

Oracle® Cloud

Using the Oracle E-Business Suite Adapter

Release 17.1

Part No. E66534-07

February 2017

Oracle Cloud Using the Oracle E-Business Suite Adapter, Release 17.1

Part No. E66534-07

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Preface

Intended Audience

Welcome to Release 17.1 of the *Oracle Cloud Using the Oracle E-Business Suite Adapter*.

Using the Oracle E-Business Suite Adapter describes how to securely connect and use Oracle E-Business Suite services through Oracle E-Business Suite Adapter from 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 x for more Oracle E-Business Suite product information.

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Structure

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Related Information Sources

For more information, see these Oracle resources:

- For additional documentation related to your Oracle Cloud service, visit the Oracle Cloud website at:

<http://cloud.oracle.com>

Open the **Resources** menu at the top of the page and select **Documentation** to access the Oracle Cloud Documentation home page. Search or browse the library for documentation specific to your application, infrastructure, or platform cloud service.

- You may want to refer to other Oracle Cloud guides when you set up and use Oracle E-Business Suite Adapter from Oracle Integration Cloud Service.

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.

Integration Repository

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the Oracle E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

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.

Getting Started with the Oracle E-Business Suite Adapter

This chapter covers the following topics:

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

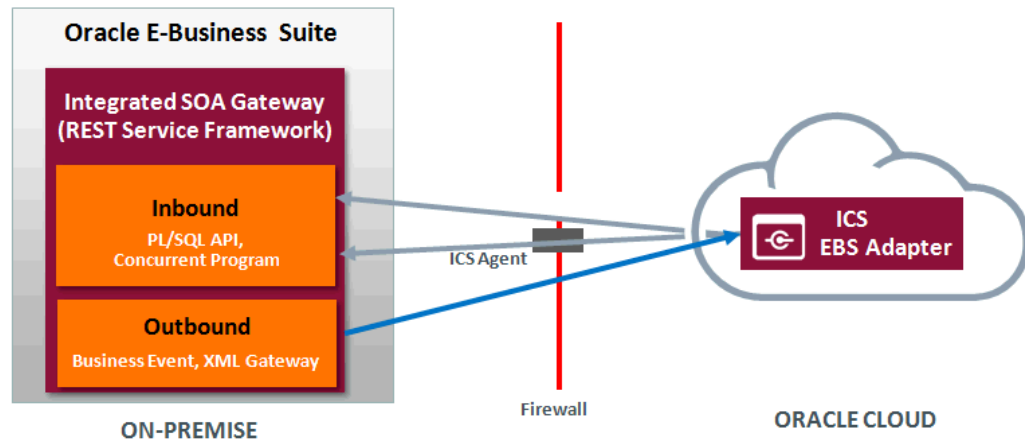
Getting Started with the Oracle E-Business Suite Adapter

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) 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 as well as Release 12.2.3 and onwards.

Supporting Inbound and Outbound Integrations



In this diagram, Business Events and XML Gateway messages are available for inbound integrations in Oracle Integration Cloud Service when adding the Oracle E-Business Suite Adapter as a trigger (source) connection in an integration. If the Oracle E-Business Suite Adapter is added as an invoke (target) connection, PL/SQL APIs and Concurrent Programs are available as REST services for invocation from Oracle Integration Cloud Service.

To access these REST services or interfaces in Oracle E-Business Suite on-premise which is behind the firewall, Oracle Integration Cloud Service agents can be used if your Oracle E-Business Suite is not set up in a DMZ configuration.

Please note that an outbound integration from Oracle E-Business Suite into Oracle Integration Cloud Service is also referred as an inbound (trigger or source) integration in Oracle Integration Cloud Service.

Common Terminologies

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

Oracle E-Business Suite Integrated SOA Gateway (ISG)

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 lifecycle activities through the Integration Repository. The Oracle E-Business Suite Adapter in turn provides the access to these REST services that you can use for creating integrations in Oracle Integration Cloud Service.

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 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. The supported interface types for integrations in Oracle Integration Cloud Service through the Oracle E-Business Suite Adapter are:

- **PL/SQL API**

A business interface can be based on a PL/SQL package from which you invoke procedures and functions appropriate to an integration.

When you add the Oracle E-Business Suite Adapter as invoke (target) connections, PL/SQL REST services are available for outbound integrations from Oracle Integration Cloud Service.

- **Concurrent Program**

A concurrent program runs as a concurrent process that executes multiple programs running in the background. Functions performed by concurrent programs are normally data-intensive and long-running, such as posting a journal.

The Oracle E-Business Suite Adapter supports outbound integrations with concurrent programs from Oracle Integration Cloud Service when adding the Oracle E-Business Suite Adapter as invoke (target) connections.

- **Business Event**

A business event is an occurrence in Oracle E-Business Suite that might be significant to other objects in a system or to external agents. An example of a business event can be the creation of a new sales order or changes to an existing order.

When you add the Oracle E-Business Suite Adapter as trigger (source) connections, business events are available for inbound integrations in Oracle Integration Cloud Service.

- **XML Gateway Message Map**

Oracle XML Gateway comprises a set of services that allows easy integration with Oracle E-Business Suite to support XML messaging. It uses the message propagation feature of Oracle Advanced Queuing to integrate with Oracle Transport Agent to deliver messages to and receive messages from business partners.

Similar to business events, XML Gateway messages are available for inbound integrations in Oracle Integration Cloud Service when adding the Oracle E-Business Suite Adapter as trigger (source) connections.

For more information about Oracle XML Gateway, see the *Oracle XML Gateway User's Guide*.

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 through the 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.

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 Oracle Integration Cloud Service, the username and password information is provided when creating an Oracle E-Business Suite connection. 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 supports business events and XML Gateway messages for inbound integrations in Oracle Integration Cloud Service when using the Oracle E-Business Suite Adapter as **trigger (source)** connections.
- It provides Oracle E-Business Suite services (PL/SQL APIs and concurrent programs) for outbound integrations from Oracle Integration Cloud Service when adding the Oracle E-Business Suite Adapter as **invoke (target)** connections.
- It supports Oracle seeded and custom interfaces for integrations.

- 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 and Creating an Oracle E-Business Suite Adapter Connection, 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 3-1

Task	Description	More Information
2	<p>Test the Oracle E-Business Suite connection.</p> <p>Ensure that you can successfully connect to the Oracle E-Business Suite instance you specified.</p>	Testing an Oracle E-Business Suite Connection, page 3-6
3	<p>Create the integration.</p> <p>Add the Oracle E-Business Suite Adapter as a trigger (source) or an invoke (target) connection while creating the integration.</p>	<ul style="list-style-type: none"> • Creating an Integration with the Oracle E-Business Suite Adapter, page 4-1 • Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 5-1 • Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page 5-13
4	<p>Create mappings between the source and target data structures in the integration.</p> <p>(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).</p>	Creating Mappings and Lookups, page 6-1

Task	Description	More Information
5	<p>Activate the integration.</p> <p>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.</p>	<ul style="list-style-type: none"> Activating an Integration, page 7-1 If an XML Gateway message is used in an integration, you must perform post activation steps to ensure the integration works properly. See: Post Activation Manual Steps for XML Gateway Messages as a Trigger, page 5-10
6	Monitor the integration on the dashboard.	Monitoring and Managing Integrations, page 7-1
7	Track payload fields in messages during runtime.	<ul style="list-style-type: none"> Assigning Business Identifiers for Tracking Fields in Messages, Developing Integration Cloud Services chapter, <i>Oracle Cloud Using Oracle Integration Cloud Service</i> Managing Business Identifiers for Tracking Fields in Messages, Administering Integration Cloud Service chapter, <i>Oracle Cloud Using Oracle Integration Cloud Service</i>

Task	Description	More Information
8	Manage errors at the integration level, connection level, or specific integration instance level.	<ul style="list-style-type: none"> Managing Errors, Administering Integration Cloud Service chapter, <i>Oracle Cloud Using Oracle Integration Cloud Service</i> Error Messages, page B-1 - error messages while testing the connection and creating the integration with the Oracle E-Business Suite Adapter at the design time

To better understand how to use the Oracle E-Business Suite Adapter in an integration, see:

- An Example of Using a Business Event as a Trigger (Source) in an Integration, page 8-1
- An Example of Using an XML Gateway Message as a Trigger (Source) in an Integration, page 9-1
- An Example of Using the Oracle E-Business Suite Adapter as an Invoke (Target) in an Integration, page 10-1

Additionally, refer to the following documents for more information about the Oracle E-Business Suite Adapter:

- Oracle E-Business Suite Adapter in Oracle Integrated Cloud Service Frequently Asked Questions (FAQ)*, My Oracle Support Knowledge Document 110687.1
- Oracle Cloud Known Issues for Oracle Integration Cloud Service*
- What's New for Oracle Integration Cloud Service*

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

Setup Overview

Before creating an Oracle E-Business Suite connection with the Oracle E-Business Suite Adapter, you must perform the setup tasks to ensure it works properly.

This chapter includes the following topics:

- Setup Tasks for Enabling the Oracle E-Business Suite Adapter, page 2-1
- Setup Tasks for Using the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 2-5

If an XML Gateway message is used as a trigger (source) in an integration, you must perform additional post activation tasks once you activate the integration to ensure the message works properly in Oracle Integration Cloud Service. See: Post Activation Manual Steps for XML Gateway Messages as a Trigger, page 5-10.

Setup Tasks for Enabling 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 in integrations in Oracle Integration Cloud Service.

If you have not configured Oracle E-Business Suite Integrated SOA Gateway, perform the setup and configuration steps as 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 from Oracle Integration Cloud Service, Oracle E-Business Suite services must be accessible 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 the Event Manager service

To use business events from Oracle E-Business Suite as a trigger (source) in an integration in Oracle Integration Cloud Service, you must deploy the Event Manager API as a REST service.

Similar to the Metadata Provider service, you can search the "Event Manager" API from the Integration Repository, and then deploy it as a REST service. Before the deployment, you must enter "**subscription**" as the service alias name and select the **POST HTTP** method check boxes for **ALL** the methods contained in the API.

- 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 Oracle Integration Cloud Service, 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 the Sales Order Service (OE_INBOUND_INT) API as a REST service first before you can use this deployed Sales Order Service REST service from 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 the 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 Oracle Integration Cloud Service through the Oracle E-Business Suite Adapter.
- Access the Event Manager service
This enables the user to use business events as a trigger in Oracle Integration Cloud Service when adding the Oracle E-Business Suite Adapter as a trigger (source) in an integration.
- 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 all the methods contained in the Event Manager 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 an Oracle E-Business Suite connection in Oracle Integration Cloud Service.

At runtime, the username and password information provided through the Oracle E-Business Suite Adapter connection 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 a connection with Oracle E-Business Suite Adapter, see:

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 in Oracle Integration Cloud Service, import additional certificates into Oracle Integration Cloud Service.

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

Setup Tasks for Using the Oracle E-Business Suite Adapter as a Trigger (Source) Connection

To successfully use business events and XML Gateway messages as inbound integrations in Oracle Integration Cloud Service through the Oracle E-Business Suite Adapter, you must perform the following one-time setup tasks in Oracle E-Business Suite to enable the feature:

1. Store the ICS user credentials in Oracle E-Business Suite FND vault.

Execute the PL/SQL script `$FND_TOP/sql/afvltput.sql` from Oracle E-Business Suite backend to upload and store the user credentials in Oracle E-Business Suite FND vault.

1. Connect to an Oracle E-Business Suite database:

```
sqlplus apps/<apps password>
```

2. Execute the script to upload the ICS username:

```
@$FND_TOP/sql/afvltput.sql FND REST_USERNAME <ICS WebLogic Username>
```

Replace `<ICS WebLogic Username>` with the username, such as `weblogic`.

3. Execute the script to upload the ICS password:

```
@$FND_TOP/sql/afvltput.sql FND REST_PASSWORD <ICS WebLogic Password>
```

Replace `<ICS WebLogic Password>` with the associated password value.

At runtime, the user credentials are retrieved from Oracle E-Business Suite FND vault and are embedded in the HTTP request along with business event data to Oracle Integration Cloud Service. It is included based on the HTTP Basic Authentication scheme. Oracle Integration Cloud Service then authenticates the user credentials based on the HTTP Basic Authentication method and accepts the

business event data.

2. Configure proxy host and port for XML Gateway messages.

1. Log in to Oracle E-Business Suite as a user who has the System Administrator responsibility.

Select **Oracle Applications Manager** from the navigation menu. Navigate to the **Site Map**.

2. Click **AutoConfig**.

3. In the Context Files page, click the **Edit Parameters** icon for the Applications tier context file.

4. In the Context File Parameters page, select the System tab.

Expand the `oa_web_server` node and update the values for the following AutoConfig variables:

Name	Variable	Value
OXTAOutUseProxy	s_oxta_proxy	true
OXTAOutProxyHost	s_oxta_proxyhost	<proxy host>
OXTAOutProxyPort	s_oxta_proxyport	<proxy port>

Save your work.

5. Run AutoConfig from the application tier.

Refer to *Using AutoConfig to Manage System Configurations in Oracle E-Business Suite Release 12*, My Oracle Support Knowledge Document 387859.1.

Refer to the *Oracle E-Business Suite Setup Guide R12.2* (Part Number E22953-13) for information on changing AutoConfig variables and executing AutoConfig in the application tier.

3. Configure proxy host and port at Concurrent Manger Tier JVM.

To access Oracle Integration Cloud Service from Oracle E-Business Suite on-premise which is behind the firewall, all outbound requests from Oracle E-Business Suite need to be routed through proxy host and port. Therefore, you need to configure and set up the proxy appropriately at the Concurrent Manger Tier JVM.

1. Log in to Oracle E-Business Suite as a user who has the System Administrator responsibility.

Select **Oracle Applications Manager** from the navigation menu. Navigate to the **Site Map**.

2. Click **AutoConfig**.

3. In the Context Files page, click the **Edit Parameters** icon for the Applications tier context file.

4. In the Context File Parameters page, select the Environments tab. Expand the `oa_environments:adovars` node to locate the APPSJREOPTS (AutoConfig variable or OA_VAR "s_appsjureopts").

5. Enter the following additional JVM parameters:

```
-Dhttp.proxyHost=<http proxy host>
-Dhttp.proxyPort=<http proxy port>
-Dhttps.proxyHost=<ssl proxy host>
-Dhttps.proxyPort=<ssl proxy port>
```

Save your work.

6. Run AutoConfig from the application tier.

Refer to *Using AutoConfig to Manage System Configurations in Oracle E-Business Suite Release 12*, My Oracle Support Knowledge Document 387859.1.

Refer to the *Oracle E-Business Suite Setup Guide R12.2* (Part Number E22953-13) for information on changing AutoConfig variables and executing AutoConfig in the application tier.

4. (Optional) Import the SSL certificates to `cacerts` in Oracle E-Business Suite.

This step is required only if Oracle Integration Cloud Service server certificate is not in the Oracle E-Business Suite trusted certificate list.

Exporting the Oracle Integration Cloud Service Certificates

Perform the following steps to export the Oracle Integration Cloud Service certificates:

1. Access the Oracle Integration Cloud Service instance with the HTTPS URL from a web browser.
2. After the Oracle Integration Cloud Service UI page has been successfully loaded in a browser, double click the **Lock** icon in the bottom right corner of the browser and export the certificates. For example,

Note: Different browser versions may have different steps to

export SSL certificates.

- In Internet Explorer, double click the **Lock** icon, then select **Details**, and then **Copy to File**.
- In Mozilla Firefox, double click the **Lock** icon, then select **Security**, then **View Certificate**, then **Details**, and then **Export**.

Alternatively, you can use the browser menu to export the certificates using the following steps:

1. In Internet Explorer, select **Internet Options** from the **Tools** drop-down menu to open the Internet Options pop-up window.
2. In the Content tab, click **Certificates**.
3. In the Personal (or Other People) tab, select your certificates and click **Export**.
3. You can export or save the certificates either in DER encoded binary X.509 (.crt) or in Base64 encoded. For example, the exported certificate is named as rootCA.crt.

Importing the Oracle Integration Cloud Service Certificates to Oracle E-Business Suite

Perform the following steps to import the Oracle Integration Cloud Service certificates to Oracle E-Business Suite:

1. Navigate to the \$AF_JRE_TOP/lib/security directory.
2. Backup the existing cacerts file.
3. Copy the Oracle Integration Cloud Service server's root certificate rootCA.crt imported earlier to the security directory.
4. Execute the following command to ensure that cacerts has the **write** permissions:

```
$ chmod u+w cacerts
```
5. Add the server's root certificate rootCA.crt to the cacerts file:

```
$ keytool -importcert -keystore cacerts -storepass -alias rootCA -file rootCA.crt -v
```

Enter the keystore password when prompted. If the certificate already exists in the cacerts file, keytool will warn you and allow you to cancel the import. Cancel the import.

6. When you have completed the modifications to the `cacerts` file, reset the permissions:

```
$ chmod u-w cacerts
```
7. Restart Oracle E-Business Suite application tier services. Use the `adstpall.sh` and `adstrtal.sh` scripts in the `$ADMIN_SCRIPTS_HOME` directory to stop and restart all services.

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

Overview

This chapter includes the following topics:

- Creating an Oracle E-Business Suite Connection with Oracle E-Business Suite Adapter, page 3-1
- Testing an Oracle E-Business Suite Connection, page 3-6

Please note that you can modify, delete, or clone the connection if needed after creating or testing a connection. See *Creating Connections, Developing Integration Cloud Services* chapter, *Oracle Cloud Using Oracle Integration Cloud Service*.

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

Once you have successfully logged in to Oracle Integration Cloud Service (<http://<servername>:<portnumber>/ics>) through a web browser, the home

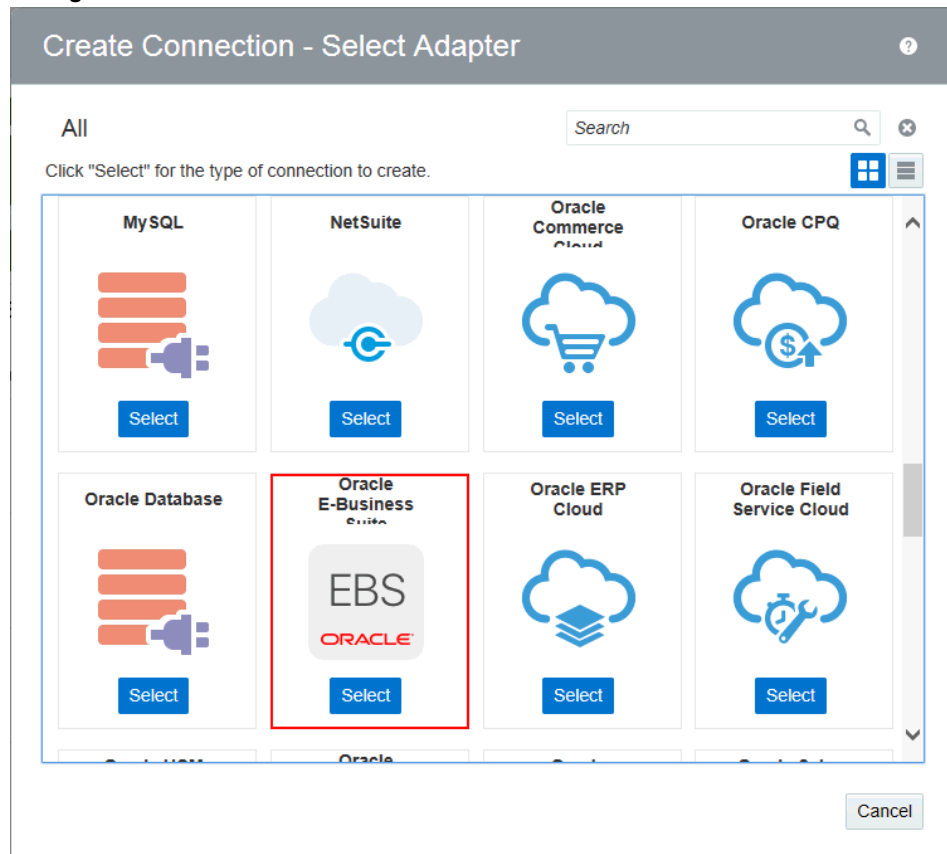
page appears.

1. Click **Connections**.
2. Click **Create New Connection**.
3. In the Create Connection - Select Adapter dialog appears.

You can locate the Oracle E-Business Suite Adapter in either of the following ways:

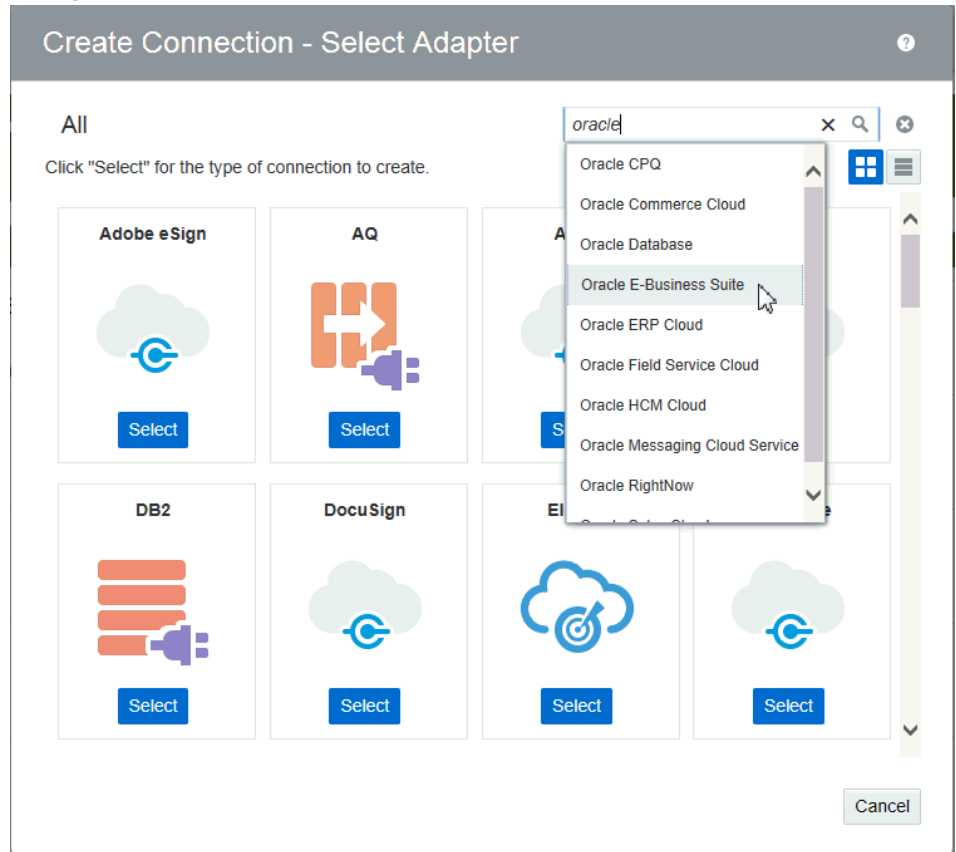
- Scroll down and select "Oracle E-Business Suite" from the dialog.

