. For example, Order Management.
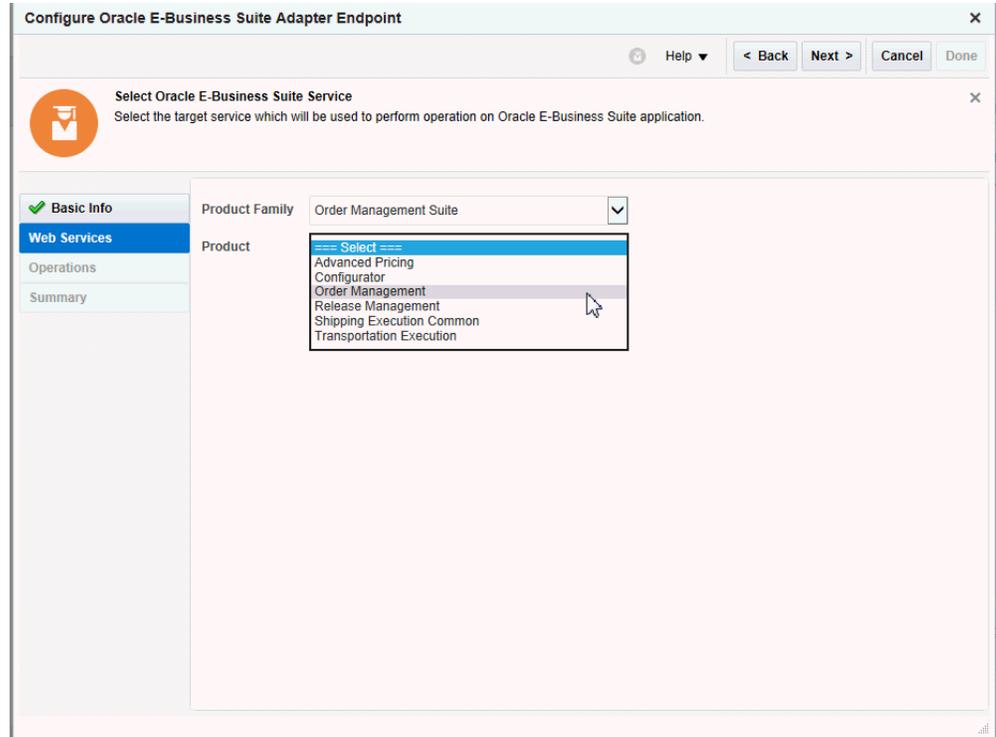
Once you select a desired product family and a product, a list of PL/SQL APIs including Oracle seeded interfaces and custom ones contained in the selected product is then populated for further selection.

> **Note:** In this release, only PL/SQL APIs are available for selection when creating an integration. You can define custom PL/SQL APIs to meet your needs if required, annotate the custom APIs, and then upload them to the Integration Repository. You can deploy the custom PL/SQL APIs as REST services from Oracle E-Business Suite Integrated SOA Gateway. These REST services will then be available to use for integrations from Oracle Integration Cloud Service.
>
> For information on creating custom PL/SQL APIs, see Creating Custom Integration Interfaces, Creating and Using Custom Integration Interfaces chapter, *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.
>
> For information on uploading custom interfaces to Oracle Integration Repository resided in Oracle E-Business Suite Integrated SOA Gateway, see Generating and Uploading iLDT Files, and Uploading ILDT Files to Integration Repository, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Select a desired API name, such as "Sales Order Services". The corresponding API information, including internal name (OE_INBOUND_INT) and description, is automatically populated.

Click **Next**.

> **Note:** If some of the methods contained in the selected API are deployed as REST services, after you click **Next**, the Operations page appears.
>
> If none of the methods within the selected API is deployed as a REST service, then an Error message is shown instead, indicating that the associated REST service is not available. You must deploy the selected API as a REST service first before using it for your integration.
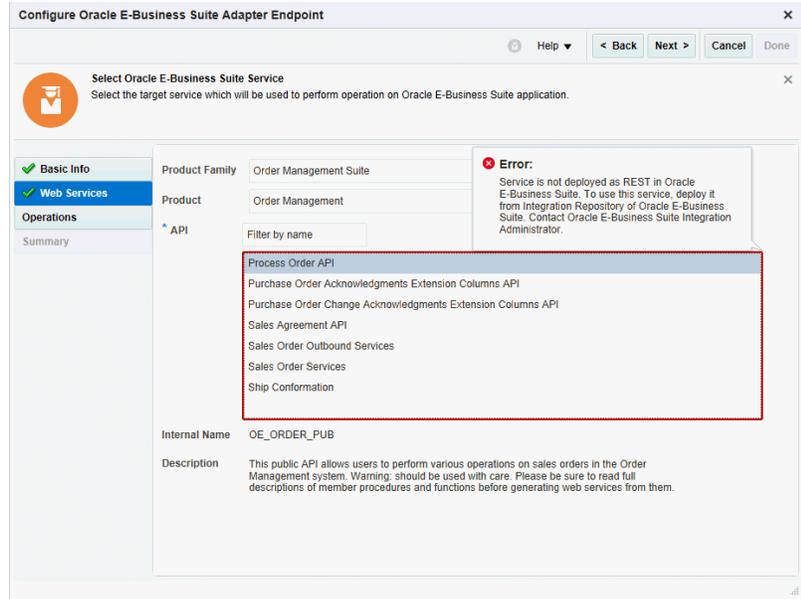
4. In the Operations page, the selected API internal name OE_INBOUND_INT is automatically populated.

   Select a desired method name contained in the selected API for this target connection. For example, PROCESS_ORDER.
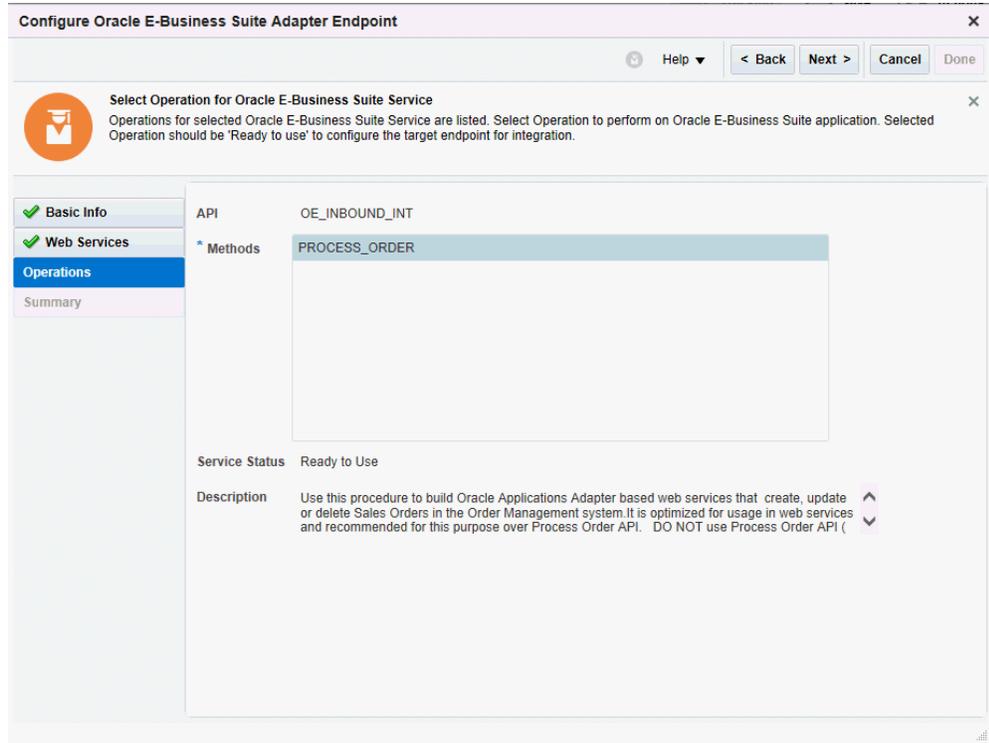
Once the desired method is selected, its corresponding REST service status is displayed in the Service Status field.

- **Ready to Use**

  This indicates that the selected method is deployed as a REST service and it is ready to use for your integration.

