

Oracle® E-Business Suite

Integrated SOA Gateway User's Guide

Release 12.1

Part No. E12064-10

February 2021

Oracle E-Business Suite Integrated SOA Gateway User's Guide, Release 12.1

Part No. E12064-10

Copyright © 2005, 2021, Oracle and/or its affiliates.

Primary Author: David Weld, Melody Yang

Contributing Author: Leslie Studdard

Contributor: Rekha Ayothi, Sudipto Chakraborty, Neeraj Chauhan, Vardhan Kale, Bhaskar Ghosh, Aditya Rao, Avinash Dabholkar, Mark Fisher, Kevin Hudson, Anil Kemiseti, Surya Narayana Nallepalli, Ravindra Nadakuditi, Dilbaghsingh Sardar, Vijayakumar Shanmugam, Abhishek Verma, Jason Xie

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

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

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

Contents

Send Us Your Comments

Preface

1 Introduction to Oracle E-Business Suite Integrated SOA Gateway

Oracle E-Business Suite Integrated SOA Gateway Overview..... 1-1

2 Understanding Service Enablement

Service Enablement Overview..... 2-1

Common Terms Used in the Web Services..... 2-2

Service-Oriented Architecture in Oracle E-Business Suite..... 2-3

Service Enablement in Oracle E-Business Suite..... 2-5

3 Navigating Through Oracle Integration Repository

Oracle Integration Repository Overview..... 3-1

Getting Started..... 3-3

Discovering and Reviewing Interfaces..... 3-6

 Browsing the Integration Interfaces..... 3-6

 Searching for an Integration Interface..... 3-8

 Interface Types..... 3-12

 Integration Standards..... 3-17

4 Working with Native Services and Integration Interfaces

Common Information..... 4-1

 Common Information on Interface Details..... 4-3

 Common Information on SOAP Web Services..... 4-8

Common Information on REST Web Services.....	4-11
Reviewing Web Service WSDL Sources.....	4-16
Reviewing Web Service WADL Sources.....	4-19
Managing Grants.....	4-23
XML Gateway Map Information.....	4-27
PL/SQL Information.....	4-32
Java Information.....	4-36
Java Bean Services.....	4-38
Application Module Services.....	4-41
Security Services.....	4-43
Java APIs for Forms.....	4-45
Business Service Object.....	4-45
Integration Repository Service.....	4-49
Reviewing Service Data Object.....	4-52
Concurrent Program Information.....	4-59
Open Interface Information.....	4-62
Interface View Information.....	4-66
EDI Message Information.....	4-69
Business Event Information.....	4-70

5 Working With Composite Services

Overview of Composite Services.....	5-1
Viewing Composite Services.....	5-2
Downloading Composite Services.....	5-3

6 Working with Custom Integration Interfaces and Services

Overview of Custom Integration Interfaces.....	6-1
Searching Custom Integration Interfaces.....	6-2
Viewing Custom Interface Details.....	6-5
Performing Additional Web Service Activities for Custom Integration Interfaces.....	6-6

Glossary

Index

Send Us Your Comments

Oracle E-Business Suite Integrated SOA Gateway User's Guide, Release 12.1

Part No. E12064-10

Oracle welcomes customers' comments and suggestions on the quality and usefulness of this document. Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

If you find any errors or have any other suggestions for improvement, then please tell us your name, the name of the company who has licensed our products, the title and part number of the documentation and the chapter, section, and page number (if available).

Note: Before sending us your comments, you might like to check that you have the latest version of the document and if any concerns are already addressed. To do this, access the new Oracle E-Business Suite Release Online Documentation CD available on My Oracle Support and www.oracle.com. It contains the most current Documentation Library plus all documents revised or released recently.

Send your comments to us using the electronic mail address: appsdoc_us@oracle.com

Please give your name, address, electronic mail address, and telephone number (optional).

If you need assistance with Oracle software, then please contact your support representative or Oracle Support Services.

If you require training or instruction in using Oracle software, then please contact your Oracle local office and inquire about our Oracle University offerings. A list of Oracle offices is available on our Web site at www.oracle.com.

Preface

Intended Audience

Welcome to Release 12.1 of the *Oracle E-Business Suite Integrated SOA Gateway User's Guide*.

This guide assumes you have a working knowledge of the following:

- The principles and customary practices of your business area.
- Computer desktop application usage and terminology.
- Oracle E-Business Suite integration interfaces.
- B2B, A2A and BP integrations.

This documentation assumes familiarity with Oracle E-Business Suite. It is written for the technical consultants, implementers and system integration consultants who oversee the functional requirements of these applications and deploy the functionality to their users.

If you have never used Oracle E-Business Suite, we suggest you attend one or more of the Oracle E-Business Suite training classes available through Oracle University.

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

Documentation Accessibility

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

Access to Oracle Support

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

Structure

- 1 Introduction to Oracle E-Business Suite Integrated SOA Gateway
 - 2 Understanding Service Enablement
 - 3 Navigating Through Oracle Integration Repository
 - 4 Working with Native Services and Integration Interfaces
 - 5 Working With Composite Services
 - 6 Working with Custom Integration Interfaces and Services
- Glossary

Related Information Sources

This book is included in the Oracle E-Business Suite Documentation Library. If this guide refers you to other Oracle E-Business Suite documentation, use only the latest Release 12.1 versions of those guides.

Online Documentation

All Oracle E-Business Suite documentation is available online (HTML or PDF).

- **Online Help** - Online help patches (HTML) are available on My Oracle Support.
- **Oracle E-Business Suite Documentation Library** - This library, which is included in the Oracle E-Business Suite software distribution, provides PDF documentation as of the time of each release.
- **Oracle E-Business Suite Documentation Web Library** - This library, available on the Oracle Help Center (https://docs.oracle.com/cd/E18727_01/index.htm), provides the latest updates to Oracle E-Business Suite Release 12.1 documentation. Most documents are available in PDF and HTML formats.
- **Release Notes** - For information about changes in this release, including new features, known issues, and other details, see the release notes for the relevant product, available on My Oracle Support.
- **Oracle Electronic Technical Reference Manual** - The Oracle Electronic Technical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for each Oracle E-Business Suite product. This information helps you convert data from your existing applications and integrate Oracle E-Business Suite data with non-Oracle applications, and write

custom reports for Oracle E-Business Suite products. The Oracle eTRM is available on My Oracle Support.

Related Guides

You should have the following related books on hand. Depending on the requirements of your particular installation, you may also need additional manuals or guides.

Oracle E-Business Suite Concepts

This book is intended for all those planning to deploy Oracle E-Business Suite Release 12, 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 Developer's Guide

This guide contains the coding standards followed by the Oracle E-Business Suite development staff. It describes the Oracle Application Object Library components needed to implement the Oracle E-Business Suite user interface described in the *Oracle E-Business Suite User Interface Standards for Forms-Based Products*. It provides information to help you build your custom Oracle Forms Developer forms so that they integrate with Oracle E-Business Suite. In addition, this guide has information for customizations in features such as concurrent programs, flexfields, messages, and logging.

Oracle Fusion Middleware Adapter for Oracle Applications User's Guide

This guide covers the use of Adapter for Oracle Applications (also known as Oracle E-Business Suite Adapter) in developing integrations between Oracle E-Business Suite and trading partners.

This book covers the use of Oracle E-Business Suite Adapter (formerly known as "Adapter for Oracle Applications" in Oracle Applications Server 10g or Oracle Fusion Middleware 11g releases) in developing integrations between Oracle E-Business Suite and trading partners.

This book is available in the Oracle Application Server 10g Documentation Library and Oracle Fusion Middleware 11g Documentation Library.

Oracle E-Business Suite System Administrator's Guide Documentation Set

This documentation set provides planning and reference information for the Oracle E-Business Suite System Administrator. *Oracle E-Business Suite System Administrator's Guide - Configuration* contains information on system configuration steps, including defining concurrent programs and managers, enabling Oracle Applications Manager features, and setting up printers and online help. *Oracle E-Business Suite System Administrator's Guide - Maintenance* provides information for frequent tasks such as monitoring your system with Oracle Applications Manager, administering Oracle E-Business Suite Secure Enterprise Search, managing concurrent managers and reports, using diagnostic utilities including logging, managing profile options, and using alerts. *Oracle E-Business Suite System Administrator's Guide - Security* describes User

Management, data security, function security, auditing, and security configurations.

Oracle E-Business Suite User's Guide

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

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 runtime.

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 web service invocation.

Oracle E-Business Suite Integrated SOA Gateway Implementation Guide

This guide explains how integration repository 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-Commerce Gateway User's Guide

This guide describes the functionality of Oracle e-Commerce Gateway and the necessary setup steps in order for Oracle E-Business Suite to conduct business with trading partners through Electronic Data Interchange (EDI). It also contains how to run extract programs for outbound transactions, import programs for inbound transactions, and the relevant reports.

Oracle Report Manager User's Guide

Oracle Report Manager is an online report distribution system that provides a secure and centralized location to produce and manage point-in-time reports. Oracle Report Manager users can be either report producers or report consumers. Use this guide for information on setting up and using Oracle Report Manager.

Oracle Workflow User's Guide

This guide describes how users can view and respond to workflow notifications and monitor the progress of their workflow processes.

Oracle XML Gateway User's Guide

This guide describes Oracle XML Gateway functionality and each component of the Oracle XML Gateway architecture, including Message Designer, Oracle XML Gateway Setup, Execution Engine, Message Queues, and Oracle Transport Agent. It also explains how to use Collaboration History that records all business transactions and messages exchanged with trading partners.

The integrations with Oracle Workflow Business Event System, and the Business-to-Business transactions are also addressed in this guide.

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.

Introduction to Oracle E-Business Suite Integrated SOA Gateway

Oracle E-Business Suite Integrated SOA Gateway Overview

Building on top of Oracle Fusion Middleware and service-oriented architecture (SOA) technology, Oracle E-Business Suite Integrated SOA Gateway (ISG) is a complete set of service infrastructure to provide, consume, and administer Oracle E-Business Suite web services.

With service enablement feature, integration interfaces published in the Oracle Integration Repository can be transformed into SOAP and REST based web services.

SOAP-based services are described in WSDLs and are deployed to the application server for service consumption. REST services described in WADLs are used for user-driven applications such as Oracle E-Business Suite mobile applications.

Oracle E-Business Suite Integrated SOA Gateway provides Service Invocation Framework to invoke and consume web services provided by other applications.

For more information on implementing and administering Oracle E-Business Suite Integrated SOA Gateway and performing end-to-end integration activities, see the *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide* and the *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

Major Features

Oracle E-Business Suite Integrated SOA Gateway contains the following features:

- Display all Oracle E-Business Suite integration interface definitions through Oracle Integration Repository
- Support custom integration interfaces from Oracle Integration Repository
- Provide service enablement capability (SOAP and REST services) for seeded and

custom integration interfaces within Oracle E-Business Suite

- Use the Integration Repository user interface to perform design-time activities such as generate and deploy Oracle E-Business Suite web services
- Support synchronous interaction pattern for both SOAP-based and REST-based web services

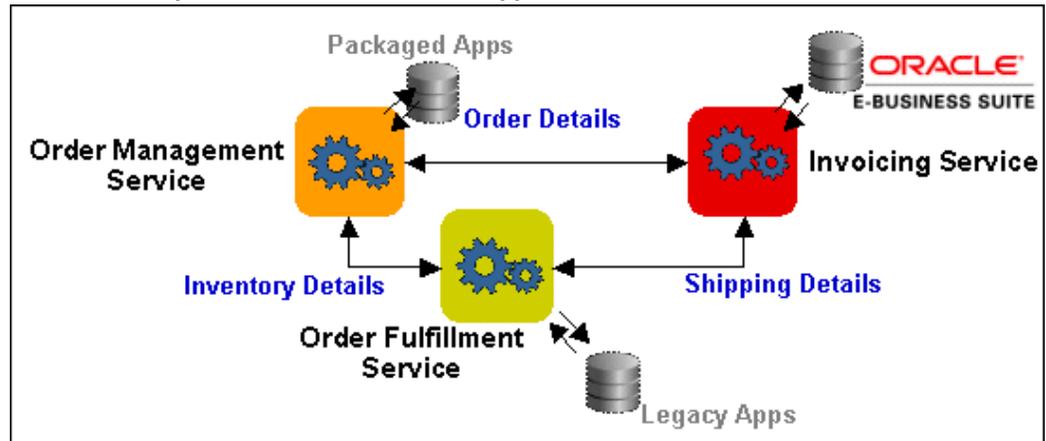
Note: In this release, only PL/SQL APIs, Concurrent Programs, and Business Service Objects can be exposed as both SOAP and REST services. Java Bean Services, Application Module Services, Open Interface Tables, and Open Interface Views can be exposed as REST services only.

- Support multiple authentication types for inbound service requests in securing web service content
- Enforce function security and role-based access control security to allow only authorized users to execute administrative functions
- Provide centralized, user-friendly user interface for logging configuration
- Audit and monitor Oracle E-Business Suite service operations from native SOA Monitor
- Leverage Oracle Workflow Business Event System to enable web service invocation from Oracle E-Business Suite

Business Process Scenario

Oracle E-Business Suite Integrated SOA Gateway provides a seamless integration between various applications. Take the most common business process such as Order-to-Receipt as an example to further explain how discrete web services can be orchestrated into a standards-based manner and more meaningful end-to-end business flow.

Order-to-Receipt Business Flow Between Applications



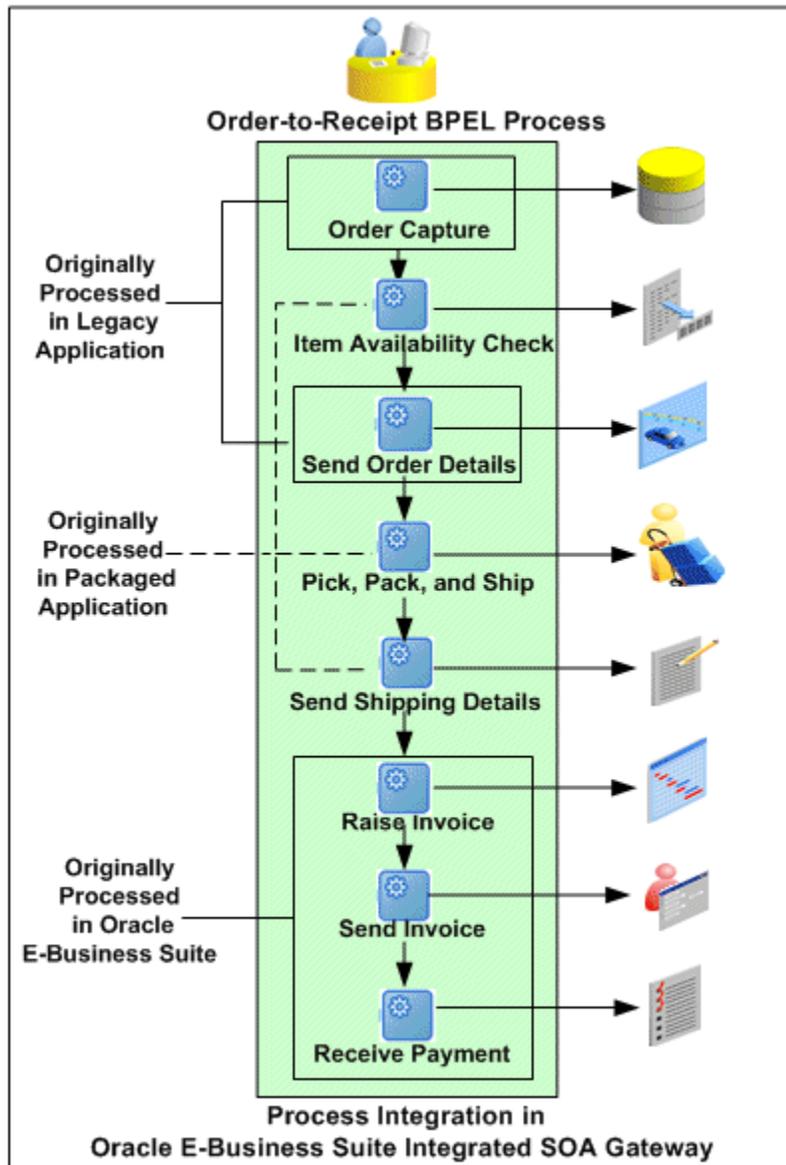
The packaged application is used to capture the order. The legacy application is used to fulfill (pick and ship) the order. Oracle E-Business Suite is used to invoice the customer.

- Sales Order Entry: Packaged Application
- Item Availability Check: Legacy Application
- Pick, Pack and Ship : Legacy Application
- Invoicing and A/R: Oracle E-Business Suite

A complete Order-to-Receipt business flow may require to integrate with each of the above applications at different points. With Oracle E-Business Suite Integrated SOA Gateway, the public integration interfaces of E-Business Suite can be exposed as standard web services.

Each individual business process mentioned here managed by packaged application, legacy application, and Oracle E-Business Suite can be orchestrated using Oracle BPEL Process Manger (PM) to streamline the Order-to-Receipt business process.