Selecting Oracle E-Business Suite in the Create Connection - Select Adapter Dialog



- Use the search feature to enter a full or partial name to locate "Oracle E-Business Suite" from the dialog.

Searching Oracle E-Business Suite in the Create Connection - Select Adapter Dialog



Click the **Select** button for "Oracle E-Business Suite" to use the Oracle E-Business Suite Adapter. The New Connection - Information dialog appears.

4. Enter the following information for your connection:

Entering Connection Information in the New Connection - Information Dialog

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: EBS_Connection

* Identifier: EBS_CONNNECTION

Connection Role: Trigger and Invoke

Description: Use the Oracle E-Business Suite Adapter connection in an integration

Create Cancel

Click **Create** to create the connection.

- **Connection Name:** Specify a unique name for your connection, such as EBS_Connection.
 - **Identifier:** Enter a unique identifier for your Oracle E-Business Suite connection. You can also accept the default value, such as EBS_CONNNECTION.
 - **Connection Role:** Specify either one of the following roles for your connection:
 - **Trigger:** This indicates this connection can only be added as a trigger (source) in an integration.
 - **Invoke:** This indicates this connection can only be added as an invoke (target) in an integration.
 - **Trigger and Invoke:** This indicates this connection can be added as a trigger (source) or an invoke (target) in an integration.
 - **Description:** Enter description information for your connection, such as "Use the Oracle E-Business Suite Adapter connection in an integration".
5. 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 Security** 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.

Entering Connection URL in the Connection Properties Dialog

Property Name	Property Value
Connection URL	http://example.com:8080

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 username 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 *Setup Tasks for Enabling the Oracle E-Business Suite Adapter*, page 2-1.

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

Entering User Credentials in the Credentials Dialog

Property Name	Property Value
* Username	operations
* Password
* Confirm Password

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 appears.

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

Testing an Oracle E-Business Suite Connection

After creating an Oracle E-Business Suite connection with Oracle E-Business Suite Adapter, you can test the connection 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 or interfaces (such as XML Gateway maps or business events) from Oracle E-Business Suite licensed products and product families will be imported from the connected instance to Oracle Integration Cloud

Service.

For information about error messages if occur while testing the connection, see Error Messages for Testing the Oracle E-Business Suite Connection, page B-1.

Creating an Integration

Creating an Integration with the Oracle E-Business Suite Adapter

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 **New Integration**.

The Create Integration - Select a Style/Pattern dialog appears.

- For an integration with Oracle E-Business Suite Adapter as a **trigger (source)** connection

Depending on your integration requirements, when adding the Oracle E-Business Suite Adapter as a trigger (source) connection, you can use it with "Map My Data", "Orchestration" and "Publish To ICS" patterns.


For example, click **Select** for the "Publish To ICS" integration pattern.

Selecting the "Publish To ICS" Pattern for an Integration

Create Integration - Select a Style/Pattern

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

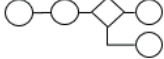
Basic Map Data



Drop trigger and invoke onto an empty template

Select


Orchestration



Drop trigger and invoke onto a blank canvas

Select


Basic Publish To ICS



Connect your trigger to send messages to ICS

Select

Basic Subscribe To ICS



Add invokes to receive messages from ICS

Select

Cancel

This pattern allows you to publish business events from Oracle E-Business Suite (trigger) to Oracle Integration Cloud Service through a predefined Integration Cloud Service Messaging target.

See: Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 5-1.

- For an integration with Oracle E-Business Suite Adapter as an **invoke (target)** connection

When adding the Oracle E-Business Suite Adapter as an invoke (target) connection, you can use it with "Map My Data", "Orchestration" and "Subscribe To ICS" patterns based on your business needs.

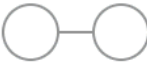
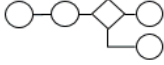


For example, click **Select** for the "Map My Data" integration pattern to create an integration with a blank source and target.

Note: You can also use the Oracle E-Business Suite Adapter as a trigger (source) connection in this "Map My Data" integration pattern to trigger an integration.

Selecting the "May My Data" Pattern for an Integration

Create Integration - Select a Style/Pattern

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

Basic Map Data	Orchestration	Basic Publish To ICS	Basic Subscribe To ICS
			
Drop trigger and invoke onto an empty template	Drop trigger and invoke onto a blank canvas	Connect your trigger to send messages to ICS	Add invokes to receive messages from ICS
Select	Select	Select	Select

Cancel

This pattern allows you to add desired adapters as a trigger (source) and an invoke (target) connections in an integration. For example, add the Oracle E-Business Suite Adapter as an invoke (target) connection to receive inbound request from a trigger (source) connection and invoke an Oracle E-Business Suite REST service.

See: Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page 5-13.

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

- **What do you want to call your integration?** Enter a meaningful name for your integration, such as Create_Order.
- **Identifier:** Accept the default identifier value such as "CREATE ORDER".
- **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*.

- **What does this integration do?** Enter description information for your integration.
- **Which package does this integration belong to?** Enter a new or an existing package name in which to place your integration.

For more information about package, see Managing Packages, *Oracle Cloud*

Using Oracle Integration Cloud Service.

Entering Integration Information in the New Integration - Information Dialog

Create New Integration
Enter information that describes this integration.

Describe this integration Use a meaningful name and description that will 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.

* What do you want to call your integration?
Create_Order

* Identifier
CREATE_ORDER

* Version
01.00.0000

What does this integration do?
Create a sales order in Oracle E-Business Suite

Which package does this integration belong to?
Enter a new or existing package name

Create Cancel

5. Click **Create**.

The integration designer is displayed with the type of integration pattern you selected earlier.

6. Add desired connections to the integration you just created.

See:

- Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 5-1
- Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page 5-13

7. Create mappings to map data between the source connection and the target connection in the integration.

See: Creating Mappings and Lookups, page 6-1.

8. Once you complete the required tasks for the integration, click **Save** and then click **Exit Integration**.

To be able to use the integration at runtime, you must activate it.

See: Activating an Integration, page 7-1.

If an XML Gateway message is used in the integration, after the activation, you must perform post activation steps to ensure the integration works properly. See: Post Activation Manual Steps for XML Gateway Messages as a Trigger, page 5-10.

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

Overview

When you drag the Oracle E-Business Suite Adapter into the trigger or invoke area of an integration, the Adapter Endpoint Configuration Wizard appears. This wizard guides you through configuration of Oracle E-Business Suite Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the Oracle E-Business Suite Adapter as a trigger or an invoke in an integration.

- Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 5-1
 - Configuring an Oracle E-Business Suite Business Event in an Integration, page 5-4
 - Configuring an Oracle E-Business Suite XML Gateway Message in an Integration, page 5-6
- Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page 5-13

Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection

When you use the Oracle E-Business Suite Adapter as a trigger in an integration, you can have an option to use either a business event or an XML Gateway message as an inbound integration in Oracle Integration Cloud Service.

Important: Before adding the Oracle E-Business Suite Adapter as a trigger (source) connection for an inbound integration, ensure that you have performed the required setup tasks to enable this feature. See *Setup Tasks for Using the Oracle E-Business Suite Adapter as a Trigger (Source) Connection*, page 2-5.

For information about error messages if occur while adding the Oracle E-Business Suite Adapter as a trigger (source) connection in an integration, see *Error Messages While Creating an Integration with Oracle E-Business Suite Adapter as a Trigger (Source) Connection*, page B-5.

Perform the following steps to add the Oracle E-Business Suite Adapter as a trigger (source) connection in your integration:

1. In the Integration Designer, drag **Oracle E-Business Suite** from the Connections panel on the left to the Trigger (Source) area on the canvas.

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

2. In the Basic Info page, enter the following information for the Oracle E-Business Suite Adapter Endpoint that you are creating:

Entering the Basic Information for the Adapter Endpoint with Business Event

Configure Oracle E-Business Suite Adapter Endpoint

Welcome to Oracle E-Business Suite Adapter Source Configuration Wizard
This wizard helps you configure source endpoint using Oracle E-Business Suite Adapter connection. You will be asked to select a Business Event or an XML Gateway Map in Oracle E-Business Suite.

Basic Info

* What do you want to call your endpoint? EBS_Source_event

What does this endpoint do? raise a business event

* What do you want to configure the endpoint for? ☒ Business Event ☐ XML Gateway Map

- **What do you want to call your endpoint?** - Provide a meaningful name so that others can understand the responsibilities of this connection, such as "EBS_Source_event" or "EBS_Source_XML".
- **What does this endpoint do?** - Enter an optional description of the connection's responsibilities, such as "Raise a business event" or "Use XML Gateway message".
- **What do you want to configure the endpoint for?** - Select either one of the interface types that you want to configure in your integration:
 - **Business Event**
To configure the endpoint for business events, see: Configuring an Oracle E-Business Suite Business Event in an Integration, page 5-4.
 - **XML Gateway Map**
To configure the endpoint for XML Gateway message maps, see: Configuring an Oracle E-Business Suite XML Gateway Message in an Integration, page 5-6.

Click **Next** to proceed with the rest of the configuration for your integration.

Configuring an Oracle E-Business Suite Business Event in an Integration

Publishing Business Events from Oracle E-Business Suite to Oracle Integration Cloud Service

When **Business Event** is selected in the Basic Info page in an integration, you need to specify a desired business event in the Business Events page.

When a business event is raised in Oracle E-Business Suite at runtime, the Oracle E-Business Suite Adapter will propagate the event information from Oracle E-Business Suite to Oracle Integration Cloud Service.

Perform the following steps to configure a business event in an integration:

1. After adding the Oracle E-Business Suite Adapter as a trigger (source) connection in an integration, select **Business Event** in the Basic Info page.

See: Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 5-1.

2. In the Business Events page, specify the following information:

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

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, XML Gateway.

Once you select a desired product, a list of business events including Oracle seeded events and custom ones contained in the selected product is populated for further selection.

Note: You can define custom business events to meet your needs if required, annotate the custom events, and then upload them to the Integration Repository.

For information on creating custom business events, 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*.

- **Business Event:** Locate a desired business event through either of the following ways:
- Select a desired event name from the drop-down list. For example, select "CLN: Event for Notification Processing".

Selecting a Business Event from the Event List

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Business Event
Select the Business Event which will be used to trigger this integration flow. Whenever the selected business event occurs in Oracle E-Business Suite, associated event data and parameters are sent to this integration.

Basic Info

Business Events

Summary

Product Family: Applications Technology

Product: XML Gateway

* Business Event

Filter by name

- CLN : Event For Notification Processing
- Collaboration Create/Update Event
- Collaboration History Add Detail Message
- Collaboration Update Event - Manual
- Create Collaboration
- Generic Inbound Message Event
- Generic Inbound Message Process Event
- Inbound Message Event for JMS queues

Internal Name: oracle.apps.cln.np.processnotification

Description: CLN : Event For Notification Processing

- Use the **Filter by name** field to find your desired event. For example, enter "CLN" in this field to find the event names starting with "CLN".

Entering a Partial or Full Name to Locate a Desired Event

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Business Event
Select the Business Event which will be used to trigger this integration flow. Whenever the selected business event occurs in Oracle E-Business Suite, associated event data and parameters are sent to this integration.

Basic Info
Business Events
Summary

Product Family: Applications Technology
Product: XML Gateway
Business Event: CLN

Filter by name

CLN : Event For Notification Processing

Internal Name: oracle.apps.cln.np.processnotification
Description: CLN : Event For Notification Processing

After you select a business event, the corresponding event information is automatically populated in this page. This includes the event internal name (`oracle.apps.cln.np.processnotification`) and its description information.

Click **Next**.

3. The Summary page appears with the selected business event information.

The Oracle E-Business Suite Adapter Source Endpoint configuration is successfully created with the selected event.

Click **Done**.

The connection for Oracle E-Business Suite now appears in the Trigger (Source) area on the canvas.

For more information on using business events in integrations, see *An Example of Using a Business Event as a Trigger (Source) in an Integration*, page 8-1.

Configuring an Oracle E-Business Suite XML Gateway Message in an Integration

When **XML Gateway Map** is selected in the Basic Info page in an integration, you need to specify a desired XML Gateway message in the XML Gateway Message page.

When an XML Gateway outbound transaction occurs in Oracle E-Business Suite at

runtime, this message will be enqueued to the ECX_OUTBOUND queue as an existing XML Gateway processing. Oracle Transport Agent (OTA) from Oracle XML Gateway will fetch the message from the queue and post it to Oracle Integration Cloud Service.

Perform the following steps to configure an XML Gateway message in an integration:

1. After adding the Oracle E-Business Suite Adapter as a trigger (source) connection in an integration, select **XML Gateway Map** in the Basic Info page.

See: Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 5-1.

2. In the XML Gateway Message page, specify the following information for your source connection:

- **Product Family:** Select a desired Oracle E-Business Suite application family that you want to use for your integration, for example, Service 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, Telecommunications Billing Integrator.

Once you select a desired product, a list of XML Gateway message maps including Oracle seeded message maps and custom ones contained in the selected product is populated for further selection.

Note: You can define custom XML Gateway message maps to meet your needs if required, annotate the custom message maps, and then upload them to the Integration Repository.

For information on creating custom XML Gateway messages, see XML Gateway Annotations, Integration Repository Annotation Standards, *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*.

- **XML Gateway Message:** Locate a desired message map through either of the following ways:
 - Select a desired message map name from the drop-down list. For example, select "Add Salesorder".

Selecting a Desired XML Gateway Message Map from the List

Configure Oracle E-Business Suite Adapter Endpoint

Help < Back Next > Cancel Done

 **Select XML Gateway Map**
Select the XML Gateway Map which will be used to trigger this integration flow. Whenever the selected XML Gateway message is sent from Oracle E-Business Suite, associated XML message and headers are sent to this integration.

Basic Info
XML Gateway Message
Summary

Product Family: Service Suite
Product: Telecommunications Billing Integrator

*** XML Gateway Map**
Filter by name
Add GroupSalesorder
Add Salesorder
Sync Account
Sync Item

IRep Name: XNB:SOO
Internal Name: XNB_OM_SALESORDER_OAG72_OUT
Standard: OAG 7.2
Description: Salesorder Add map annotation public description.

- Use the **Filter by name** field to find your desired map. For example, enter "add" in this field to find the message map names starting with "add".

Enter a Partial or Full Name to Locate a Desired XML Gateway Message Map

Configure Oracle E-Business Suite Adapter Endpoint

Help < Back Next > Cancel Done

Select XML Gateway Map

Select the XML Gateway Map which will be used to trigger this integration flow. Whenever the selected XML Gateway message is sent from Oracle E-Business Suite, associated XML message and headers are sent to this integration.

Basic Info

XML Gateway Message

Summary

Product Family: Service Suite

Product: Telecommunications Billing

XML Gateway Map: add x

Filter by name

Add GroupSalesorder

Add Salesorder

IRep Name: XNB:SOO

Internal Name: XNB_OM_SALESORDER_OAG72_OUT

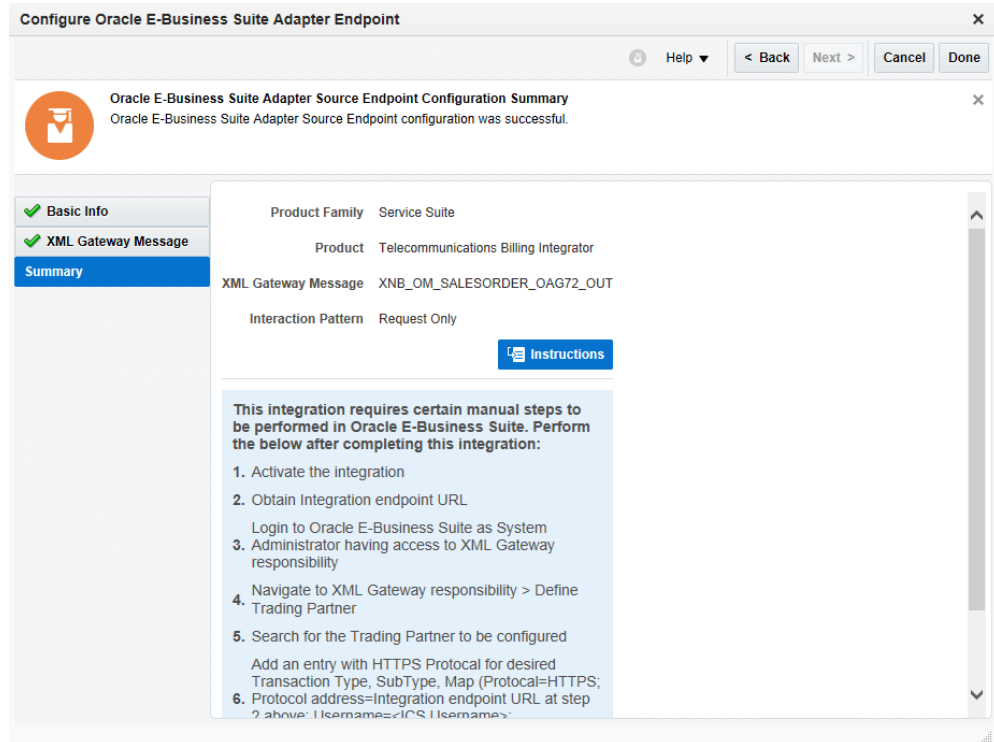
Standard: OAG 7.2

Description: Salesorder Add map annotation public description.

After you select a desired message map, the corresponding information is automatically populated in this page. This includes the Integration Repository name (XNB : SOO), internal name (XNB_OM_SALESORDER_OAG72_OUT), integration standard (OAG 7.2) and the message map description.

Click **Next**.

3. The Summary page appears with the selected XML Gateway message information that you specified earlier. This includes the XML Gateway message name XNB_OM_SALESORDER_OAG72_OUT from the selected "Service Suite" product family and "Telecommunications Billing Integrator" product, as well as the "Request Only" interaction pattern.



The Oracle E-Business Suite Adapter Source Endpoint configuration is successfully created with the selected message map.

Important: To successfully use the selected message map in Oracle Integration Cloud Service, you must perform required manual tasks after you activate the integration. These manual steps are included in the **Instructions** section as part of the Summary page. See: Post Activation Manual Steps for XML Gateway Messages as a Trigger, page 5-10.

4. Click **Done**.

The connection for Oracle E-Business Suite now appears in the Trigger (Source) area on the canvas.

For more information on using XML Gateway messages in integrations, see An Example of Using an XML Gateway Message as a Trigger (Source) in an Integration, page 9-1.

Post Activation Manual Steps for XML Gateway Messages as a Trigger

After you create an integration with an XML Gateway message from Oracle E-Business Suite in Oracle Integration Cloud Service, you must manually perform the following tasks:

1. Activate the integration.
2. Obtain the integration endpoint URL.

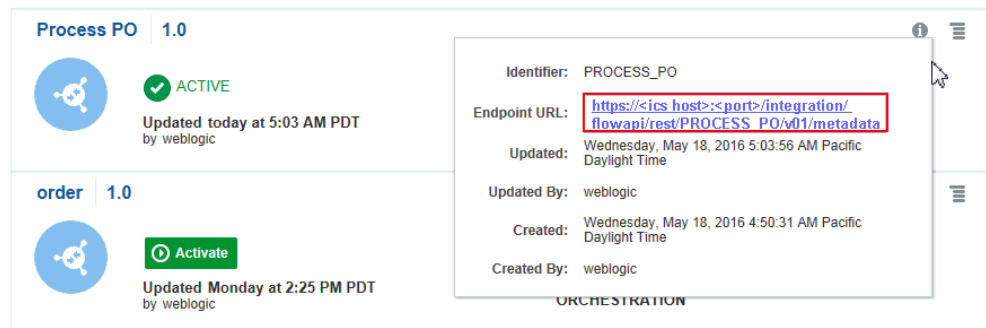
In the Integrations page, click the Integration Details icon ("i") for a desired integration. The endpoint URL should be displayed in a pop-up window with the following format:

```
https://<ICS
Host>:<Port>/integration/flowapi/rest/<integration>/v01/.
```

The URL will be used later as the protocol address when configuring a trading partner in Oracle XML Gateway.

- <integration> indicates the alias name for a deployed REST service, such as "PROCESS_PO" in this sample.
- Do not include metadata listed at the end of the URL when defining a trading partner.

Integrations Page Showing an Endpoint URL



3. Configure a desired trading partner in Oracle E-Business Suite by specifying the communication protocol and address as well as the user credentials for the XML message specified in an integration.
 1. Log in to Oracle E-Business Suite as a user (such as sysadmin) who has the XML Gateway responsibility.
 2. Select the XML Gateway responsibility and then select **Define Trading Partners** from the navigator. The Define Trading Partner Setup form appears.
 3. Search and locate a desired trading partner to be configured.
 4. In the Trading Partner Details region, add the following information for the trading partner:

- Transaction Type: A desired transaction type for your XML Gateway message, such as PO
- Transaction Subtype: A desired subtype for your XML Gateway message, such as PRO
- Map: A desired XML Gateway message, such as `itg_process_po_007_out`
- Connection/Hub: DIRECT
- Protocol: HTTPS
- Protocol address: `https://<ICS Host>:<Port>/integration/flowapi/rest/<integration>/v01/`

Enter the integration endpoint URL you recorded earlier.

- Username: `<ICS Username>`
Enter the Oracle E-Business Suite user credentials used to create an Oracle E-Business Suite connection in Oracle Integration Cloud Service.
- Password: `<ICS Password>`

Updating the Trading Partner Details for the Outbound XML Gateway Message

Trading Partner Setup

Operating Unit: Vision Operations

Trading Partner Type: Supplier

Trading Partner Name: Advanced Network Devices

Trading Partner Site: 2000 Century Way Santa Clara CA 95061-4565

Company Admin Email: nobody@localhost6.com

User Setup Code Conversion

Trading Partner Details

Transaction Type	Transaction SubType	Standard Code	External Transaction Type	External Transaction SubType	Direction Map	Connection/Hub	Protocol Type
PO	PRO	OAG	PO	PROCESS	OUT	itg_process_p DIRECT	HTTPS

5. Save your work.

For more information on setting up trading partners, see Trading Partner Setup, *Oracle XML Gateway User's Guide*.