- **Not Deployed**

  If the selected method is not deployed as a REST service, then "Not Deployed" is shown as the service status instead. Additionally a warning message appears, indicating that you must deploy the method as a REST service first before using it for your integration.
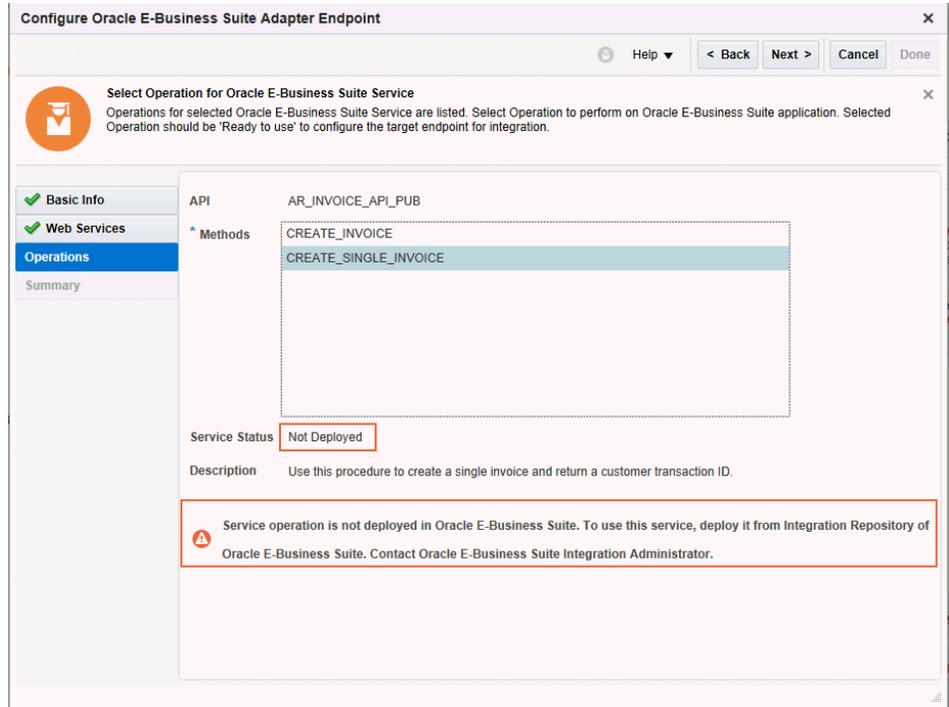
To deploy the selected method as a REST service, you need to log in to Oracle E-Business Suite as a user who has the Integration Administrator role. Select the **Integrated SOA Gateway** responsibility and the **Integration Repository** link from the navigation menu. Search and locate the selected interface from the Integration Repository, and then deploy it as a REST service. Only when the REST service is available in Oracle E-Business Suite, you can then proceed to the process of adding Oracle E-Business Suite as a target connection.

For information on deploying REST services, see Deploying REST Web Services, Administering Native Integration Interfaces and Services chapter, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Click **Next**.

5. The Summary page appears with the selected interface information. The Oracle E-Business Suite Adapter Target Endpoint configuration is successfully created.

Click **Done**.

The target connection for Oracle E-Businses Suite is now displayed in the Invoke (Target) area on the canvas.

Once the Oracle E-Businses Suite target connection is created, you can add an application adapter as a source connection to complete your integration creation. For information on adding a source connection, see Developing Integration Cloud Services, *Oracle Cloud Using Oracle Integration Cloud Service*.

5

Creating Mappings and Lookups in Integrations

Creating Mappings and Lookups

Creating Mappings

You must map data between the source connection and the target connection in an integration.

For information on creating mappings, see Mapping Integration Cloud Service Data, Developing Integration Cloud Services chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

Creating Lookups

You can also optionally create lookups in integrations.

See Creating Lookups, Developing Integration Cloud Services chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

6

Administering Integrations

Activating and Managing Integrations

Oracle Integration Cloud Service provides you with the information and tools required to activate, monitor, and manage your integrations in the runtime environment.

Activating an Integration

Once you create the mappings for an integration, you can activate the integration by clicking **Activate**. The Confirmation dialog appears where you can confirm this activation and enable tracing if desired to track runtime activities for this integration.

Additionally, you can deactivate and delete an integration if desired. Refer to Managing Integrations, Administering Integration Cloud Service chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

Monitoring Integrations

You can monitor and manage all the integration activities with Oracle E-Business Suite services through the Oracle Integration Cloud Service dashboard. From the dashboard, you can view information about how your integrations are performing and the details of each running integration.

For more information on monitoring integration activities, see Monitoring Integration Cloud Services, Administering Integration Cloud Service chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

7

An Example of Using the Oracle E-Business Suite Adapter

Overview

To better understand how to use Oracle E-Business Suite services, this chapter describes an integration example through the use of Oracle E-Business Suite Adapter.

Sample Business Scenario

Take a PL/SQL API called Sales Order Services (OE_INBOUND_INT) as an example to explain the integration between the Oracle E-Business Suite Adapter and a trigger (source) connection in Oracle Integration Cloud Service.

In this example, the Oracle E-Business Suite Adapter is used as an invoke (target) connection for service invocation, and the REST Adapter is used as a trigger (source) connection to provide an inbound REST request. When the Oracle E-Business Suite Adapter receives a REST request message with input payload for order creation from the trigger (source) connection, the OE_INBOUND_INT REST service in Oracle E-Business Suite is then invoked to create the order.

> **Note:** Any application adapters can be used as trigger (source) connections to create integrations for your business needs. In this example, the REST Adapter is used as a trigger (source) connection.

Once the integration is successfully executed at runtime, a sales order will be created in Oracle E-Business Suite.

Creating an Integration for Oracle E-Business Suite in Oracle Integration Cloud Service

Based on the integration scenario, the following tasks are included in this section:

1. Establishing the Connections for Oracle E-Business Suite and REST Services, page 7-2

Establishing the Connections for Oracle E-Business Suite and REST Services

Before creating an integration, you need to cerate the following two connections:

- Connection for Oracle E-Business Suite

  Once the connection for an Oracle E-Business Suite instance is successfully established, you can then add Oracle E-Business Suite as an invoke (target) connection later for an integration.

- Connection for REST services

  Similar to the Oracle E-Business Suite connection, once the connection for REST services is established, you can then use it as a trigger (source) connection later for an integration.
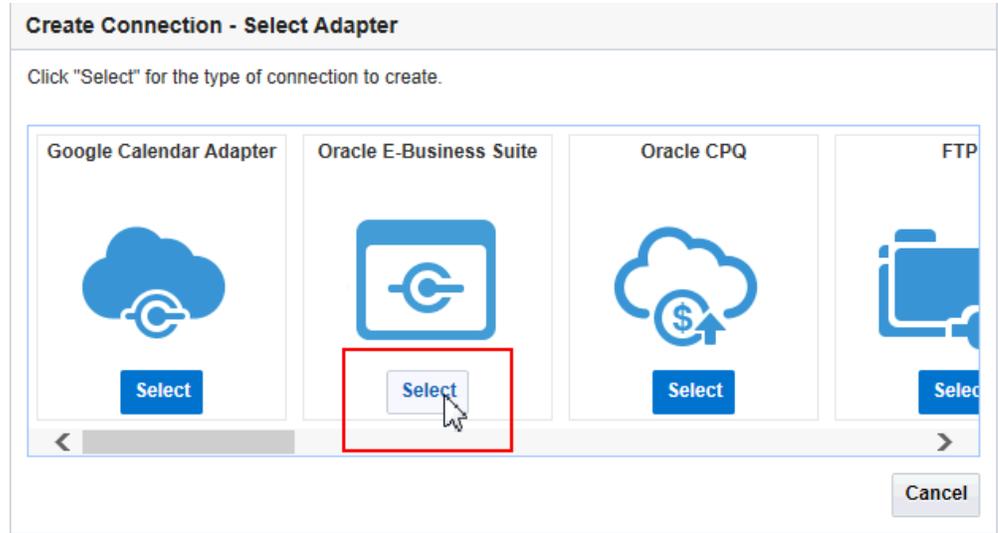
Creating an Oracle E-Businss Suite Connection

Perform the following steps to establish the connection for Oracle E-Businss Suite in Oracle Integration Cloud Service:

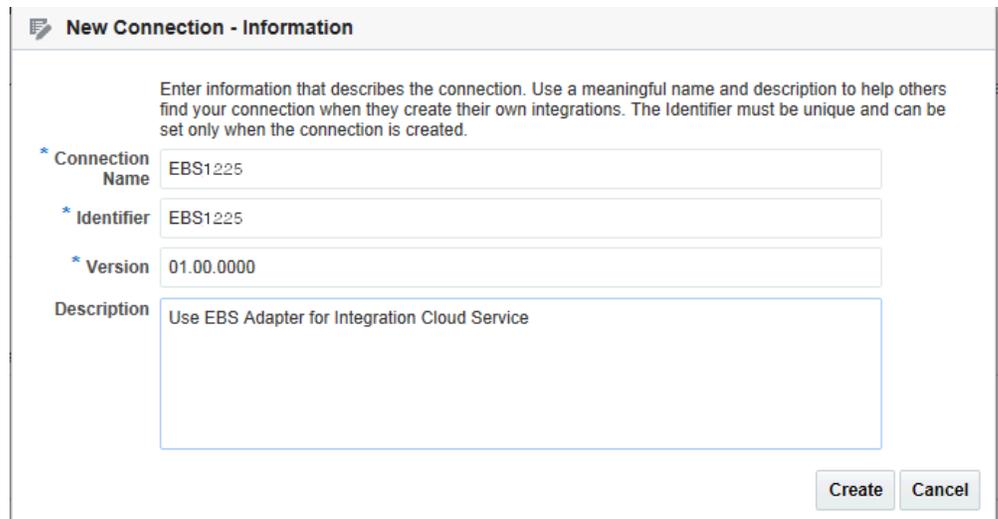1. Log in to Oracle Integration Cloud Service.