Process Integration Within Oracle E-Business Suite Integrated SOA Gateway



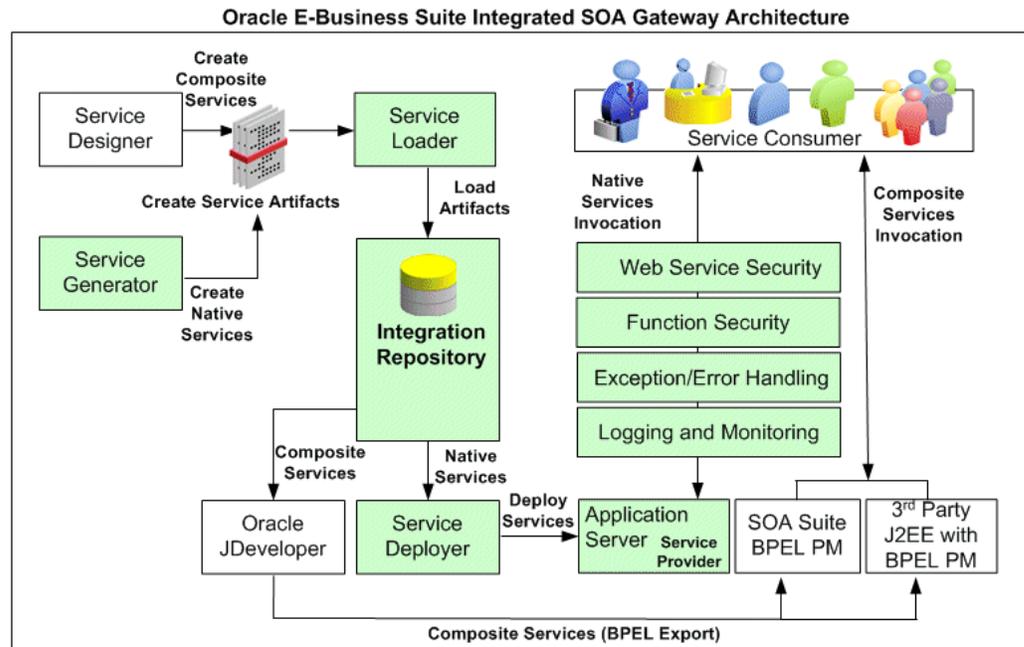
Oracle E-Business Suite Integrated SOA Gateway Architecture Overview

Oracle E-Business Suite Integrated SOA Gateway employs essential key components that enable service integration at design time and runtime, and ease the service management throughout the entire service integration and deployment life cycle.

The seamless integration between each component forms the Oracle E-Business Suite Integrated SOA Gateway architecture.

The following diagram illustrates the integration architecture flow between each

component:



All the native packaged public integration interfaces are published in the Oracle Integration Repository by default. Integration repository administrators can then transform these native integration interfaces into web services through service generator. Service loader uploads service artifacts to Oracle Integration Repository. Service deployer deploys service artifacts from the Integration Repository to the application server where services can be exposed to customers through service provider.

Service provider identifies and processes inbound SOAP requests from service consumers, reinforces function security and web service security, as well as passes all SOAP request and response messages to SOA Monitor (if the monitoring feature is enabled) for further monitoring SOAP messages to ensure the seamless service invocations throughout the entire service life cycle.

For composite services, system integration developers orchestrate composite services using Oracle JDeveloper. Service loader then uploads these service artifacts to Oracle Integration Repository. Users granted with the Download Composite Service privilege can further download the BPEL files to their local directories. Integration repository developers can open the downloaded BPEL files in Oracle JDeveloper, modify and deploy them if needed. Oracle BPEL Process Manager (BPEL PM) or 3rd party J2EE BPEL PM will then pick up deployed composite services which can be invoked from the Oracle E-Business Suite.

Note: Unlike native services that they are deployed directly from the Oracle Integration Repository user interfaces, composite services are

typically not deployed within Oracle E-Business Suite like those of other service enabled interface types. For example, a composite service - BPEL type can be deployed to a BPEL server in Oracle SOA Suite BPEL PM (Process Manager) or a third party BPEL PM in a J2EE environment. This deployed composite service - BPEL project can interact with Oracle E-Business Suite and update the data if necessary.

Oracle E-Business Suite Web Service Development Life Cycle

Oracle E-Business Suite Integrated SOA Gateway provides a capability of allowing various users to perform different tasks and to monitor and manage service integration throughout the entire service deployment life cycle.

- At development phase, users who have the System Integration Developer role can create custom interfaces, and annotate custom interface's definitions. Users who have the Integration Repository Administrator role can validate and upload annotated custom interfaces to the Integration Repository where all the registered interfaces, regardless of custom or Oracle packaged ones, can be viewed and accessed by all users.
- At design time, users who have the Integration Repository Administrator role can generate SOAP services, and deploy the generated services by attaching an appropriate security policy. For interfaces can be exposed as REST services, the administrators can deploy and undeploy REST services.
- At runtime, web service clients send request messages to invoke Oracle E-Business Suite services enabled through ISC's SOA Provider. After authenticating and authorizing the users who request the services, services can be invoked.

Users who have the Integration Repository Administrator role are responsible for monitoring and managing the entire service deployment life cycle.

Understanding Service Enablement

Service Enablement Overview

Oracle E-Business Suite applications are developed through various technologies or written in different forms, such as PL/SQL, Java, Concurrent Programs, and so on. These applications or programs reside either in the Oracle E-Business Suite database or on the application tier. Features such as Business Events System from Oracle Workflow and products such as Oracle XML Gateway for integrating Oracle E-Business Suite with trading partners are also widely used.

To accomplish the goal of integrating Oracle E-Business Suite applications with other systems, these programs written in various formats need to interact with external sources. This is achieved by service enabling or exposing these programs as Web services.

A *Web service* is a software system designed to support interoperable machine-to-machine interaction over a network. It has an interface described in a machine-processable format, such as WSDL or WADL. Other systems interact with the Web service in a manner prescribed by its description using SOAP messages for WSDL-based services or using REST messages for WADL-based services. Web services are loosely-coupled, self-describing, reusable software components encapsulating discrete functionality, which are programmatically accessible using standard based protocols.

The process of *service enablement* involves generating service artifacts, such as XSD, to validate XML messages, WSDL or WADL to describe the Web service, and deploying them on an application server so that the services are available to clients over the Web.

The WSDLs described for SOAP services can be used either to create clients which invoke the deployed SOAP services directly, or use Oracle SOA Suite BPEL component to create a composite application which coordinates the flow of data between various Web services to accomplish a business process.

The WADLs described for REST services can be used to create clients which invoke the deployed REST services for mobile applications or UI applications.

The architectural style involving collection of loosely-coupled services that

communicate with each other using standard based technologies is referred as *service-oriented architecture* (SOA).

Common Terms Used in the Web Services

Service-oriented architecture is a set of principles and methodologies for designing and developing software in the form of interoperable services. Web services building around SOA-based approach or technologies are reusable, scalable, and platform independent. To better understand the concept of Web services, the following common terminologies are explained in this section.

Web Services Discovery

Web services provide access to software systems over the Internet using standard protocols. Therefore, there exists at least a *service provider* that publishes certain services such as computer repair services, and a *service consumer* that uses the services. Web service discovery is the process of finding a suitable Web service for a given task.

Simple Object Access Protocol (SOAP)

SOAP is a protocol for exchanging XML-based messages over networks, normally using HTTP/HTTPS.

Web Services Description Language (WSDL)

WSDL is a format for describing a SOAP-based service interface. It is a way to describe services and how they should be bound to specific network addresses.

Representational State Transfer (REST)

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

The following table lists the interfaces that can be exposed as REST services and their supported HTTP methods:

REST-based Interfaces with Supported HTTP Methods

Interface Type	Supported HTTP Method(s)
PL/SQL API	POST only
Concurrent Program	POST only
Business Service Object	POST and GET

Interface Type	Supported HTTP Method(s)
Java Bean Service	POST and GET
Application Module Service	POST and GET
Open Interface Table (Inbound)	POST, GET, PUT, and DELETE
Open Interface Table (Outbound)	GET only
Open Interface View	GET only

Note that for Open Interfaces Tables, the supported HTTP methods are determined by the direction (Inbound or Outbound) of the interfaces.

Web Application Description Language (WADL)

WADL is designed to provide a machine-processable description of HTTP-based Web applications. It models the resources provided by a service and the relationships between them.

Web Service Security

Web service security (WS-Security) is a specification to enable applications to conduct secure message exchanges. It provides quality of protection through message integrity, message confidentiality, and single message authentication.

XML (Extensible Markup Language)

XML is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable.

JSON (JavaScript Object Notation)

JSON is a text-based open standard designed for human-readable data interchange. The JSON format is often used with REST services to transmit structured data between a server and Web application, serving as an alternative to XML.

HTTP Clients

Hyper-Text Transfer Protocol (HTTP) is a significant protocol used over the Web. HTTP clients are the parties that use and consume the HTTP-based services, such as REST services, provided through HTTP protocol.

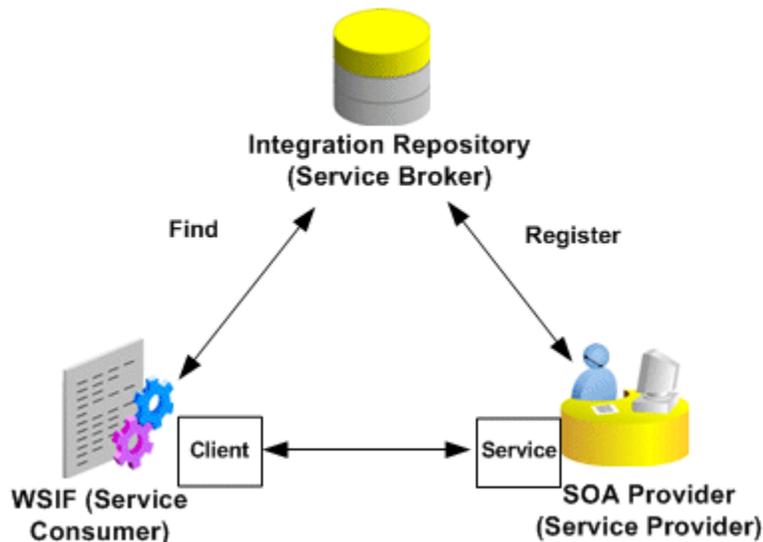
Service-Oriented Architecture in Oracle E-Business Suite

To allow pre-built and reusable business services available to customers and let customers dynamically interact between applications, Oracle E-Business Suite Integrated SOA Gateway, building on the principle of service-oriented architecture,

allows service enablement within the Oracle E-Business Suite. As a result, integration interface definitions that have been used internally within an organization are now Web available.

The following diagram illustrates the essential SOA components in enabling services within Oracle E-Business Suite:

Service-Oriented Architecture in Oracle E-Business Suite



In this diagram, SOA Provider is the service provider used in enabling services. Oracle Integration Repository plays a role as a service broker. The Web service invocation framework (WSIF) serves as a service consumer to issue a request through the invocation of a Web services from Oracle E-Business Suite.

SOA Provider

SOA Provider is an enhanced service provider particularly in supporting additional interface types for service enablement.

Note: In Release 12.0, Oracle E-Business Suite is service partially enabled using Web Service Provider to enable XML Gateway Map and Business Service Object (formerly known as Service Bean) interface types. For backward compatibility, Oracle E-Business Suite Integrated SOA Gateway continues to support the Release 12.0 based Web Service Provider service enablement, plus additional interface types using SOA Provider to enable services.

At run time, SOA Provider references integration services and data from Oracle Integration Repository in processing inbound SOAP request messages that invoke Web services and sends the SOAP response out.

Web Service Invocation Framework

To invoke integration services from Oracle E-Business Suite, Oracle E-Business Suite Integrated SOA Gateway uses service invocation framework, leveraging Oracle Workflow Java Business Event System (JBES) and a seeded Java rule function, to allow any WSDL-described service to be invoked.

For more information about how to set up and invoke a Web service through the invocation framework, see *Implementing Service Invocation Framework*, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide* and *Oracle Workflow and Service Invocation Framework Overview*, *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

Oracle Integration Repository

Oracle Integration Repository, an integral part of Oracle E-Business Suite, is the centralized repository that contains numerous interface endpoints exposed by applications within the Oracle E-Business Suite. It provides a comprehensive, consistent browsing view of the interface mechanism which lets you easily discover and search on the business interface from the catalog.

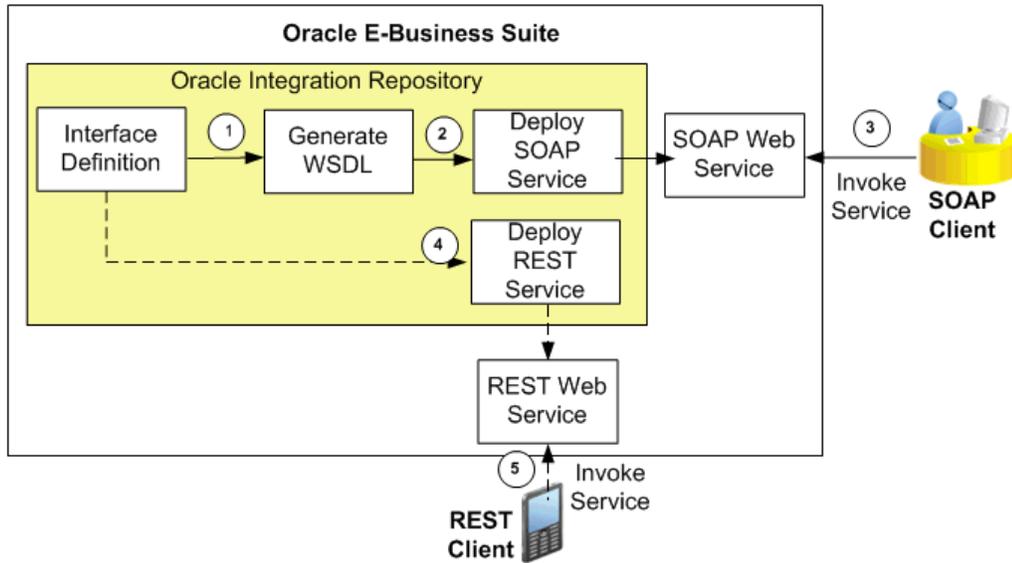
Oracle E-Business Suite Integrated SOA Gateway leverages Oracle Integration Repository to provide the capabilities of Web service generation and deployment, as well as service life cycle management. Application users can browse these interface definitions and services through Oracle Integration Repository and view the interface details. Users who have the Integration Repository Administrator role can perform design-time operations and monitor the Web services.

Service Enablement in Oracle E-Business Suite

Service enablement is one of the essential features in Oracle E-Business Suite Integrated SOA Gateway. It allows native packaged integration interface definitions written in PL/SQL, Java, and other formats and stored in Oracle Integration Repository to be transformed into web services. This in turn enables all Oracle E-Business Suite services to integrate with other systems over the web.

The following diagram illustrates the high level service enablement process flow within Oracle E-Business Suite:

Service Enablement Functional Process Flow



1. An integration repository administrator or a system integration developer transforms the integration interface definitions resided in Oracle Integration Repository into **SOAP**-based services described in WSDLs.
See: Reviewing Web Service WSDL Source, page 4-16.
2. An integration repository administrator deploys the SOAP services. SOAP services are deployed to an Oracle E-Business Suite managed server.
3. At runtime, web service clients send inbound requests and invoke Oracle E-Business Suite SOAP services.
4. If the selected interfaces can be exposed as **REST** services, an integration repository administrator can deploy the REST services using a user action called 'Deploy'. REST services described in WADLs are deployed to an Oracle E-Business Suite managed server.
5. At runtime, REST services commonly used for mobile applications can create or update resources in Oracle E-Business Suite.

For more service enablement on SOAP services, see SOAP Service Enablement, page 2-7.

For more service enablement on REST services, see REST Service Enablement, page 2-8.

In addition to transforming interface definitions into web services and deploying them, integration repository administrators can access the SOA Monitor user interface to monitor and manage all SOAP messages in and out from the SOA Provider (if the SOA

monitoring feature is enabled). This allows any operation error if occurred during the message exchanges to be identified and audited. The administrators can search and view SOAP request and response message details, and take necessary actions if needed to expedite the interaction between services and consumers. For more information on how to use SOA Monitor, see *Monitoring and Managing SOAP Messages Using SOA Monitor, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

SOAP Service Enablement

WSDL-based SOAP Services

In a web service environment, SOAP service provides a standard way of structuring XML documents and acts as a building block for web service communication. For example, service provider receives SOAP requests from web service clients to invoke services and also sends the corresponding SOAP responses to the clients.

At design time, an integration repository administrator or a system integration developer can transform the interface definitions resided in Oracle Integration Repository into SOAP-based services described in WSDLs.

SOAP Service Security

To protect application data from unauthorized access, Oracle E-Business Suite integrated SOA Gateway enforces the security rules through subject authentication and authorization. Before service deployment, the administrator must select one desired authentication method.

- To authenticate users who request Oracle E-Business Suite services, the SOAP messages must be authenticated using UsernameToken or SAML Token based security. The identified authentication information is embedded in the `wsse:security` Web Security headers.
- To authorize users on specific services or operations, the access permissions must be explicitly given to the users through security grants. Multiple organization access control (MOAC) security rule is also implemented for authorizing interface execution related to multiple organizations.

For information on how to specify a desired authentication type, see *Deploying and Undeploying SOAP Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Web Services Description Language (WSDL)

After service generation or deployment, users can view the generated or deployed WSDL link for the associated SOAP service.

Note: A deployed WSDL shows the physical location of service endpoint where the service is hosted.

The WSDL URL can be used either to create clients which invoke the deployed SOAP

services directly, or use Oracle SOA Suite BPEL component to create a composite application which coordinates the flow of data between various web services to accomplish a business process. At runtime, web service clients send inbound requests and invoke Oracle E-Business Suite SOAP services.