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 an integration:

1. In the Integration Designer, drag **Oracle E-Business Suite** 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.

2. In the Basic Info page, enter the following information for the Oracle E-Business Suite Adapter target endpoint:
 - **What do you want to call your endpoint?** - Provide a meaningful name so that others can understand the responsibilities of this connection, such as "EBS_CreateOrder".
 - **What does this endpoint do?** - Enter an optional description of the connection's

responsibilities, such as "Create a Sales Order in Oracle E-Business Suite".

Entering the Basic Information for the Target Endpoint

The screenshot shows the 'Configure Oracle E-Business Suite Adapter Endpoint' wizard. The title bar says 'Configure Oracle E-Business Suite Adapter Endpoint'. The main area has a welcome message: 'Welcome to Oracle E-Business Suite Adapter Target Endpoint Configuration Wizard. This wizard helps you configure target endpoint using Oracle E-Business Suite Adapter connection. You will be asked to specify configuration parameters to integrate and perform a business task in Oracle E-Business Suite.' Below this is a sidebar with 'Basic Info' selected, and other options like 'Web Services', 'Operations', and 'Summary'. The main content area asks: '* What do you want to call your endpoint?' with a text box containing 'EBS_CreateOrder'. Below that, it asks 'What does this endpoint do?' with a text box containing 'Create a Sales Order in Oracle E-Business Suite'. At the top right, there are buttons: '< Back', 'Next >', 'Cancel', and 'Done'.

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.

Selecting a Product Family and Product for a Web Service

The screenshot shows the 'Configure Oracle E-Business Suite Adapter Endpoint' wizard, Step 2: Web Services. The title bar says 'Configure Oracle E-Business Suite Adapter Endpoint'. The main area has a message: 'Select Oracle E-Business Suite Service. Select the target service which will be used to perform operation on Oracle E-Business Suite application.' Below this is a sidebar with 'Basic Info' and 'Web Services' (selected), and other options like 'Operations' and 'Summary'. The main content area has two dropdown menus: 'Product Family' (set to 'Order Management Suite') and 'Product' (showing a list of products: 'Select...', 'Advanced Pricing', 'Configurator', 'Order Management', 'Release Management', 'Shipping Execution Common', and 'Transportation Execution'). At the top right, there are buttons: '< Back', 'Next >', 'Cancel', and 'Done'.

Once you select a desired product family and a product, a list of the supported interfaces including Oracle seeded and custom interfaces contained in the selected product is populated for further selection.

Important: In this release, only PL/SQL APIs and concurrent programs are available for selection when adding the Oracle E-Business Suite Adapter as an invoke (target) connection in an integration.

Note: You can define custom PL/SQL APIs and concurrent programs to meet your needs if required, annotate the custom integration interfaces, and then upload them to the Integration Repository. You can deploy the custom PL/SQL APIs and concurrent programs as REST services from Oracle E-Business Suite Integrated SOA Gateway. These REST services will then be available to use for integrations in Oracle Integration Cloud Service.

For information on creating custom PL/SQL APIs and concurrent programs, 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*.

- **API:** Select a desired interface through either of the following ways:
 - Select a desired interface name from the drop-down list. For example, select the "Sales Order Services" PL/SQL API.

Selecting a PL/SQL API from the Populated List

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Service
Select the target service which will be used to perform operation on Oracle E-Business Suite application.

Basic Info
Web Services
Operations
Summary

Product Family: Order Management Suite
Product: Order Management
* API: Filter by name

- OUTBOUND: Purchase Order Acknowledgment (855/ORDRSP) Concurrent Program
- OUTBOUND: Purchase Order Change Acknowledgment (865/ORDRSP) Concurrent Program
- Process Order API
- Purchase Order Acknowledgments Extension Columns API
- Purchase Order Change Acknowledgments Extension Columns API
- Sales Agreement API
- Sales Order Services**
- Ship Confirmation

Internal Name: OE_INBOUND_INT
Description: This API allows clients to perform various operations on sales orders.

The corresponding interface information is automatically populated. This includes the interface internal name (OE_INBOUND_INT) and description.

Note: Other than selecting a PL/SQL API, you can select a desired concurrent program in your integration. For example, select a concurrent program "Claim Settlement Fetcher Program" from the Marketing Suite product family and the Trade Management product.

Selecting a Concurrent Program from the Populated List

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Service
Select the target service which will be used to perform operation on Oracle E-Business Suite application.

Basic Info

Product Family: Marketing Suite

Product: Trade Management

* API

Filter by name

- Budget Adjustment Public API
- Budget Public API
- Chargeback Purge
- Claim Auto Write-offs Program
- Claim Public API
- Claim Settlement Fetcher Program**
- Claims Aging Populating
- Claims Autopay

Internal Name: OZFARFETCH

Description: This program retrieves transactions created in Oracle Payables (check) or Oracle Receivables (credit memo or debit memo) as a result of a claim settlement, update, or closure. Claim settlement on manual claims is created through Autoinvoice or Payables Open Interface Import. These programs run in the batch mode. After the actual payment is created in Oracle Receivables or Oracle Payables, you should run the Claim Settlement Fetcher to

- Use the **Filter by name** field to find your desired interface. For example, enter "sales" in this field to find the interface names starting with "sales".

Note: If one or more methods contained in the selected interface are deployed as REST service operations, after you click **Next**, the Operations page appears.

If none of the methods within the selected interface is deployed as a REST service operation, then an error message is shown instead, indicating that the associated REST service is not available. You must deploy the selected interface as a REST service first before using it in an integration.

Showing an Error for a Not Available API

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Service
Select the target service which will be used to perform operation on Oracle E-Business Suite application.

Basic Info
Web Services
Operations
Summary

Product Family: Order Management Suite
Product: Order Management
* API: Filter by name

Error:
Service is not deployed as REST 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.

INBOUND: Grocery Purchase Orders (875/ORDERS) Concurrent Program
INBOUND: Purchase Order Changes (860/ORDCHG) Concurrent Program
Order Import Concurrent Program
OUTBOUND: Purchase Order Acknowledgment (855/ORDRSP) Concurrent Program
OUTBOUND: Purchase Order Change Acknowledgment (865/ORDRSP) Concurrent Program
Process Order API
Purchase Order Acknowledgments Extension Columns API
Purchase Order Change Acknowledgments Extension Columns API

Internal Name: ECEPOCI
Description: This concurrent program allows users to run the inbound Change Purchase Orders EDI transaction which allows users to update sales orders in the Order Management system and also supports various actions including the import and update of price adjustments, pricing attributes, sales credits, reservations, action requests, as well as customer creation. Changes to lot and serial number information are also supported for return lines. The

Click **Next**.

4. In the Operations page, the selected interface internal name OE_INBOUND_INT is automatically populated.

Choose a desired method name contained in the selected interface for this target connection. For example, select "PROCESS_ORDER".

Selecting a Method in the Operations Page

Configure Oracle E-Business Suite Adapter Endpoint

Select Operation for Oracle E-Business Suite Service
Operations for selected Oracle E-Business Suite Service are listed. Select Operation to perform on Oracle E-Business Suite application. Selected Operation should be 'Ready to use' to configure the target endpoint for integration.

Basic Info
Web Services
Operations
Summary

API: OE_INBOUND_INT
* Methods: PROCESS_ORDER

Service Status: Ready to Use

Description: Use this procedure to build Oracle Applications Adapter based web services that create, update or delete Sales Orders in the Order Management system. It is optimized for usage in web services and recommended for this purpose over Process Order API. DO NOT use Process Order API (

Note: If you select a concurrent program in your integration, such as "Claim Settlement Fetcher Program" as shown in the following screenshot, you can select "Process" in the Operations page.

Selecting a Concurrent Program Method in the Operations Page

Configure Oracle E-Business Suite Adapter Endpoint

Select Operation for Oracle E-Business Suite Service
Operations for selected Oracle E-Business Suite Service are listed. Select Operation to perform on Oracle E-Business Suite application. Selected Operation should be 'Ready to use' to configure the target endpoint for integration.

Basic Info
Web Services
Operations
Summary

API	OZFARFETCH
* Methods	Process

Service Status Ready to Use

Description Trade Management - Claims Settlement Fetcher

Once the desired method is selected, its corresponding REST service status is displayed in the Service Status field.

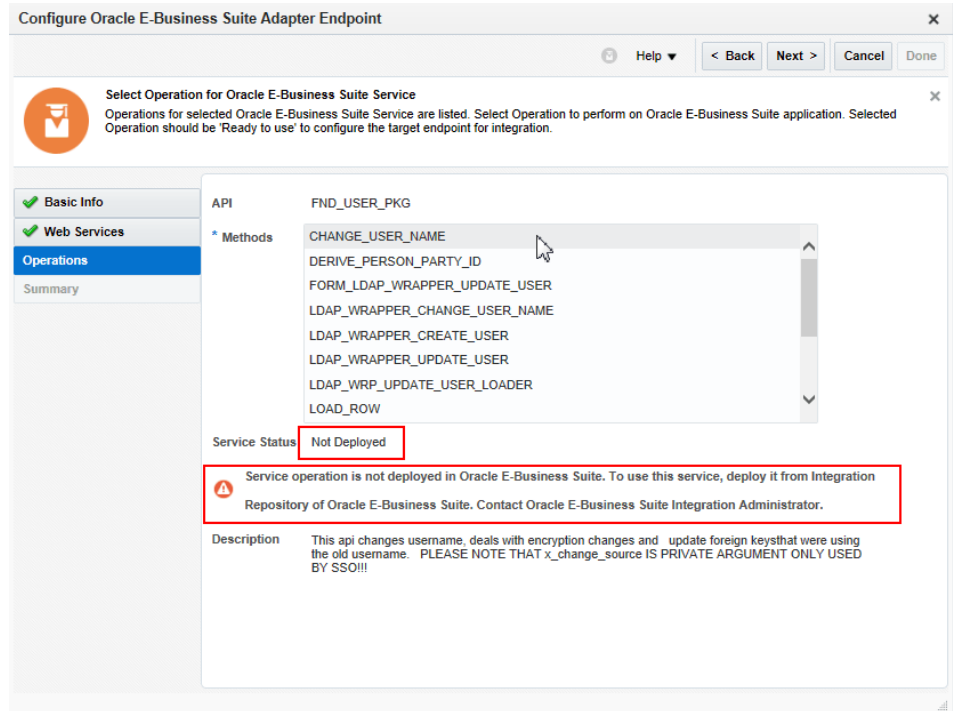
- **Ready to Use**

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

- **Not Deployed**

If the selected method is not deployed as a REST service operation, then "Not Deployed" is shown as the service status instead. A warning message also appears, indicating that you must deploy the method as a REST service operation first before using it in your integration.

Showing a Method with "Not Deployed" Service Status



To deploy the selected method as a REST service operation, 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 proceed and complete the process of adding Oracle E-Business Suite as an invoke (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 connection for Oracle E-Business Suite now appears in the Invoke (Target) area on the canvas.

Once the Oracle E-Business Suite invoke (target) connection is created, you can add an application adapter as a trigger (source) connection to complete your integration

creation. For information on adding a trigger (source) connection, see *Developing Integration Cloud Services, Oracle Cloud Using Oracle Integration Cloud Service*.

For information about error messages if occur while creating an integration with the Oracle E-Business Suite Adapter as an invoke (target) connection in Oracle Integration Cloud Service, see *Error Messages While Creating an Integration with the Oracle E-Business Suite Adapter as an Invoke (Target) Connection*, page B-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*.

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*.

An Example of Using a Business Event as a Trigger (Source) in an Integration

Overview

Sample Business Scenario

A business event "Event for OIP status update notification" (`oracle.apps.ont.oip.statuschange.update`) is used in this example to explain using the Oracle E-Business Suite Adapter to trigger an integration in Oracle Integration Cloud Service.

In this example, when a sales order is booked as part of the business flow, Oracle Order Management raises the event `oracle.apps.ont.oip.statuschange.update`, and a draft invoice is created in Oracle Accounts Receivables.

At the design time, you need to create an integration called "Order to Invoice" with Oracle E-Business Suite Order Management as a trigger (source) connected through the Oracle E-Business Suite Adapter and Oracle E-Business Suite Accounts Receivables as an invoke (target) connected through a generic REST Adapter. The "Order to Invoice" integration will subscribe to this business event.

During the runtime, when the status of the sales order is changed in the order header, the business event `oracle.apps.ont.oip.statuschange.update` is raised in Oracle E-Business Suite Order Management which triggers the integration. If the status of the sales order is "Booked", the order details information is fetched from Oracle E-Business Suite Order Management. The Oracle E-Business Suite Adapter prepares and propagates the order details as event payload from Order Management to invoke the integration endpoint in Oracle Integration Cloud Service. As a result, the draft invoice is created in Oracle Accounts Receivables.

Assumption

- Assume that REST services are directly accessible from Oracle Integration Cloud Service; therefore, ICS Connectivity Agent is not used in this example.

- Oracle E-Business Suite Order Management and Oracle E-Business Suite Accounts Receivables are two different instances used in this example.

Using Business Events for Integrations in Oracle Integration Cloud Service

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

1. Preparing the Oracle E-Business Suite Instances, page 8-2
2. Establishing Oracle E-Business Suite Connections, page 8-4
3. Creating an Integration, page 8-10
4. Adding the Oracle E-Business Suite Adapter (Trigger) and the REST Adapter (Invoke) to the Integration, page 8-12
5. Creating Mappings, page 8-24
6. Assigning Business Identifier for Tracking, page 8-33
7. Activating and Testing the Integration, page 8-33

Preparing the Oracle E-Business Suite Instances

Before adding Oracle E-Business Suite connections, you must prepare the following Oracle E-Business Suite instances to ensure the required setup or configuration is in place.

- Preparing the Order Management Instance, page 8-2
- Preparing the Oracle Accounts Receivables Instance, page 8-3

Preparing the Order Management Instance

Perform the following tasks to ensure the required setup and configuration for Oracle E-Business Suite Order Management is ready for integrations in Oracle Integration Cloud Service:

1. Ensure that you perform the required setup tasks to enable the Oracle E-Business Suite Adapter.

These tasks include configuring Oracle E-Business Suite REST services, configuring the access to these services, deploying required REST services in Oracle E-Business Suite, and granting the user privileges to these services.

Specifically, ensure that you deploy the following REST services and have grants for the **operations** user:

- Metadata Provider REST service

- Deploy the Metadata Provider API with "**provider**" as the service alias name
- Deploy the Metadata Provider API with **GET** HTTP method for **all** the methods contained in the API
- Grant the access privileges for **all** the methods contained in the API to the **operations** user
- Event Manager REST service
 - Deploy the Event Manager API with "**subscription**" as the service alias name
 - Deploy the Event Manager API with **POST** HTTP method for **all** the methods contained in the API
 - Grant the access privileges for **all** the methods contained in the API to the **operations** user

For detailed instructions on these tasks, see: Setup Tasks for Enabling the Oracle E-Business Suite Adapter, page 2-1.

2. Ensure that you perform the required setup tasks to enable the inbound (trigger or source) integrations.

These tasks include storing the ICS user credentials in Oracle E-Business Suite FND vault, setting up proxy URLs in Oracle E-Business Suite, and importing SSL certificates to Oracle E-Business Suite. For detailed instructions, see: Setup Tasks for Using the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 2-5.

3. Deploy the Order Management API, `OE_ORDER_PUB (Process Order)`, as a REST service and grant the method access privileges to the **operations** user.

In this example, only grant the "Get Order" method contained in the API to the **operations** user.

4. Ensure that the profile option "OM: Raise Status Change Business Event" is set to Yes.

Preparing the Oracle Accounts Receivables Instance

Perform the following tasks to ensure the required setup and configuration for Oracle E-Business Suite Accounts Receivables is ready to use in an integration in Oracle Integration Cloud Service:

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

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 and apply the REST service patches to enable the REST service feature. For more information, see step 1, as described in Setup Tasks for Enabling the Oracle E-Business Suite Adapter, page 2-1.

2. Deploy the Invoice Creation API as a REST service with the following requirements and grant the desired method access privilege to the **operations** user:

- Deploy the Invoice Creation API with "**invoice**" as the service alias name
- Deploy the Invoice Creation API with **POST** HTTP method only for the "Create Single Invoice" method contained in the API

Note: PL/SQL APIs can be exposed as REST services only with POST HTTP method.

- Grant the access privilege only for the Create Single Invoice method contained in the API to the **operations** user

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*.

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*.

Establishing Oracle E-Business Suite Connections

Before creating an integration, you need to establish the following connections that will be used later in this example:

- Creating the Connection for Oracle E-Business Suite Order Management, page 8-4
- Creating the Connection for Oracle E-Business Suite Accounts Receivables, page 8-6

Creating the Connection for Oracle E-Business Suite Order Management

This section describes how to create a connection for the Oracle E-Business Suite Order Management instance by using the Oracle E-Business Suite Adapter. This connection will be added later as a trigger (source) in an integration.

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


1. Log in to Oracle Integration Cloud Service.
2. Click **Connections** in the Oracle Integration Cloud Service home page.
3. Click **Create New Connection**.
4. In the Create Connection - Select Adapter dialog appears.

You can locate the Oracle E-Business Suite Adapter by entering a full or partial name to locate "Oracle E-Business Suite" from the dialog.

For example, enter "Oracle E-Business Suite" in the Search field. The Oracle E-Business Suite Adapter is filtered from the list of adapters.

Click the **Select** button for "Oracle E-Business Suite" to use the Oracle E-Business Suite Adapter. The New Connection - Information dialog appears.
5. Enter the following information for the Oracle E-Business Suite Order Management connection:


Creating the Order Management Connection

 **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**

* **Identifier**

Connection Role 

Description

- **Connection Name:** Enter "Order Management".
- **Identifier:** Accept the default populated identifier such as, ORDER_MANAGEMENT".
- **Connection Role:** Select "Trigger and Invoke" role for this connection.
- **Description:** Enter "Create an Oracle E-Business Suite Order Management connection" as the description.

Click **Create** to create the connection.

6. The Connection Details page is displayed for the "Order Management" connection you just created. 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 Order Management instance.

Click **OK** to save your work.

- Security: Click **Configure Security** to open the Credentials dialog.
Enter **operations** as the username and its associated password in the Credentials dialog to access the Oracle E-Business Suite Order Management instance you specified earlier in the Connection Properties dialog.

Click **OK** to save your work.

After you specify the required connection information, the "Order Management" connection detail page appears.

7. Click **Test** to test the "Order Management" connection you just specified.
8. Click **Save** to save your connection.

Click **Exit Connection**.

Oracle E-Business Suite connection "Order Management" appears in the Connections page.

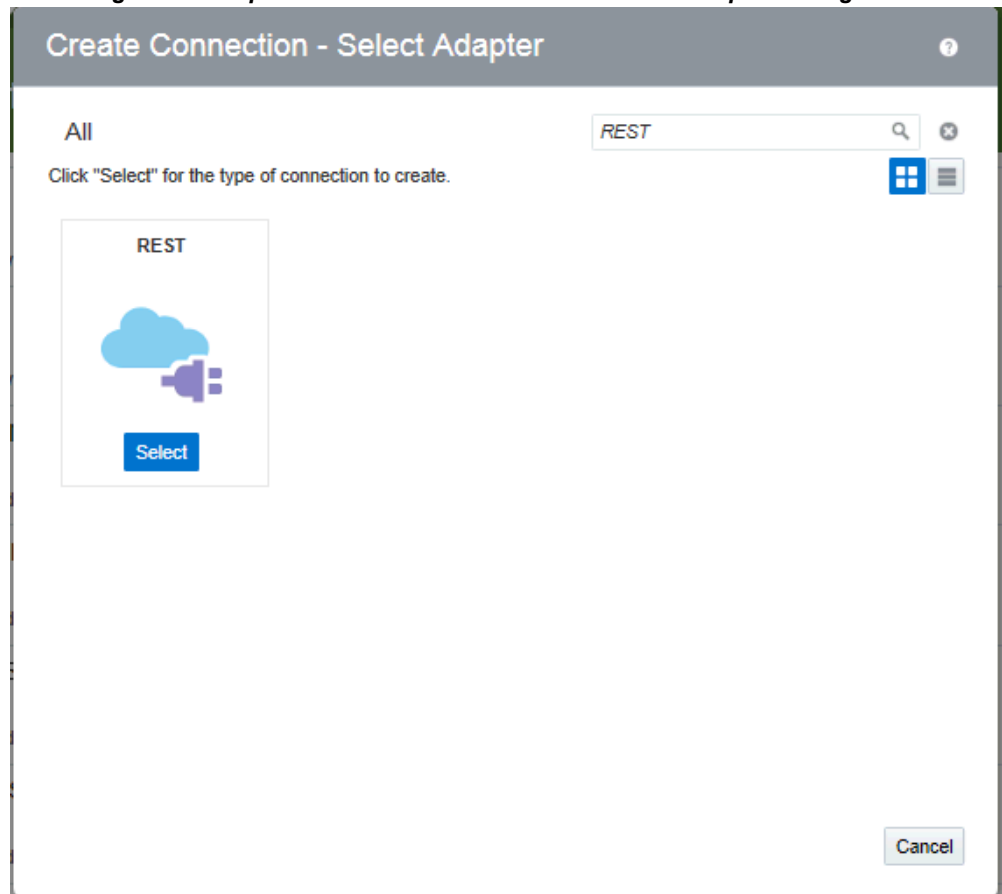
Creating the Connection for Oracle E-Business Suite Accounts Receivables

As described earlier that Oracle E-Business Suite Order Management and Accounts Receivables are two different instances used in this example, you need to create a connection for the Oracle Accounts Receivables instance by using the REST Adapter. This connection will be added later as an invoke (target) to an integration.

1. Log in to Oracle Integration Cloud Service.
2. Click **Connections** in the Oracle Integration Cloud Service home page.
3. Click **Create New Connection**.
4. In the Create Connection - Select Adapter dialog appears.

Enter "REST" in the Search field. The REST Adapter is filtered from the list of adapters.