   In the Integration Cloud Service toolbar, click **Connections**.

2. Click **Create New Connection**.

   In the Create Connection - Select Adapter dialog appears. Click the **Select** button for Oracle E-Business Suite Adapter.

Create Connection - Select Adapter

Click "Select" for the type of connection to create.

Google Calendar Adapter	Oracle E-Business Suite	Oracle CPQ	FTP
Select	Select	Select	Selec

Cancel

3. In the New Connection - Information dialog, enter "EBS1225" as the Connection Name. The same information is automatically populated in the Identifier field.

New Connection - Information

Enter information that describes the connection. Use a meaningful name and description to help others find your connection when they create their own integrations. The Identifier must be unique and can be set only when the connection is created.

* Connection Name   EBS1225

* Identifier   EBS1225

* Version   01.00.0000

Description   Use EBS Adapter for Integration Cloud Service

Create   Cancel

Click **Create** to create the connection.

4. Click **Configure Connectivity** to open the Connection Properties dialog where you enter a URL (`http://<ebs host name>:<port>`) to connect to an Oracle E-Busiess Suite instance.

Click **OK** to save your work.

5. Click **Configure Credentials** to open the Credentials dialog.

Enter `operations` as the username, and its associated password to access the Oracle E-Business Suite instance you specified earlier in the Connection Properties dialog.

Click **OK** to save your work.

6. Click **Configure Agents** to display the Select an Agent group dialog. A list of available agent groups is automatically populated for your selection.

Select a desired agent group, such as EBS, and click **Use** to enable the selection.

Select an Agent group

Select an agent group. Available agent groups are listed below.

⚙	**EBS** EBS Available	ⓘ
⚙	**Execution Agent Group** EXECUTION_AGENT_GROUP Available	ⓘ

Use   Cancel
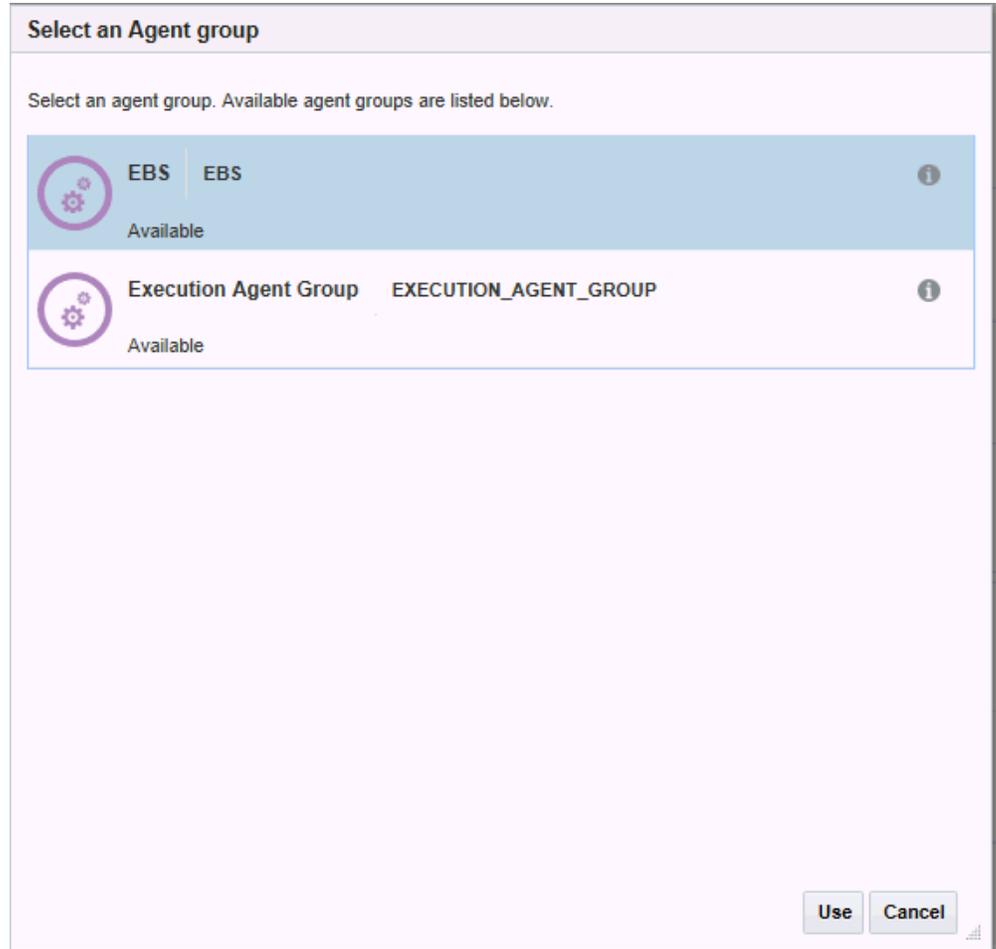
7. After you specify the connection details for your connection EBS1225, the detailed information is populated.

8. Click **Test** to test the connection you just specified for Oracle E-Business Suite.

9. Click **Save** to save your connection.

   Click **Exit Connection**.

The Oracle E-Business Suite connection "EBS1225" is now displayed in the Connections page.

Creating a Connection for REST Services

Perform the following steps to create the connection for REST APIs:

1. In Oracle Integration Cloud Service, click **Create New Connection**.

    In the Create Connection - Select Adapter dialog appears. Click the **Select** button for REST Adapter.
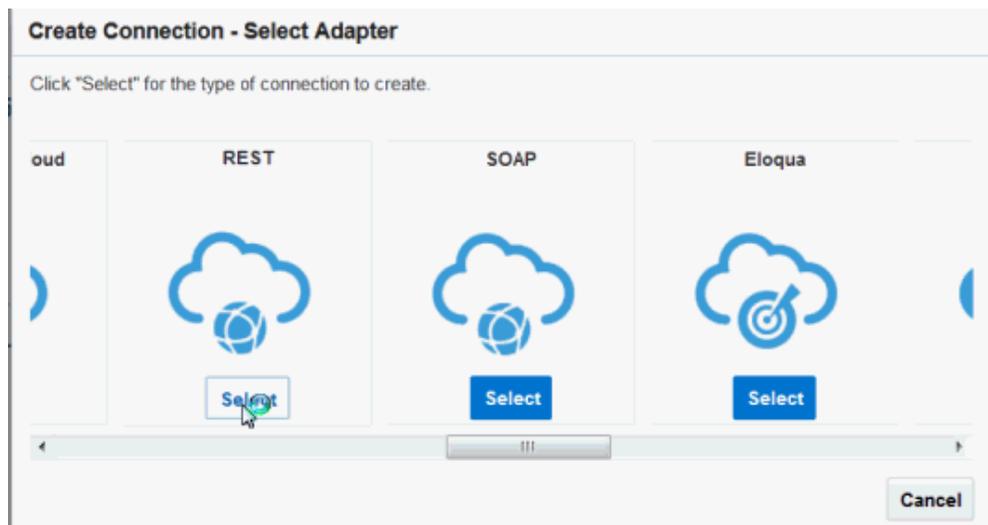
    The New Connection - Information dialog appears.

    Enter "GenericREST" as the Connection Name. The identifier value, GENERICREST, is automatically populated.

    Enter a meaningful description for this connection, such as "The sample source REST endpoint".

2. Click **Create** to create the connection.

3. Click **Configure Connectivity** to open the Connection Properties dialog where you enter a REST Service URL (`http://<ebs host name>:<port>/webservices/rest/orderMgmt`) to connect to an instance for REST services.

Click **OK** to save your work.

4. Click **Configure Credentials** to open the Credentials dialog.

   Enter `operations` as the username, and its associated password to access the instance for REST services you specified earlier in the Connection Properties dialog.

Click **OK** to save your work.

5. Click **Test** to test the connection you just specified for REST services.

6. Click **Save** to save your connection.

   Click **Exit Connection**.