For information on how to generate and deploy SOAP services and other administrative tasks, see *Administering SOAP Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

REST Service Enablement

WADL-based REST Services

REST (Representational State Transfer) 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 REST service is the explicit use of HTTP methods to denote the invocation of different operations. It is another style of web services that serves as a simpler alternative to SOAP services allowing you to access services over the web.

REST messages are supported with the XML and JSON (non-XML data) formats in conjunction with other web-related standards.

REST Service Security

Users who try to invoke Oracle E-Business Suite REST services must be authenticated using HTTP Basic Authentication or Token Based Authentication at HTTP transport level.

Web Application Description Language (WADL)

If an interface can be exposed as a REST service, the corresponding deployed WADL description can be viewed in a separate window.

WADL is designed to provide a machine-processable description of HTTP-based web applications. It models the resources provided by a service and the relationships between them. WADL is intended to simplify the reuse of web services that are based on the existing HTTP architecture of the web. It is platform and language independent and aims to promote reuse of applications beyond the basic use in a web browser.

The WADL URL can be used to create clients which invoke the deployed REST services.

At runtime, web service clients send inbound REST requests and invoke Oracle E-Business Suite REST services.

For information on how to deploy REST services and other administrative tasks, see *Administering REST Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Navigating Through Oracle Integration Repository

This chapter covers the following topics:

- Oracle Integration Repository Overview
- Getting Started
- Discovering and Reviewing Interfaces

Oracle Integration Repository Overview

Oracle E-Business Suite Integrated SOA Gateway is the intrinsic part of Oracle E-Business Suite for service enablement. It provides the capability of invoking Web services and allowing Web service clients to make use of the services provided from Oracle E-Business Suite.

To accomplish this goal, there must be a centralized location where all service related business interfaces can be stored, and at the same time all application users can browse through these business interfaces knowing what type of services are available for service consumption. Oracle Integration Repository, an integral part of Oracle E-Business Suite, is the repository to serve this purpose.

Oracle Integration Repository contains numerous interface endpoints exposed by applications throughout the entire Oracle E-Business Suite. It is not only an essential component within Oracle E-Business Suite Integrated SOA Gateway, but also provides a complete catalog of integration interfaces within Oracle E-Business Suite. You can use this tool to easily discover and search on interfaces, regardless of custom or Oracle seeded ones.

Integration Interface Types Within Oracle E-Business Suite

Oracle Integration Repository supports the following integration interface types which can be categorized as follows:

- Service enabled

- PL/SQL
- XML Gateway Map (inbound)
- Concurrent Program

Important: Oracle Integration Repository supports REST service enablement for Open Interface Tables and Views. If a concurrent program is associated with an open interface table or view, this concurrent program can be viewed and displayed under the Open Interface type and can be available as a REST service.

- Open Interface Tables
- Open Interface Views
- Business Service Object (Service Beans)
- Application Module Services

Note: Application Module Implementation class is a Java class that provides access to business logic governing the OA Framework-based components and pages. Such Java classes are called Application Module Services and are categorized as a subtype of Java interface.

- Java Bean Services

Note: Java APIs whose methods use parameters of either simple data types or serializable Java Beans are categorized as Java Bean Services, a subtype of Java interface. Such Java APIs can be exposed as REST-based Web services.

- Security Services

Note: Unlike other service-enabled interfaces, security services are a set of predefined and predeployed REST services from Oracle Application Object Library. This type of services provides security related features for mobile applications.

- Subscription model

- Business Event
- XML Gateway Map (outbound)
- Composite services - BPEL
- Non-service enabled public interfaces
 - EDI Interface

Detailed information on each interface type, see *Interface Types*, page 3-12.

Major Features

- A unified repository from which all integration interface types are exposed.
- Any changes in interface definitions and descriptions are automatically reflected with release.
- A powerful user interface to help you find the data you are looking for from the repository.
- It displays each interface details including source information, methods within the interface, and Web service information if the interface can be service enabled.
- It supports composite services containing a collection of native interfaces.
- It enforces security rules to allow only authorized users to perform administrative tasks such as generate and deploy Web services.
- It supports custom integration interfaces.

Getting Started

Accessing Oracle Integration Repository

You can access the repository like any other Oracle E-Business Suite application, provided that you are logged in as a user with sufficient permissions. From the Navigator menu, select the **Integrated SOA Gateway** responsibility, then click the **Integration Repository** link. Oracle Integration Repository appears.

Oracle E-Business Suite Integrated SOA Gateway allows the following three roles to access the Integration Repository user interfaces and perform necessary tasks:

- System Integration Analyst

- System Integration Developer
- Integration Repository Administrator

Users who have different roles can perform various tasks as described in the following table:

Privileges	System Integration Analyst	System Integration Developer	Integration Repository Administrator
View Public Interfaces	Yes	Yes	Yes
View Private/Internal Interfaces	No	Yes	Yes
Generate/Regenerate SOAP Web Services	No	Yes	Yes
Deploy/Undeploy SOAP Web Services	No	No	Yes
Deploy/Undeploy REST Web Services	No	No	Yes
Subscribe to Business Events	No	No	Yes
Create Grants	No	No	Yes
View Grants	No	Yes	Yes
Download Composite Service	No	Yes	Yes
	(Configurable)		

Note: Oracle E-Business Suite Integrated SOA Gateway leverages the concepts of permissions and permission sets to grant data access privileges or permissions to users through roles. For example, multiple privileges related to administrative functions can be grouped into an administrative permission set and then granted to a user through the Integration Repository Administrator role. That user becomes an integration repository administrator and has privileges to perform administrative tasks.

System integration analysts by default do not have the privilege to download composite services unless they are granted the download

privilege through a permission set. For more information on how to manage security through roles, see Role-Based Access Control (RBAC) Security, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

For information on SOAP and REST Web services and how to perform additional administrative tasks, see Common Information on SOAP Web Services, page 4-8 and Common Information on REST Web Services, page 4-11.

For information on how to manage security grants, see Managing Grants, page 4-23.

Accessing the Administration Link to Perform Additional Administrative Tasks

After logging in to Oracle E-Business Suite with the Integrated SOA Gateway responsibility, users who have the Integration Repository Administrator role can find the **Administration** link in addition to the **Integration Repository** link from the Navigator menu. This **Administration** link is specifically for the administrator to perform additional administrative tasks outside the Integration Repository user interface. Expand the **Administration** link to display:

- **SOA Monitor:** This link allows the administrators to access the SOA Monitor user interface where the administrators can monitor and audit all SOAP messages in and out through SOA Provider and view the message details.

For information about how to use SOA Monitor, see Monitoring and Managing SOAP Messages Using SOA Monitor, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Log:** This link allows the administrators to access the centralized Log configuration user interface where the administrators can enable and configure log setups.

For information about log configuration, see Logging for Web Services, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

For detailed information on each task performed by the Integration Repository Administrator role, see *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*. For tasks related to the System Integration Developer role, see *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

Using Oracle Integration Repository

Oracle Integration Repository has two main user interfaces: The Browse interface, page 3-6 (the default) and the Search interface, page 3-8.

Following are links to some of the commonly requested information about using Oracle Integration Repository:

- Included interface types, page 3-12
- Integration standards, page 3-17

- Searching for a specific interface, page 3-8
- Information included for each interface, page 4-1

Discovering and Reviewing Interfaces

Browsing the Integration Interfaces

The Browse interface appears by default when you invoke Oracle Integration Repository. You can also access it by clicking the **Browse** button on the search page or any interface information page.

You can browse directly to an appropriate list of interfaces if you know which product family and product you want to integrate with, plus one of the following:

- **Business entity**

Business entities are objects that either perform business activities or have business activities performed on them. Sales orders, employees, purchase orders, customers, and receipts are all examples of business entities. An interface can be used by multiple business entities, and a business entity can be accessed using multiple interfaces.

- **Interface type**

Business interface information in Oracle Integration Repository is organized for browsing and searching by interface type, based on the integration technology used.

For more information, see *Interface Types*, page 3-12.

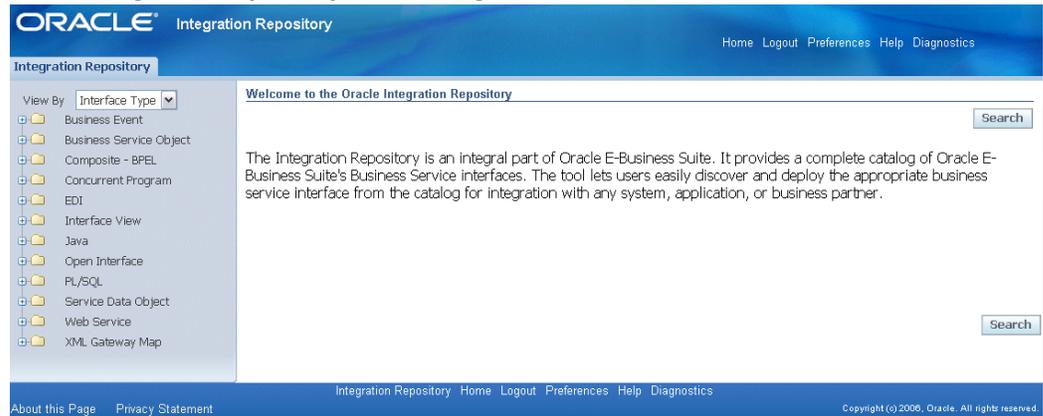
- **Integration standard**

XML Gateway and web service-based interfaces conform to various industry standards.

See: *Integration Standards*, page 3-17.

If you don't have this information, you'll find it more effective to conduct a search, page 3-8.

Oracle Integration Repository Browse Page



You browse the interfaces by selecting one of the following views from the **View By** list:

- **Product Family**
- **Interface Type**
- **Standard** (integration standard)

Expand the navigation tree in one of these views to see a list of the available interfaces. To save the list of interfaces in a CSV file, click **Export**.

To review the details of an interface, click the interface name on the list.

Browsing by Product Family

The **Product Family** view is organized as follows: **Product Family** > **Product** > **Business Entity**.

For example, Financials > Payables > Payables Invoice.

Select a business entity, page 3-6 to view the interfaces that comprise it. Note that a business entity can include multiple interfaces of different types owned by different products. For example, the business entity "Payables Invoice" includes the following:

- Create Credit Card Issue Invoice open interface from Internet Expenses
- Invoice open interface from Payables
- Invoice Notification XML Message from Supply Chain Trading Connector

Browsing by Interface Type

The **Interface Type** view is organized as follows: **Interface Type** > **Product Family** > **Product**.

For example, Web Service > Financials > Cash Management.

Use this view to see all of the interfaces available for a particular product that use a particular interface type.

Browsing by Standard

The **Standard** view is organized as follows: **Standard and Version > Product Family > Product**.

For example, OAG7.2 > Financials > Payables > Process Invoice.

Use this view to browse for a product's XML Gateway maps and web services belonging to the specified standard, for example W3C or OAG 7.2.

Searching for an Integration Interface

Click the **Search** button anywhere in Oracle Integration Repository to access the main Search page.

Oracle Integration Repository Search Page

ORACLE Integration Repository

Home Logout Preferences Help ContactAdmin Personalize Page Diagnostics

Integration Repository

Search

Interface Name:

Product Family: Applications Technology

Product: XML Gateway

Internal Name:

Interface Type: All

Business Entity:

Category: All

Category Value:

Interface Source: All

Status: All

Web Service Status: All

Standard: All

Standard Specification:

Scope: All

Go Clear All

Name	Internal Name	Product	Type	Source	Status	Description
Confirmation Message	ECX:CBODI	XML Gateway	Web Service	Oracle	Active	ECX_CBODI_OAG72_IN_CONFIRM map annotation public description.
Confirmation Message	ECX:CBODI	XML Gateway	XML Gateway Map	Oracle	Active	ECX_CBODI_OAG72_IN_CONFIRM map annotation public description.
ECX_CBODI_OAG62_IN map	ECX:CBODO	XML Gateway	XML Gateway Map	Oracle	Active	ECX_CBODI_OAG62_IN Map annotation public description.
XML Gateway Message Delivery	ECX_ERRORLOG	XML Gateway	PL/SQL	Oracle	Active	This interface contains routines to track and report message delivery data.
XML Gateway Transformation	ECX_STANDARD	XML Gateway	PL/SQL	Oracle	Active	The interface contains generic routines to be used by activity functions.

About this Page Privacy Statement Copyright (c) 2006, Oracle. All rights reserved.

You can search for interfaces with any combination of the following criteria:

Note: Before entering search criteria in the Search page, you will find the default value 'All' automatically displayed in the Product Family, Product, Interface Source, and Interface Type fields. This allows a search to be executed appropriately if you do not make further selections from the drop-down lists.

Additionally, the same default value 'All' can also be found in the Category, Status, Web Service Status, Standard, and Scope fields while clicking the **Show More Search Options** link.

- **Interface Name**

This is the interface name displayed in the browse tree of the Integration Repository user interface.

- **Internal Name**, page 4-4

This is the interface name used internally. It can be PL/SQL package name, the document name, or the Java service interface name.

- **Interface Type**, page 3-12

Interface definition can be categorized based on the integration technology used, such as PL/SQL or concurrent program related interfaces, when it is displayed or browsed in the repository.

Interface types supported in Oracle Integration Repository are PL/SQL, Concurrent Program, XML Gateway, Open Interface Tables, Open Interface Views, Business Service Object, Business event, EDI Interface, Java, and Composite services - BPEL.

Note: Java Bean Services, Application Module Services, Java APIs for Forms, and Security Services are a subtype of Java interface.

- **Product Family**

An Oracle E-Business Suite application family that supplies the interface. Examples of product family can be Application Technology, Financials, and Manufacturing.

- **Product**

An Oracle E-Business Suite application or component that supplies the interface. Examples of product can be Payables, Cash Management, and Order Management.

- **Business Entity**

Business entities are objects that either perform business activities or have business activities performed on them. For example, sales orders, account numbers, employees, purchase orders, customers, and receipts are all business entities.

Click **Show More Search Options** to include any of the following additional criteria in your search:

- **Category and Category Value**

Used to qualify product-specific features or to categorize a subtype of an interface. You can select one of the following available category drop-down values if needed:

- **All (default)** - This displays all integration interfaces regardless of category and category values.
- **Extensions** - This category indicates that specific methods of extending the API functionality are provided by certain products. Examples of extensions are the User Hooks provided by Human Resource Management System and Client Extensions provided by Projects.

When **Extensions** category is selected, you can select the category value (for example, `HRMS User Hooks` provided).

- **Interface Subtype** - This category indicates that a subtype of an interface is available.

For example, 'Java Bean Services', 'Application Module Services', and 'Security Services' are a subtype of Java interface.

When **Interface Subtype** category is selected, `Java Bean Services`, `Application Module Services`, `Java APIs for Forms`, and `Security Services` are automatically displayed as the list of values for your selection.

- **Interface Source**

Select one of the following values from the drop-down list:

- **All (default)** - All integration interfaces will be displayed from the search.
- **Oracle** - All Oracle native packaged integration interfaces and services are categorized with this interface source type.
- **Custom** - This indicates annotated custom integration interfaces. Custom integration interfaces are displayed along with Oracle interfaces from the browser tree.

- **Status**

Select one of the following values from the drop-down list:

- **All (default)**
- **Active**
- **Deprecated**
- **Obsolete**
- **Planned**

For more information, see **Status**, page 4-4 in the Common Information table.

- **Web Service Status**

If an integration interface is exposed or generated as a Web service, then the Web service can be further deployed from Oracle Integration Repository to the application server.

Use the Web Service Status field to search by different stages of Web services during the service generation and deployment life cycle.

Select one of the following values from the drop-down list:

- **All (default)** - This displays all interfaces regardless of the interface types whether they are service enabled or not.
- **Not Generated** - This displays all service-enabled interfaces that do not have Web service generated.
- **Generated** - This displays all interfaces that have Web services generated, but have not yet been deployed.
- **Deployed** - This displays all interfaces that have Web services generated and deployed.

For more information, see *Common Information on Web Services*, page 4-8.

- **Scope**

Select one of the following values from the drop-down list:

- **All (default)** - All integration interfaces regardless of public, internal, or private interfaces.
- **Public** - These interfaces can be used by anyone.
- **Internal To Oracle** - These interfaces are available for business integration between applications within Oracle E-Business Suite.

For example, if an interface of this type (Internal to Oracle) belongs to Application Object Library, then that interface can be used by any other applications within Oracle E-Business Suite for process integration in addition to using by the Application Object Library.

This type of interface can only be accessed by users who have the System Integration Developer role and the Integration Repository Administrator role.

- **Private To Application** - These interfaces are available for business integration only within the application itself. They will not be used by any other applications outside the application that the interface belongs to.

For example, if an interface with this 'Private to Application' type belongs to Purchasing application, then it will not be used by any other applications within Oracle E-Business Suite but Purchasing.

This type of interface can only be accessed by users who have the System Integration Developer role and the Integration Repository Administrator role.

- **Standard and Standard Specification**

For more information, see *Integration Standards*, page 3-17.

After selecting your criteria, click **Go** to launch the search and see a list of the available interfaces that meet the criteria. To save the list of interfaces to a CSV file, click **Export**.

To review the details of an interface, click the interface name on the list.

Interface Types

Business interfaces are organized into *interface types* according to the integration technologies on which they're based.