Searching REST Adapter in the Create Connection - Select Adapter Dialog




Click the **Select** button for "REST" to use the REST Adapter. The New Connection - Information dialog appears.

5. Enter the following information for the Oracle E-Business Suite Accounts Receivables connection:

Creating the Accounts Receivables Connection

 **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	<input type="text" value="Receivables"/>
* Identifier	<input type="text" value="RECEIVABLES"/>
Connection Role	<input type="text" value="Trigger and Invoke"/> 
Description	<input type="text" value="Create a connection for Oracle E-Business Suite Receivables"/>

- **Connection Name:** Enter "Receivables" as the connection name.
- **Identifier:** Accept the default populated identifier such as "RECEIVABLES".
- **Connection Role:** Select "Trigger and Invoke" role for this connection.
- **Description:** Enter "Create a connection for Oracle E-Business Suite Receivables" as the description.

Click **Create** to create the connection.

6. The Connection Details page is displayed for the "Receivables" connection you just created. 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.
 - Click **Configure Connectivity** to open the Connection Properties dialog. Enter the following information:
 - **Connection Type:** Select "REST API Base URL".
 - **Connection URL:** Enter a connection URL (`http://<ebs host name>:<port>/webservices/rest/invoice`) for the Invoice Creation REST service with `invoice` alias name that you deployed earlier while preparing the Receivables instance.

Entering the Connection Properties through the REST Adapter

Connection Properties	
Enter information so we can connect to your application/endpoint and process requests.	
Property Name	Property Value
Connection Type	REST API Base URL <input type="button" value="v"/>
Connection URL	http://<ebs host name>:<port>/webservices/rest/invoice <input type="button" value="x"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Click **OK** to save your work.

- Security: Click **Configure Security** to open the Credentials dialog.

Accept the "Basic Authentication" as the default security policy.

Enter **operations** as the username and its associated password in the Credentials dialog to access the Invoice Creation REST service you specified earlier in the Connection Properties dialog.

Entering User Credentials in the Credentials Dialog

Credentials	
You can configure the Security Policy for this connection. Please select the Security Policy.	
Security Policy	Basic Authentication <input type="button" value="v"/>
Your application/endpoint requires that users and services provide security credentials for access. Specify the login credentials below.	
Property Name	Property Value
Username	operations
Password	•••••
Confirm Password	•••••
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Click **OK** to save your work.

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

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

Click **Exit Connection**

Oracle E-Business Suite connection "Receivables" now appears in the Connections page.

Creating an Integration

Based on the business scenario described earlier, you need to create an integration called "Order to Invoice" with the Orchestration pattern. This pattern allows you to orchestrate trigger, invoke, and switch activities if required into a process diagram in an integration. You can also add mappings on switch branches later if needed.

This section describes how to create an integration with the Orchestration pattern. Information on adding each activity in the diagram is explained later in this chapter.

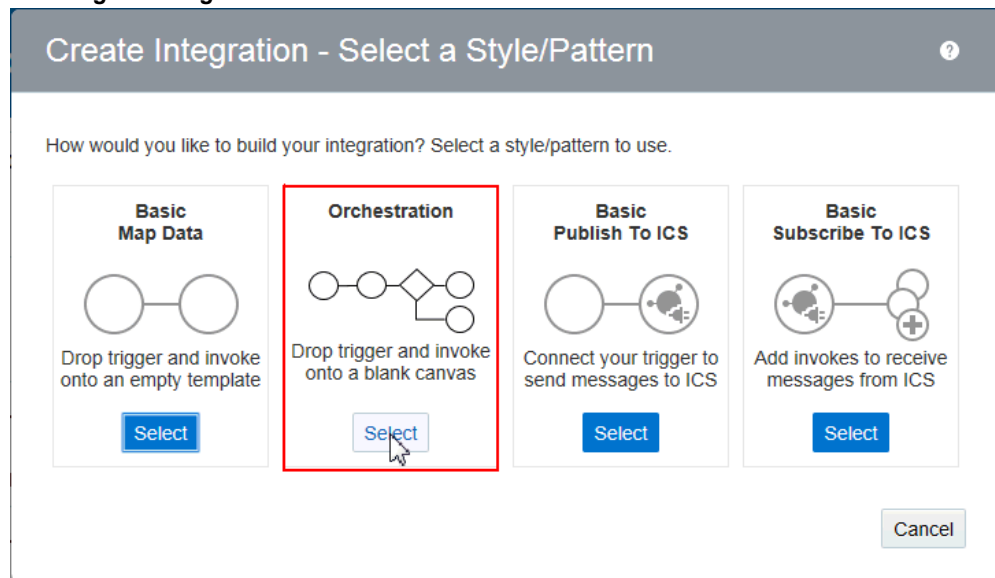
Perform the following steps to create an integration:

1. In the Integration Cloud Service toolbar, click **Designer**.
2. In the Designer Portal, click **Integrations**.
3. In the Integrations page, click **New Integration**.

The Create Integration - Select a Style/Pattern dialog appears.

Click **Select** for the "Orchestration" integration pattern that is used in this example.

Creating the Integration with the Orchestration Pattern



4. The New Integration - Information dialog appears. Enter the following information:
 - **What do you want to call your integration?** Enter a meaningful name for your integration, such as "Order to Invoice".
 - **Identifier:** Accept the default identifier value "ORDER_TO_INVOICE".

- **Version:** Accept the default version number.
- **What does this integration do?** Enter "Create an integration for order to invoice" as the description for this integration.
- **Which package does this integration belong to?** Leave it blank.

Entering Integration Information in the New Integration - Information Dialog

Create New Integration
Enter information that describes this integration.

Describe this integration Use a meaningful name and description that will 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.

* What do you want to call your integration?
Order to Invoice

* Identifier
ORDER_TO_INVOICE

* Version
01.00.0000

What does this integration do?
Create an integration for order to invoice

Which package does this integration belong to?
Enter a new or existing package name

Create Cancel

5. Click **Create** and **Save**.

To complete the integration, you need to add the following tasks that are described in the next few sections:

- Add the desired connections to the integration you just created.
See: Adding the Oracle E-Business Suite Adapter (Trigger) and the REST Adapter (Invoke) to the Integration, page 8-12.
- Add mappings in the integration.
See: Creating Mappings, page 8-24.
- Assign business identifiers for tracking.
See: Assigning Business Identifier for Tracking, page 8-33.

Adding the Oracle E-Business Suite Adapter (Trigger) and the REST Adapter (Invoke) to the Integration

In this example, you need to add the following activities in the integration:

- Add the Oracle E-Business Suite Adapter as a trigger activity called "Order_Status_Update" for the Oracle E-Business Suite Order Management instance.

This trigger activity uses the business event `oracle.apps.ont.oip.statuschange.update` through the Oracle E-Business Suite Adapter. When the status of a sales order is updated, Oracle Order Management raises this event.

- Add a switch with two branches. The defined branch is called "Booked Order" which contains the major orchestration flow for the integration, the other branch is the otherwise branch which is not used in this example.
- Define mappings for "Get_Order".

It allows you to map and pass the order related parameters to the "Get_Order" activity to invoke the GET_ORDER REST Service.

See: Creating Mappings, page 8-24.

- Add the Oracle E-Business Suite Adapter as an invoke activity called "Get_Order" for the Oracle E-Business Suite Order Management instance.

This invoke activity uses the GET_ORDER operation of the Process Order (OE_ORDER_PUB) REST service when adding the Oracle E-Business Suite Adapter as an invoke. This service retrieves the sales order information.

- Define mappings for "Create_Invoice".

This activity assigns the sales order related elements from the "Get_Order" activity to the Invoice related elements in the "Create_Invoice" activity.

See: Creating Mappings, page 8-24.

- Add the REST Adapter as an invoke activity called "Create_Invoice" for the Oracle E-Business Suite Accounts Receivables instance.

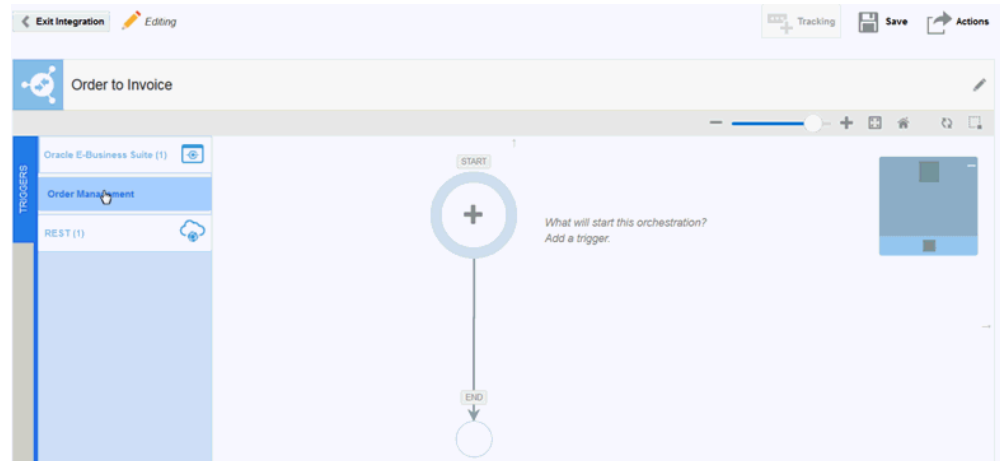
This activity configures a request payload using the XML schema file type and then creates an invoice in Oracle Accounts Receivables through the invocation of the CREATE_SINGLE_INVOICE REST service.

Adding the Oracle E-Business Suite Adapter as a Trigger with a Business Event

Perform the following steps to add the first activity called "Order_Status_Update" for the Oracle E-Business Suite Order Management connection:

1. In the "Order to Invoice" integration page, drag and drop the Oracle E-Business Suite connection called "Order Management" from the TRIGGERS toolbar on the left to the large + section within the circle in the integration canvas.

Dragging the Order Management Connection to the Center to Start the Integration



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

2. Enter the following information In the Basic Info page:
 - **What do you want to call your endpoint?** - Enter "Order_Status_Update" as the endpoint name.
 - **What does this endpoint do?** - Enter the description of this integration endpoint.
 - **What do you want to configure the endpoint for?** - Select **Business Event**.

Entering the Basic Information for the Adapter Endpoint with Business Event

Configure Oracle E-Business Suite Adapter Endpoint

Welcome to Oracle E-Business Suite Adapter Source Configuration Wizard
This wizard helps you configure source endpoint using Oracle E-Business Suite Adapter connection. You will be asked to select a Business Event or an XML Gateway Map in Oracle E-Business Suite.

Basic Info
Business Events
Summary

* What do you want to call your endpoint?

What does this endpoint do?

* What do you want to configure the endpoint for? ☒ Business Event ☐ XML Gateway Map

Buttons: Help, < Back, **Next**, Cancel, Done

Click **Next** to proceed with the rest of the configuration.

3. In the Business Events page, specify the following information for your connection:
 - **Product Family:** Select "Order Management Suite" from the drop-down list.
 - **Product:** Select "Order Management" from the drop-down list.
 - **Business Event:** Select "Event for OIP status update notification" from the populated list.

After you select an event name, the corresponding event information, including internal name (`oracle.apps.ont.oip.statuschange.update`) and description, is automatically populated in this page.

Selecting a Desired Business Event

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Business Event

Select the Business Event which will be used to trigger this integration flow. Whenever the selected business event occurs in Oracle E-Business Suite, associated event data and parameters are sent to this integration.

Basic Info

Business Events

Summary

Product Family: Order Management Suite

Product: Order Management

* Business Event

Filter by name

- Event for 3A4 Outbound Acknowledgment
- Event for 3A6 Outbound Show Sales Order
- Event for Genesis Outbound Acknowledgment
- Event for Hold application or release on Sales Order.
- Event for oip processfailure notification
- Event for OIP status update notification**
- Event For XML Integration Collaboration History
- Event to generate EDI Acknowledgment values

Internal Name: oracle.apps.ont.oip.statuschange.update

Description: Oracle Order Management will raise this event when Order is booked, line Schedule Ship Date changes, shipped and is invoiced when the profile "OM : Raise Status Change Business Event" is set to "Yes".

Click **Next**.

4. The Summary page appears with the selected event information.

The Oracle E-Business Suite Adapter Source Endpoint configuration is successfully created with the selected event.

Click **Done**.

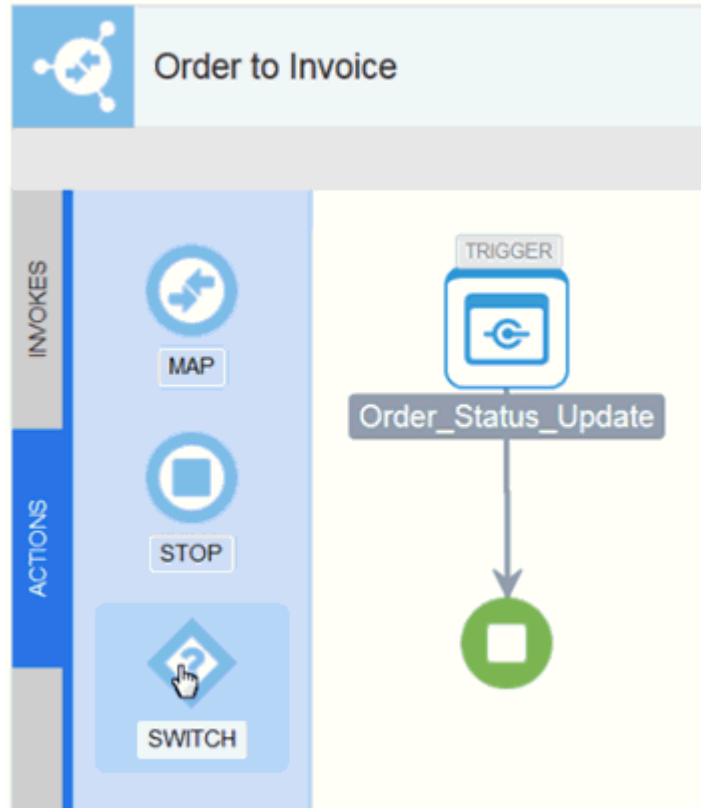
The "Order_Status_Update" endpoint now appears as TRIGGER in the integration flow.

Adding a SWITCH with Two Branch Rules

Perform the following steps to add a SWITCH:

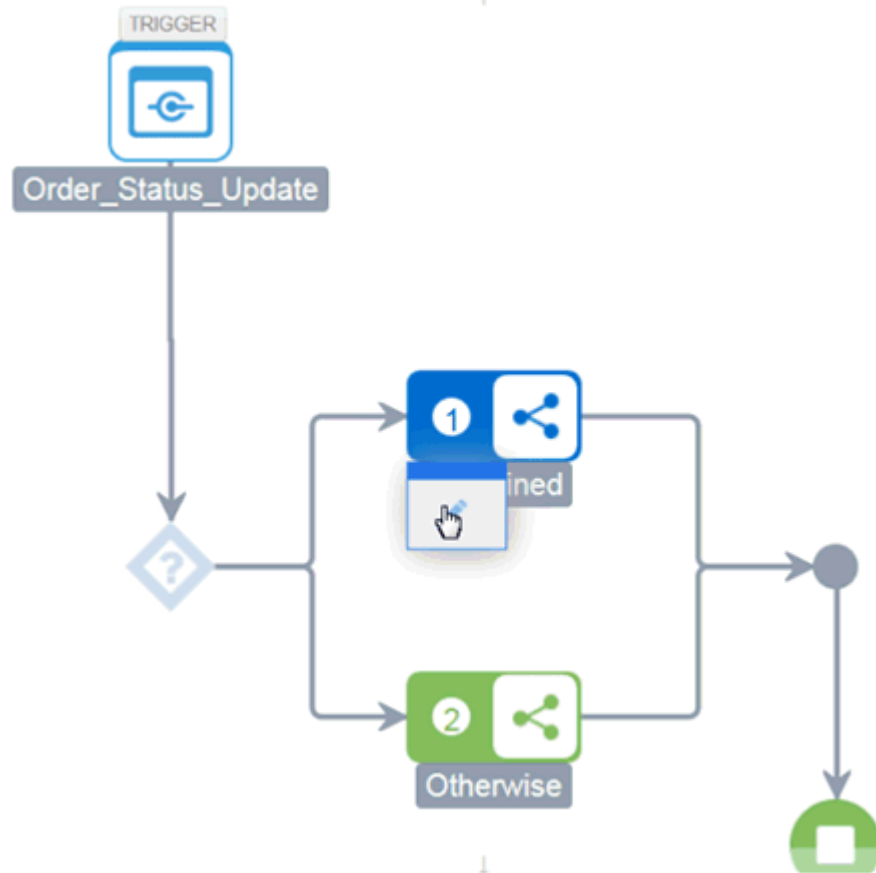
1. Drag and drop the SWITCH action from the ACTIONS section on the left to the integration right after the Order_Status_Update activity.

Adding the SWITCH Action After the Order_Status_Update Activity



This action adds two rules allowing you to define routing expression branches for your integration.

Adding Two Branches to the Integration Flow



2. Click **edit** on the first rule. The Condition Builder page appears.
3. In the Condition Builder, enter the following information to create the condition:
All of Name = 'STATUS_CODE' and Value = 'BOOKED':
 - Enter "Booked Order" as the Expression Name.
 - In the Match field, select "All of" from the list.
 - In Source section, expand the **BusinessEvent_Input** node, then the **InputParameters** node, then the **BusinessEvent** node, then the **ParameterList** node, and then the **Parameter** node.
1. Drag and drop the **Name** element to the right top under the New Condition section.
 - Select = from the drop-down list.

- Enter 'STATUS_CODE' in the text box as the condition value.

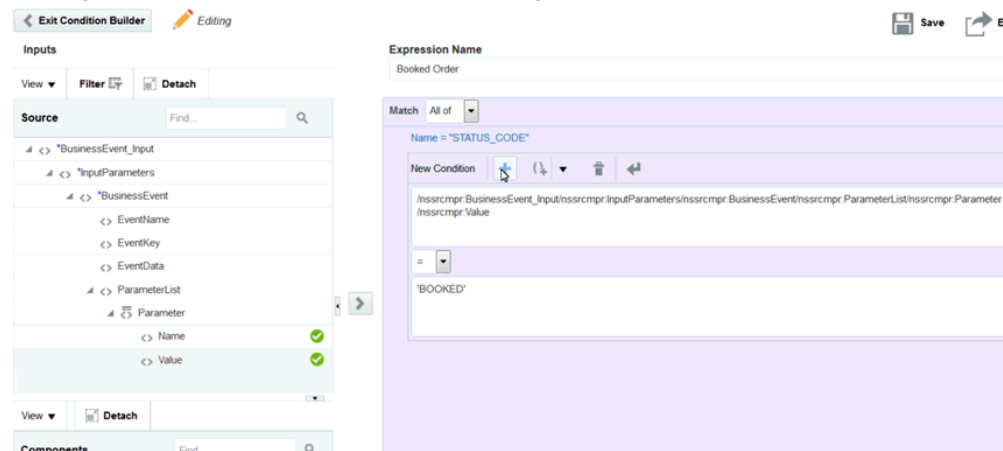
Click the **Add Condition (+)** icon.

2. Drag and drop the **Value** element to the right top under the New Condition section.

- Select = from the drop-down list.
- Enter 'BOOKED' in the text box as the condition value.

Click the **Add Condition (+)** icon.

Editing the First Rule (Booked Order) with Required Condition



Save your work. Click **Exit Condition Builder** to return to the integration.

Adding the Oracle E-Business Suite Adapter as an Invoke for the "Get_Order" Activity

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

1. Drag and drop the Oracle E-Business Suite connection "Order Management" from the INVOKES toolbar on the left to the integration right after the Booked Order rule.

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

2. In the Basic Info page, enter the following information:
 - **What do you want to call your endpoint?** - Enter "Get_Order" as the endpoint name.
 - **What does this endpoint do?** - Enter the description of this integration

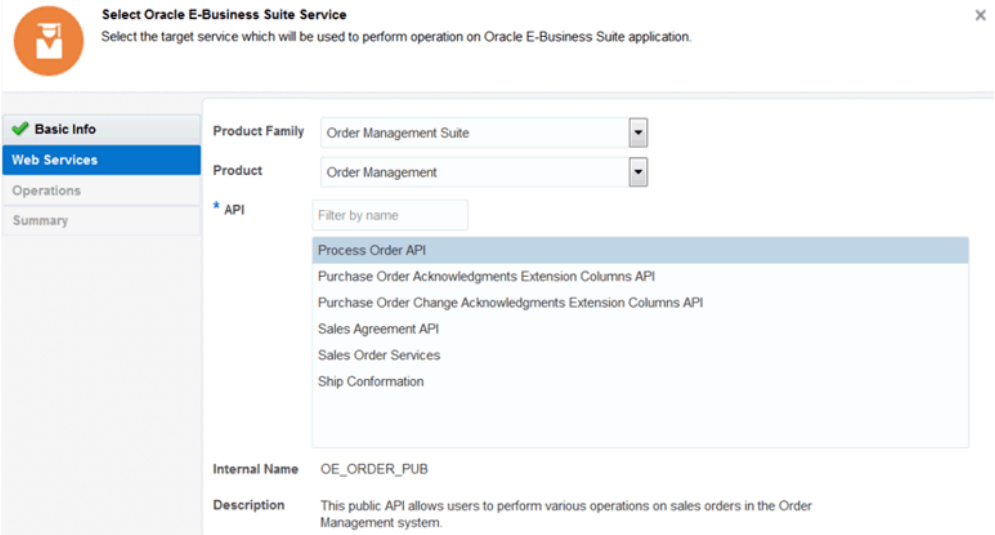
endpoint, such as "Get an order in Oracle E-Business Suite".

Click **Next**.

3. 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".
 - **API:** Select "Process Order API" from the populated list for this example.

The corresponding API internal name (OE_ORDER_PUB) and description are automatically populated.

Selecting an API in the Web Services Page



Select Oracle E-Business Suite Service
Select the target service which will be used to perform operation on Oracle E-Business Suite application.

Basic Info
Web Services
Operations
Summary

Product Family: Order Management Suite
Product: Order Management
* API: Filter by name
Process Order API
Purchase Order Acknowledgments Extension Columns API
Purchase Order Change Acknowledgments Extension Columns API
Sales Agreement API
Sales Order Services
Ship Conformation

Internal Name: OE_ORDER_PUB
Description: This public API allows users to perform various operations on sales orders in the Order Management system.

Click **Next**.