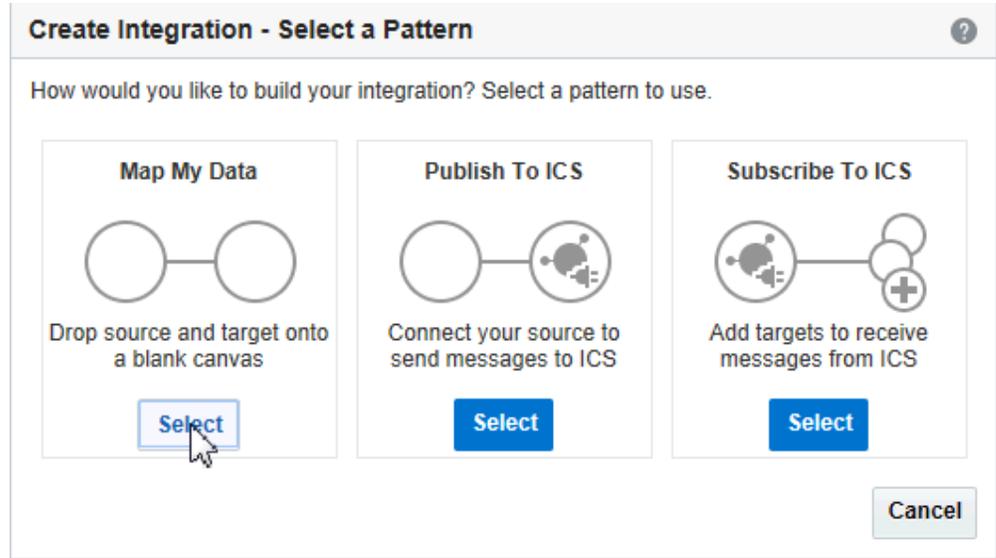The connections for REST "GenericREST" is displayed in the Connections page, along with the Oracle E-Business Suite connection "EBS1225" that you created earlier.
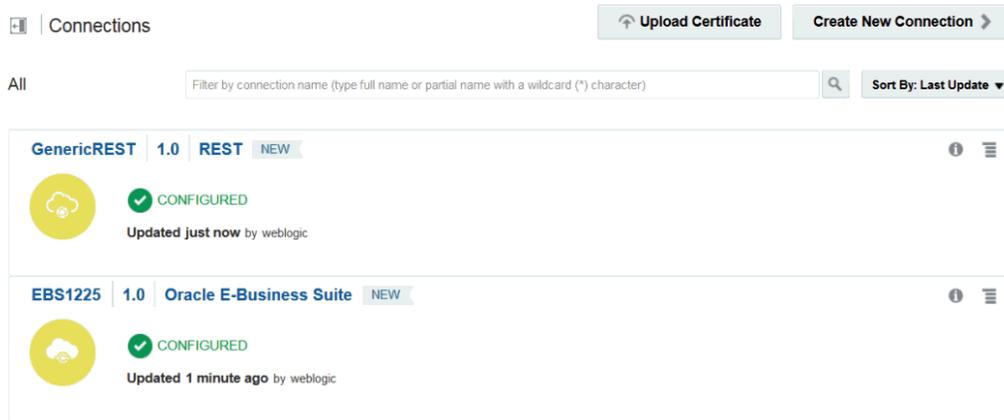
Creating an Integration

Perform the following steps to create an integration between REST services and Oracle E-Business Suite:

1. In the Integration Cloud Service toolbar, click **Designer**.

2. In the Designer Portal, click **Integrations**.

3. In the Integrations page, click **Create New Integration**.

   The Create Integration - Select a Pattern dialog appears.

Create Integration - Select a Pattern

How would you like to build your integration? Select a pattern to use.

Map My Data	Publish To ICS	Subscribe To ICS
Drop source and target onto a blank canvas	Connect your source to send messages to ICS	Add targets to receive messages from ICS
Select	Select	Select

Cancel

4. Click **Select** for the "Map My Data" integration pattern to create an integration with a blank source and target.

5. The New Integration - Information dialog appears. Enter the following information:

New Integration - Information

Enter information that describes this integration. Use a meaningful name and description to help others find and understand this integration. The Identifier and Version can be set only when the integration is created. The combination of Identifier and Version must be unique.

* Integration Name: Create Order

* Identifier: CREATE_ORDER

* Version: 01.00.0000

Package Name: Enter a new or existing package name

Description: Create a sales order in Oracle E-Business Suite

Create   Cancel

- **Integration Name**: Enter "Create Order".

- **Identifier**: Accept the default identifier value such as "CREATE ORDER".

- **Version**: Accept the default version number.

- **Description**: Enter description information for your integration, such as "Create

a sales order in Oracle E-Business Suite".

6. Click **Create** and **Save**.

Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection

Once the integration is created, you need to add the Oracle E-Business Suite connection "EBS1225" that you created earlier as an invoke (target) connection for your integration.

Perform the following steps to add the Oracle E-Business Suite Adapter as an invoke (target) connection:

1. In the Create Order integration page, search the "EBS1225" connection that you created earlier from the Connections panel.
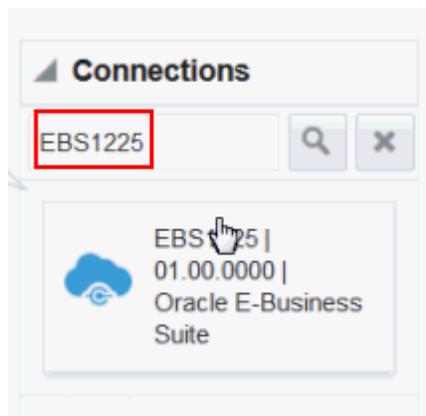
2. In the Integration Designer, drag **EBS1225** from the Connections panel on the right to the Invoke (Target) area on the canvas.

   The Configure Oracle E-Business Suite Adapter Endpoint wizard appears.

3. In the Basic Info page, enter a meaningful name for your Oracle E-Business Suite integration endpoint, such as "EBS_Reference".

   Enter the description for this integration in the "What does this endpoint do?" field. For example, Create a sales order in Oracle E-Business Suite.
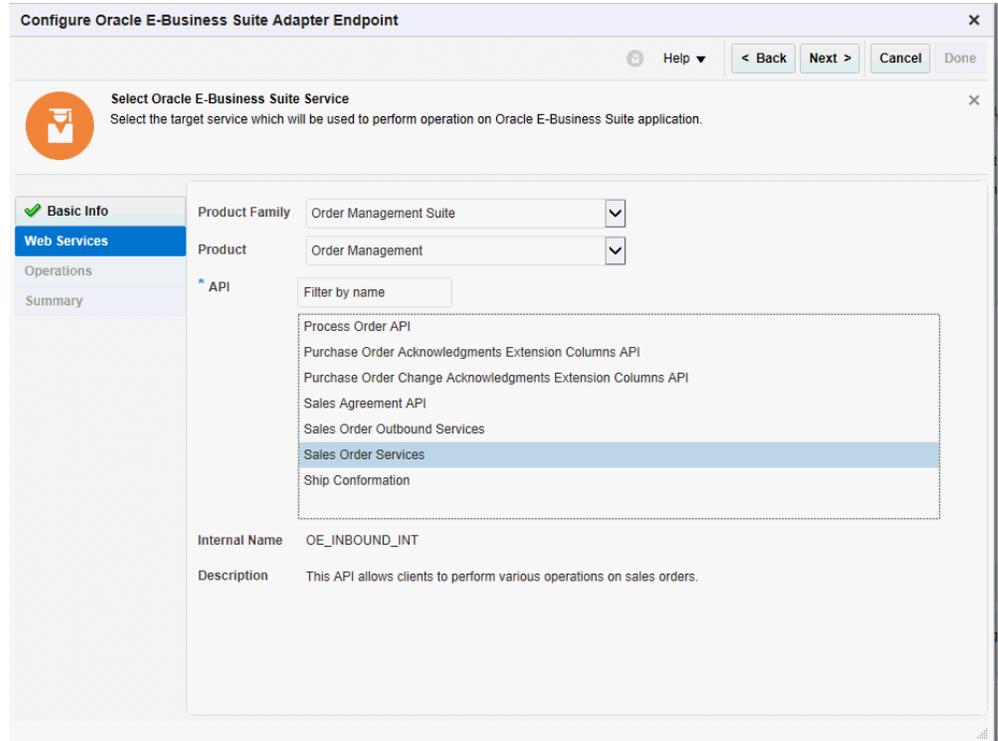
Click **Next**.

4. In the Web Services page, specify the following information for your target connection:

    • Product Family: Select "Order Management Suite" from the drop-down list.

    • Product: Select "Order Management".
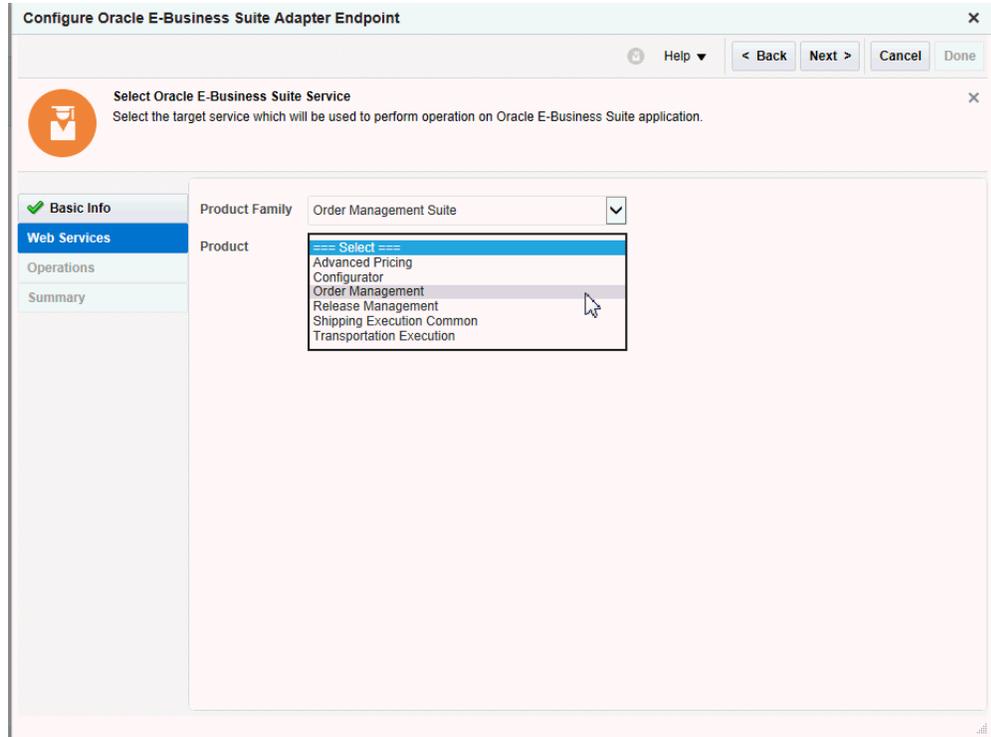
Once you select a desired product family and a product, a list of PL/SQL APIs, including Oracle seeded APIs and custom ones, contained in the selected product "Order Management" is then populated for further selection.