Based on the natural way of how services are formed or established, Oracle Integration Repository supports the following interface types:

- **Native Services**

Native services are native packaged integration interfaces. This type of service includes the following native interfaces:

- PL/SQL
- XML Gateway
- Concurrent Programs
- Business Events
- Open Interface Tables
- Open Interface Views
- EDI
- Business Service Object (Service Beans)
- Java, page 3-15

Java interface includes the following subcategories:

- Java Bean Services, page 3-15
- Application Module Services, page 3-16
- Security Services, page 3-16

Please note that Java APIs for Forms Web services are desupported in Oracle E-Business Suite Release 12.2. If you are planning to use this type of interfaces as Web services, you are advised to use alternate serviceable interfaces, such as PL/SQL and Business Service Objects interfaces, which can be deployed as Web services. Refer to My Oracle Support Knowledge Document 966982.1 for the suggested alternatives to the existing Java APIs for Forms services.

- **Composite Services**

Building upon native services, a composite service consists of a collection of native services that belong to a specific product or product family available in the Integration Repository.

The only available composite service type in this release is Composite - BPEL.

Note: Oracle Integration Repository supports custom integration interfaces that are created and annotated based on Integration Repository annotation standards. After appropriate validation, these annotated source files can be uploaded and displayed along with Oracle interfaces through the Integration Repository browser tree based on the interface types they belong to.

To easily differentiate them from Oracle interfaces, all custom integration interfaces are categorized with interface source 'Custom' while Oracle interfaces are marked with interface source 'Oracle'. For more information about custom integration interfaces and services, see Working With Custom Integration Interfaces and Services, page 6-1.

Business Events

A business event is an occurrence in an internet application 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.

Oracle Workflow uses the Business Event System that leverages the Oracle Advanced Queuing (AQ) infrastructure to communicate and manage business events between systems. The Business Event System consists of an Event Manager and workflow process event activities. The Event Manager lets you register subscriptions to significant events; event activities representing business events within workflow processes let you model complex business flows or logics within workflow processes.

When a local event occurs, the subscribing code is executed in the same transaction as the code that raised the event. Subscription processing can include executing custom code on the event information, sending event information to a workflow process, and sending event information to other queues or systems.

Additional Information: Users with Integration Repository

Administrator role can have the privilege to subscribe to a business event in the Business Event Details page. See *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide* for details.

For more business event information, see Events, *Oracle Workflow Developer's Guide*.

XML Gateway Message Maps

Oracle XML Gateway comprises a set of services that allows easy integration with Oracle E-Business Suite to support XML messaging. The Oracle E-Business Suite utilizes the Oracle Workflow Business Event System to support event-based XML message creation and consumption.

Oracle XML Gateway consumes events raised by the Oracle E-Business Suite and subscribes to inbound events for processing. XML Gateway 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. XML Gateway supports both Business-to-Business (B2B) and Application-to-Application (A2A) initiatives. XML Gateway message maps (or just *XML Gateway maps*) can be used directly, or they can be exposed as Web services.

Additional Information: The message map is a file of type .xgm and is created using the XML Gateway Message Designer. Message maps define the data source and data target, any hierarchies between the source and the target, and actions for data transformation and process control.

For the Integration Repository information provided about XML Gateway maps, see XML Gateway Map Information, page 4-27.

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

PL/SQL Procedures and Functions

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

For the Integration Repository information provided about PL/SQL, see PL/SQL Information, page 4-32.

Concurrent Programs

In Oracle E-Business Suite, concurrent processing simultaneously executes programs running in the background with online operations to fully utilize your hardware capacity. A concurrent program runs as a concurrent process and is executed by the Concurrent Manager. Functions performed by concurrent programs are typically data-intensive and long-running, such as posting a journal, populating an interface table, and generating an EDI flat file.

For the Integration Repository information provided about Concurrent programs, see Concurrent Program Information, page 4-59. For more information about concurrent programs, refer to the *Oracle E-Business Suite System Administrator's Guide - Configuration*.

Open Interface Tables

An open interface consists of the interface tables to store data from external sources and concurrent programs, to validate and apply this data into the Oracle E-Business Suite base tables. All open interfaces are implemented using concurrent programs.

For the Integration Repository information provided about open interface tables, see Open Interface Information, page 4-62.

Interface Views

Interface views are database objects that make data from Oracle E-Business Suite products available for selection and use by destination applications.

For the Integration Repository information provided about interface views, see Interface View Information, page 4-66.

EDI Message Transactions

Electronic Data Interchange (EDI) is one form of electronic commerce. Interface data files are electronically exchanged between trading partners as messages in a standard format to minimize manual effort, speed data processing, and ensure accuracy. EDI message transactions are supported by *Oracle e-Commerce Gateway*.

Oracle e-Commerce Gateway provides users the ability to conduct business electronically between trading partners based on Electronic Commerce standards and methodology. It is designed with an open and flexible architecture for easy integration with trading partners or EDI translators. When used for EDI solutions, e-Commerce Gateway integrates with EDI translators to provide specific EDI standard formats and versions. Oracle e-Commerce Gateway is a file-based integration layer between Oracle E-Business Suite and any other external application.

For the Integration Repository information provided about EDI messages, see EDI Message Information, page 4-69.

For more information about Oracle e-Commerce Gateway, see *Oracle e-Commerce Gateway User's Guide*.

Java

A business interface can be based on a Java class from which you invoke methods that are appropriate to an integration.

Java Bean Services

Java Bean Services are a subtype of Java interface. This type of Java APIs whose

methods must use parameters of either serializable Java Beans or simple data types such as `String`, `Int`, and so forth can be categorized as Java Bean Services. Such Java APIs can be exposed as REST services only.

Similar to the PL/SQL REST services, Java Bean Services have simplified development life cycle - Deploy and Undeploy - and are implemented with the same security mechanism. Java Bean Services can be deployed as REST service operations with the POST and GET HTTP methods in this release.

For annotation guidelines on Java Bean Services, see Annotations for Java Bean Services, *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

Java APIs for Forms Web services are desupported in Oracle E-Business Suite Release 12.2. Refer to My Oracle Support Knowledge Document 966982.1 for the suggested alternatives to the existing Java APIs for Forms services.

Application Module Services

Application Module Implementation class is a Java class that provides access to business logic governing the OA Framework-based components and pages. Such Java classes are called Application Module Services and are categorized as a subtype of Java interface.

Similar to Java Bean Services, Application Module Services can be exposed as REST services only.

For annotation guidelines on Application Module Services, see Annotations for Application Module Services, *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

Security Services

Security services, built on Java, are a set of predefined and predeployed REST services from Oracle Application Object Library. These services including Authentication and Authorization services are developed for mobile applications.

Please note that security services will not require any REST service life cycle activities such as Deploy or Undeploy. Additionally, they are available to all users.

For the Integration Repository information provided about Java, see Java Information, page 4-36.

Business Service Objects

A business service object, formerly known as Service Bean, is a high-level service component that allows OA Framework or BC4J components to be deployed as Web services.

It is the tool by which Oracle E-Business Suite employs *service oriented architecture* (SOA) and *Web services* to facilitate integration with each other and with third party trading partners.

Business service object interfaces provide access to SOA services to facilitate integration between Oracle E-Business Suite and trading partners. They often employ *service data*

objects as parameters to pass complex data.

Note: A service data object is not actually an interface type; rather, it is an object used by one or more business service objects or other service data objects to pass data. Oracle Integration Repository includes it on lists of interface types, so you can browse or search for business service object interface based on the service data objects that they use.

Composite Services

A composite service consists of a collection of native packaged public interfaces or called native services that belong to a specific product or product family and are available in the Integration Repository.

Composite services use the native service as building blocks to construct the sequence of business flows. Basically, this interface type orchestrates the invocation sequence of discrete Web services into a meaningful end-to-end business process through a Web service composition language BPEL (business process execution language). For example, use Oracle BPEL Process Manager (BPEL PM) to integrate the Order-to-Receipt business process that contains sales order entry, item availability check, pack and ship, and invoice to Accounts Receivable sub processes handled by various applications. This approach effectively tightens up the control of each individual process and makes the entire business flow more efficiently.

Additional Information: Since composite services can be designed and created in Oracle JDeveloper and Oracle Eclipse, based on the different creation methods, composite services can have various composite types such as BPEL, ESB (enterprise service bus), or SCA (service component architecture) types. BPEL and ESB are the typical composite interface types designed using Oracle JDeveloper. However, composite service - BPEL is the only composite service type supported in this release.

For more information about composite services, see *Working with Composite Services*, page 5-1.

Integration Standards

Each Web service interface conforms to an integration standard, for example OAGIS or RosettaNet. The fully qualified standard includes the name, version, and specification. For example: OAG 7.2 CONFIRMBOD_004. The following standards are observed in Oracle Integration Repository:

- IFX1.2
- OAG6.2

- OAG7.0
- OAG7.1
- OAG7.2
- RosettaNet01.01.00
- RosettaNet01.03.00
- RosettaNet02.02.00
- RosettaNet02.03.00
- UCCnet2.4
- W3C

Working with Native Services and Integration Interfaces

This chapter covers the following topics:

- Common Information
- XML Gateway Map Information
- PL/SQL Information
- Java Information
- Business Service Object
- Concurrent Program Information
- Open Interface Information
- Interface View Information
- EDI Message Information
- Business Event Information

Common Information

The details page of each integration interface type contains the following two types of information:

- Interface detail information

This interface detail information includes a header region with general information, a description region, a source region, and an interface methods or procedure and functions region.

Integration repository administrators can perform additional administrative tasks including generating a Web service for a selected interface type if the type has a Web service enabled, subscribing to a business event, and creating security grants for appropriate users.

For more information on interface details, see [Common Information on Interface Details](#), page 4-3.

- **Interface Web service information**

Based on the selected interface, you can view the associated Web service information if it's available in the interface details page.

Web service information including the SOAP-based and REST-based services if available for the supported interfaces can be displayed in the interface details page. This service related information such as service status, serviceable operations, service description, and supported service methods can be shown for the selected interface.

Note: In this release, only PL/SQL APIs, Concurrent Programs, and Business Service Objects can be exposed as both SOAP and REST services. Java Bean Services, Application Module Services, Open Interface Tables, and Open Interface Views can be exposed as REST services only.

For information on SOAP-based services, see [Common Information on SOAP Web Services](#), page 4-8.

For information on REST-based services, see [Common Information on REST Web Services](#), page 4-11.

Interface Details Page

The screenshot shows the Oracle Integration Repository interface details page. The page title is "XML Gateway : INBOUND: Process Purchase Order XML Transaction". The page includes a header with the Oracle logo and "Integration Repository" text, and navigation links for Home, Logout, Preferences, Help, and Diagnostics. The main content area is divided into several sections:

- Internal Name:** ONT:POI
- Type:** XML Gateway Map
- Product:** Order Management
- Status:** Active
- Business Entity:** Sales Order
- Standard:** OAG 7.2 Process_PO_007
- Standard Ready:** ROSETTANET:02.02.00:PIP3A4-Request Purchase Order

Additional information includes the **Scope** (Public) and **Interface Source** (Oracle). The **Full Description** section states: "This is the message map to support the inbound Process PO (Purchase Order Processing) XML transaction which, through the population of data in the header and line open interface tables, allows users to create sales orders in the Order Management system. The OAG name for this message is PROCESS PO."

The **Web Service - SOA Provider** section shows the **Web Service Status** as Deployed, with a **WSDL** link. The **Authentication Type** is set to SAML Token (Sender Vouches).

The **Source Information** section lists the **Source File** as patch/115/xml/us/ONT_3A4R_OAG72_III.xgm, **Source Version** as 120.3, and **Source Product** as ONT.

The **Methods** section contains a table with the following data:

Name	Internal Name	Status	Description
POI	POI	Active	Process transaction.

The page also includes "Browse", "Search", and "Printable Page" buttons at the top right and bottom right. The footer contains "About this Page", "Privacy Statement", "Integration Repository Home Logout Preferences Help Diagnostics", and "Copyright (c) 2006, Oracle. All rights reserved."

Each interface details page also includes **Search** and **Printable Page** allowing you to perform a search or view the details page of a selected interface in a printable format if you want. See Searching for an Integration Interface, page 3-8 for details.

Important: Information specific to Web services is discussed under Understanding Service Enablement, page 2-1.

Information specific to composite services is discussed under Working with Composite Services, page 5-1.

Common Information on Interface Details

Each interface information page includes a header region with general information about the interface.

For information on SOAP and REST Web services, see Common Information on SOAP Web Services, page 4-8 and Common Information on REST Web Services, page 4-11.

The following fields are common to almost all interface types:

Field	Notes
Internal Name	<p>This is the PL/SQL package name, the document name, or the Java service interface name.</p> <p>Note: For Java service interfaces, this is called Qualified Name, and includes the full Java package name and the class name.</p>
Type	<p>Business interfaces are organized into interface types according to the integration technologies on which they're based.</p> <p>Examples of interface types supported in Integration Repository are PL/SQL, XML Gateway, Concurrent Programs, Business Events, Open Interface Tables, Open Interface Views, EDI, Business Service Object (Service Beans), Java, and Composite Service - BPEL.</p> <p>For more information about interface type, see interface type, page 3-12.</p>
Product	<p>The Oracle E-Business Suite product that supplies the interface.</p>
Business Entity	<p>Business entities are objects that either perform business activities or have business activities performed on them. For example, sales orders, account numbers, employees, purchase orders, customers, and receipts are all business entities. An interface can be used by multiple business entities, and a business entity can be accessed using multiple interfaces.</p> <p>The Business Entity field lists the business entities accessed by an interface. Click a business entity name to view a list of available interfaces to that entity.</p> <p>Note: This field does not appear for Java service interfaces.</p>
Status	<p>Valid status codes are:</p> <ul style="list-style-type: none"> • Active • Deprecated - this interface should not be used, but it will be supported until obsolete. • Obsolete - the interface is no longer supported. • Planned - This interface will be activated at a future date.

Field	Notes
Scope	<p>The scope can be one of the following:</p> <ul style="list-style-type: none"> • Public • Internal To Oracle • Private To Application <p>For more information, see Scope on the Oracle Integration Repository Search page, page 3-11.</p>
Interface Source	<p>The only available interface source in Oracle Integration Repository is Oracle native packaged integration interfaces.</p> <p>Interface Source on the Oracle Integration Repository Search page, page 3-10.</p>
MetaLink	<p>Included for any interface that has a related My Oracle Support (formerly Oracle<i>MetaLink</i>) Knowledge Document. Click the link to log in to My Oracle Support and view the Knowledge Document. A valid user name and password is required to access My Oracle Support.</p>
Documentation	<p>Included for any interface that has related online documentation. Click the link to view or download the documentation.</p>
Online Help	<p>Provided for any interface that has related Oracle E-Business Suite online help. Click the link to view online help for the interface.</p>

Each interface information page also includes a Source Information region that contains the following fields:

Field	Notes
Source File	<p>The source code file for this interface, and its location in the file system.</p>

Field	Notes
Source Version	<p>The version of the source file. The first portion of the number corresponds to the base release version of Oracle E-Business Suite and the second portion is the version of the file. For example, 120 . 8 is Oracle E-Business Suite 12.0, and 8 indicates that this is the 8th version of the file.</p> <p>Note: The version number changes only when it has been worked on by Oracle development. Therefore the version may increment multiple times between releases, or not at all.</p>
Source Product	<p>The product code of the source product. The source product specifies under which product directory the file resides in the Oracle E-Business Suite file system (also referred to as the <i>product top</i>).</p> <p>Tip: This field shows the product shortname. You can learn the corresponding full product name by choosing the System Administration responsibility from the Navigator menu, then selecting Oracle Applications Manager >License Manager >Reports >Licensed Products. On the product list that appears, you can filter the results for any product abbreviation (shortname) or license status.</p>

Integration repository administrators can find the following buttons available in the interface details page:

- Generate WSDL:** This generates a Web service WSDL file for a selected interface. If the file is generated successfully, you will find the Web Service region becomes available. **Regenerate WSDL** also appears in the details page allowing you to regenerate the service again if needed.
- Deploy (Redeploy or Undeploy)**

If the service has already been generated successfully, the administrators can find **Deploy** available in the Web Service region for the selected integration interface.

If a service has been deployed, the administrators can find **Redeploy** (or **Undeploy**) available instead. This allows the administrators to redeploy or undeploy the deployed Web service if needed.

Prior to deploying or redeploying the service to the application server, the administrators must first select at least one authentication type for the generated

service. This allows SOA Provider services the deployment based on the selected type(s).

- **Create Grant:** This allows the administrators to create security grants by authorizing the access permission of a selected interface method or a procedure or function to an appropriate user, a user group or all users.

Oracle Integration Repository also provides a feature to revoke the grants for a particular user for a selected method or service.

For more information on managing function security through security grants, see *Managing Grants*, page 4-23.

- **View Log**

This allows the administrators to view the logs generated during service generation and deployment. If logging is enabled for specific services or all services at the Site level only, administrators can find **View Log** in the Interface Details page. Click **View Log** to open the Log Details page where you can view log details compiled in the log table. You can also delete and export log messages retrieved in the Log Details page if needed. For more information, see *Viewing Generate and Deploy Time Logs*, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

To view the logs written in SOA Monitor during the invocation of Oracle E-Business Suite services by Web service clients, see *Viewing Service Processing Logs*, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Additional Information: The integration repository administrators (defined by the Integration Repository Administrator role) can find the Administration tab containing the following information displayed next to the Integration Repository tab:

- **SOA Monitor subtab:** This allows the administrators to monitor and audit all SOAP messages in and out through SOA Provider and view the message details.

For information about how to use SOA Monitor, see *Monitoring and Managing SOAP Messages Using SOA Monitor*, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Log subtab:** This allows the administrators to enable and configure log setups.

For information about log configuration, see *Logging for Web Services*, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Common Information on SOAP Web Services

For service-enabled interfaces, SOAP service information is displayed in the SOAP Web Service tab (or the Web Service region for XML Gateway interface only) of the interface details page.