4. The selected API internal name OE_ORDER_PUB appears in the Operations page.
In the Methods field, select a desired method name contained in the API. For example, select "GET_ORDER". The corresponding service status value is displayed in the Operations page, along with the description information.

Note: The Service Status of the selected method GET_ORDER should be "Ready to Use".

Selecting a Method as the Target Endpoint for the Integration

Configure Oracle E-Business Suite Adapter Endpoint

Select Operation for Oracle E-Business Suite Service

Operations for selected Oracle E-Business Suite Service are listed. Select Operation to perform on Oracle E-Business Suite application. Selected Operation should be 'Ready to use' to configure the target endpoint for integration.

Basic Info

Web Services

Operations

Summary

API: OE_ORDER_PUB

* Methods

- DELETE_LINE
- DELETE_ORDER
- GET_ORDER
- ID_TO_VALUE
- LOCK_ORDER
- PROCESS_HEADER
- PROCESS_LINE
- PROCESS_ORDER

Service Status: Ready to Use

Description: Use this procedure to retrieve the information about a Sales Order, including price adjustments, pricing attributes, sales credits, payments, and lot and serial number information for return lines.

Click **Next**.

5. The Summary page displays the selected API information. This includes the selected product family name (Order Management Suite), product name (Order Management), web service name (OE_ORDER_PUB), integration pattern (Synchronous), operation name (GET_ORDER), and the operation status (Ready to Use).

Displaying the Selected API Details in the Summary Page

Configure Oracle E-Business Suite Adapter Endpoint

Oracle E-Business Suite Adapter Target Endpoint Configuration Summary

Oracle E-Business Suite Adapter Target Endpoint configuration was successful.

Basic Info

Web Services

Operations

Summary

Product Family: Order Management Suite

Product: Order Management

Web Service: OE_ORDER_PUB

Interaction Pattern: Synchronous

Operation: GET_ORDER

Status: Ready to Use

Click **Done**.

The "Get_Order" activity for Order Management now appears as part of the integration flow, along with the "Get_Order" map icon where you can define the mapping later. See: Creating Mappings, page 8-24.

Adding the REST Adapter as an Invoke for the "Receivables" Activity

Perform the following steps to add the REST Adapter as an invoke connection:

1. Drag and drop the Oracle E-Business Suite connection "Receivables" from the INVOKES toolbar on the left to the integration, after the Get_Order activity in the Booked Order route.

The Configure Oracle REST Endpoint wizard appears. Enter the following information in the Basic Info page:

- **What do you want to call your endpoint?** - Enter the name of this endpoint, such as "Create_Invoice".
- **What does this endpoint do?** - Enter the usage of this endpoint, such as "Provide REST endpoint with input payload for invoice creation".
- **What is the endpoint's relative resource URI?** - Enter "
/create_single_invoice/".
- **What action does the endpoint perform?** - Select "POST" from the drop-down list.
- **Configure a request payload for this endpoint** - Select this check box indicating that a request payload is required in this activity.

Entering the Basic REST Endpoint Information

Configure Oracle REST Endpoint

Help ▾ < Back Next > Cancel

Welcome to the Oracle REST Endpoint Configuration Wizard
This wizard helps you configure an endpoint using the Oracle REST Cloud adapter.

Basic Info

Request Parameters

Request

Request Headers

Response

Response Headers

Summary

* What do you want to call your endpoint?
Create_Invoice

What does this endpoint do?
Describe the endpoint's purpose and detail

* What is the endpoint's relative resource URI?
/create_single_invoice/

* What action does the endpoint perform?
POST ▾

Based on your selections, you can add parameters or configure a request and/or response for this endpoint.

Select any options that you want to configure:

☐ Add and review parameters for this endpoint

☒ Configure a request payload for this endpoint

☐ Configure this endpoint to receive the response

Click **Next**.

2. In the Request page, perform the following tasks:
 - In the "Select the request payload file" section, select the **XML schema** radio button.

Please note that the request payload file type can be either XML schema or JSON format.
 - Browse and select the sample XSD for the Create Invoice REST service.

For the sample XSD information, see Sample XSD for the Create_Invoice Activity Used in the Business Event Example, page A-1.
 - In the Element field, select "CREATE_SINGLE_INVOICE_Input" from the drop-down list.
 - In the "Select the type of payload with which you want the endpoint to receive" section, select the **XML** button as the payload type.

Click **Next** and **Next**.

In this example, we do not need to configure this endpoint to receive Response.

3. Click **Next**. This displays the Summary page with the following REST service information that you specified earlier:
 - REST Service URL: `http://<host name>:<port>/webservices/rest/invoice/create_single_invoice/`.
 - Method: POST
 - Request Media Type: `application/xml`

Click **Done**.

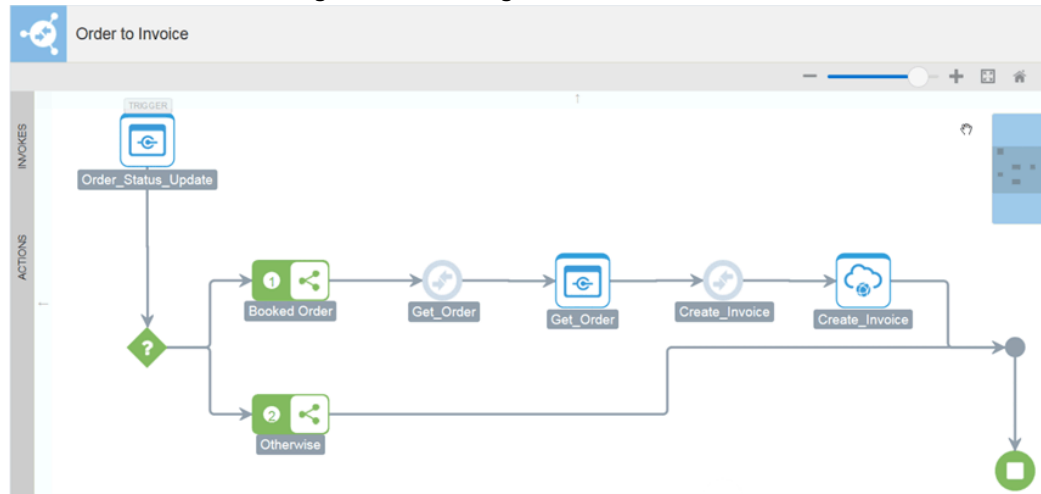
The `Create_Invoice` activity appears in the integration flow, listed as the last activity in the Booked Order rule.

Similar to the "Get_Order" activity, the "Create_Invoice" map icon also appears (along with the `Create_Invoice` activity) where you can define the mapping later. See: Creating Mappings, page 8-24

Save the integration.

At the end of this step, the integration flow contains the activities added in this section.

The "Order to Invoice" Integration Flow Diagram



Creating Mappings

Oracle E-Business Suite Business Event is defined by the `WF_EVENT_T` data structure. After adding the required connections to the integration, you need to create the following mappings to pass the required parameter values to the subsequent REST services:

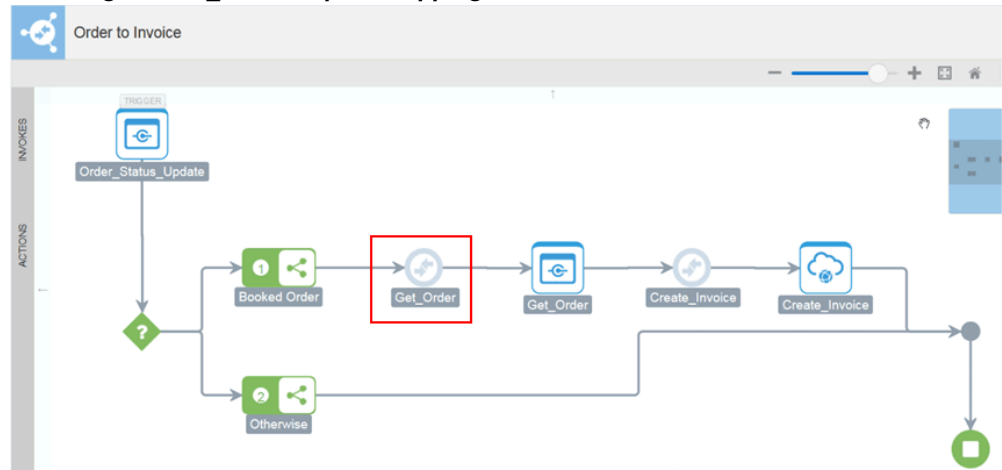
- Define mapping for `Get_Order`
- Define mapping for `Create_Invoice`

Creating Mappings for the `Get_Order` Map

In this example, a sales order Header Id is available as one of the business event parameters. In `WF_EVENT_T`, event parameters are available as Name-Value pair in repeating Parameter element. To obtain the value of the Header Id parameter and pass it to the subsequent `Get_Order` service call, you need to create mappings for the `Get_Order` map.

1. In the `Order_Status_Update` integration flow, click **edit** for the `Get_Order` map icon.

Selecting the Get_Order Map for Mapping

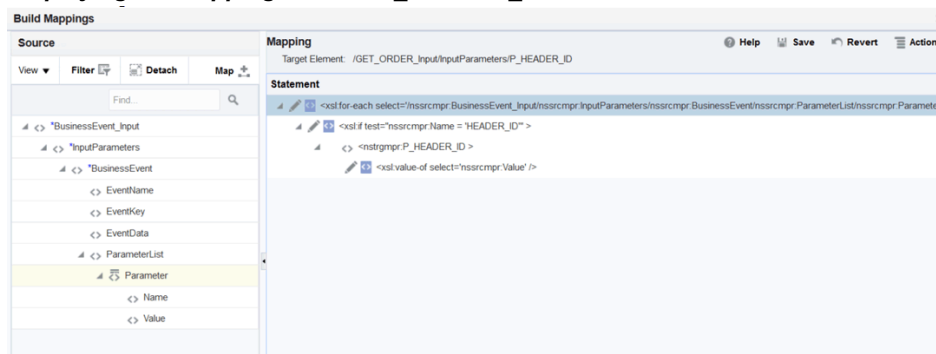


The Mapper page is displayed.

2. In the Mapper page, the business event related elements are displayed in the Source section, whereas the `Get_Order` related parameters are listed in the Target area. To obtain the value of the sales order Header Id (`P_HEADER_ID`) included as part of the event parameters and pass it to the subsequent `Get_Order` REST service, you need to define the XSL expression for the `P_HEADER_ID` parameter.
3. Define the XSL expression for the `P_HEADER_ID` parameter by performing the following tasks:
 1. In the Target section, expand the **GET_ORDER_Input** node, and then the **InputParameters** node. Click the `P_HEADER_ID` element to open the Build Mappings page.
 2. In the Mapping area of the Build Mappings page, notice that the `P_HEADER_ID` element is displayed as the Target element.
 3. In Source section of the Build Mappings page, expand the **BusinessEvent_Input** node, then the **InputParameters** node, then the **BusinessEvent** node, then the **ParameterList** node, and then the **Parameter** node.
 4. Drag and drop the **Value** element from the Source section to the Mapping section as the value for the `P_HEADER_ID` element.
 5. Similarly, drag and drop the XSL element `"if"` and the **Name** element from the Source section to the Mapping section to define the XSL expression `<xsl:if test="nssrcmpr:Name='HEADER_ID' ">`.

6. Drag and drop the XSL element "for-each" from the Source section to the Mapping section to define the XSL expression `<xsl:for-each select="/nssrcmpr:BusinessEvent_Input/nssrcmpr:InputParameters/nssrcmpr:BusinessEvent/nssrcmpr:ParameterList/nssrcmpr:Parameter">`.

Displaying the Mappings for the P_HEADER_ID Parameter



7. Save your work.

Expand the nodes to ensure that the P_HEADER_ID parameter is included as part of the structure.

4. Perform the following tasks to assign constant values to the target elements:
 1. In the Target section, expand the **GET_ORDER_Input** node, and then the **RESTHeader** node.
Click the **Responsibility** element to open the Build Mappings page.
 2. Enter "ORDER_MGMT_SUPER_USER" in the text box as the value for the **Responsibility** element.

Similarly, use the same approach to assign appropriate values to the target elements listed in the following table:

Path	Element	Value
GET_ORDER_Input/RESTHeader	RespApplication	ONT
GET_ORDER_Input/RESTHeader	SecurityGroup	STANDARD

Path	Element	Value
GET_ORDER_Input/RESTHeader	NLSLanguage	AMERICAN
GET_ORDER_Input/RESTHeader	Org_Id	204
GET_ORDER_Input/InputParameters	P_API_VERSION_NUMBER	1.0
GET_ORDER_Input/InputParameters	P_INIT_MSG_LIST	F
GET_ORDER_Input/InputParameters	P_ORG_ID	204

After you complete the mappings for `Get_Order`, the mapped source values should appear in the Mapping column of the Target section.

Displaying the Mappings for the `Get_Order` Activity

The screenshot displays the Oracle Integration Cloud Mapper interface for the 'GET_ORDER_Input' target. The Source tree on the left lists the following elements: 'BusinessEvent_Input', 'InputParameters', 'BusinessEvent', 'EventName', 'EventKey', 'EventData', 'ParameterList', 'Parameter', 'Name', and 'Value'. The Target tree on the right lists the following elements: 'GET_ORDER_Input', 'RESTHeader', 'Responsibility', 'RespApplication', 'SecurityGroup', 'NLSLanguage', 'Org_Id', 'InputParameters', 'P_API_VERSION_NUMBER', 'P_INIT_MSG_LIST', 'P_RETURN_VALUES', 'P_HEADER_ID', 'P_HEADER', 'P_ORG_ID', and 'P_OPERATING_UNIT'. The 'Mappings' pane in the center shows the mapping from 'P_ORG_ID' to '204'. The 'Save' button is visible in the top right corner.

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

Creating Mappings for the `Create_Invoice` Map

Perform the following steps to create the mappings:

1. In the `Order_Status_Update` integration flow, click **edit** for the **Create_Invoice** map icon.

The Mapper page appears.

2. Assign constant values to the target elements.
 1. In the Target section, expand the **execute** node, then the **CREATE_SINGLE_INVOICE_Input** node, and then the **RESTHeader** node.
Click the **Responsibility** element to open the Build Mappings page.
 2. Enter "RECEIVABLES_VISION_OPERATIONS" in the text box as the value for the **Responsibility** element.

Similarly, use the same approach to assign appropriate values to the target elements listed in the following table:

Path	Element	Value
CREATE_SINGLE_INVOICE_Input/RESTHeader	RespApplication	AR
CREATE_SINGLE_INVOICE_Input/RESTHeader	SecurityGroup	STANDARD
CREATE_SINGLE_INVOICE_Input/RESTHeader	NLSLanguage	AMERICAN
CREATE_SINGLE_INVOICE_Input/RESTHeader	Org_Id	204
CREATE_SINGLE_INVOICE_Input/InputParameters	P_API_VERSION	1.0
CREATE_SINGLE_INVOICE_Input/InputParameters	P_INIT_MSG_LIST	T
CREATE_SINGLE_INVOICE_Input/InputParameters	P_COMMIT	T
CREATE_SINGLE_INVOICE_Input/InputParameters/P_BATCH_SOURCE_REC	BATCH_SOURCE_ID	1188
CREATE_SINGLE_INVOICE_Input/InputParameters/P_TRX_HEADER_TBL/P_TRX_HEADER_TBL_ITEM	TRX_HEADER_ID	101

Path	Element	Value
CREATE_SINGLE_INVOIC E_Input/InputParameters/P_ TRX_HEADER_TBL/P_TRX_ _HEADER_TBL_ITEM	CUST_TRX_TYPE_ID	1684
CREATE_SINGLE_INVOIC E_Input/InputParameters/P_ TRX_HEADER_TBL/P_TRX_ _HEADER_TBL_ITEM	BILL_TO_CUSTOMER_ID	1290
CREATE_SINGLE_INVOIC E_Input/InputParameters/P_ TRX_HEADER_TBL/P_TRX_ _HEADER_TBL_ITEM	SHIP_TO_CUSTOMER_ID	1290
CREATE_SINGLE_INVOIC E_Input/InputParameters/P_ TRX_HEADER_TBL/P_TRX_ _HEADER_TBL_ITEM	COMMENTS	Invoice created via ICS integration for booked Sales Order in Order Management

After you complete this step, the mapped source values should appear in the Mapping column of the Target section.

Displaying the Mappings with Constant Values

The screenshot displays the 'BusinessEvent Mapper' interface. The 'Source' section on the left lists the following items: *BusinessEvent_Input, *InputParameters, *BusinessEvent, \$TargetApplicationObject1, *GET_ORDERResponse, and *OutputParameters. The 'Target' section on the right shows a list of mappings with their corresponding values. The mappings are as follows:

Target	Mapping
*execute	
*CREATE_SINGLE_INVOICE_Input	
*RESTHeader	
*Responsibility	RECEIVABLES_VISION_OPERATIONS
*RespApplication	AR
*SecurityGroup	STANDARD
*NLSLanguage	AMERICAN
*Org_Id	204
*InputParameters	
*P_API_VERSION	1.0
*P_INIT_MSG_LIST	T
*P_COMMIT	T
*P_BATCH_SOURCE_REC	
*BATCH_SOURCE_ID	1188
*P_TRX_HEADER_TBL	
*P_TRX_HEADER_TBL_ITEM	
*TRX_HEADER_ID	

3. Add the following mapping for the header:

- In the Source section, enter "HEADER_ID" in the Search field to locate this

parameter.

Select the **HEADER_ID** element from the **X_HEADER_REC** node.

- In the Target section, expand the **execute** node, then the **CREATE_SINGLE_INVOICE_Input** node, then the **InputParameters** node, then the **P_TRX_HEADER_TBL** node, and then the **P_TRX_HEADER_TBL_ITEM** node.

Select the **TRX_NUMBER** element.

Drag the **HEADER_ID** element from the Source section to the **TRX_NUMBER** element in the Target section to map the data.

After the mapping, the source element **HEADER_ID** should appear in the Mapping column next to the **TRX_NUMBER** element in the Target section.

Mapping the Source HEADER_ID to the Target TRX_NUMBER

4. Use the same approach, as described in the previous step, to add the following sets of mappings for the line items:

Source Path	Source Element	Target Path	Target Element
BusinessEvent_Input/Parameters/BusinessEvent/X_LINE_TBL/X_LINE_TBL_ITEM	LINE_NUMBER	execute/CREATE_SINGLE_INVOICE_Input/Parameters/P_TRX_LINES_TBL/P_TRX_LINES_TBL_ITEM	LINE_NUMBER

Source Path	Source Element	Target Path	Target Element
BusinessEvent_Input/Parameters/BusinessEvent/X_LINE_TBL/X_LINE_TBL_ITEM	ORDERED_ITEM	execute/CREATE_SINGLE_INVOICE_Input/Parameters/P_TRX_LINES_TBL/P_TRX_LINES_TBL_ITEM	DESCRIPTION
BusinessEvent_Input/Parameters/BusinessEvent/X_LINE_TBL/X_LINE_TBL_ITEM	ORDERED_QUANTITY	execute/CREATE_SINGLE_INVOICE_Input/Parameters/P_TRX_LINES_TBL/P_TRX_LINES_TBL_ITEM	QUANTITY_ORDERED
BusinessEvent_Input/Parameters/BusinessEvent/X_LINE_TBL/X_LINE_TBL_ITEM	ORDERED_QUANTITY	execute/CREATE_SINGLE_INVOICE_Input/Parameters/P_TRX_LINES_TBL/P_TRX_LINES_TBL_ITEM	QUANTITY_INVOICED
BusinessEvent_Input/Parameters/BusinessEvent/X_LINE_TBL/X_LINE_TBL_ITEM	UNIT_SELLING_PRICE	execute/CREATE_SINGLE_INVOICE_Input/Parameters/P_TRX_LINES_TBL/P_TRX_LINES_TBL_ITEM	UNIT_SELLING_PRICE

Once you complete this step, the mapped source values should appear next to the corresponding target elements with the green check mark icons:

Displaying the Mappings for the Line Items

		*P_TRX_HEADER_TBL	
		*P_TRX_LINES_TBL	
		*P_TRX_LINES_TBL_ITEM	
		*TRX_HEADER_ID	101
		*TRX_LINE_ID	101
		*LINE_NUMBER	LINE_NUMBER
		*DESCRIPTION	ORDERED_ITEM
		*QUANTITY_ORDERED	ORDERED_QUANTITY
		*QUANTITY_INVOICED	ORDERED_QUANTITY
		*UNIT_SELLING_PRICE	UNIT_SELLING_PRICE
		*LINE_TYPE	LINE
		*P_TRX_DIST_TBL	
		*P_TRX_SALESCREDITS_TBL	

5. Assign the following values:

- In the Target section, expand the **execute** node, then the **CREATE_SINGLE_INVOICE_Input** node, then the **InputParameters** node, and then the **P_TRX_DIST_TBL** node.

Click the **P_TRX_DIST_TBL_ITEM** element to open the Build Mappings page.

In the Mapping section, enter the following information:

```
<nsmpr1:P_TRX_DIST_ID/>.
```

- In the Target section, expand the **execute** node, then the **CREATE_SINGLE_INVOICE_Input** node, then the **InputParameters** node, and then the **P_TRX_SALESCREDITS_TBL** node.

Click the **P_TRX_SALESCREDITS_TBL_ITEM** element to open the Build Mappings page.

In the Mapping area, enter the following information:

```
<nsmpr1:P_TRX_SALESCREDITS_ID/>.
```

The newly assigned mapping values should appear next to the corresponding elements in the Target section.

Displaying the Mappings

	*P_TRX_DIST_TBL	
	*P_TRX_DIST_TBL_ITEM	<nsmpr1:TRX_DIST_ID/>
	*TRX_DIST_ID	
	*P_TRX_SALESCREDITS_TBL	
	*P_TRX_SALESCREDITS_TBL_ITEM	<nsmpr1:TRX_SALESCREDIT_ID/>

Save your work.

6. Click **Exit Mapper**.
7. Save the integration.

Assigning Business Identifier for Tracking

Perform the following steps to track payload fields in messages during runtime:

1. In the Create Order Integration page, click **Tracking**.
The Business Identifiers For Tracking dialog appears.
2. From the Available Source Fields section, expand the **BusinessEvent_Input** node, then the **InputParameters** node, and then the **BusinessEvent** node.
Drag and drop the **Event Key** element to the Tracking Field column in the table as the primary Tracking field.
3. Click **Done**.
4. Save your work and then click **Exit Integration**.