Select a desired API name, such as "Sales Order Services". The corresponding API information, including internal name (OE_INBOUND_INT) and description, is then populated.

Click **Next**.

5. In the Operations page, the selected API internal name OE_INBOUND_INT is automatically populated.

   Select a desired method name contained in the selected OE_INBOUND_INT API for this target connection. For example, PROCESS_ORDER.
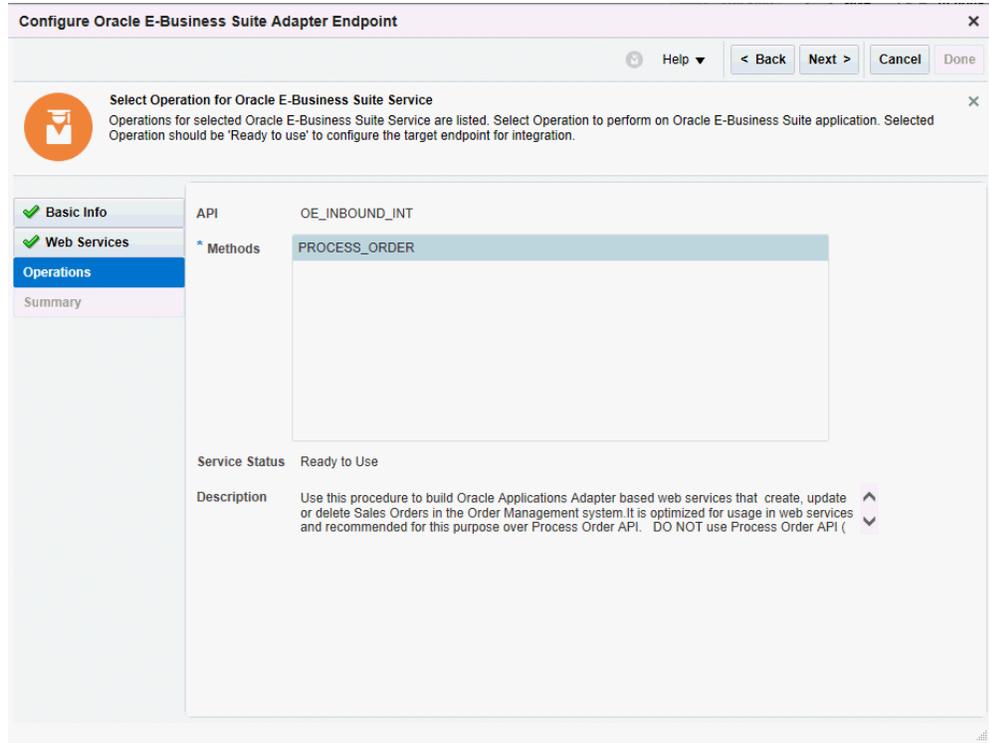
Click **Next**.

6. The Summary page displays all the selected interface details. The Oracle E-Business Suite Adapter Target Endpoint configuration is successfully created.
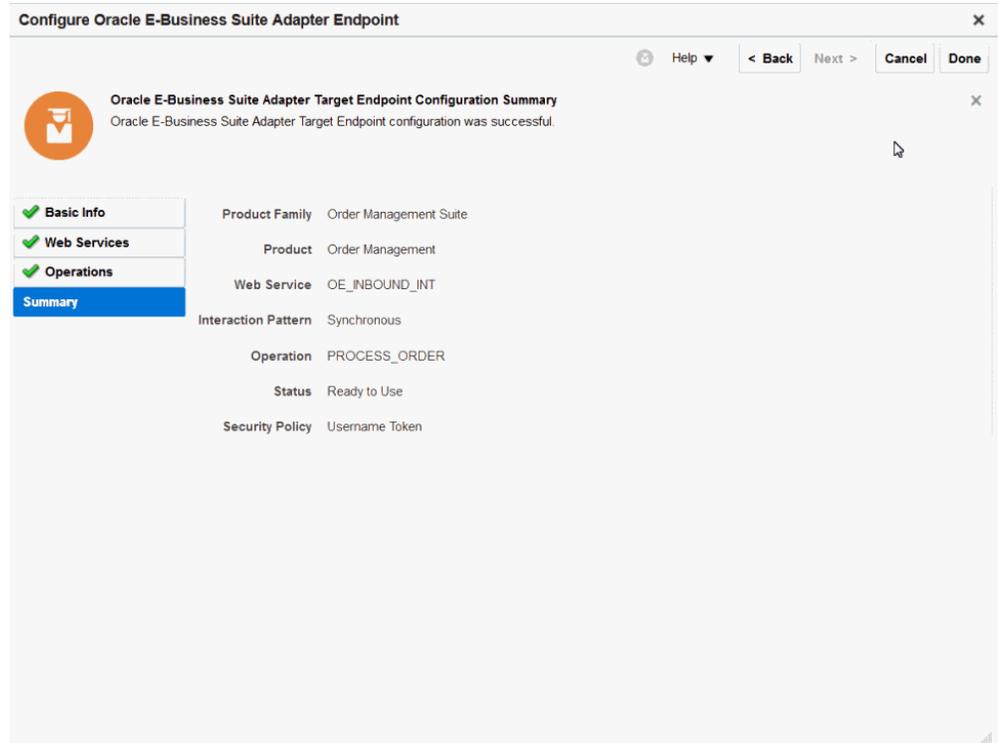
Click **Done**.

7. Click **Save** to save your work.

The target connection for Oracle E-Businses Suite is now displayed in the Invoke (Target) area on the canvas.

Adding the REST Adapter as a Trigger (Source) Connection

After adding the Oracle E-Business Suite as an invoke (target) connection, you need to add a trigger (source) connection for your integration as well. The trigger (source) connection can be any application adapters suitable for your integrations. In this example, the REST Adapter is used for this sample integration.

Perform the following steps to add the REST Adapter as a trigger (source) connection:

1. In the Create Order integration page, locate the "GenericREST" connection that you created earlier by entering "GenericREST" in the Connections field.

2. Drag **GenericREST** from the Connections panel on the right to the Trigger (Source) area on the canvas.

   The Configure Oracle REST Endpoint wizard appears.

3. Enter the following information:

   - What do you want to call your endpoint? - Enter the name of this endpoint, such as "Source".

   - What does this endpoint do? - Enter the usage of this endpoint, such as "Provide REST endpoint with input payload for sales order creation".

   - What is the endpoint's relative resource URI? - Enter `/process_order`.

   - What action does the endpoint perform? - Select "POST" from the drop-down list.

   - **Configure a request payload for this endpoint**

   - **Configure this endpoint to receive the response**

Click **Next**.

4. In the Request page, select the **JSON Sample** radio button.

   Please note that the request payload file type can be either XML schmea or JSON format.
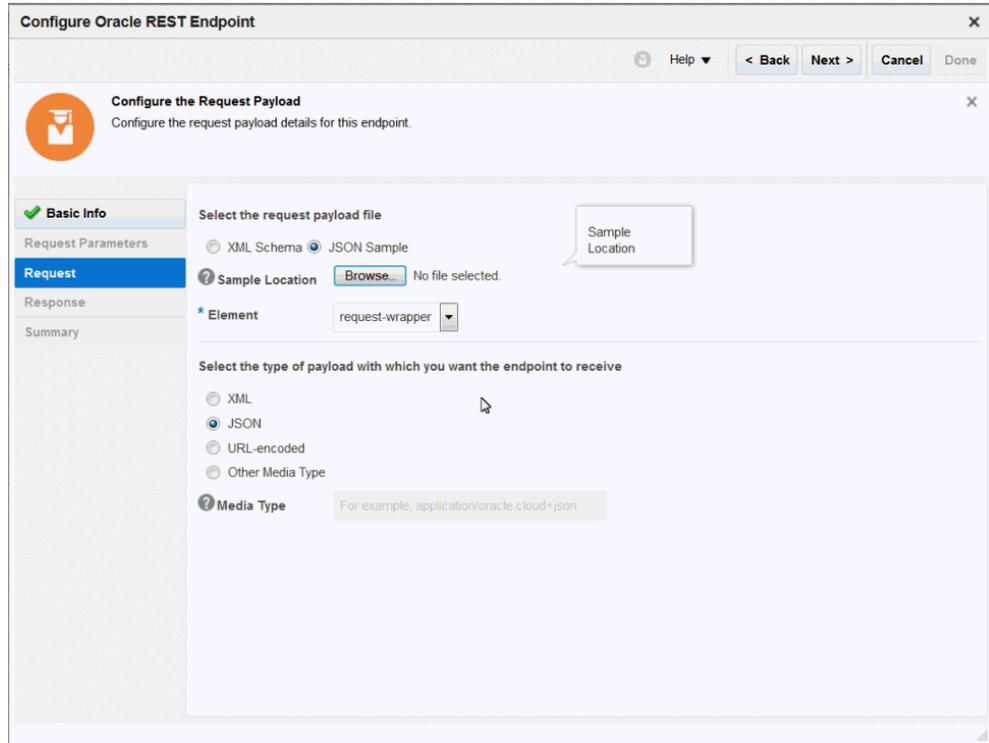
Click **Browse** to select a desired request payload file, such as "request.json". Click **Open** to attach the selected file.