Web Service Region(s) for XML Gateway Map

XML Gateway maps can be supported by both Web Service Provider in Release 12.0 and by SOA Provider in this release; therefore, for backward compatibility, a profile option *FND: XML Gateway Map Service Provider* is used to let you select an appropriate service provider in enabling services for XML Gateway Map interface type. Based on your selected profile value, the interface details page can display the 'Web Service - Web Service Provider region' or 'Web Service - SOA Provider region', or displayed both regions at the same time if a service is generated successfully.

See: XML Gateway Map Web Service Region, page 4-28.

The following fields are common in the SOAP Web Service tab or Web Service region to almost all interface types:

Field	Description
Web Service Status	This field indicates different state of a SOAP service during service generation and deployment life cycle.
(or SOAP Service Status if it's in the SOAP Web Service tab)	<ul style="list-style-type: none">• Generated: This indicates that the selected interface has a SOAP service available, but the service has not yet been deployed. Therefore, this generated service is not ready to be invoked. Once a service has been successfully generated, the following buttons appear:<ul style="list-style-type: none">• Regenerate WSDL: This button lets you regenerate the service if the interface definition has been changed before service deployment.• Deploy: This button lets you deploy the generated SOAP service.• Deployed: This indicates that the selected interface has been deployed to Oracle Application Server. Once a service has been successfully generated, the following buttons appear:<ul style="list-style-type: none">• Undeploy: This button lets you undeploy the SOAP service from the application server back to Oracle Integration Repository if necessary.• Redeploy: This button lets you update the deployed service with the current system values.

Field	Description
View WSDL	<p>This link is shown after a selected interface has an associated SOAP service available. Click this link letting you review WSDL description for a generated or deployed service.</p> <p>See: <i>Reviewing Web Service WSDL Source</i>, page 4-16.</p>
Service Operations table	<p>This table displays the interface name along with the method names contained in the interface in a table. An integration administrator or an integration developer can generate the selected interface as a SOAP service.</p> <p>Note that this table is still updatable after service generation, but any changes to the table will be applied only after regenerating the service.</p>
Authentication Type	<p>To secure web service content and authenticate web service operation, before deploying a generated service, an integration repository administrator must select one desired authentication type for the selected service in the Authentication Type field.</p> <ul style="list-style-type: none"> <p>Username Token: This authentication type provides username and password information in the security header to authenticate SOAP requests.</p> <p>See: <i>UsernameToken Based Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide</i>.</p> <p>SAML Token (Sender Vouches): This authentication type is used for web services relying on sending a username only through SAML Assertion.</p> <p>See: <i>SAML Sender-Vouches Token Based Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide</i>.</p> <p>Only users who have the Integration Repository Administrator role can select and modify the authentication type. For other users, this field is displayed in read-only mode.</p>
Grant	<p>The Grant icon is shown only in the SOAP Web Service tab (not the Web Service region).</p> <p>If the access permission of an operation has been granted to a specific user, user groups, or all users, then the Grant icon is available for the operation. Only users who have the Integration Repository Administrator role and the System Integration Developer role can find the Grant icon and view the grant details.</p>

Performing Administrative Activities for SOAP Web Services

Users who have the Integration Repository Administrator role can perform administrative tasks. These tasks include generating, deploying, undeploying, and redeploying SOAP services by clicking the following buttons in the interface details

page:

- **Generate:** This allows the administrators to generate a SOAP service. This transforms a selected integration interface definition into a web service using WSDL. After service generation, the administrators can regenerate or deploy the generated service if it's needed.

See *Generating SOAP Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Deploy:** If the SOAP service has already been successfully generated, the administrators can deploy the generated SOAP service to an Oracle E-Business Suite server.

If the web service is successfully deployed, the administrators can undeploy or redeploy the web service if needed. See *Deploying and Undeploying SOAP Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Create Grant:** The administrators can create security grants by authorizing access permissions of interface methods to a user, a user group, or all users.

The grant feature applies to both SOAP and REST service operations if the selected interface can be exposed as both SOAP and REST services. For more information on security grants, see *Managing Grants, page 4-23*.

- **View Log:** This displays the Log Details page where the administrators can view and download the log details.

For more information on viewing logs recorded at design time, see *Viewing Generate and Deploy Time Logs, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

To view logs written in Service Monitor during the invocation of Oracle E-Business Suite SOAP services, see *Viewing Service Processing Logs, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Additional Information: In addition to performing service management activities in the Integration Repository tab, integration repository administrators can perform other administrative tasks in the Administration tab that are outside the Integration Repository user interface. These tasks include:

- **Configuring Log Setups**

This allows the administrators to enable and configure log setups for all services or specific services or operations. The administrators can easily monitor system activities, track and view log messages, and troubleshoot any issues encountered at each stage of service development life cycle.

For more information on SOA logging framework and how to enable and configure logs, see Logging for Web Services, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Monitoring SOAP Messages Using SOA Monitor**

This allows the administrators to access SOA Monitor to monitor and audit all SOAP messages in and out from the SOA Provider (if the SOA auditing feature is enabled).

For more information on how to use SOA Monitor, see Monitoring and Managing SOAP Messages Using SOA Monitor, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Common Information on REST Web Services

If a selected interface can be exposed as a REST service, you can find the REST Web Service tab included in the interface details page. It can be an interface type of PL/SQL, Concurrent Program, Business Service Object, Open Interface Table or View, Java Bean Services, or Application Module Services.

The following fields are common in the REST Web Service tab:

Field	Description
Service Alias	<p>Each REST service should be associated with a unique alias name. Before deploying a REST service, the administrator must enter this field which will be used in service endpoint, WADL, XSDs, and namespaces.</p> <p>Please note the following guidelines when specifying the service alias:</p> <ul style="list-style-type: none">• Use simple and meaningful name to represent the service, such as "person", "employee", and so on.• Do not use "rest", "soap", and "webservices" as the alias.• Do not start with a number or a special character, such as #, \$, %, _ - and more.• Do not end with a special character.• Characters such as ., _ and - are allowed in a service alias.

Field	Description
REST Service Status	<p>This field indicates different state of a REST service during service life cycle.</p> <ul style="list-style-type: none"> • Not Deployed: This indicates that the selected interface is not deployed. Click Deploy to deploy the REST service. The REST Web Service Status is changed from 'Not Deployed' to 'Deployed'. • Deployed: This indicates that the selected interface is deployed to the application server. Once a REST service has been successfully deployed, the administrator can undeploy the service by clicking Undeploy. This action undeploys the REST service from the server back to Oracle Integration Repository, and at the same time it clears up the existing service artifact. The REST Service Status field is changed from 'Deployed' to 'Not Deployed'. <p>In addition to 'Not Deployed' and 'Deployed' service states, more intermediate service statuses can be shown while the service is in the process of performing an action issued by the administrator and transforming to a different state. The following list describes intermediate service status information:</p> <ul style="list-style-type: none"> • Deploying: This indicates that the selected interface is in the middle of the process of deploying the service. After this process is complete, 'Deployed' is displayed in the REST Service Status field. • Undeploying: This indicates that the selected interface is in the middle of the process of undeploying and removing the associated service artifact. After this process is complete, 'Not Deployed' is displayed in the REST Service Status field.
View WADL	<p>This link is displayed after the selected interface has an associated REST service deployed. Click this link letting you review WADL description for the deployed REST service.</p> <p>This field appears only when the REST service has been successfully deployed with 'Deployed' status.</p> <p>See: Reviewing Web Service WADL Source, page 4-19.</p>

Field	Description
Verb	<p>The Verb value indicates how the REST service is implemented using an HTTP method.</p> <p>For PL/SQL APIs and Concurrent Programs, if a selected interface is deployed (with 'Deployed' status) as a REST service, this field appears along with the "POST" HTTP method.</p> <p>Note: POST is the only supported HTTP method for PL/SQL APIs and Concurrent Programs.</p> <p>For Business Service Objects, Java Bean Services, Application Module Services, Open Interface Tables, and Open Interface Views, the supported verbs are displayed in the Service Operations Table instead.</p>
REST Service Security	<p>To secure REST service content, all REST services are secured by either one of the following security methods:</p> <ul style="list-style-type: none"> • HTTP Basic Authentication: This authentication type is for an HTTP client application to provide username and password when making a REST request that is typically over HTTPS. <p>See: HTTP Basic Authentication, <i>Oracle E-Business Suite Integrated SOA Gateway Implementation Guide</i>.</p> • Token Based Authentication: This security authenticates a user using a security token obtained by invoking the security Login service. When a user tries to log on to a server, a token (such as Oracle E-Business Suite session ID) may be sent as <code>cookie</code> in the HTTP header. This authentication method can be used in multiple consecutive REST invocations. See: Token Based Authentication, <i>Oracle E-Business Suite Integrated SOA Gateway Implementation Guide</i>.
Service Operations table	<p>This table displays the list of procedures or functions contained in the selected interface that can be exposed as REST service operations.</p> <p>For more information on each field in the table, see Service Operations Table, page 4-13.</p>

Service Operations Table

The Service Operations table displays each method (or procedure or function) contained in the selected interface, and whether it is exposed as a service operation. Users who have the Integration Repository Administrator role can perform administrative tasks including deploying or undeploying services as well as creating or revoking security grants.

The following table describes each field in the Service Operations table:

Field	Description
Display Name	This is the interface name used externally.
Internal Name	This is the interface name used internally.
Included Operations (PL/SQL APIs and Concurrent Programs Only)	<p>This column appears when a selected PL/SQL API or Concurrent Program is exposed as a REST service. All the methods contained in the selected interface are automatically checked by default indicating that they are all exposed as REST service operations.</p> <p>Note: All methods in a PL/SQL API are deployed with POST HTTP method. A Concurrent Program contains only single method; therefore, once it is deployed, the method within the interface is automatically deployed with POST as well.</p>
GET (Business Service Object, Java Bean Services, Application Module Services, and Open Interface Tables and Views Only)	<p>This GET method column appears when a selected interface is an interface type of Business Service Object, Open Interface Table or View, Java Bean Services, or Application Module Services.</p> <p>For Business Service Object interfaces, the GET check box is enabled only if input parameters are of simple data types (String, Number, etc.). It is disabled if input parameters consist of complex data object types (AccountMergeRequest, etc.).</p> <p>For Java Bean Services and Application Module Services, this GET check box is preselected if a Java or an Application Module method is annotated with the GET HTTP method. The administrator can uncheck the preselected GET check box for the Java or Application Module method if it will not be published with the GET method. However, if it is not annotated with GET method, unlike the POST method, the GET check box becomes inactive or disabled for further selection.</p> <p>For Open Interface Tables with Inbound direction, four HTTP methods (GET, POST, PUT, and DELETE) are all displayed. For Open Interface Tables with Outbound direction and Open Interface Views, only the GET method is displayed in the table.</p>

Field	Description
POST (Business Service Object, Java Bean Services, Application Module Services, and Open Interface Tables with Inbound direction Only)	<p>This POST method column appears when a selected interface is an interface type of Business Service Object, Java Bean Services, Application Module Services, or Open Interface Table with Inbound direction.</p> <p>For Business Service Object interfaces, select the POST check box if desired for a method to be deployed as a REST service operation.</p> <p>For Java Bean Services and Application Module Services, if a Java or an Application Module method is annotated with the POST method, similar to the GET method, this POST check box is preselected. The administrator can uncheck the preselected check box before deploying the service if the Java or Application Module method will not be published with the POST method. If it is not annotated with the POST method, unlike the GET method, the POST check box remains active or enabled by default. The administrator can still select the POST check box if needed for a method.</p> <p>For Open Interface Table with Inbound direction, select the POST check box if desired for an interface table to be deployed as a REST service operation.</p>
PUT (Open Interface Tables with Inbound direction Only)	This HTTP method column appears only when the selected interface is an Open Interface Table with Inbound direction.
DELETE (Open Interface Tables with Inbound direction Only)	This HTTP method column appears only when the selected interface is an Open Interface Table with Inbound direction.
Grant	If the access permission of an operation has been granted to a specific user, user groups, or all users, then the Grant icon appears for the operation. Only users who have the Integration Repository Administrator role and the Integration Repository Developer role can find the Grant icon and view the grant details.

Performing Administrative Activities for REST Web Services

REST services have a simplified service development life cycle. Users who have the Integration Repository Administrator role can perform the following administrative tasks in the interface details page:

- **Deploy** (REST Web Service tab): This allows the administrators to deploy the REST service.

For more REST service deployment information, see *Deploying REST Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Undeploy** (REST Web Service tab): This action not only undeploys the service from the server to the Integration Repository, but also resets its status to the initial state 'Not Deployed'.

For more REST service undeployment information, see *Undeploying REST Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Create Grant** (Grants tab): The administrators select desired service operations before clicking **Create Grant**. The Create Grants page appears where grants can be created for a user, a user group, or all users.

The grant feature applies to both SOAP and REST services. For more information on security grants, see *Managing Grants*, page 4-23.

Reviewing Web Service WSDL Sources

To make integration interfaces available to customers over a network where customers can dynamically interact between applications, Oracle Integration Repository allows integration repository administrators (or users who have the Integration Repository Administrator role) to generate web services WSDL files.

Once a SOAP service represented in WSDL has been successfully generated, the SOAP service status is changed from 'Not Generated' to 'Generated'. The WSDL link appears in the SOAP Web Service tab (or the Web Service region for XML Gateway interface) allowing you to view the WSDL description.

Note: For XML Gateway Map interface type service enabled by Web Service Provider in Release 12.0, you will find a standard and deployed XML Gateway WSDL URL displayed with the 'Web Service Status - Deployed' status in the Web Service - Web Service Provider region.

For more information on service enablement support for XML Gateway Map interface type, see *XML Gateway Map Web Service Region*, page 4-28.

Interface Details Page with SOAP Web Service Tab

The screenshot shows the Oracle Integration Repository interface details page for a SOAP Web Service. The page has a blue header with the Oracle logo and 'Integration Repository' text. Navigation links include 'Navigator', 'Favorites', 'Home', 'Logout', 'Preferences', 'Help', and 'Diagnostics'. The main content area is titled 'Integration Repository >' and 'PLSQL Interface : Repair Order'. It features a 'Browse' button, a 'Search' button, and a 'Printable Page' button. The interface details are as follows:

Internal Name	CSD_REPAIRS_PUB	Scope	Public
Type	PL/SQL	Interface Source	Oracle
Product	Depot Repair		
Status	Active		
Business Entity	Repair Order(1)		

Below the details are tabs for 'Overview', 'SOAP Web Service', and 'REST Web Service'. The 'SOAP Web Service' tab is active, showing 'SOAP Service Status' as 'Generated' with a 'View WSDL' link. A 'Service Operations' section contains a table with columns 'Display Name', 'Internal Name', and 'Grant':

Display Name	Internal Name	Grant
<input type="checkbox"/> Repair Order	CSD_REPAIRS_PUB	
Create Repair Order	CREATE_REPAIR_ORDER	
Update Repair Order Status	UPDATE_RO_STATUS	

A tip indicates: 'TIP To apply any changes in Interaction Pattern, Generate or Regenerate the service.' Below this is the 'Web Service Security' section, showing 'Authentication Type' with radio buttons for 'Username Token' (selected) and 'SAML Token (Sender Vouches)'. At the bottom of the page are 'Browse', 'Search', and 'Printable Page' buttons, and a footer with 'Integration Repository Administration Home Logout Preferences Help Diagnostics', 'About this Page Privacy Statement', and 'Copyright (c) 2008, Oracle. All rights reserved.'

To view WSDL file:

1. Log in to Oracle E-Business Suite as a user who has the System Integration Analyst role. Select the Integrated SOA Gateway responsibility and the Integration Repository link from the navigation menu.

Locate your desired interface definition through a search or from the navigation tree.

2. Click the interface name to open the interface details.
3. Click the **View WSDL** link in the SOAP Web Service tab (or the Web Service region for XML Gateway interface) to view the WSDL source code.

The following sample shows the WSDL description for the PLSQL Interface: Repair Order:

```

<?xml version="1.0" encoding="UTF-8"?>
<definitions name="CSD_REPAIRS_PUB"
targetNamespace="http://xmlns.oracle.
com/apps/csd/soapprovider/plsql/csd_repairs_pub/"
xmlns="http://xmlns.oracle.
com/apps/csd/soapprovider/plsql/csd_repairs_pub/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tns1="http://xmlns.oracle.
com/apps/csd/soapprovider/plsql/csd_repairs_pub/create_repair_order/"
xmlns:tns2="http://xmlns.oracle.
com/apps/csd/soapprovider/plsql/csd_repairs_pub/update_ro_status/">
<types>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified"
targetNamespace="http://xmlns.oracle.
com/apps/csd/soapprovider/plsql/csd_repairs_pub/create_repair_order/"
>
<include schemaLocation="http://<myhost>:
<port>/webservices/SOAPProvider/plsql/csd_repairs_pub/APPS_ISG_CREATE
_REPAIR_ORDER_CSD_REPAIRS_PUB-24CREATE_REPAIR.xsd" />
</schema>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified"
targetNamespace="http://xmlns.oracle.
com/apps/csd/soapprovider/plsql/csd_repairs_pub/update_ro_status/">
<include schemaLocation="http://<myhost>:
<port>/webservices/SOAPProvider/plsql/csd_repairs_pub/APPS_ISG_UPDATE
_RO_STATUS_CSD_REPAIRS_PUB-24UPDATE_RO_STA.xsd" />
</schema>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified"
targetNamespace="http://xmlns.oracle.
com/apps/csd/soapprovider/plsql/csd_repairs_pub/">
<element name="SOAHeader">
<complexType>
<sequence>
<element name="Responsibility" minOccurs="0" type="string" />

<element name="RespApplication" minOccurs="0" type="string"
/>

<element name="SecurityGroup" minOccurs="0" type="string" />
<element name="NLSLanguage" minOccurs="0" type="string" />
<element name="Org_Id" minOccurs="0" type="string" />
</sequence>
</complexType>
</element>
</schema>
</type>
. . .