Activating and Testing the Integration

Perform the following steps to activate the integration:

1. In the Integrations page, click **Activate** for the "Order to Invoice" integration that you created earlier.
2. The Confirmation dialog appears. Click **Activate** to confirm this action.
The status of the "Order to Invoice" integration is now changed to **ACTIVE** with a green check mark icon.

Testing the Integration at Runtime

1. Log in to Oracle E-Business Suite as the `operations` user who has the Order Management Super User, Vision Operations (USA) responsibility.
2. Select **Order, Returns** and then **Sales Order** from the navigation menu to open the Sales Orders form.
3. In the Sales Orders form, select the Order Information tab.
4. Create a new Sales Order for customer "A.C. Networks" with the following information:
 - Customer: A.C. Networks
 - Operation Unit: Vision Operations
 - Order Type: Mixed
 - Ship To Location: Provo (OPS) 3405 East Bay Blvd. Provo, UT 84606, US
 - Bill To Location: Provo (OPS) 3405 East Bay Blvd. Provo, UT 84606, US
 - Price List: Corporate
 - Currency: USD

Creating a Sales Order in the Sales Orders Form

Sales Orders (Vision Operations) - [New]

Order Information Line Items

OM-Version-02

Main Others

Customer	A. C. Networks	Order Number	
Customer Number	1143	Order Type	Mixed
Customer PO		Date Ordered	14-MAY-2016 10:03:45
Customer Contact		Price List	Corporate
Operating Unit	Vision Operations	Salesperson	Green, Suzanne
Ship To Location	Provo (OPS)	Status	
	3405 East Bay Blvd.	Currency	USD
	Provo, UT, 84606, US	Subtotal	0.00
Bill To Location	Provo (OPS)	Tax	0.00
	3405 East Bay Blvd.	Charges	0.00
		Total	0.00
	Provo, UT, 84606, US		

[]

Actions Related Items Configurator Availability Book Order

5. Select the Line Items tab to add the following line item:
 - Ordered Item: AS54888
 - Quantity: 1
 - Item Type: STANDARD
 - UOM: Each
 - Unit Price: Accept the populated unit price.
 - Request Date: Accept the populated date (such as 14-MAY-2016)

Adding Line Items for the Sales Order

Line	Ordered Item	Qty	Item Type	UOM	Unit Price	Extended Price	Request Date
1.1	AS54888	1	STANDARD	Ea	1,599.00	1,599.00	14-MAY-2011

Line Total: 1,599.00 Line Qty: 1 Service Total:

Description: AS54888

Actions Related Items Configurator Availability Book Order

6. Save this new order.

This order is created with "Entered" status.

7. Click **Book Order**.

The order status is now updated to "Booked". It internally raises a business event `oracle.apps.ont.oip.statuschange.update` which will trigger the integration.

In the design time, the "Order to Invoice" integration created earlier in Oracle Integration Cloud Service will subscribe to this business event. At runtime, since the order status is changed to "Booked", Oracle Order Management will raise the business event which triggers the integration in Oracle Integration Cloud Service. The order details information is fetched from Oracle E-Business Suite Order Management and passed as event payload to create the invoice in Oracle Accounts Receivables.

Monitoring the Result in Oracle Integration Cloud Service

1. Log in to Oracle Integration Cloud Service.

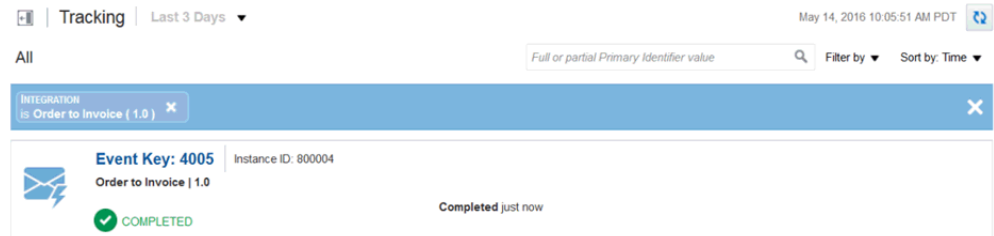
On the Integration Cloud Service toolbar, click **Monitoring**.

2. In the navigation pane, click **Tracking**.

The Tracking page appears.

3. Click the instance created for the "Order to Invoice" integration.

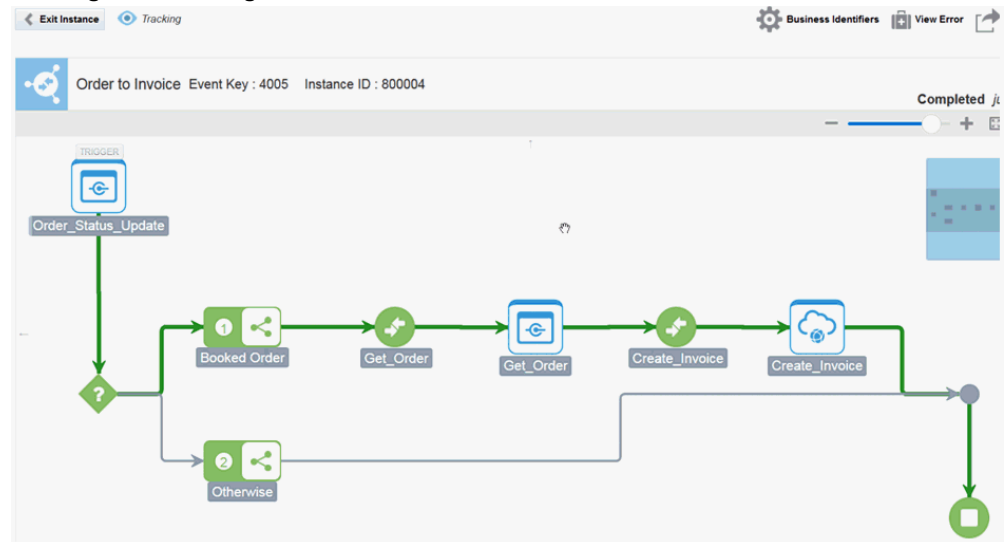
Displaying the Tracking Page for the Order to Invoice Integration



4. Click "Event Key" to display the flow diagram of the integration instance.

This page provides the instance tracking information. Notice that the status of this instance is "Completed" indicating that the integration is executed successfully. You can verify if there is any error occurred if desired.

Viewing and Tracking the Orchestration Flow of the Instance



Validating the Result in Oracle E-Business Suite Accounts Receivables

Log in to Oracle Accounts Receivables as the `operations` user who has the Receivables, Vision Operations (USA) responsibility. Select **Transactions** and then **Transactions** from the navigation menu.

Locate the invoice transaction for the "A.C. Networks" customer by selecting **Query for Transaction**. The invoice should be created in Oracle Accounts Receivables.

An Example of Using an XML Gateway Message as a Trigger (Source) in an Integration

Overview

Sample Business Scenario

When a purchase order is approved in the Oracle E-Business Suite Purchasing application, a process purchase order XML message should be sent from Oracle E-Business Suite to Oracle Integration Cloud Service.

In this example, an XML Gateway message "Purchase Order XML message" from Oracle Purchasing is used as a trigger (source) to explain using the Oracle E-Business Suite Adapter to trigger an integration in Oracle Integration Cloud Service. The Oracle E-Business Suite Adapter is used to connect to the Oracle Purchasing instance. Additionally, you need to configure the trading partner in Oracle XML Gateway to send the outbound XML message from Oracle E-Business Suite to the integration endpoint in Oracle Integration Cloud Service.

At runtime, when an order is approved, if the supplier or trading partner is configured to receive the outbound XML message for Process Purchase Order, Oracle E-Business Suite Purchasing will trigger the integration and initiate XML Gateway outbound processing to send the process order XML message from Oracle E-Business Suite to Oracle Integration Cloud Service.

Using XML Gateway Messages for Integrations in Oracle Integration Cloud Service

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

1. Preparing the Oracle E-Business Suite Instances Purchasing Instance, page 9-2
2. Establishing an Oracle E-Business Suite Connection for Publishing XML Gateway Messages, page 9-3

3. Creating an Integration, page 9-5
4. Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 9-7
5. Assigning Business Identifier for Tracking, page 9-11
6. Activating the Integration, page 9-12
7. Configuring Trading Partner Information for Post Integration, page 9-13
8. Testing and Validating the Integration, page 9-15

Preparing the Oracle E-Business Suite Instances Purchasing Instance

This example uses the Oracle E-Business Suite Purchasing application to approve a purchase order. Before creating a connection, you must prepare the Oracle E-Business Suite Purchasing instance to ensure the required setup or configuration is in place.

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

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 and apply the REST service patches to enable the REST service feature. For more information, see step 1, as described in Setup Tasks for Enabling the Oracle E-Business Suite Adapter, page 2-1.

2. (Optional) Import SSL certificates of Oracle Integration Cloud Service to Oracle E-Business Suite if required.

For information on importing SSL certificates, refer to step 4 as described in Setup Tasks for Using the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 2-5.

3. (Optional) Set up proxy URLs in Oracle E-Business Suite if required.

For information on the proxy setup, refer to step 2 as described in Setup Tasks for Using the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 2-5.

4. Deploy the Metadata Provider API as a REST service with the following requirements and grant the method access privileges to the **operations** user:
 - Deploy the API with "**provider**" as the service alias name
 - Deploy the API with **GET** HTTP verb for **all** the methods contained in the API

- Grant the access privileges for **all** the methods contained in the Metadata Provider API to the **operations** user

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*.

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*.

Establishing an Oracle E-Business Suite Connection for Publishing XML Gateway Messages

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

1. Click **Connections**.
2. Click **Create New Connection**.
3. In the Create Connection - Select Adapter dialog appears.

You can locate the Oracle E-Business Suite Adapter by entering a full or partial name to locate "Oracle E-Business Suite" from the dialog.

Click the **Select** button for "Oracle E-Business Suite". The New Connection - Information dialog appears.

4. Enter the following information for your connection:

Creating the Purchasing Connection

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** Purchasing

* **Identifier** PURCHASING

Connection Role Trigger and Invoke

Description Create an Oracle E-Business Suite Purchasing connection |

Create Cancel

- **Connection Name:** Enter "Purchasing" as the connection name.
- **Identifier:** Accept the default identifier for your Oracle E-Business Suite connection, such as "PURCHASING".
- **Connection Role:** Select "Trigger and Invoke" role for this connection.
- **Description:** Enter description information for your connection, such as "Create an Oracle E-Business Suite Purchasing connection".

Click **Create** to create the connection. The Connection Details page is displayed for the "Purchasing" connection.

5. 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.
Click **OK** to save your work.
 - **Security:** Click **Configure Security** to open the Credentials dialog.
Ensure that "Basic Authentication" is selected as the security policy.
Enter `operations` as the username and its associated password in the Credentials dialog to access the Oracle E-Business Suite Purchasing instance

you specified earlier in the Connection Properties dialog.
Click **OK**.

6. Click **Test** to test the "Purchasing" connection you just specified.
7. Click **Save** to save your connection.
Click **Exit Connection**.

Creating an Integration

This section provides the instructions on creating an integration called "PROCESS PO" with the "Publish To ICS" integration pattern. This pattern allows you to add the Oracle E-Business Suite Purchasing connection specified earlier as a trigger in the integration.

Perform the following steps to create an integration:

1. In the Integration Cloud Service toolbar, click **Designer**.
2. In the Designer Portal, click **Integrations**.
3. In the Integrations page, click **New Integration**.

The Create Integration - Select a Style/Pattern dialog appears.


Click **Select** for the "Publish To ICS" integration pattern.

Selecting the "Publish To ICS" Pattern for the Integration

Create Integration - Select a Style/Pattern

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

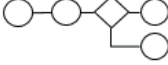
Basic Map Data



Drop trigger and invoke onto an empty template

Select


Orchestration



Drop trigger and invoke onto a blank canvas

Select


Basic Publish To ICS



Connect your trigger to send messages to ICS

Select

Basic Subscribe To ICS



Add invokes to receive messages from ICS

Select

Cancel

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

- **What do you want to call your integration?** Enter "PROCESS PO" as the integration name.
- **Identifier:** Accept the default identifier value, such as "PROCESS_PO".
- **Version:** Accept the default version number.
- **What does this integration do?** Enter description information for your integration, such as "Create an integration for processing a purchase order in Oracle Purchasing".

Entering Integration Information in the New Integration - Information Dialog

Create New Integration
Enter information that describes this integration.

Describe this integration Use a meaningful name and description that will 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.

* What do you want to call your integration?
PROCESS PO

* Identifier
PROCESS_PO

* Version
01.00.0000

What does this integration do?
Create an integration for processing a purchase order in Oracle Purchasing

Which package does this integration belong to?
Enter a new or existing package name

Create Cancel

5. Click **Create** and **Save**.

To complete the integration, you need to add the following tasks that are described in the next few sections:

- Add the desired connections to the integration you just created.
See: Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page 9-7.
- Assign business identifiers for tracking.
See: Assigning Business Identifier for Tracking, page 9-11.

Adding the Oracle E-Business Suite Adapter as a Trigger (Source) Connection

Once the "PROCESS PO" integration is created, you can add the "Purchasing" connection that you just created by using the Oracle E-Business Suite Adapter as a trigger (source).

Perform the following steps to add the Oracle E-Business Suite Adapter as a trigger in the integration:

1. In the "PROCESS PO" integration page, search the "Purchasing" connection that you created earlier from the Connections panel.

2. In the Integration Designer, drag "Purchasing" from the Connections panel on the right to the Trigger (Source) area on the canvas. The Configure Oracle E-Business Suite Adapter Endpoint wizard appears.
3. Enter the following information In the Basic Info page:
 - **What do you want to call your endpoint?** - Enter "EBS_Source" as the endpoint name.
 - **What does this endpoint do?** - Enter "Process a purchase order in Oracle E-Business Suite".
 - **What do you want to configure the endpoint for?** - Select **XML Gateway Map**.

Entering the Basic Information for the Adapter Endpoint with XML Gateway Message

The screenshot shows the 'Configure Oracle E-Business Suite Adapter Endpoint' wizard. The title bar reads 'Configure Oracle E-Business Suite Adapter Endpoint'. Below the title bar is a 'Welcome to Oracle E-Business Suite Adapter Source Configuration Wizard' message. The main content area is divided into a left sidebar and a main form. The sidebar has three items: 'Basic Info' (selected with a green checkmark), 'XML Gateway Message' (with a green checkmark), and 'Summary'. The main form contains three questions with input fields or radio buttons. The first question is 'What do you want to call your endpoint?' with the text 'EBS_Source' entered. The second question is 'What does this endpoint do?' with a dropdown menu showing 'Process a purchase order in Oracle E-Business S'. The third question is 'What do you want to configure the endpoint for?' with two radio buttons: 'Business Event' and 'XML Gateway Map', where 'XML Gateway Map' is selected.

Click **Next** to proceed with the rest of the configuration for your integration.

4. In the XML Gateway Message page, specify the following information for your trigger (source) connection:
 - **Product Family:** Select "Procurement" from the product family.
 - **Product:** Select "Internet Procurement Enterprise Connector" from the list of product names.

- **XML Gateway Map:** Select a desired XML Gateway message name from the drop-down list. For example, select "Purchase Order XML message".

After you select the message map, the corresponding information is automatically populated in this page. This includes the Integration Repository name (PO:PRO), internal name (itg_process_po_007_out), integration standard (OAG 7.2) and the message map description.

Selecting a Desired XML Gateway Message Map

Configure Oracle E-Business Suite Adapter Endpoint

Select XML Gateway Map
Select the XML Gateway Map which will be used to trigger this integration flow. Whenever the selected XML Gateway message is sent from Oracle E-Business Suite, associated XML message and headers are sent to this integration.

Basic Info
XML Gateway Message
Summary

Product Family: Procurement
Product: Internet Procurement Enterprise Connector
XML Gateway Map: Filter by name
Change Purchase Order XML message
Purchase Order XML message

Name: PO:PRO
Internal Name: itg_process_po_007_out
Standard: OAG 7.2
Description: This map is used to publish Process PO OAG XML documents out of Purchasing on the approval of a Standard Purchase Order or a Blanket Release.

Click **Next**.

5. The Summary page appears with the selected XML Gateway message information that you specified. This includes the XML Gateway message name `itg_process_po_007_out` from the selected "Procurement" product family and the "Internet Procurement Enterprise Connector" product, as well as the "Request Only" interaction pattern.

Viewing the Selected XML Gateway Message Information in the Summary Page

The screenshot shows a software window titled "Configure Oracle E-Business Suite Adapter Endpoint". Inside, there's a sub-header "Oracle E-Business Suite Adapter Source Endpoint Configuration Summary" with a message: "Oracle E-Business Suite Adapter Source Endpoint configuration was successful." Below this is a sidebar with three tabs: "Basic Info", "XML Gateway Message", and "Summary". The "Summary" tab is selected and highlighted in blue. The main content area shows the following details:

- Product Family: Procurement
- Product: Internet Procurement Enterprise Connector
- XML Gateway Message: itg_process_po_007_out
- Interaction Pattern: Request Only

Below these details is a blue button labeled "Instructions". Underneath the button, a light blue box contains the following text:

This integration requires certain manual steps to be performed in Oracle E-Business Suite. Perform the below after completing this integration:

1. Activate the integration
2. Obtain Integration endpoint URL
3. Administrator having access to XML Gateway responsibility
4. Navigate to XML Gateway responsibility > Define Trading Partner
5. Search for the Trading Partner to be configured
6. Protocol address=Integration endpoint URL at step 2 above; Username=ICSI Username; Password=ICSI

At the top right of the dialog, there are navigation buttons: "< Back", "Next >", "Cancel", and "Done".

The Oracle E-Business Suite Adapter Source Endpoint configuration is successfully created with the selected XML Gateway message.

Click **Done**.

The connection for Oracle E-Business Suite (called "Purchasing" in this example) now appears in the Trigger (Source) area on the canvas.

Displaying "Purchasing" in the Trigger Area with XML Gateway Map in the Integration



Assigning Business Identifier for Tracking

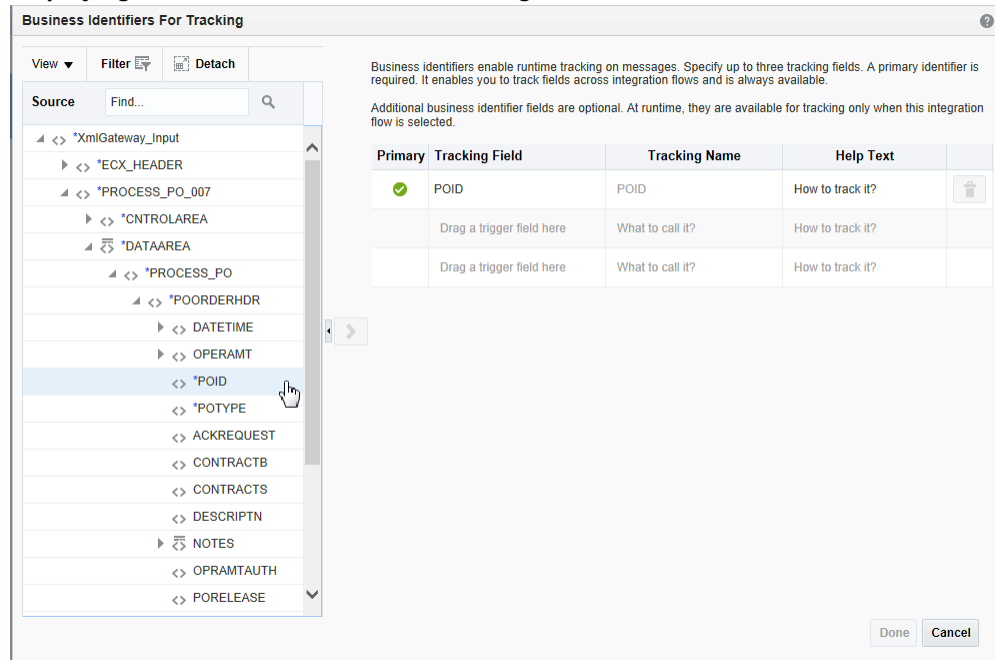
Perform the following steps to track payload fields in messages during runtime:

1. In the Create Order Integration page, click **Tracking**.
The Business Identifiers For Tracking dialog appears.
2. From the Available Source Fields section, expand the **XmlGateway_Input** node, then the **PROCESS_PO_007** node, then the **DATAAREA** node, then the **PROCESS_PO** node, and then the **POORDERHDR** node.

Drag the **POID** element to the Tracking Field column in the table.

The **POID** is displayed in the Tracking Field with a green check mark next to it in the table.

Displaying the Selected Identifier for Tracking



3. Click **Done**.
4. Save your work and then click **Exit Integration**.

Activating the Integration

Activating the Integration

After you complete the integration with a desired XML Gateway message, you can activate the integration.

1. In the Integrations page, click **Activate** for the "PROCESS PO" integration that you created earlier.
2. The Confirmation dialog appears. Click **Activate** to confirm the action.

Notice that the status of the "PROCESS PO" integration changes to **ACTIVE**.

Recording the Integration Endpoint in Oracle Integration Cloud Service

After activating the integration, you need to obtain the integration endpoint URL by clicking the Integration Details icon ("i") for the "PROCESS PO" integration. A pop-up window appears. Record the endpoint URL information.

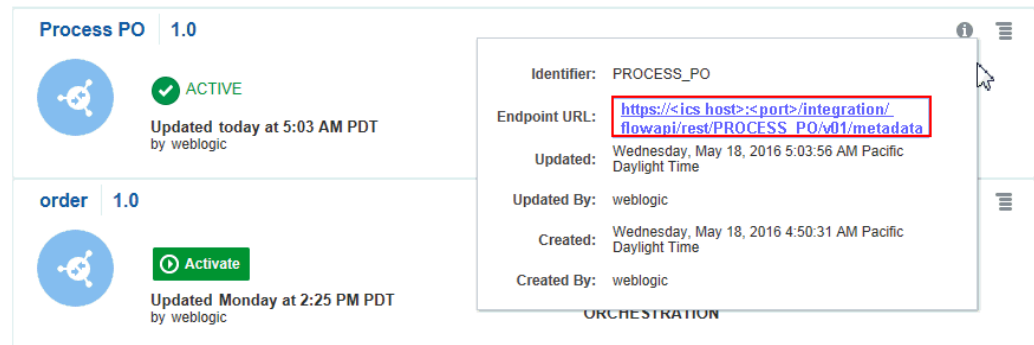
In this example, the endpoint URL should be like:

`https://<ICS`

Host>:<Port>/integration/flowapi/rest/PROCESS_PO/v01/

Note: The metadata at the end of the URL is not required.