Click **Next**.

5. In the Response page, select the **JSON Sample** radio button for this example.

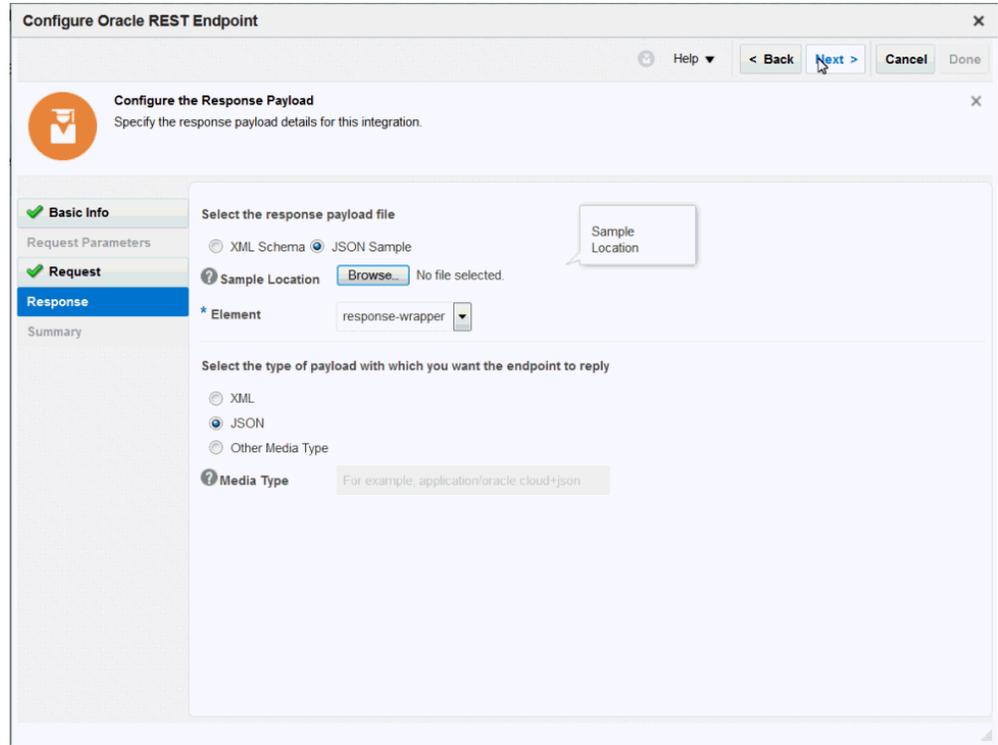   Similar to the request, the response payload type can be either XML schema or JSON format.

Click **Browse** to select a desired request payload file, such as "response.json". Click **Open** to attach the selected file.
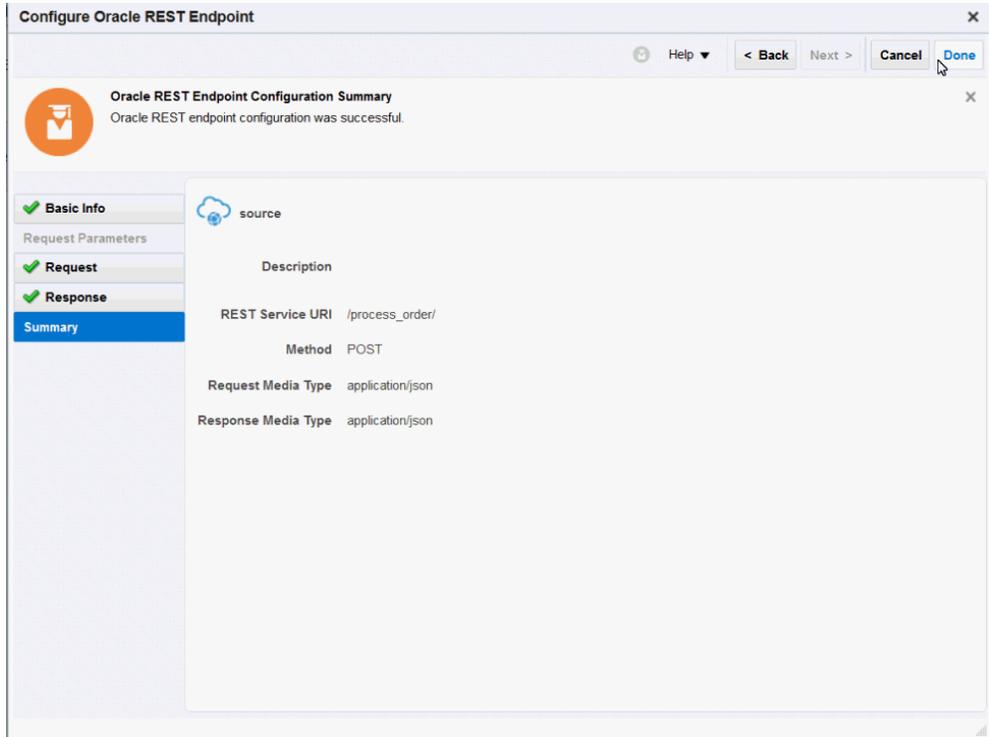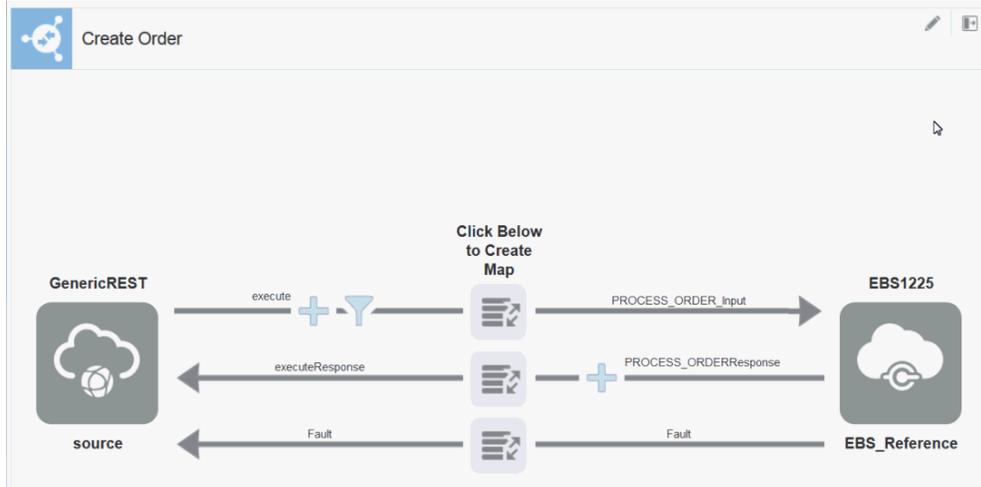
6. Click **Next** to display the Summary page.

Click **Done**.

Click **Save** to save your work. The GenericREST connection is displayed in the Trigger (Source) area on the canvas, along with the "EBS1225" invoke (target) connection.

Creating Mappings

This step is to create mappings between the source and target data structures in the integration. It includes the following three mappings:

- Map the data for the request message

- Map the data for the response message

- Map the data for the fault

Creating the first mapping for the request:

1. In the middle of the integration, click the **Mapper** icon for the request.

    Click **Create** (the **+** icon) to display the Map page.
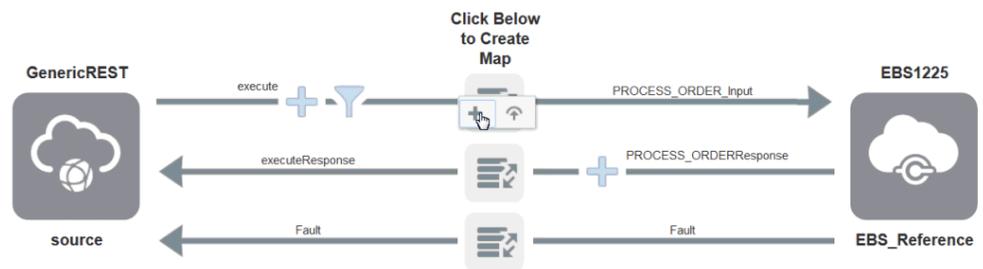
2. In the Map page, create the mappings between the source and target elements:

    - In the Source panel, expand the **execute** node, then the **request-wrapper** node, then the **PROCESS_ORDER_Input** node, and then the **InputParameters** node.