```

Note: Values passed in the Responsibility, Responsibility Application, Security Group, NLS Language, and Organization ID complex types listed under the "SOAHeader" are used to set applications context during service execution.

Note that NLS Language and Organization ID are optional values to be passed. However, if the execution of a service is dependent on any particular organization, then you must pass the ORG_ID element in the "SOAHeader" of that SOAP request.

See: *Setting Other Web Service Input Message Parts, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide.*

Note that the user information is defined by the `wsseUsername` property passed within the security headers. Detailed instructions on how to pass the security headers along with the SOAP request, see *Passing Values to Security Headers, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide.*

For more WSDL element information, see *Reviewing WSDL Element Details, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide.*

To view a deployed WSDL file:

When an integration repository administrator successfully deploys or redeploys a web service, 'Deployed' appears in the SOAP Service Status field along with the deployed WSDL link in the SOAP Web Service tab or the appropriate Web Service region for an XML Gateway interface.

Click the **View WSDL** link to view the deployed WSDL file.

Reviewing Web Service WADL Sources

Once a REST Web service represented in WADL has been successfully deployed, the REST Service Status field is changed from 'Not Deployed' to 'Deployed'. The WADL link appears in the REST Web Service tab allowing you to view the WADL description.

For example, the following WADL description is for a PL/SQL API Invoice Creation (AR_INVOICE_API_PUB) that includes 'CREATE_INVOICE' and 'CREATE_SINGLE_INVOICE' REST service operations:

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<application xmlns:tns="http://xmlns.oracle.com/apps/ar/soapprovider/plsql/rest/ar_invoice_api_pub/" xmlns="http://wadl.dev.java.net/2009/02"
xmlns:tns1="http://xmlns.oracle.com/apps/ar/rest/ar/create_invoice/"
name="AR_INVOICE_API_PUB"
targetNamespace="http://xmlns.oracle.com/apps/ar/soapprovider/plsql/rest/ar_invoice_api_pub/">
  <grammars>
    <include xmlns="http://www.w3.org/2001/XMLSchema" href="https://host01.example.com:1234/webservices/rest/Invoice?XSD=CREATE_INVOICE_SYNCH_TYPEDEF.xsd" />

    <include xmlns="http://www.w3.org/2001/XMLSchema" href="https://host01.example.com:1234/webservices/rest/Invoice?XSD=CREATE_SINGLE_INVOICE_SYNCH_TYPEDEF.xsd" />
  </grammars>
  <resources base="http://host01.example.com:1234/webservices/rest/Invoice/">
    ...
  </resources>
</application>
```

Note: The service alias value Invoice entered earlier before service deployment is now displayed as part of the schema for the service operations - 'CREATE_INVOICE' and 'CREATE_SINGLE_INVOICE'.

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<application xmlns:tns=...
...
  <resources base="http://host01.example.com:1234/webservices/rest/
Invoice/">
    <resource path="/create_invoice/">
      <method id="CREATE_INVOICE" name="POST">
        <request>
          <representation mediaType="application/xml" type="tns1:
InputParameters" />
          <representation mediaType="application/json" type="tns1:
InputParameters" />
        </request>
        <response>
          <representation mediaType="application/xml" type="tns1:
OutputParameters" />
          <representation mediaType="application/json" type="tns1:
OutputParameters" />
        </response>
      </method>
    </resource>
    <resource path="/create_single_invoice/">
      <method id="CREATE_SINGLE_INVOICE" name="POST">
        <request>
          <representation mediaType="application/xml" type="tns2:
InputParameters" />
          <representation mediaType="application/json" type="tns2:
InputParameters" />
        </request>
        <response>
          <representation mediaType="application/xml" type="tns2:
OutputParameters" />
          <representation mediaType="application/json" type="tns2:
OutputParameters" />
        </response>
      </method>
    </resource>
  </resources>
</application>
```

Note: POST is shown as the method name for two service operations 'CREATE_INVOICE' and 'CREATE_SINGLE_INVOICE'. This is the only HTTP method supported for PL/SQL REST services in this release.

Input and output messages can be exchanged in both the XML and JSON formats for both service operations.

If the deployed REST service is an interface type of Java Bean Services or Application Module Services, then both the GET and POST can be shown as the supported methods in the REST service operation. For example, the following WADL description shows many methods contained in the Employee Information service. The `getPersonInfo` operation is implemented with both the POST and GET HTTP methods.

```

<xml version="1.0" encoding="UTF-8">
<application name="EmployeeInfo" targetNamespace="http://xmlns.oracle.
com/apps/per/soaprovider/pojo/employeeinfo/"
  xmlns:tns="http://xmlns.oracle.
com/apps/per/soaprovider/pojo/employeeinfo/"
  xmlns="http://wadl.dev.java.net/2009/02" xmlns:xsd="http://www.w3.
org/2001/XMLSchema"
  xmlns:tns1="http://xmlns.oracle.
com/apps/fnd/rest/empinfo/getallreports/"
  xmlns:tns2="http://xmlns.oracle.
com/apps/fnd/rest/empinfo/getdirectreports/"
  xmlns:tns3="http://xmlns.oracle.
com/apps/fnd/rest/empinfo/getpersoninfo/">

<grammars>
  <include href="http://<hostname>:<port>/webservicess/rest/empinfo/?
XSD=getallreports.xsd" xmlns="http://www.w3.org/2001/XMLSchema" />
  <include href="http://<hostname>:<port>/webservicess/rest/empinfo/?
XSD=getdirectreports.xsd" xmlns="http://www.w3.org/2001/XMLSchema" />
  <include href="http://<hostname>:<port>/webservicess/rest/empinfo/?
XSD=getpersoninfo.xsd" xmlns="http://www.w3.org/2001/XMLSchema" />
</grammars><resources base="http://<hostname>:
<port>/webservicess/rest/empinfo/">
  <resource path="/getAllReports/">
    <method id="getAllReports" name="GET">
      <request>
        <param name="ctx_responsibility" type="xsd:string" style="query"
required="false" />
        <param name="ctx_respapplication" type="xsd:string" style="
query" required="false" />
        <param name="ctx_securitygroup" type="xsd:string" style="query"
required="false" />
        <param name="ctx_nlslanguage" type="xsd:string" style="query"
required="false" />
        <param name="ctx_orgid" type="xsd:int" style="query" required="
false" />
      </request>
      <response>
        <representation mediaType="application/xml" type="tns1:
getAllReports_Output" />
        <representation mediaType="application/json" type="tns1:
getAllReports_Output" />
      </response>
    </method>
  </resource>
  <resource path="/getDirectReports/">
    <method id="getDirectReports" name="GET">
      <request>
        <param name="ctx_responsibility" type="xsd:string" style="query"
required="false" />
        <param name="ctx_respapplication" type="xsd:string"
style="query" required="false" />
        <param name="ctx_securitygroup" type="xsd:string" style="query"
required="false" />
        <param name="ctx_nlslanguage" type="xsd:string" style="query"
required="false" />
        <param name="ctx_orgid" type="xsd:int" style="query" required="
false" />
      </request>
      <response>
        <representation mediaType="application/xml" type="tns2:
getDirectReports_Output" />
        <representation mediaType="application/json" type="tns2:
getDirectReports_Output" />
      </response>
    </method>
  </resource>
</resources>

```

```

</resource>
<resource path="/"getPersonInfo/ {personId}/">
  <param name="personId" style="template" required="true" type="xsd:int"
/>
  <method id="getPersonInfo" name="GET">
    <request>
      <param name="ctx_responsibility" type="xsd:string" style="query"
required="false" />
      <param name="ctx_respapplication" type="xsd:string" style="
query" required="false" />
      <param name="ctx_securitygroup" type="xsd:string" style="query"
required="false" />
      <param name="ctx_nlslanguage" type="xsd:string" style="query"
required="false" />
      <param name="ctx_orgid" type="xsd:int" style="query" required="
false" />
    </request>
    <response>
      <representation mediaType="application/xml" type="tns3:
getPersonInfo_Output" />
      <representation mediaType="application/json" type="tns3:
getPersonInfo_Output" />
    </response>
  </method>
</resource>
<resource path="/getPersonInfo/">
  <method id="getPersonInfo" name="POST">
    <request>
      <representation mediaType="application/xml" type="tns3:
getPersonInfo_Input" />
      <representation mediaType="application/xml" type="tns3:
getPersonInfo_Output" />
    </request>
    <response>
      <representation mediaType="application/xml" type="tns3:
getPersonInfo_Input" />
      <representation mediaType="application/xml" type="tns3:
getPersonInfo_Output" />
    </response>
  </method>
</resource>
</resource path>
</application>

```

- {personId} is a path variable, defined using the <param> tag after the <resource> tag and before the <method> tag. Client program should replace the path variable with actual value at run time. For example, an employee's Id will be passed in an HTTP GET request when the getPersonInfo service operation is invoked. This returns the associated employee's name and his or her manager's name.

For information on how the path variable can be defined, see *Annotations for Java Bean Services, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide* or *Annotations for Application Module Services, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

- For the GET method, application context values, including

Responsibility, Responsibility Application, Security Group, NLS Language, and Organization ID complex types, are passed as query strings in the RESTHeader element.

For more information about WADL description, see *Reviewing WADL Element Details, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

To view a deployed WADL file:

1. Log in to Oracle E-Business Suite as a user who has the System Integration Analyst role. Select the Integrated SOA Gateway responsibility and the Integration Repository link from the navigation menu.

The Integration Repository home page appears.

2. Locate your desired interface definition through a search or browse from the interface tree structure within the repository.
3. Click the interface name to open the interface details page.
4. In the REST Web Service tab, click the **View WADL** link to view the WADL source code.

Managing Grants

Only integration repository administrators (or users who have the Integration Repository Administrator role) can create security grants by authorizing the access permission of a selected interface method or procedure and function to an appropriate user, user group, or all users.

Managing Grants in the Grants Tab

Interface types that have the security grant feature available are PL/SQL, Concurrent Program, Business Service Object, Java Bean Services, Application Module Services, and Open Interface Table and View. You can manage grants for these interfaces using the Grants tab in the interface details page.

Note: Security grants for XML Gateway interfaces are managed in the Trading Partner User Setup Form although XML Gateway interfaces can only be exposed as SOAP services. See *Managing XML Gateway User Security in the Trading Partner User Setup Form*, page 4-27.

Interface Details Page with Grants Tab Highlighted

The screenshot shows the Oracle Integration Repository Administration interface. The page title is "Integration Repository Administration". The breadcrumb trail is "Integration Repository > Business Service Object : Account Merge Service". There are three buttons: "Browse", "Search", and "Printable Page".

Metadata for the Business Service Object:

- Qualified Name: /oracle/apps/ar/hz/service/account/AccountMergeService
- Interface: oracle.apps.ar.hz.service.account.AccountMergeService
- Extends: oracle.svc.Service
- Product: Receivables
- XML Schema: AccountMergeService
- Status: Active
- Scope: Public
- Interface Source: Oracle

Navigation tabs: Overview, SOAP Web Service, REST Web Service, **Grants** (highlighted).

Buttons: "Select Object and", "Create Grant", "Revoke Grant".

Links: "Select All", "Select None".

Select	Name	Internal Name	SOAP Service Operation	REST Service Operation	Grant
<input type="checkbox"/>	get Account Merge Details	getAccountMergeDetails			

Buttons: "Browse", "Search", "Printable Page".

Footer: Integration Repository Administration Home Logout Preferences Help Diagnostics
About this Page Privacy Statement Copyright (c) 2006, Oracle. All rights reserved.

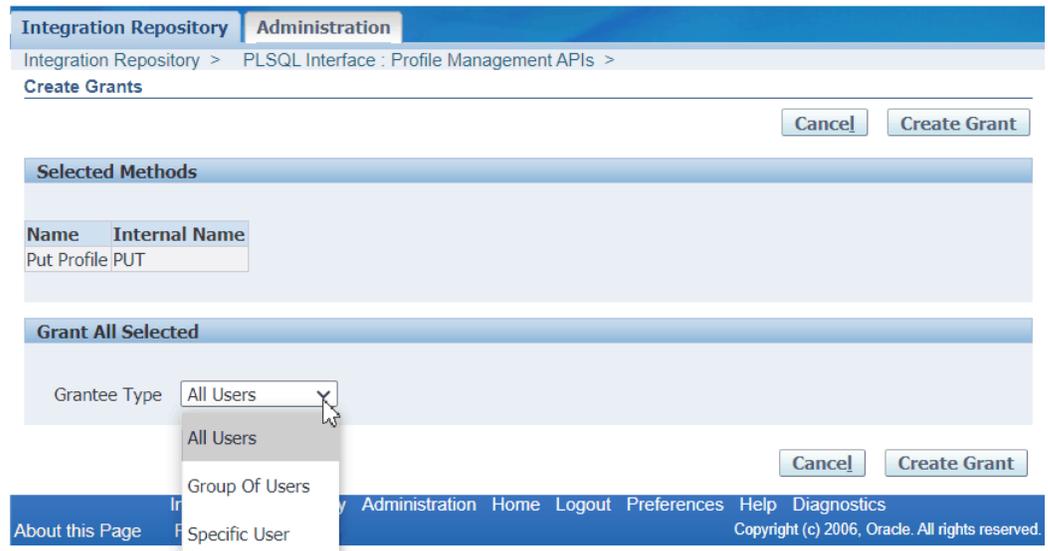
Note that the grant feature applies to the interfaces that can be exposed as both SOAP and REST services. These interfaces are PL/SQL, Concurrent Program, and Business Service Object.

For example, when a user (OPERATIONS) is authorized to have access permission on a PL/SQL API method name called 'Change User Name', the user will have the permission to access the associated 'Change User Name' service operations of both SOAP and REST service types through the same grant.

Creating Security Grants

To create a grant, select appropriate method name check boxes in the Grants tab. Click **Create Grant** to open the Create Grants page.

Create Grants Page



Integration Repository Administration

Integration Repository > PLSQL Interface : Profile Management APIs >

Create Grants

Cancel Create Grant

Selected Methods

Name	Internal Name
Put Profile	PUT

Grant All Selected

Grantee Type All Users

- All Users
- Group Of Users
- Specific User

Cancel Create Grant

About this Page Administration Home Logout Preferences Help Diagnostics

Copyright (c) 2006, Oracle. All rights reserved.

In the Create Grants page, select a grantee type and grantee name if it's applicable. Click **Apply**. This creates security grants for the selected methods.

Note that the grant action applies to both SOAP and REST PL/SQL services.

Revoking Security Grants

To revoke a grant in the Grants tab, the administrator can perform the action in two ways:

- *Revoking Grants for a Single Procedure and Function*

Select a desired procedure and function from the Service Operations region first and then click **Revoke Grant**. The Revoke Grants page displays the existing grants details assigned to the selected procedure and function.

Revoke Grants Page with a Single Grant

PLSQL Interface : Profile Management APIs >

Revoke Grants

Selected Procedures and Functions

Name	Internal Name
Put Profile	PUT

[Select All](#) | [Select None](#)

Granted	Grantee	
Select Via	Type	Grantee
<input type="checkbox"/> Direct	GLOBAL	All Users

Select one or more existing grants from the table for the selected procedure, and click **Revoke Grant** to revoke the grants.

- **Revoking Commonly Assigned Grants to All Procedures**

Select more than one procedure and function name that have grants created earlier, and click **Revoke Grant** in the Grants tab. The Revoke Grants page is displayed where the administrator can find existing grants that are commonly assigned to the selected procedures and functions.

For example, two procedures and functions (such as 'Get Profile' and 'Get Profile Value') are assigned to the same User (grantee type) 'operations' (grantee name). This common grant User 'operations' is displayed in the second table of the Revoke Grants page.

Revoke Grants Page with a Commonly Assigned Grant

PLSQL Interface : Profile Management APIs >

Revoke Grants

Selected Procedures and Functions

Name	Internal Name
Get Profile	GET
Get Profile Value	VALUE

Select All | Select None

Granted	Grantee	Grantee	
Select Via	Type	Grantee	
<input type="checkbox"/>	Direct	USER	operations@.com

The administrator should be able to select the desired common grant(s) (such as User 'operations' in the above example) and click **Revoke Grant**. The specified common grant(s) should be removed for the selected procedures and functions.

For more information about how to manage grants in the Grants tab, see *Managing Security Grants for the SOAP and REST Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Managing XML Gateway User Security in the Trading Partner User Setup Form

For XML Gateway interfaces, authorizing users to perform XML Gateway inbound transactions with a trading partner is performed in Oracle XML Gateway instead. The administrator needs to:

- Set the "ECX: Enable User Check for Trading Partner" profile option to "Yes" to enable trading partner specific security feature
- Associate users with a trading partner

Log in to Oracle E-Business Suite as a user who has the XML Gateway responsibility. Navigate to **Setup** and then select **Define Trading Partners** from the navigation menu. In the Define Trading Partner Setup form, click the **User Setup** button to access the Trading Partner User Setup form where the administrator can associate users with a trading partner.