Obtaining the Integration Endpoint URL in the Integrations Page



This recorded integration endpoint URL will be used as the protocol address value when defining a trading partner in the post integration configuration, as described in Configuring Trading Partner Information for Post Integration, page 9-13.

Configuring Trading Partner Information for Post Integration

After you activate the integration, you must perform manual tasks to configure the trading partner ("Advanced Network Devices" in this example) for the outbound transaction message selected in the integration. This includes specifying the communication protocol and address as well as the user credentials in Oracle E-Business Suite.

Additionally, obtain the integration endpoint URL you recorded earlier, such as
https://<ICS

Host>:<Port>/integration/flowapi/rest/PROCESS_PO/v01/.

Perform the following steps to configure the trading partner in Oracle E-Business Suite:

1. Log in to Oracle E-Business Suite as a user (such as `sysadmin`) who has the XML Gateway responsibility.
2. Select the XML Gateway responsibility and then select **Define Trading Partners** from the navigation menu. The Define Trading Partner Setup form appears.
3. In the Trading Partner Setup form, search and locate the desired trading partner called "Advanced Network Devices".
4. In the Trading Partner Details region, add the following information for the trading partner:

- Transaction Type: PO
- Transaction Subtype: PRO
- Standard Code: OAG
- External Transaction Type: PO
- External Transaction Subtype: PROCESS
- Direction: OUT
- Map: itg_process_po_007_out
- Connection/Hub : DIRECT
- Protocol: HTTPS
- Protocol address:https://<ICS
Host>:<Port>/integration/flowapi/rest/PROCESS_PO/v01/
Enter the integration endpoint URL you recorded earlier.
- Username: <ICS Username>
Enter the Oracle E-Business Suite user credentials used to create an Oracle
E-Business Suite connection in Oracle Integration Cloud Service.
- Password: <ICS Password>

Updating the Trading Partner Details in the Trading Partner Setup Form

The screenshot shows the 'Trading Partner Setup' form. The top section contains fields for:

- Operating Unit: Vision Operations
- Trading Partner Type: Supplier
- Trading Partner Name: Advanced Network Devices
- Trading Partner Site: 2000 Century Way Santa Clara CA 95613-4565
- Company Admin Email: nobody@localhost6.com

 Below these fields are buttons for 'User Setup' and 'Code Conversion'. The bottom section, titled 'Trading Partner Details', contains a table with the following data:

Transaction Type	Transaction SubType	Standard Code	External Transaction Type	External Transaction SubType	Direction	Map	Connection/Hub	Protocol Type
PO	PRO	OAG	PO	PROCESS	OUT	itg_process_p	DIRECT	HTTPS

5. Save your work.

Testing and Validating the Integration

Based on the example scenario, once a purchase order is approved in the Oracle E-Business Suite Purchasing application, Oracle Purchasing will initiate XML Gateway outbound processing and publish XML message to Oracle Integration Cloud Service. Therefore, you need to create a purchase order first and then approve the order to trigger the outbound processing from Oracle E-Business Suite.

Perform the following steps to create and approve a new purchase order:

1. Log in to the Oracle E-Business Suite Purchasing instance as the `operations` user who has the Purchasing, Vision Operations (USA) responsibility.
Select **Purchase Orders** and then **Purchase Orders** from the navigation menu.
2. In the Purchase Orders form, create a new purchase order for the configured trading partner or supplier called "Advanced Network Devices" with the following information:
 - Supplier: Advanced Network Devices
 - Type: Standard Purchase Order

- Site: SANTA CLARA-ERS
- Ship-To: M1- Seattle Mfg
- Bill-To: V1- New York City

3. In the Line tab, add one line item:

- Num: 1
- Item: AS10000
- Description: 405 Digital Camera
- UOM: Each
- Quantity: 1
- Price: 1
- Freight: Accept the default value
- FOB: Accept the default value
- Promised Date: Enter a desired date
- Need By Date: Enter a desired date

[illegible]

- ## An Example of Using an XML Gateway Message as a Trigger (Source) in an Integration 9-17

Approving a Purchase Order with Approval Details

Approve Document - 5949

Approval Details Additional Options

Encumbrance

☐ Reserve ☐ Unreserve Unreserve Date

☐ Use GL Override ☐ Use Document GL Date to Unreserve Accounting Date

Approval

☒ Submit for Approval Forward From

☐ Forward Approval Path

Forward To

Note

Change Summary

Transmission Methods

☐ Print ☒ XML ☐ EDI

☐ Fax FAX Number

☐ E-Mail E-Mail Address

OK Cancel (B)

Click **OK**. The order status is now updated from "Incomplete" to "Approved".

This status change will internally trigger the XML Gateway engine for outbound transactions. Additionally, it will trigger the "PROCESS PO" integration you created in Oracle Integration Cloud Service.

Monitoring the Result in Oracle Integration Cloud Service

1. Log in to Oracle Integration Cloud Service.

On the Integration Cloud Service toolbar, click **Monitoring**.

2. In the navigator, click **Integrations**.

Click the instance created for the "PROCESS PO" integration to monitor the result.

An Example of Using the Oracle E-Business Suite Adapter as an Invoke (Target) in an Integration

Overview

To better understand how to use Oracle E-Business Suite services in Oracle Integration Cloud Service, this chapter describes an integration example through the use of Oracle E-Business Suite Adapter as an invoke (target) connection.

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 a REST request. When the Oracle E-Business Suite Adapter receives the 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 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.

Using Oracle E-Business Suite REST Services for Integrations 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 10-2
2. Creating an Integration, page 10-6
3. Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page 10-8
4. Adding the REST Adapter as a Trigger (Source) Connection , page 10-14
5. Creating Mappings, page 10-19
6. Assigning Business Identifier for Tracking, page 10-25
7. Activating and Testing the Integration, page 10-26

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

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

- Connection for Oracle E-Business Suite

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

- Connection for REST services

Similar to the Oracle E-Business Suite connection using the Oracle E-Business Suite Adapter, once the connection to REST services is established, you can use it as a trigger (source) connection later in an integration.

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

Perform the following steps to establish the connection for Oracle E-Business 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. Scroll down and select "Oracle E-Business Suite" from the dialog. You can optionally use the search feature to enter a full or partial name to locate the Oracle E-Business Suite Adapter from the dialog. Click the **Select** button for "Oracle E-Business Suite" to create a connection through the Oracle E-Business Suite Adapter.

3. In the New Connection - Information dialog, enter the following information for your connection:
 - **Connection Name:** Enter "EBS1225".
 - **Identifier:** Accept the default populated identifier, such as "EBS1225".
 - **Connection Role:** Select "Trigger and Invoke" role for this connection.
 - **Description:** Enter "Use the Oracle E-Business Suite Adapter connection in an integration" as the description.

Creating the Oracle E-Business Suite Connection

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

Connection Role: Trigger and Invoke

Description: Use the Oracle E-Business Suite Adapter connection in an integration

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-Business Suite instance.

Click **OK** to save your work.

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

Ensure that the Basic Authentication is selected as the security policy.

Enter `operations` as the username and its associated password in the Credentials dialog 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.

Selecting an Agent Group

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 information for "EBS1225", the connection details page is displayed.
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" now appears in the Connections page.

Creating an Connection for REST Services

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

1. In Oracle Integration Cloud Service, click **Create New Connection**.
The Create Connection - Select Adapter dialog appears.
2. Scroll down and select "REST" from the dialog. You can optionally use the search feature to enter a full or partial name to locate the REST Adapter from the dialog.
Click the **Select** button for "REST" to create an connection through the REST Adapter.
3. The New Connection - Information dialog appears.
Enter "GenericREST" as the Connection Name. The identifier value, GENERICREST, is automatically populated.
Select "Trigger and Invoke" as the Connection Role. Enter a meaningful description for this connection, such as "The sample source REST endpoint".
4. Click **Create** to create the connection.
5. Click **Configure Connectivity** to open the Connection Properties dialog where you select "REST API Base URL" as the Connection Type and enter a connection URL (`http://<ebs host name>:<port>/webservices/rest/orderMgmt`) to connect to an instance for REST services.

Entering the Connection Properties through the REST Adapter

Property Name	Property Value
Connection Type	REST API Base URL
Connection URL	http://example:8080/webservices/rest/orderMgmt

Click **OK** to save your work.

6. Click **Configure Security** to open the Credentials dialog.
Enter `operations` as the username and its associated password in the Credentials dialog to access the instance for REST services you specified earlier in the Connection Properties dialog.
Click **OK** to save your work.
7. Click **Test** to test the connection you just specified for REST services.
8. Click **Save** to save your connection.

Click **Exit Connection**.

The "GenericREST" connection for REST services appears in the Connections page, along with the Oracle E-Business Suite connection "EBS1225" that you created earlier.

Creating an Integration

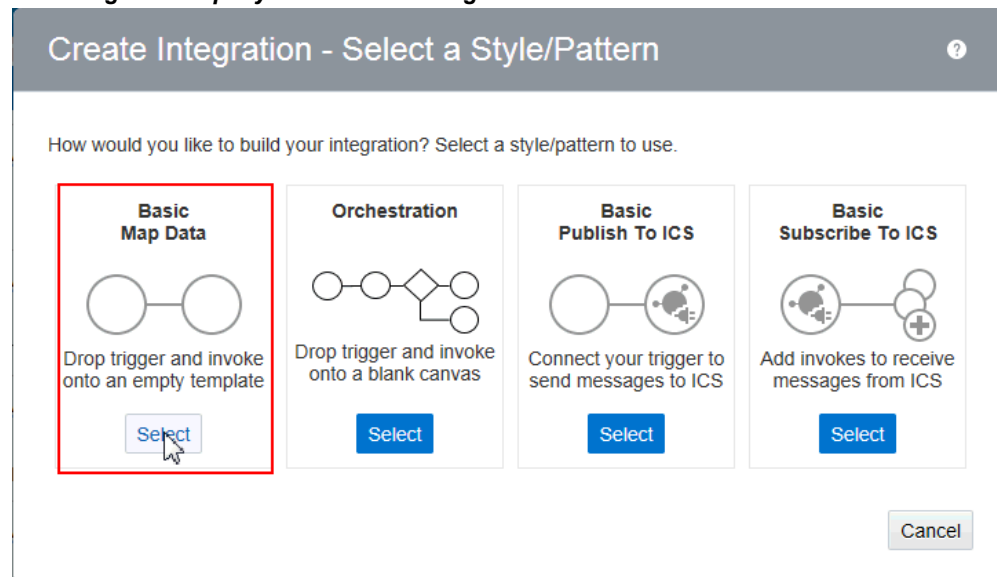
Perform the following steps to create an integration between REST services and Oracle E-Business Suite:

1. In the Integration Cloud Service toolbar, click **Designer**.
2. In the Designer Portal, click **Integrations**.
3. In the Integrations page, click **New Integration**.

The Create Integration - Select a Style/Pattern dialog appears.

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

Selecting the "Map My Data" as the Integration Pattern



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

Entering the "Create Order" Integration Information

Create New Integration
Enter information that describes this integration.

Describe this integration Use a meaningful name and description that will 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.

* What do you want to call your integration?
Create_Order

* Identifier
CREATE_ORDER

* Version
01.00.0000

What does this integration do?
Create a sales order in Oracle E-Business Suite

Which package does this integration belong to?
Enter a new or existing package name

Create Cancel

- **What do you want to call your integration?** Enter "Create Order" as the name.
- **Identifier:** Accept the default identifier value such as "CREATE ORDER".
- **Version:** Accept the default version number.
- **What does this integration do?** Enter description information for your integration, such as "Create a sales order in Oracle E-Business Suite".

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

To complete the integration, you need to add the following tasks that are described in the next few sections:

- Add the desired connections to the integration you just created.
See:
 - Adding the Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page 10-8
 - Adding the REST Adapter as a Trigger (Source) Connection , page 10-14
- Add mappings to the integration.
See: Creating Mappings, page 10-19.
- Assign business identifiers for tracking.

See: Assigning Business Identifier for Tracking, page 10-25.

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

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

Selecting "EBS1225" from the Connections Panel



2. In the Integration Designer, drag **EBS1225** from the Connections panel on the right to the Target area on the canvas.


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

3. In the Basic Info page, enter the following information for your endpoint:
 - **What do you want to call your endpoint?** - Enter "EBS_Reference".
 - **What does this endpoint do?** - Enter "Create a Sales Order in Oracle E-Business Suite".

Entering the Basic Information for the Target Endpoint

Configure Oracle E-Business Suite Adapter Endpoint

Help < Back Next > Cancel Done



Welcome to Oracle E-Business Suite Adapter Target Endpoint Configuration Wizard
This wizard helps you configure target endpoint using Oracle E-Business Suite Adapter connection. You will be asked to specify configuration parameters to integrate and perform a business task in Oracle E-Business Suite.

Basic Info
Web Services
Operations
Summary

* What do you want to call your endpoint?
EBS_Reference

What does this endpoint do?
Create a sales order in Oracle E-Business Suite

Click **Next**.

- 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".

Selecting a Product Family and Product for a Web Service

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Service
Select the target service which will be used to perform operation on Oracle E-Business Suite application.

Basic Info
Web Services
Operations
Summary

Product Family: Order Management Suite

Product:
=== Select ===
Advanced Pricing
Configurator
Order Management
Release Management
Shipping Execution Common
Transportation Execution

After 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 populated for further selection.

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

Selecting the "Sales Order Services" API from the Populated List

Configure Oracle E-Business Suite Adapter Endpoint

Select Oracle E-Business Suite Service
Select the target service which will be used to perform operation on Oracle E-Business Suite application.

Basic Info
Web Services
Operations
Summary

Product Family: Order Management Suite
Product: Order Management
* API: Filter by name
Process Order API
Purchase Order Acknowledgments Extension Columns API
Purchase Order Change Acknowledgments Extension Columns API
Sales Agreement API
Sales Order Outbound Services
Sales Order Services
Ship Confirmation

Internal Name: OE_INBOUND_INT
Description: This API allows clients to perform various operations on sales orders.

Click **Next**.

5. The selected API internal name `OE_INBOUND_INT` appears in the Operations page.

Select a desired method name contained in the selected `OE_INBOUND_INT` API for this invoke (target) connection. For example, select "PROCESS_ORDER".

Selecting the "PROCESS_ORDER" Method in the Operations Page

Configure Oracle E-Business Suite Adapter Endpoint

Select Operation for Oracle E-Business Suite Service
Operations for selected Oracle E-Business Suite Service are listed. Select Operation to perform on Oracle E-Business Suite application. Selected Operation should be 'Ready to use' to configure the target endpoint for integration.

Basic Info
Web Services
Operations
Summary

API: OE_INBOUND_INT
Methods: PROCESS_ORDER

Service Status: Ready to Use

Description: Use this procedure to build Oracle Applications Adapter based web services that create, update or delete Sales Orders in the Order Management system. It is optimized for usage in web services and recommended for this purpose over Process Order API. DO NOT use Process Order API (

Click **Next**.

- The Summary page displays all the selected interface details. This information includes the selected "PROCESS_ORDER" operation (with "Ready to Use" status) contained in the "OE_INBOUND_INT" web service from the Order Management Suite product family and Order Management product. This page also displays the default interaction pattern "Synchronize" and security policy "Username Token" for the selected service.

Viewing the Selected Target Endpoint Details in the Summary Page

Configure Oracle E-Business Suite Adapter Endpoint

Help ▾ < Back Next > Cancel Done

Oracle E-Business Suite Adapter Target Endpoint Configuration Summary
Oracle E-Business Suite Adapter Target Endpoint configuration was successful.

Basic Info	Product Family	Order Management Suite
Web Services	Product	Order Management
Operations	Web Service	OE_INBOUND_INT
Summary	Interaction Pattern	Synchronous
	Operation	PROCESS_ORDER
	Status	Ready to Use
	Security Policy	Username Token

The Oracle E-Business Suite Adapter Target Endpoint configuration is successfully created.

Click **Done**.

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

The connection for Oracle E-Business Suite now appears in the Invoke (Target) area on the canvas.

Showing the Oracle E-Business Suite Connection in the Invoke Area



Adding the REST Adapter as a Trigger (Source) Connection

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

Selecting "GenericREST" from the Connections Panel



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.

Ensure that you select the following two check boxes for this trigger (source) connection:

- **Configure a request payload for this endpoint**
- **Configure this endpoint to receive the response**

Entering the REST Adapter Endpoint Details in the Basic Info Page

The screenshot shows the 'Configure Oracle REST Endpoint' wizard in the 'Basic Info' tab. The wizard is titled 'Configure Oracle REST Endpoint' and has a 'Welcome to the Oracle REST Endpoint Configuration Wizard' message. The left sidebar shows the 'Basic Info' tab selected, with other tabs like 'Request Parameters', 'Request', 'Response', and 'Summary'. The main content area contains the following fields and options:

- What do you want to call your endpoint?**: A text field with 'Source' entered.
- What does this endpoint do?**: A text area with 'Provide REST endpoint with input payload for sales order creation' entered.
- What is the endpoint's relative resource URI?**: A text field with '/process_order' entered.
- What action does the endpoint perform?**: A dropdown menu with 'POST' selected.
- Based on your selections, you can add parameters or configure a request and/or response for this endpoint.**: A section with the text 'Select any options that you want to configure:' and three checkboxes:
 - ☐ Add and review parameters for this endpoint
 - ☒ Configure a request payload for this endpoint
 - ☒ Configure this endpoint to receive the response

Click **Next**.

4. In the Request page, perform the following tasks:
 - In the "Select the request payload file" section, select the **JSON schema** button.
Please note that the request payload file type can be either XML schema or JSON format.
 - Click **Browse** to select a desired request payload file, such as "request.json".
Click **Open** to attach the selected file.
For the sample request payload, see Sample JSON Payloads for the Oracle E-Business Suite Adapter as an Invoke Example, page A-3.
 - In the "Select the type of payload with which you want the endpoint to receive" section, select the **JSON** button as the payload type.

Specifying the Request Payload Details in the Request Page

The screenshot shows the 'Configure Oracle REST Endpoint' dialog box with the 'Request' tab selected. The 'Request' tab is highlighted in blue in the left sidebar. The main content area is titled 'Configure the Request Payload' and contains the following sections:

- Select the request payload file:** Two radio buttons are present: 'XML Schema' and 'JSON Sample'. 'JSON Sample' is selected.
- Sample Location:** A 'Browse...' button is next to the text 'No file selected.' A callout box labeled 'Sample Location' points to this section.
- Element:** A dropdown menu is set to 'request-wrapper'.
- Select the type of payload with which you want the endpoint to receive:** Four radio buttons are present: 'XML', 'JSON', 'URL-encoded', and 'Other Media Type'. 'JSON' is selected.
- Media Type:** A text field contains the example 'application/oracle.cloud+json'.

Click **Next**.

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

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

Specifying the Response Payload Details in the Response Page

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

For the sample response payload, see Sample JSON Payloads for the Oracle E-Business Suite Adapter as an Invoke Example, page A-3.

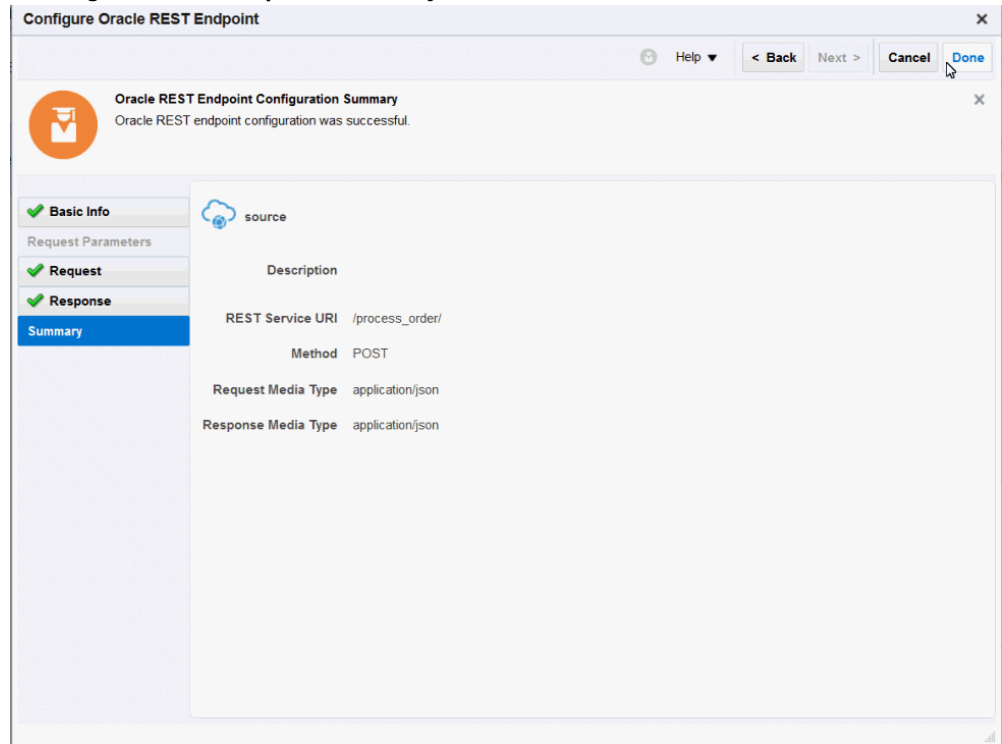
In the "Select the type of payload with which you want the endpoint to reply" section, select the **JSON** button as the payload type.

6. Click **Next**.

This displays the Summary page with the following REST service information that you specified earlier:

- REST Service URI: /process_order/
- Method: POST
- Request Media Type: application/json
- Response Media Type: application/json

Viewing the REST Endpoint Summary Information



Click **Done**.

Click **Save** to save your work. The GenericREST connection now appears in the Trigger (Source) area on the canvas, along with the "EBS1225" displayed in the Invoke (Target) area.