      Select the **P_API_VERSION_NUMBER** element.

    - In the Target panel, expand the **PROCESS_ORDER_Input** node, and then the **InputParameters** node.

      Select the **P_API_VERSION_NUMBER** element.

    Drag the **P_API_VERSION_NUMBER** element from the Source panel to the **P_API_VERSION_NUMBER** element in the Target panel to map the data.

    Similarly, use the same approach to complete the mappings for the rest of elements.

3. Once the mapping is complete, click **Save** to save your work.

4. Click **Exit Mapper** to return to the Integration page.

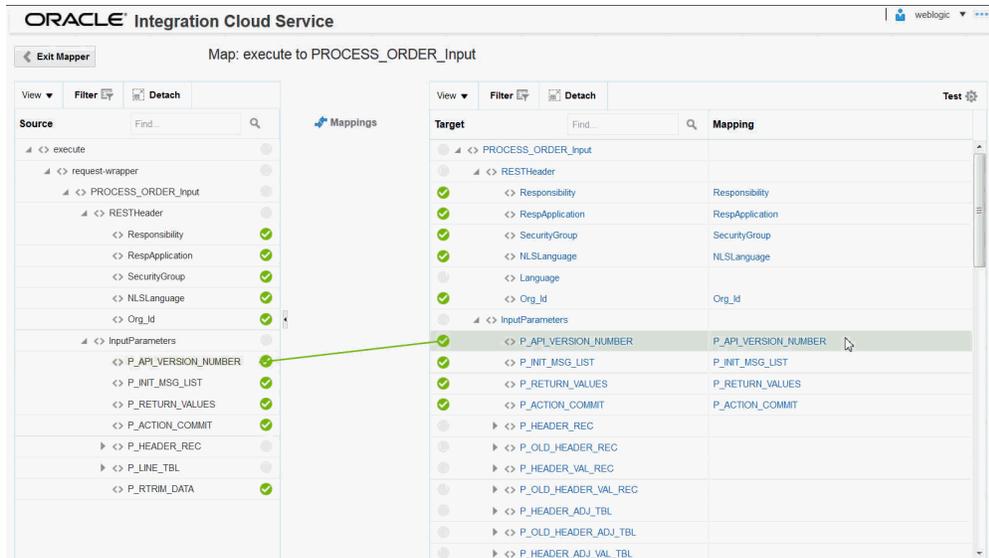**Creating the second mapping for the response:**

1. In the middle of the integration, click the **Mapper** icon for the response.

    Click **Create** (the **+** icon) to display the Map page.

2. In the Map page, create mappings to map the source and target elements.

    *   In the Source panel, expand the **PROCESS_ORDERResponse** node, and then the **Output Parameters** node.

        Select the **X_RETURN_STATUS** element.

    *   In the Target panel, expand the **executeResponse** node, then the **response-wrapper** node, and then the **Output Parameters** node.

        Select the **X_RETURN_STATUS** element.

    Drag the **X_RETURN_STATUS** element from the Source panel to the **X_RETURN_STATUS** element in the Target panel to map the data.

3. Use the same approach to complete the mappings for the rest of elements.

Notice that a green check mark icon appears for the element that has a mapping created. Additionally, the Mapping column appears in the Target panel to list the mapped data.

For example, the X_RETURN_STATUS element from the Source panel (PROCESS_ORDERResponse > Output Parameters) is now mapped to the X_RETURN_STATUS element in the Target panel (executeResponse > response-wrapper > Output Parameters > X_RETURN_STATUS).
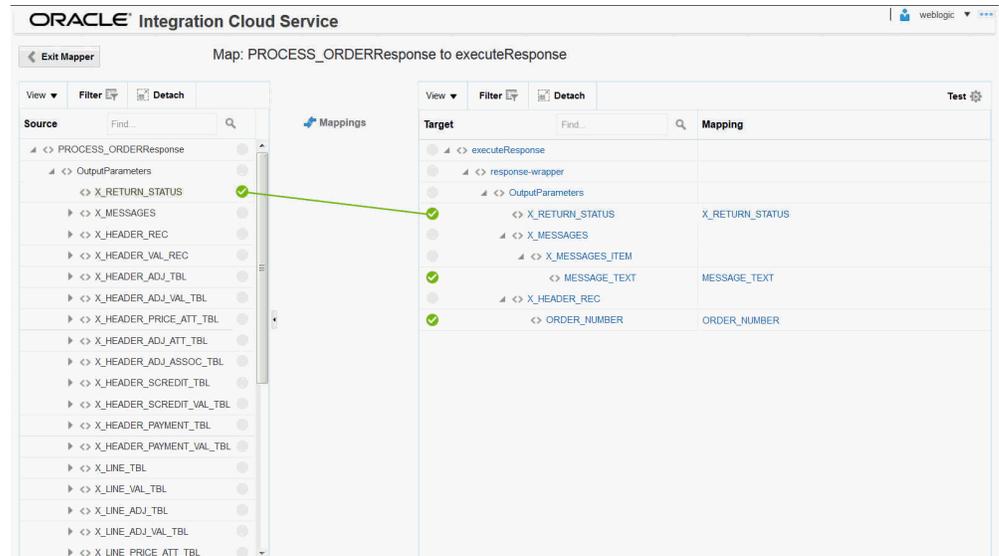
Click **Save** to save your work.

4. Click **Exit Mapper** to return to the Integration page.

Creating the third mapping for the fault:

1. In the middle of the integration, click the **Mapper** icon for the fault.

The Fault Mappings dialog appears.

2. Under the **Route To**, select "APIInvocationError" as the fault type.

Fault Mappings

Fault	Route To	Map
ISGServiceFault	APIInvocationE ▾	

Close

3. Under **Map**, click the **Mapper** (+) icon to create mapping.

4. Create the mapping between the source and target elements:

   • In the Source panel, expand the **fault** node.

     Select the **errorCode** element.

   • In the Target panel, expand the **APIInvocationError** node.

     Select the **errorCode** element.

   Drag the **errorCode** element from the Source panel to the **errorCode** element in the Target panel to map the data.

5. Repeat the previous step 4 to create another set of mapping with the following data:

   • In the Source panel, expand the **fault** node.

     Select the **reason** element.

   • In the Target panel, expand the **APIInvocationError** node, and then the

errorDetails node.

Select the **instance** element.

Drag the **reason** element from the Source panel to the **instance** element in the Target panel to map the data.

6. Use the same approach to create another set of mapping with the following data:

- In the Source panel, expand the **fault** node.

  Select the **details** element.

- In the Target panel, expand the **APIInvocationError** node, and then the **errorDetails** node.

  Select the **errorPath** element.

Drag the **details** element from the Source panel to the **errorPath** element in the Target panel to map the data.
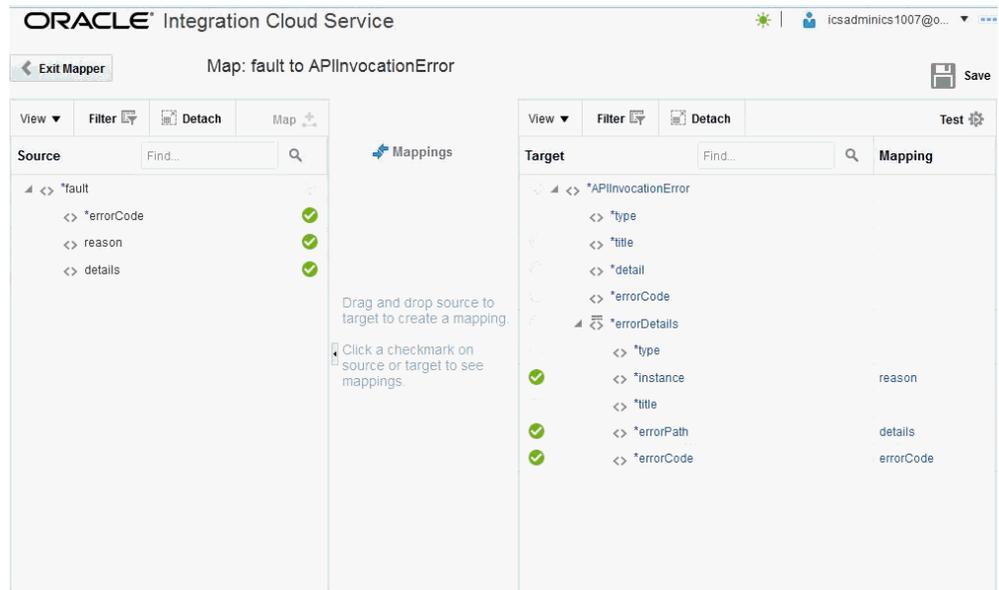
7. Click **Save** to save your work and then click **Exit Mapper**.