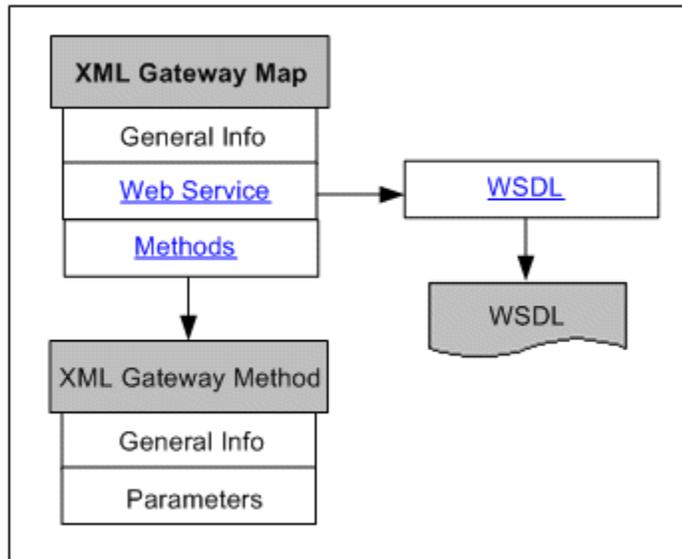
For more information about trading partner user security, refer to Trading Partner Setup, XML Gateway Setup chapter, *Oracle XML Gateway User's Guide*.

XML Gateway Map Information

The following diagram illustrates the basic structure of the XML Gateway Map

information page and its connections to related pages:

Basic Structure of the XML Gateway Information Page



The XML Gateway Map information page contains the following information:

- **Web Service Region**

If the XML gateway map is exposed as a Web service, appropriate Web Service region(s) will be available.

See XML Gateway Map Web Service Region, page 4-28.

- **Methods Region**

The Methods region links to one or more XML Gateway Method information pages.

The general section of the XML Gateway Map displays common information, page 4-1.

The information page or interface details page includes a table listing the XML Gateway methods. Click a method name to access the information page for that method.

XML Gateway Map Web Service Region

To support the XML Gateway Map service enabled by Web Service Provider in Release 12.0 and to differentiate the service enablement by SOA Provider in this release, Oracle E-Business Suite Integrated SOA Gateway uses the following profile option to let you select an appropriate service provider in enabling services for XML Gateway Map interface type. Based on the selected profile value, the interface details page displays an appropriate Web Service region or more than one region.

Select one of the following values to define the **FND: XML Gateway Map Service**

Provider profile option:

- **WSP (Web Service Provider)**

This displays the Web Service - Web Service Provider region if Web services are available.

Web Service - Web Service Provider region

XML Gateway Map with Web Service - Web Service Provider Region



In Release 12.0, XML Gateway Map interface type were deployed by default through Web Service Provider; therefore, you can find a standard XML Gateway WSDL URL displayed in this region with the 'Web Service Status - Deployed' status.

`http://<hostname>:
<port>/webservices/AppsWSPProvider/oracle/apps/fnd/XMLGateway?wsdl`

- **SOAP (SOA Provider)**

This is the default profile value which displays the Web Service - SOA Provider region if Web services are available.

Web Service - SOA Provider region

Note: The default profile value is set to 'SOAP'. However, if you do not start from this release and your system is upgrading from Release 12.0, you must change the profile value from the default 'SOAP' to 'Both' because Web Service Provider could have already been used in enabling services. To continue having service enabled

using SOA Provider and for backward compatibility, both service providers should be enabled in transforming XML Gateway Map interface definitions into Web services. Otherwise, a fault message appears if it is still set to the default profile value 'SOAP' (SOA Provider).

If you start with Rapid Install of Oracle E-Business Suite for this release, the default service provider is SOA Provider ('SOAP' profile value). In this situation, Web Service Provider will be disabled and any invocations of generic XML Gateway Web services will return a fault message.

XML Gateway Map with Web Service - SOA Provider Region

The screenshot displays the Oracle Integration Repository interface for the 'XML Gateway : Confirm BOD' service. The page includes a navigation bar with 'Home', 'Logout', 'Preferences', 'Help', and 'Diagnostics'. The main content area is divided into several sections:

- Internal Name:** XNB:CBODI
- Type:** XML Gateway Map
- Product:** Telecommunications Billing Integrator
- Status:** Active
- Business Entity:** XML_Gateway_Confirmation_Message
- Standard:** OAG 7.2 Confirm_BOD_004
- Scope:** Public
- Interface Source:** Oracle

The **Full Description** section contains the text: "Confirmation BOD map annotation public description."

The **Web Service - SOA Provider** section shows:

- Web Service Status:** Generated
- WSDL:** [View WSDL](#)
- Authentication Type:**
 - Username Token
 - SAML Token (Sender Vouches)

The **Source Information** section lists:

- Source File:** patch/115/xml/US/XNB_CLI_CBOD_OAG72_III.xgm
- Source Version:** 120.1
- Source Product:** XNB

The **Methods** section contains a table:

Name	Internal Name	Status	Description
CBODI	CBODI	Active	Process transaction.

At the bottom of the page, there is a footer with 'About This Page', 'Privacy Statement', and 'Copyright (c) 2006, Oracle. All rights reserved.'

The View WSDL link is available along with appropriate Web Service Status information in the Web Service - SOA Provider region indicating whether the service is generated or deployed. For information on viewing WSDL description, see *Reviewing Web Service WSDL Source*, page 4-16.

To secure Web service content and authenticate Web service operation, SOA Provider supports multiple authentication types for inbound service requests. In addition to the Web Service Status field and View WSDL link, you can find the Authentication Type field with the following read-only check boxes:

- Username Token: This authentication type provides username and password

information in the security header for a Web service provider to use in authenticating the SOAP request.

- **SAML Token (Sender Vouches):** This authentication type is used for Web services relying on sending a username only through SAML Assertion.

Before an integration repository administrator deploys a generated service, the administrator must select at least one authentication type for the selected service. See: *Deploying and Undeploying Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide.*

- **Both**

This displays both the Web Service - Web Service Provider region and Web Service - SOA Provider region in the interface details page if Web services are available.

For more profile option information used in Oracle E-Business Suite Integrated SOA Gateway, see *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide.*

Integration repository administrators (defined by the Integration Repository Administrator role) can also find the following buttons available if the Web service has been generated successfully:

- **Deploy:** Deploys the Web service.
- **Undeploy:** Undeploys a Web service if the service has been deployed.
- **Redeploy:** Redeploys the Web service if needed.

See: *Performing Administrative Activities for SOAP Web Services*, page 4-9.

XML Gateway Method Information

The XML Gateway method information page appears when you click a method name on an XML Gateway Map information page.

XML Gateway method information page

The screenshot shows the Oracle Integration Repository interface. The main content area displays the details for the XML Gateway Method 'GET_PROD_BATCH'. The details include:

- Internal Name: GET_PROD_BATCH
- Interface: OME:GET_PROD_BATCH
- Type: XML Gateway Map
- Direction: Outbound
- Business Entity: Process Mfg Batch
- Status: Active
- Scope: Public

Below the details, there are sections for 'Full Description' (Process transaction.) and 'Parameters'. The parameters table is as follows:

Name	Type	Required	Description
ECX_DOCUMENT_ID	VARCHAR2	Yes	Batch ID to retrieve Process production batch

The page also features a navigation tree on the left and search/printable page buttons at the bottom.

The general section of this page displays common information, page 4-1 for the XML Gateway method, plus the following additional field:

Direction

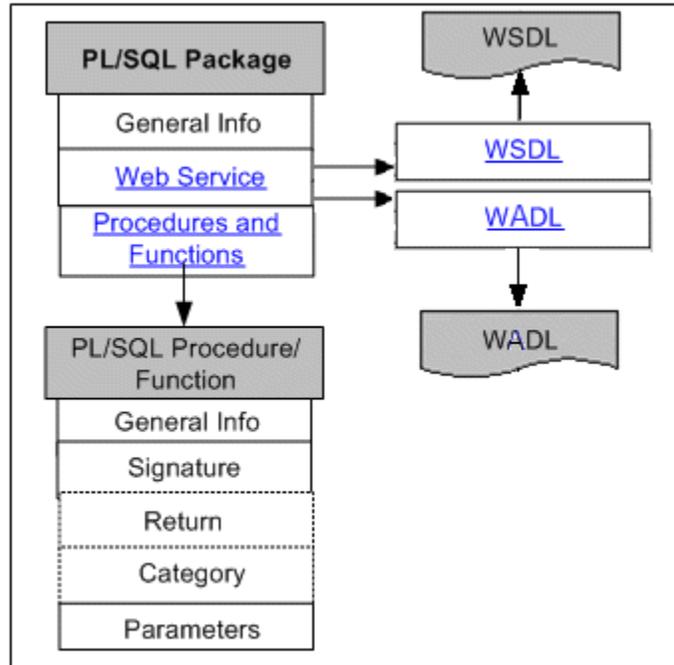
- Inbound indicates that the interface receives incoming transactions or messages into the Oracle E-Business Suite.
- Outbound indicates that the interface sends outgoing transactions or messages to another system.

This page also contains a table listing the XML Gateway method parameters, including each parameter's data type and whether the parameter is required.

PL/SQL Information

The following diagram illustrates the basic structure of the PL/SQL information page and its connection to the related PL/SQL procedure/function information page:

Basic Structure of the PL/SQL API Information Page



PL/SQL interfaces can be exposed as both SOAP services and REST services. Therefore, the PL/SQL interface details page includes general section of a selected PL/SQL interface, the Overview tab, the SOAP Web Service tab, and the REST Web Service tab.

Users who have the Integration Repository Administrator role can find an additional **Grants** tab displayed in the interface details page. This tab allows the administrators to create and revoke security grants. For more information on how to manage security grants, see *Managing Grants*, page 4-23.

For information on the general section, see *Common Information*, page 4-1.

PL/SQL Interface Details Page

The screenshot shows the Oracle Integration Repository interface. At the top, there is a navigation bar with the Oracle logo and 'Integration Repository' text. Below this, there are links for 'Navigator', 'Favorites', 'Diagnostics', 'Home', 'Logout', 'Preferences', and 'Help'. The main content area is titled 'PL/SQL Interface : User' and includes buttons for 'Browse', 'Search', and 'Printable Page'. The interface details are as follows:

- Internal Name: **FND_USER_PKG**
- Type: **PL/SQL**
- Product: **Application Object Library**
- Status: **Active**
- Business Entity: [User](#)
- Online Help: [See the related online help](#)
- Scope: **Public**
- Interface Source: **Oracle**

Navigation tabs include 'Overview', 'SOAP Web Service', and 'REST Web Service'. The 'Full Description' section states: 'Table Handler to insert or update data in FND_USER table.' The 'Source Information' section lists: Source File: patch/115/sql/AFSCUSRS.pls, Source Version: 120.16.12010000.1, Source Product: FND. The 'Procedures and Functions' section contains a table with the following data:

Name	Internal Name	Status	Description
User Form LDAP Wrapper Update User	FORM_LDAP_WRAPPER_UPDATE_USER	Active	This is called by user form.
Validate User Name	VALIDATE_USER_NAME	Active	This is called by user form and the fnd_user_pkg.

At the bottom of the page, there are additional navigation links: 'About this Page', 'Privacy Statement', 'Diagnostics', 'Home', 'Logout', 'Preferences', 'Help', and a copyright notice: 'Copyright (c) 2008, Oracle. All rights reserved.'

Note: For more information about Web services, see Understanding Web Services, page 2-1.

- **Overview Tab**

This tab displays read-only information about the selected PL/SQL API. It includes full description, interface source information, as well as methods (or procedures and functions) contained in the selected interface.

For more information on the interface source information, see Common Information on Interface Details, page 4-3.

- **SOAP Web Service Tab**

This tab contains SOAP service information for a selected PL/SQL interface. This includes service status, WSDL description, interaction pattern, and authentication type information.

For more information about SOAP service, see Common Information on SOAP Web Services, page 4-8.

For information on viewing WSDL description, see Reviewing Web Service WSDL Source, page 4-16.

If a SOAP service has been successfully generated, the administrators can perform

additional administrative tasks including deploying the generated service, or regenerating the service.

For more information on these administrative tasks, see *Performing Administrative Activities for SOAP Web Services*, page 4-9.

- **REST Web Service Tab**

This tab contains REST service information for the selected PL/SQL API. This includes service alias, service status, WADL description, verb, and service operation information.

Note that POST is the only HTTP verb supported in this release. For more information about REST service, see *Common Information on REST Web Services*, page 4-11.

All REST services are secured by HTTP Basic Authentication or Token Based Authentication at HTTP or HTTPS transport level. For more information on REST service security, see *Managing Web Service Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Note: HTTPS is the recommended secure transport protocol while using the HTTP Basic Authentication security to authenticate user credentials (username and password).

If a REST service has been successfully deployed to an Oracle E-Business Suite application server, the administrators can undeploy the service to reset the service to its initial state - 'Not Deployed'.

For more information on these administrative tasks, see *Performing Administrative Activities for REST Web Services*, page 4-15.

PL/SQL Method Details Page

The PL/SQL method details page appears when you click a method name in the Overview tab, the SOAP Web Service tab, or the REST Web Service tab.

PL/SQL Method Details Page

The screenshot shows the Oracle Integration Repository interface. At the top, it says 'ORACLE Integration Repository' with navigation links for Navigator, Favorites, Diagnostics, Home, Logout, Preferences, and Help. Below this, the page title is 'PL/SQL Interface : User >' and 'PL/SQL Method Details : Validate User Name'. There are buttons for 'Browse', 'Search', and 'Printable Page'.

Method details are listed as follows:

- Internal Name: **VALIDATE_USER_NAME**
- Interface: [FND_USER_PKG](#)
- Type: **PL/SQL**
- Business Entity: [User](#)
- Status: **Active**
- Scope: **Public**

There is an 'Online Help' link: [See the related online help](#).

The 'Full Description' section contains the text: 'This is called by user form and the fnd_user_pkg. In both places we need to validate whether an username is in a valid format.'

The 'Signature' section shows the following code:

```
PROCEDURE VALIDATE_USER_NAME(
  X_USER_NAME IN VARCHAR2
);
```

The 'Parameters' section contains a table:

Name	Type	Direction	Precision/Size	Default Value	Description
X_USER_NAME	VARCHAR2	In			in varchar2 Username

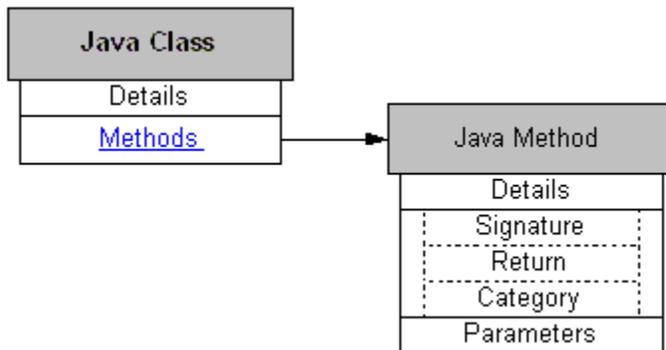
At the bottom of the page, there are more navigation links: 'About this Page', 'Privacy Statement', 'Diagnostics', 'Home', 'Logout', 'Preferences', 'Help', and a copyright notice: 'Copyright (c) 2006, Oracle. All rights reserved.'

This page displays the signature of the selected method, and a table listing the parameters and their attributes.

Java Information

The following diagram illustrates the basic structure of the Java information page and its connection to the related Java method information page.

Basic Structure of the Java Information Page



The general section of the Java information page displays common information, page 4-1 for the selected Java class. This page also contains a table listing the class methods, including active status and internal name. Click the Java method name link to access the

Java Method Details, page 4-37.

If you have the Integration Administrator role, the **Grants** tab appears. This lets you grant the access permissions of selected methods to a user, a user group, or all users. For more information on how to create security grants, see *Managing Grants*, page 4-23.

Java Method Details

The Java method details page appears when you click a method name on the Java interface details page.

Java method information page

The screenshot shows the Oracle Integration Repository interface. The left sidebar contains a tree view of categories, with 'User Management' selected under 'Java'. The main content area displays the details for the 'assignRole' method. It includes a search bar, a 'Printable Page' button, and sections for 'Full Description', 'Signature', and 'Parameters'. The 'Parameters' section contains a table with columns for 'Name', 'Type', and 'Description'.

Name	Type	Description
db	oracle.apps.fnd.framework.server.OADBTransaction	The OADBTransaction object
rbean	oracle.apps.fnd.umx.registration.RegistrationBean	Instance of RegistrationBean

The general section of the Java method information page displays common information, page 4-1 for the selected method, plus the following additional fields:

- **Interface**

This Interface field displays the interface that uses this Java method. Click the link to view the interface details.

- **See Also**

This See Also field displays a related Java method. Click a related Java method name link to view the Java method details.

This page also displays the signature of a selected method, information about the return type, and a table listing the method parameters.

Subtype of Java APIs

Some Java APIs are categorized as a subtype of Java interfaces. To locate those Java APIs, you must perform a search through the combination of Category and Category Value fields.

For information on how to locate these Java APIs through a search, see Searching for an Integration Interface, page 3-8.