Creating Mappings

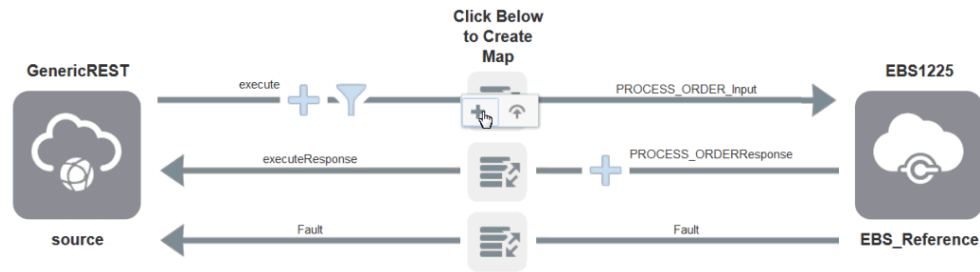
This step is to create mappings between the source and target data structures in the integration. It includes the following three mappings:

- 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 Mapper page.

Creating the Mapping for the Request Message

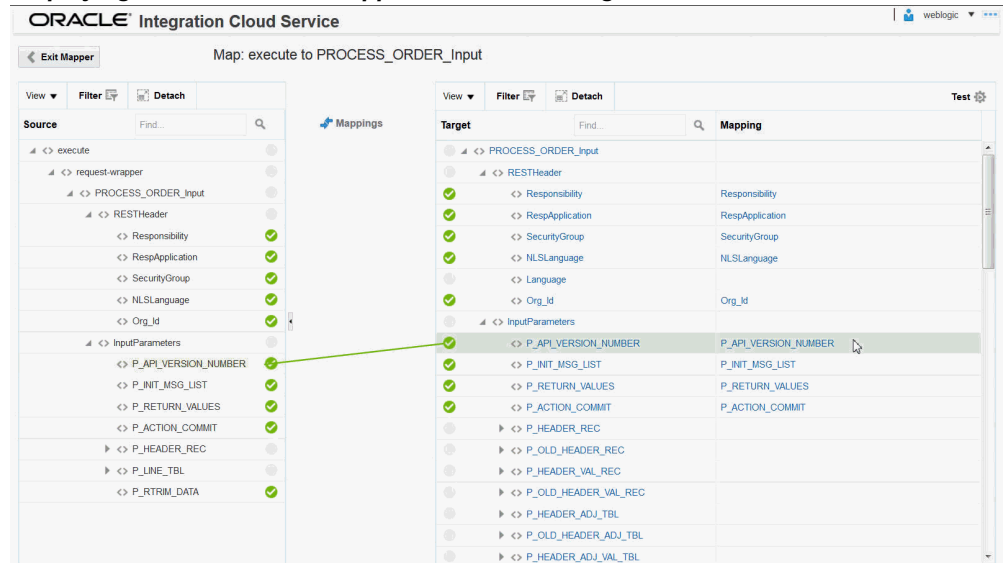


2. In the Mapper page, create the mappings between the source and target elements:
 - In the Source section, expand the **execute** node, then the **request-wrapper** node, then the **PROCESS_ORDER_Input** node, and then the **InputParameters** node.
Select the **P_API_VERSION_NUMBER** element.
 - In the Target section, 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 section to the **P_API_VERSION_NUMBER** element in the Target section to map the data.

Once you complete this step, the mapped source value and the corresponding target element are connected by a green line.

Displaying a Green Line for Mapped Source and Target Fields



Similarly, use the same approach to complete the mappings for the elements listed in the following table.

Source Path	Source Element	Target Path	Target Element
execute/equest-wrap per/ PROCESS_ORDER_I nput/RESTHeader	Responsibility	PROCESS_ORDER_I nput/RESTHeader	Responsibility
execute/equest-wrap per/ PROCESS_ORDER_I nput/RESTHeader	RespApplication	PROCESS_ORDER_I nput/RESTHeader	RespApplication
execute/equest-wrap per/ PROCESS_ORDER_I nput/RESTHeader	SecurityGroup	PROCESS_ORDER_I nput/RESTSecurityG roupHeader	SecurityGroup
execute/equest-wrap per/ PROCESS_ORDER_I nput/RESTHeader	NLSLanguage	PROCESS_ORDER_I nput/RESTHeader	NLSLanguage

Source Path	Source Element	Target Path	Target Element
execute/equest-wrap per/ PROCESS_ORDER_I nput/RESTHeader	Org_Id	PROCESS_ORDER_I nput/RESTHeader	Org_Id
execute/equest-wrap per/ PROCESS_ORDER_I nput/InputParamete rs	P_INIT_MSG_LIST	PROCESS_ORDER_I nput/InputParamete rs	P_INIT_MSG_LIST
execute/equest-wrap per/ PROCESS_ORDER_I nput/InputParamete rs	P_RETURN_VALUE S	PROCESS_ORDER_I nput/InputParamete rs	P_RETURN_VALUE S
execute/equest-wrap per/ PROCESS_ORDER_I nput/InputParamete rs	P_ACTION_COMM IT	PROCESS_ORDER_I nput/InputParamete rs	P_ACTION_COMM IT

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

- Once the mapping is complete, click **Save** to save your work.
- Click **Exit Mapper**.

Creating the second mapping for the response:

- In the middle of the integration, click the **Mapper** icon for the response.
Click **Create** (the + icon) to display the Mapper page.
- In the Mapper page, create mappings to map the source and target elements.
 - In the Source section, expand the **PROCESS_ORDERResponse** node, and then the **OutputParameters** node.
Select the **X_RETURN_STATUS** element.
 - In the Target section, expand the **executeResponse** node, then the

response-wrapper node, and then the **Output Parameters** node.

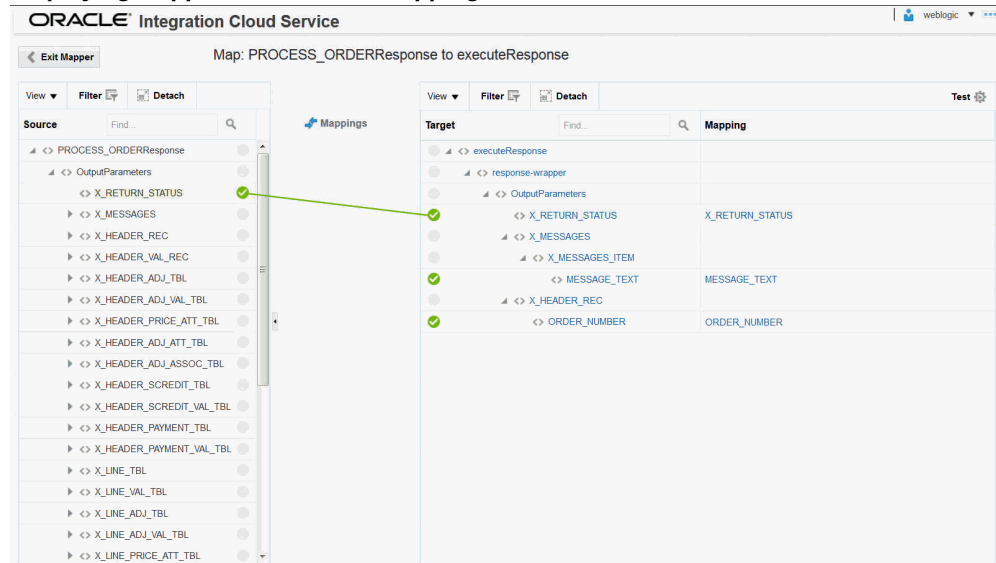
Select the **X_RETURN_STATUS** element.

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

3. Use the same approach to complete the mappings for the elements listed in the following table.

Source Path	Source Element	Target Path	Target Element
PROCESS_ORDERR esponse/OutputPara meters/X_MESSAGE S/X_MESSAGES_IT EM	MESSAGE_TEXT	executeResponse/res ponse-wrapper/Out putParameters/X_M ESSAGES/X_MESSA GES_ITEM	MESSAGE_TEXT
PROCESS_ORDERR esponse/OutputPara meters/X_HEADER_ REC	ORDER_NUMBER	executeResponse/res ponse-wrapper/Out putParameters/X_H EADER_REC	ORDER_NUMBER

Displaying Mapped Fields in the Mapping Column



Click **Save** to save your work.

4. Click **Exit Mapper**.

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.

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

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

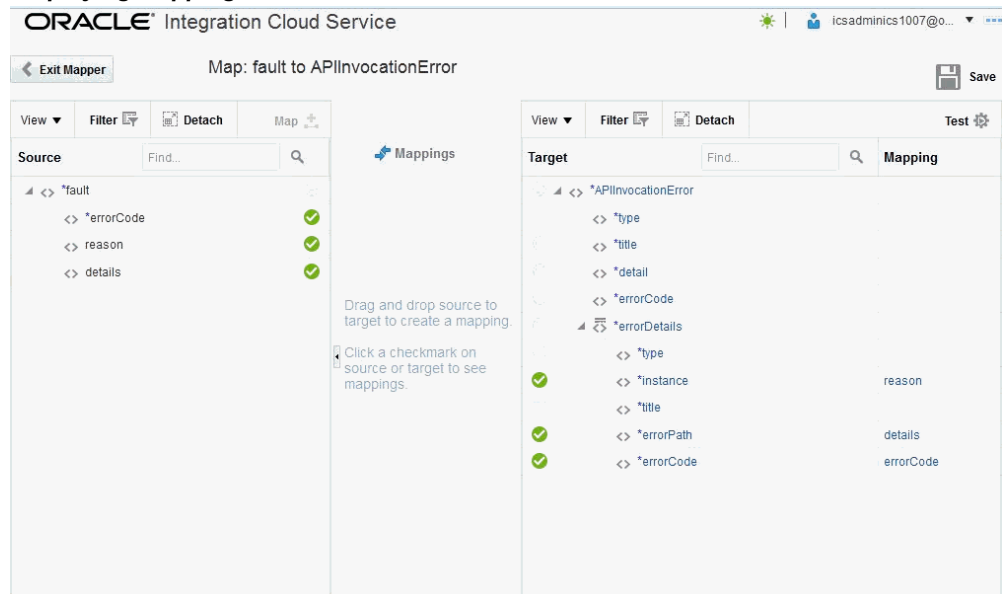
- In the Source section, expand the **fault** node.
Select the **errorCode** element.
- In the Target section, expand the **APIInvocationError** node.
Select the **errorCode** element.

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

5. Use the same approach to complete the mappings for the elements listed in the following table.

Source Path	Source Element	Target Path	Target Element
fault	reason	APIInvocationError/ errorDetails	instance
fault	details	APIInvocationError/ errorDetails	errorPath

Displaying Mappings for the Fault



6. 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**.

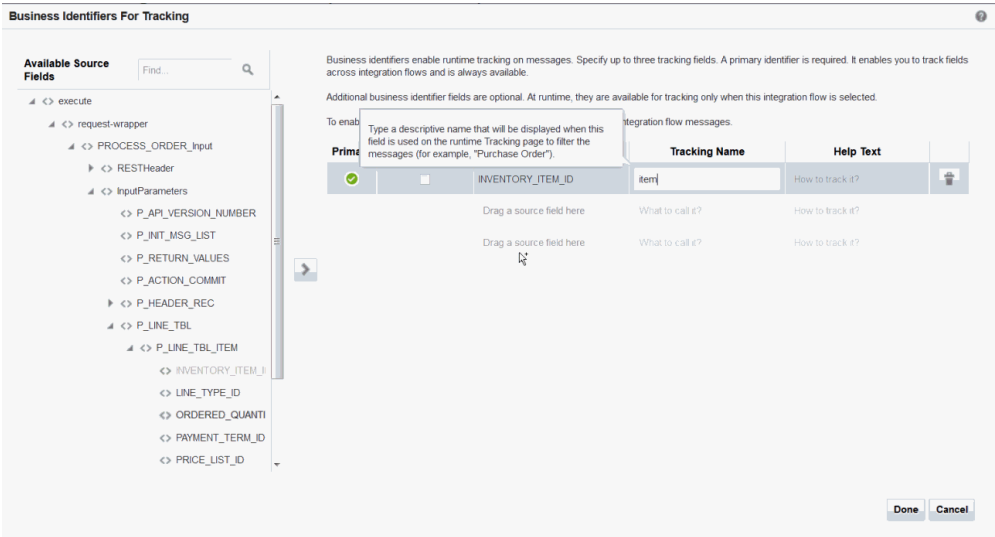
The Business Identifiers For Tracking dialog appears.

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.

Displaying the Selected Element for Tracking



- 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**.

Displaying the Integration with ACTIVE Status



Notice that the status of the "Create Order" integration changes to **ACTIVE** indicating that the integration is ready to use at runtime.

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://<ebs host name>:<port>/integration/flowapi/rest/CREATE_ORDER/v01/`) 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 and is shown in the Response tab.

Displaying the Service Invocation Response with an Order Number



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 the **F11** key. In the Customer PO field, enter the order ID retrieved from the service invocation. For example, enter 69359 and press the **CTRL+F11** keys to execute the query. You should be able to find the order created in

Oracle E-Business Suite.

Sample Payloads

This appendix covers the following topics:

- Sample XSD for the Create_Invoice Activity Used in the Business Event Example
- Sample JSON Payloads for the Oracle E-Business Suite Adapter as an Invoke Example

Sample XSD for the Create_Invoice Activity Used in the Business Event Example

The following information shows the sample xsd used for the Create Invoice REST service. This service is added through the REST Adapter for the business event example described earlier. For information on how to use this sample xsd in an integration, see: Adding the Oracle E-Business Suite Adapter (Trigger) and the REST Adapter (Invoke) to the Integration, page 8-12.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
<xs:element name="CREATE_SINGLE_INVOICE_Input">
<xs:complexType>
<xs:sequence>
<xs:element name="RESTHeader">
<xs:complexType>
<xs:sequence>
<xs:element name="Responsibility" type="xs:string"></xs:element>
<xs:element name="RespApplication" type="xs:string"></xs:element>
<xs:element name="SecurityGroup" type="xs:string"></xs:element>
<xs:element name="NLSLanguage" type="xs:string"></xs:element>
<xs:element name="Org_Id" type="xs:string"></xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="InputParameters">
<xs:complexType>
<xs:sequence>
<xs:element name="P_API_VERSION" type="xs:int"></xs:element>
<xs:element name="P_INIT_MSG_LIST" type="xs:string"></xs:element>
<xs:element name="P_COMMIT" type="xs:string"></xs:element>
<xs:element name="P_BATCH_SOURCE_REC">
<xs:complexType>
<xs:sequence>
<xs:element name="BATCH_SOURCE_ID" type="xs:int"></xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="P_TRX_HEADER_TBL">
<xs:complexType>
<xs:sequence>
<xs:element name="P_TRX_HEADER_TBL_ITEM">
<xs:complexType>
<xs:sequence>
<xs:element name="TRX_HEADER_ID" type="xs:int"></xs:element>
<xs:element name="TRX_NUMBER" type="xs:string"></xs:element>
<xs:element name="CUST_TRX_TYPE_ID" type="xs:string"></xs:element>
<xs:element name="BILL_TO_CUSTOMER_ID" type="xs:int"></xs:element>
<xs:element name="SHIP_TO_CUSTOMER_ID" type="xs:string"></xs:element>
<xs:element name="COMMENTS" type="xs:string"></xs:element>
</xs:sequence>
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</xs:sequence>
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</xs:element>
<xs:element name="P_TRX_LINES_TBL">
<xs:complexType>
<xs:sequence>
<xs:element name="P_TRX_LINES_TBL_ITEM">
<xs:complexType>
<xs:sequence>
<xs:element name="TRX_HEADER_ID" type="xs:int"></xs:element>
<xs:element name="TRX_LINE_ID" type="xs:string"></xs:element>
<xs:element name="LINE_NUMBER" type="xs:string"></xs:element>
<xs:element name="DESCRIPTION" type="xs:int"></xs:element>
<xs:element name="QUANTITY_ORDERED" type="xs:string"></xs:element>
<xs:element name="QUANTITY_INVOICED" type="xs:int"></xs:element>
<xs:element name="UNIT_SELLING_PRICE" type="xs:string"></xs:element>

```

```
<xs:element name="LINE_TYPE" type="xs:int"/></xs:element>
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</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>
```

Sample JSON Payloads for the Oracle E-Business Suite Adapter as an Invoke Example

This section includes the JSON request and response payloads used in the example of adding the Oracle E-Business Suite Adapter as an invoke (target) connection in an integration.

For information on using these payloads, see: [Adding the REST Adapter as a Trigger \(Source\) Connection](#) , page 10-14.

Sample Request Payload for the request.json File

```

{
  "PROCESS_ORDER_Input": {
    "RESTHeader": {
      "Responsibility": "ORDER_MGMT_SUPER_USER",
      "RespApplication": "ONT",
      "SecurityGroup": "STANDARD",
      "NLSLanguage": "AMERICAN",
      "Org_Id": "204"
    },
    "InputParameters": {
      "P_API_VERSION_NUMBER": "1.0",
      "P_INIT_MSG_LIST": "T",
      "P_RETURN_VALUES": "T",
      "P_ACTION_COMMIT": "T",
      "P_HEADER_REC": {
        "BOOKED_FLAG": "N",
        "ORDER_TYPE_ID": "1430",
        "ORG_ID": "204",
        "PAYMENT_TERM_ID": "4",
        "PRICE_LIST_ID": "1000",
        "SOLD_TO_ORG_ID": "1002",
        "TRANSACTIONAL_CURR_CODE": "USD",
        "OPERATION": "CREATE"
      },
      "P_LINE_TBL": {
        "P_LINE_TBL_ITEM": {
          "INVENTORY_ITEM_ID": "149",
          "LINE_TYPE_ID": "1427",
          "ORDERED_QUANTITY": "1",
          "PAYMENT_TERM_ID": "4",
          "PRICE_LIST_ID": "1000",
          "UNIT_LIST_PRICE": "12.55",
          "UNIT_SELLING_PRICE": "12.55",
          "OPERATION": "CREATE"
        }
      },
      "P_RTRIM_DATA": "n"
    }
  }
}

```

Sample Response Payload for the response.json File

```

{
  "OutputParameters" : {
    "X_RETURN_STATUS" : "S",
    "X_MESSAGES" : {
      "X_MESSAGES_ITEM" : [ {
        "MESSAGE_TEXT" : " Debug File: "
      } ]
    },
    "X_HEADER_REC" : {
      "ORDER_NUMBER" : 123
    }
  }
}

```

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 an Oracle E-Business Suite Adapter 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 B-1
- Error Messages While Creating an Integration with Oracle E-Business Suite Adapter as a Trigger (Source) Connection, page B-5
- Error Messages While Creating an Integration with Oracle E-Business Suite Adapter as an Invoke (Target) Connection, page B-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 Oracle E-Business Suite Adapter from 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.	<p>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 Oracle E-Business Suite Adapter from Oracle Integration Cloud Service, page 2-1.</p> <p>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.</p>
CASDK-0005	Verify Integrated SOA Gateway setup on Oracle E-Business Suite. For details, refer to documentation.	<p>Ensure to complete the setup tasks for Oracle E-Business Suite Integrated SOA Gateway (ISG), as described in Setting Up Oracle E-Business Suite Adapter from Oracle Integration Cloud Service, page 2-1.</p>

ICS Error Code	Error Message	Resolution
CASDK-0005	Verify if Metadata Provider service is deployed with alias 'provider'. Ensure that all its methods are deployed with GET verb.	<p>This error occurs due to either of the following reasons:</p> <ul style="list-style-type: none"> • 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". <p>To resolve the issue, ensure to deploy all the methods in the Metadata Provider API with GET verb and with service alias "provider".</p> <p>For information on deploying Metadata Provider service, see step 3, as described in Setting Up Oracle E-Business Suite Adapter from Oracle Integration Cloud Service, page 2-1.</p>
CASDK-0005	Error connecting to the Oracle E-Business Suite: <URL>	<p>Provide valid Oracle E-Business Suite host and port information (<code>http(s)://<ebs host name>:<port></code>) where Oracle E-Business Suite is configured for ISG REST services.</p>

ICS Error Code	Error Message	Resolution
CASDK-0005	<p>A connector specific exception was raised by the application.</p> <p>The connection URL should be of the format: http://<ebs host name>:<port></p>	<p>This error occurs due to invalid URL format.</p> <p>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></p>
CASDK-0007	<p>Unable to establish a secure connection to example.com. SSL protocol related exception occurred.</p> <p>- sun.security.validator.ValidatorException: PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target</p> <p>- PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target</p> <p>- unable to find valid certification path to requested target</p>	<p>This error occurs because of SSL certificate issues.</p> <p>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.</p>
CASDK-0005	<p>Connection URL should be of the format: http://<host name>:<port></p>	<p>This issue occurs because of protocol error.</p> <p>To resolve the issue, the connection URL should be of the format: http(s)://<ebs host name>:<port></p>

Error Messages While Creating an Integration with Oracle E-Business Suite Adapter as a Trigger (Source) Connection

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

Error Message	Resolution
Please select a Business Event to proceed. If no events are listed, select another Product / Product family.	<p>If no Business Event is selected in the Business Events page, after you click Next, this error occurs.</p> <p>Ensure that you select a desired business event from the populated list based on your selected product and product family before clicking Next.</p> <p>For information on configuring the endpoint for business events, see <i>Configuring an Oracle E-Business Suite Business Event in an Integration</i>, page 5-4.</p>
Please select a XML Gateway Map to proceed. If no maps are listed, select another Product / Product family.	<p>If no XML Gateway map is selected in the XML Gateway Message page, after you click Next, this error occurs.</p> <p>Ensure that you select a desired XML Gateway message from the populated list based on your selected product and product family before clicking Next.</p> <p>For information on configuring the endpoint for XML Gateway message maps, see <i>Configuring an Oracle E-Business Suite XML Gateway Message in an Integration</i>, page 5-6.</p>

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.	<p>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.</p> <p>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 Setup Tasks for Enabling the Oracle E-Business Suite Adapter, page 2-1.</p>
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.	<p>This error occurs when the selected interface is not deployed as a REST service.</p> <p>Ensure that you deploy the selected interface as a REST service. For information on deploying an interface as a REST service, see step 3 as described in Setup Tasks for Enabling the Oracle E-Business Suite Adapter, page 2-1.</p>
<p>Service Status: Not Deployed</p> <p>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.</p>	<p>When a selected operation or method is not deployed as a REST service operation, this error occurs.</p> <p>Ensure that you deploy the selected method in an interface as a REST service operation.</p>
The application has encountered an unexpected error. Please check the application connection details and credentials, and retry your request.	<p>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.</p> <p>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, Setup Tasks for Enabling the Oracle E-Business Suite Adapter, page 2-1.</p>

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