The mappings for the request, response, and fault are all created successfully.
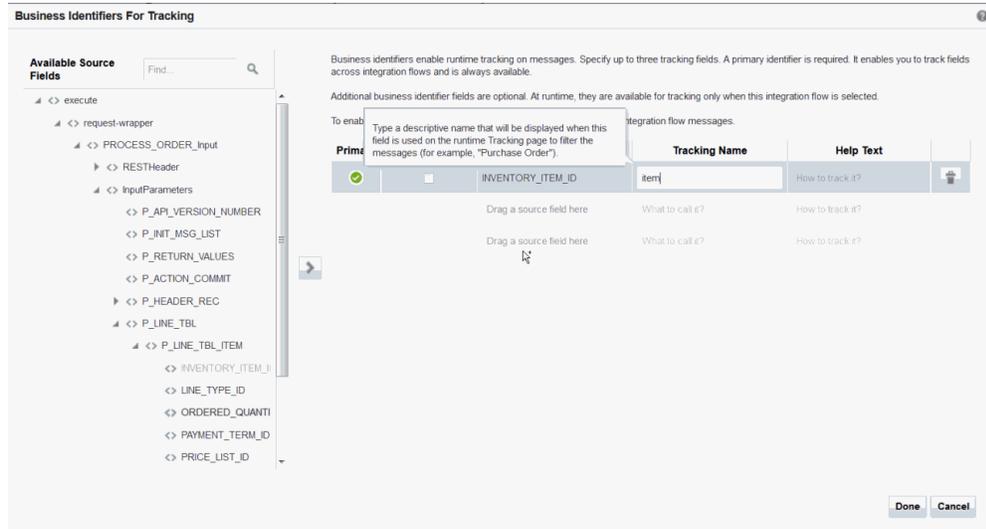
Click **Save** to save your work.

Assigning Business Identifier for Tracking

To effectively track payload fields in messages during runtime, you can specify up to three tracking fields to enable runtime tracking on messages.

1. In the Create Order Integration page, click **Tracking**.

   The Business Identifiers For Tracking dialog appears.

2. From the Available Source Fields section, drag the payload field that you want to track to the Tracking Field column.

   For example, drag the INVENTORY_ITEM_ID element from the Available Source Fields section to the Tracking Field column in the table.

   Enter "item" as the Tracking Name for the INVENTORY_ITEM_ID element.

3. Click **Done**.

   Save your work and then click **Exit Integration**.

Activating and Testing the Integration

Activating the Integration

After you complete the integration with desired source and target connections and mappings, you can activate the "Create Order" integration.

Perform the following steps to activate the integration:

1. In the Integrations page, click **Activate** for the "Create Order" integration that you created earlier.

2. The Confirmation dialog appears. Click **Activate**.

    Notice that the status of the "Create Order" integration changes to ACTIVE.

Testing the Integration

To view the activated "Create Order" integration, click the **View** icon. A pop-up dialog appears with the integration details.

You can copy the Endpoint URL (`https://<hostname>:<port>/integration/flowapi/rest/CREATE_ORDER/v01/metadata`) and open it in any REST client to invoke the REST service for order creation.

For example, an order number 69359 is created successfully after the service invocation, as shown in the Response tab.

Verifying Order Creation in Oracle E-Business Suite

Log in to Oracle E-Business Suite as a user who has the Order Management Super User, Vision Operations (USA) responsibility.

Select **Order Returns** and then **Sales Order** from the navigation menu to open the Sales Orders form.

Search for an order by pressing **F11** key. In the Customer PO field, enter the order ID retrieved from the service invocation. For example, enter 69359 and press **CTRL+F11** keys to execute the query. You should be able to find the order created in Oracle E-Business Suite.

A

Error Messages

Overview

This appendix describes the error messages if occur at the design time while testing an Oracle E-Business Suite connection and while creating an integration with the Oracle E-Business Suite Adapter as an invoke (target) connection in Oracle Integration Cloud Service. The possible resolutions are also included in this appendix.

- Error Messages While Testing an Oracle E-Business Suite Connection, page A-1

- Error Messages While Creating an Integration with the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page A-5

For additional information on managing errors, see Managing Errors, Administering Integration Cloud Service chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

Error Messages While Testing an Oracle E-Business Suite Connection

The following table describes error messages if occur while testing an Oracle E-Business Suite connection with the Oracle E-Business Suite Adapter in Oracle Integration Cloud Service:

ICS Error Code	Error Message	Resolution
CASDK-0004	Invalid user name or password.	Provide valid Oracle E-Business Suite user name and password combination.

ICS Error Code	Error Message	Resolution
CASDK-0005	User is not authorized to execute the service. Please check the user grants.	All methods of the Metadata Provider service do not have required grants created. Grant the required user privileges to Metadata Provider service, as described in step 4, Setting Up the Oracle E-Business Suite Adapter, page 2-1. Alternatively, this error could also occur if the access to Oracle E-Business Suite instance is forbidden or blocked from Oracle Integration Cloud Service. Ensure that Oracle Integration Cloud Service is able to access the Oracle E-Business Suite instance.
CASDK-0005	Verify ISG setup on Oracle E-Business Suite.	Ensure to complete the setup tasks for Oracle E-Business Suite Integrated SOA Gateway (ISG), as described in Setting Up the Oracle E-Business Suite Adapter, page 2-1.

ICS Error Code	Error Message	Resolution
CASDK-0005	Verify the deployment of the Metadata Provider service on Oracle E-Business Suite.	This error occurs due to either of the following reasons: • The Metadata Provider API is not deployed as a REST service. • All the methods of the API are not deployed with GET verb. • The API is deployed with GET verb but with a service alias other than "**provider**". To resolve the issue, ensure to deploy all the methods in the Metadata Provider API with GET verb and with service alias "**provider**". For information on deploying Metadata Provider service, see step 3, as described in Setting Up the Oracle E-Business Suite Adapter, page 2-1.
CASDK-0005	A connector specific exception was raised by the application, for example: `example.com/Error connecting to the Oracle E-Business Suite host.example.com`	Provide valid Oracle E-Business Suite host and port information (`http(s)://<ebs host name>:<port>`) where Oracle E-Business Suite is configured for ISG REST services.

ICS Error Code	Error Message	Resolution
CASDK-0005	A connector specific exception was raised by the application. The connection URL should be of the format: `http://<ebs host name>:<port>`	This error occurs due to invalid URL format. To resolve the issue, remove any trailing slash in the URL. Ensure that the Oracle E-Business Suite connection URL is of the format: `http(s)://<ebs host name>:<port>`
CASDK-0007	Unable to establish a secure connection to `example.com`. SSL protocol related exception occurred. - sun.security.validator.ValidatorException: PKIX path building failed: `sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target` - PKIX path building failed: `sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target` - unable to find valid certification path to requested target	This error occurs because of SSL certificate issues. If Oracle E-Business Suite requires a specific SSL certificate, ensure that you import or upload the Oracle E-Business Suite SSL certificate to Oracle Integration Cloud Service.
CASDK-0005	A connector specific exception was raised by the application. - unknown protocol: `example.com`	This issue occurs because of protocol error. To resolve the issue, the connection URL should be of the format: `http(s)://<ebx host name>:<port>`

Error Messages While Creating an Integration with the Oracle E-Business Suite Adapter as an Invoke (Target) Connection

The following table describes error messages if occur while creating an integration using the Oracle E-Business Suite Adapter as an invoke (target) connection at the design time:

Error Message	Resolution
Empty set of values appear in the drop down during the Product Family selection.	This error occurs when the Metadata Provider API in Oracle E-Business Suite only has the "isActive" method deployed, but the rest of all methods in the API are not deployed. To resolve the issue, ensure to deploy all the methods in the Metadata Provider API with GET verb and with service alias "**provider**". For information on deploying Metadata Provider service, see step 3, as described in Setting Up the Oracle E-Business Suite Adapter, page 2-1.
Service is not deployed as a REST service in Oracle E-Business Suite. To use this service, deploy it from Integration Repository of Oracle E-Business Suite. Contact Oracle E-Business Suite Integration Administrator.	This error occurs when the selected API is not deployed as a REST service. Ensure that you deploy the selected API as a REST service. For information on deploying an API as a REST service, see step 3 as described in Setting Up the Oracle E-Business Suite Adapter, page 2-1.
Service Status: Not Deployed Service is not deployed as a REST service in Oracle E-Business Suite. To use this service, deploy it from Integration Repository of Oracle E-Business Suite. Contact Oracle E-Business Suite Integration Administrator.	When a selected operation or method is not deployed as a REST service operation, this error occurs. Ensure that you deploy the selected method in an API as a REST service operation.

Error Message	Resolution
The application has encountered an unexpected error. Please check the application connection details and credentials, and retry your request.	This error occurs when any of the Metadata Provider API methods (such as getInterfaces, getMethods, getProducts) except the "isActive" method are deployed but do not have grants created.
	To resolve the issue, in addition to deploying all the methods in the API with GET verb, ensure that you grant the required user privileges to Metadata Provider service, as described in step 4, Setting Up the Oracle E-Business Suite Adapter, page 2-1.

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