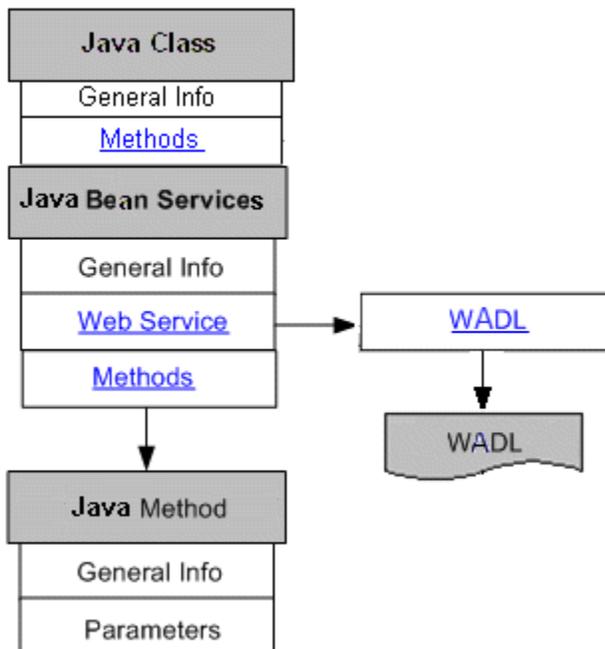
If your selected interface belongs to these subtypes of Java APIs, the interface details page may contain Web service information if the selected interface is exposed as a service. For the interface details page of these APIs, see:

- Java Bean Services, page 4-38
- Application Module Services, page 4-41
- Security Services, page 4-43
- Java APIs for Forms, page 4-45

Java Bean Services

The following diagram illustrates the basic structure of the Java Bean Services information page and its connection to the related Java method details:

Basic Structure of the Java Bean Services Information Page



Searching Java Bean Services Interfaces

To easily locate Java Bean Services through the Search page, click **Show More Search Options** to display more search fields.

Enter the following key search values as the search criteria:

- Category: Interface Subtype
- Category Value: Java Bean Services

For information about category and category value fields, see *Category and Category Value*, page 3-9.

Viewing Java Bean Services

Java Bean Services can be exposed as REST services only. The interface details page contains the Overview tab and the REST Web Service tab. An integration repository administrator can find an additional Grants tab displayed in the page. This Grants tab allows the administrator to create and revoke security grants. For more information on how to manage security grants, see *Managing Grants*, page 4-23.

For information on the general section, see *Common Information*, page 4-1.

Note: For more information about web services, see *Understanding Web Services*, page 2-1.

Java Bean Service Interface Details Page with REST Web Service Tab

The screenshot displays the Oracle Integration Repository interface. At the top, there is a navigation bar with the Oracle logo and 'Integration Repository' text. Below this, there are tabs for 'Integration Repository' and 'REST Web Service'. The main content area shows details for the 'Rest Service Locator' interface, including its internal name, type, product, status, scope, and interface source. A table lists the service operations with their display names, internal names, and supported HTTP methods (GET and POST). Below the table, there is a section for 'REST Service Security' which describes the authentication requirements for the service.

Internal Name: **oracle.apps.fnd.rep.ws.service.EbsRestLocator** Scope: **Public**
 Type: **Java** Interface Source: **Oracle**
 Product: **Application Object Library** Interface Subtype: **Java Bean Services**
 Status: **Active**

Service Alias: **locator**
 REST Service Status: **Deployed** | [View WADL](#)

Service Operations

Display Name	Internal Name	GET	POST
<input checked="" type="checkbox"/> Rest Service Locator	oracle.apps.fnd.rep.ws.service.EbsRestLocator		
ADDGRANT	addGrant		✓
ADDGRANTS	addGrants		✓
GETOPERATIONS	getOperations	✓	
LISTGRANTS	listGrants	✓	
REVOKEGRANT	removeGrant		✓
getRestInterface	getRestInterface	✓	
getRestInterfaces	getRestInterfaces	✓	

REST Service Security

REST Web Service is secured by HTTP Basic Authentication at HTTP Transport level. Send either of the following in "Authorization" header as per HTTP Basic scheme:
 - Username:Password
 - Security Token.
 Tip: Use [Login Service](#) to obtain Security Token for given user credentials.

- **Overview Tab**

This tab displays read-only information about the selected interface. It includes full description, interface source information, as well as methods contained in the interface.

For more information on the interface source information, see Common Information on Interface Details, page 4-3.

- **REST Web Service Tab**

This tab contains REST service information for the selected interface. This includes service alias, service status, WADL description, verb, and service operation information.

For more information about REST service, see Common Information on REST Web Services, page 4-11.

For Java Bean Services annotation information, see Annotations for Java Bean Services, *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

Similar to the PL/SQL REST services, all Java Bean Services are secured by HTTP Basic Authentication or Token Based Authentication at HTTP or HTTPS transport

level. For more information on REST service security, see *Managing Web Service Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Note: HTTPS is the recommended secure transport protocol while using the HTTP Basic Authentication security to authenticate user credentials (username and password).

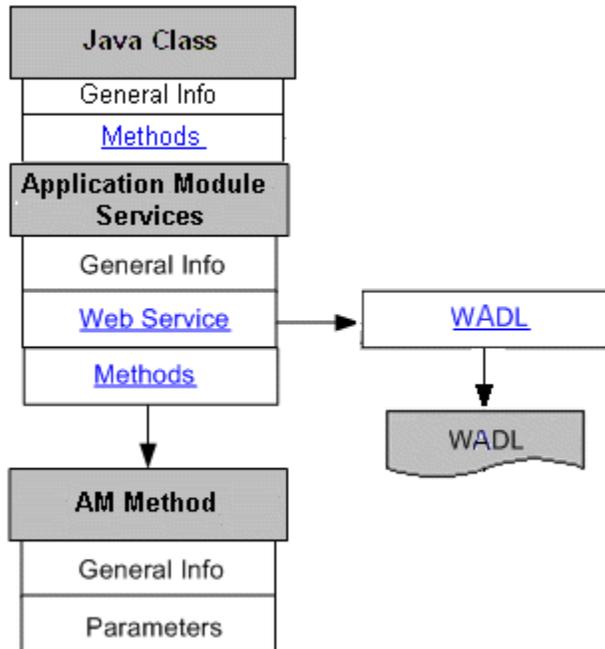
If a REST service has been successfully deployed, the administrator can undeploy the service to reset the service to its initial state - 'Not Deployed'.

For more information on these administrative tasks, see *Performing Administrative Activities for REST Web Services*, page 4-15.

Application Module Services

The following diagram illustrates the basic structure of the Application Module Services information page and its connection to the related Java method details:

Basic Structure of the Application Module Services Information Page



Searching Application Module Services Interfaces

To quickly locate Application Module Services through the Search page, click **Show More Search Options** to display more search fields. Enter the following key search values as the search criteria:

- Category: Interface Subtype

- Category Value: Application Module Services

For information about category and category value fields, see *Category and Category Value*, page 3-9.

Viewing Application Module Services

Similar to Java Bean Services that can be exposed as REST services only, the interface details page contains the Overview tab and the REST Web Service tab. An integration repository administrator can find an additional Grants tab for managing security grants. For more information on how to manage security grants, see *Managing Grants*, page 4-23.

For information on the general section, see *Common Information*, page 4-1.

Note: For more information about web services, see *Understanding Web Services*, page 2-1.

Application Module Service Interface Details Page

The screenshot shows the Oracle Integration Repository interface. At the top, there is a navigation bar with the Oracle logo and 'Integration Repository' text. Below this, there are links for 'Navigator', 'Favorites', 'Diagnostics', 'Home', 'Logout', 'Preferences', and 'Help'. The main content area is titled 'Java Details : WF Worklist Service'. It includes a 'Browse' button, a 'Search' input field, and a 'Printable Page' button. The details are organized into sections: 'Internal Name' (oracle.apps.fnd.wf.worklist.service.rt.server.WFWorklistServiceAMImpl), 'Type' (Java), 'Product' (Application Object Library), and 'Status' (Active). To the right, 'Scope' is Public, 'Interface Source' is Oracle, and 'Interface Subtype' is Application Module Services. There are two tabs: 'Overview' (selected) and 'REST Web Service'. Under 'Overview', there is a 'Full Description' section with the text 'this is a sample WF AM class', a 'Source Information' section with 'Source File' (relative/path/unknown/WFWorklistServiceAMImpl.java), 'Source Version' (1.5), and 'Source Product' (NUL), and a 'Procedures and Functions' section with a table:

Name	Internal Name	Status	Description
setPreferredLists2	setPreferredLists2	Active	this is method for getting instance id
setPreferredLists3	setPreferredLists3	Active	this is method for getting instance id

At the bottom of the page, there are 'Browse', 'Search', and 'Printable Page' buttons, and a footer with 'About this Page', 'Privacy Statement', 'Diagnostics Home Logout Preferences Help', and 'Copyright (c) 2006, Oracle. All rights reserved.'

- **Overview Tab**

This tab displays read-only information about the selected interface. It includes full description, interface source information, as well as methods contained in the interface.

For more information on the interface source information, see *Common Information on Interface Details*, page 4-3.

- **REST Web Service Tab**

This tab contains REST service information for the selected interface. This includes service alias, service status, WADL description, verb, and service operation information.

For more information about REST service, see *Common Information on REST Web Services*, page 4-11.

For Application Module Services annotation information, see *Annotations for Application Module Services, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

Application Module Services are secured by HTTP Basic Authentication or Token Based Authentication at HTTP or HTTPS transport level. For more information on REST service security, see *Managing Web Service Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Note: HTTPS is the recommended secure transport protocol while using the HTTP Basic Authentication security to authenticate user credentials (username and password).

If a REST service has been successfully deployed, the administrator can undeploy the service to reset the service to its initial state - 'Not Deployed'.

For more information on these administrative tasks, see *Performing Administrative Activities for REST Web Services*, page 4-15.

Security Services

Security services are a set of predefined and predeployed REST services from Oracle Application Object Library. These services include Authentication and Authorization services and are used for mobile applications.

For example, Login service validates the user credentials and returns an access token. Logout service invalidates the access token and any associated authentication sessions. These two services are included in the Authentication service that helps session initialization with security or applications context information. Authorization service retrieves the Access Control List which may contain assigned responsibilities, roles, and privileges for all logged-in users.

For more information about these REST security services, refer to the *Oracle E-Business Suite Security Guide*.

Searching and Viewing Security Services

To easily locate security services through the Search page, click **Show More Search Options** and then enter your search criteria in the Category (subtype) and the Category Value (Security Services) fields.

For information about category and category value fields, see *Category and Category*

Value, page 3-9.

Viewing Security Service Interface Details

After a search, select a desired security service from the search results table. The interface details page for the selected security service is displayed. It contains some common interface information, REST Web Service region, and Methods region.

Security Service Interface Details Page

The screenshot shows the Oracle Integration Repository interface. At the top, there's a navigation bar with 'ORACLE Integration Repository' and links for 'Navigator', 'Favorites', 'Diagnostics', 'Home', 'Logout', 'Preferences', and 'Help'. Below this, the page title is 'Java Details : Authentication Services'. There are three buttons: 'Browse', 'Search', and 'Printable Page'. The main content area displays details for the service 'oracle.apps.fnd.services.rest.impl.security.AuthnServices'. It lists the internal name, type (Java), product (Application Object Library), status (Active), and business entity (Single Sign On Manager). It also shows the scope (Public), interface source (Oracle), and interface subtype (Security Services). A 'Full Description' section explains that this class provides pre-deployed security services for Oracle E-Business Suite, including Login, Logout, and Context Initialization services. A 'REST Web Service' section shows the status as 'Deployed' and the verb as 'POST'. A 'Source Information' section lists the source file as 'patch/115/Authentication_services', source version as '1.1', and source product as 'FND'. A 'Methods' section contains a table with columns for Name, Internal Name, Status, and Description.

Name	Internal Name	Status	Description
AuthnServicesInitializeGetterMethod	initialize	Active	This method fetches the complete application context information like respId, respAppId, securityGroupId, orgId with which the requestor has previously initialized the underlying EBS session.
AuthnServicesInitializeSetterMethod (2)	initialize	Active	The payload for this service would be complete application context information like respId, respAppId, securityGroupId, orgId with which the requestor wants to initialize the underlying EBS session.
AuthnServicesLogin	login	Active	This method is used for login service which authenticates EBS * mobile apps user against EBS authentication model.
AuthnServicesLogout	logout	Active	This method is used to log-out the authenticated user, invalidates the authenticated session and releases the resources created during login service.

For information on the general section, see Common Information, page 4-1.

REST Web Service Region

The REST Web Service region contains the selected security service information.

- **REST Service Status:** 'Deployed' is always displayed for security services because all security services are predeployed REST services.

Click the **View WADL** link to view the WADL description for the selected security service in a separate window.

- **Verb:** This field displays the Verb value indicating how the REST service is implemented using an HTTP method.

'POST' is the only method supported in this release.

Please note that security services are pregranted to all Oracle E-Business Suite users

which means that all the users can invoke these services.

Methods Region

In the Methods region, click a method name link to open the Java Method Details page for the selected method.

Java APIs for Forms

Java APIs for Forms are XML document-based integration points wrapped in Java classes for executing business logic in Oracle Forms.

Searching and Viewing Java APIs for Forms Interfaces

Similar to other subtype of Java APIs, you can perform a search by clicking **Show More Search Options** to quickly locate the Java APIs for Forms through the combination of Category (Interface Subtype) and Category Value (Java APIs for Forms) fields.

For information about category and category value fields, see *Category and Category Value*, page 3-9.

To view the interface details, select a desired Java APIs for Forms interface from the search result table. The selected interface details should appear.

Please note that Java APIs for Forms Web services are desupported in Oracle E-Business Suite Release 12.2. If you are planning to use this type of interfaces as Web services, you are advised to use alternate serviceable interfaces, such as PL/SQL and Business Service Objects interfaces, which can be deployed as Web services. Refer to My Oracle Support Knowledge Document 966982.1 for the suggested alternatives to the existing Java APIs for Forms services.

Business Service Object

Business service object interface type, formerly known as service bean, provides the access to SOA services and facilitates integration between Oracle E-Business Suite and trading partners. They can be used directly, or they can be exposed as SOAP or REST services. They often employ *service data objects* as parameters to pass complex data.

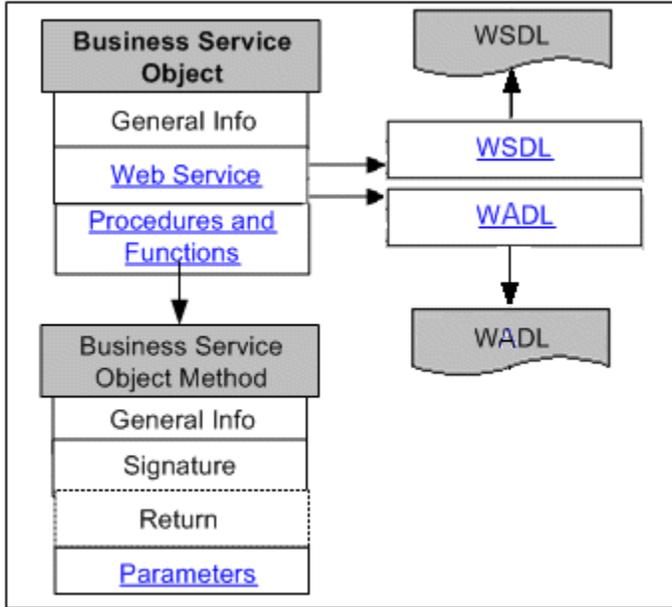
A service data objects (SDO) defines a generic API for accessing and manipulating structured data as part of a Service Oriented Architecture (SOA). It is designed to simplify and unify the way in which applications handle data. The SDO API is independent of the actual data source. For example, SDO can be used to access XML data or SQL data. For more information about SDO, see *Reviewing Service Data Objects*, page 4-52.

Note: A business service object is not actually an interface type; rather, it is an object used by one or more Java service interfaces or other service data objects to pass data. Oracle Integration Repository includes it on lists of interface types, so you can browse or search for Java service

interfaces based on the business service objects that they use.

The following diagram illustrates the basic structure of the business service object interface information page and its connections to related pages:

Business Service Object Interface Basic Structure



Business Service Object Interface Information

This interface type can be exposed as both SOAP services and REST services. The interface details page includes general section of a selected business service object interface, the Overview tab, the SOAP Web Service tab, and the REST Web Service tab.

Note: Users who have the Integration Repository Administrator role can find an additional **Grants** tab displayed in the interface details page. This tab allows the administrators to create and revoke security grants. For more information on how to manage security grants, see *Managing Grants*, page 4-23.

The general section displays common information for the selected business service object interface, plus interface name, the interface that extends, and XML schema information.

Note that an XML schema is a description of a type of XML document, typically expressed in terms of constraints on the structure and content of documents of that type. It describes all input and output message definition and data type. Click the XML

schema link that is associated with your selected business service object to view the XML schema document displayed in a separate window.

For information on the general section, see Common Information, page 4-1.

For more information about web services, see Understanding Web Services, page 2-1.

Business Service Object Interface Details Page

Business Service Object : Account Merge Service

[Browse](#) [Search](#) [Printable Page](#)

Qualified Name	/oracle/apps/ar/hz/service/account/AccountMergeService	Status	Active
Interface	oracle.apps.ar.hz.service.account.AccountMergeService	Scope	Public
Extends	oracle.svc.Service	Interface Source	Oracle
Product	Receivables		
XML Schema	AccountMergeService		

[Overview](#) [SOAP Web Service](#) [REST Web Service](#)

* Service Alias **acctmerge**
 REST Service Status **Deployed** | [View WADL](#)

Service Operations

Name	Internal Name	GET	POST	Grant
Account Merge Service				
get Account Merge Details	getAccountMergeDetails	✓	✓	

✓ **TIP** To apply any changes in Operation, Undeploy the service.

REST Service Security

REST Web Service is secured by HTTP Basic Authentication at HTTP Transport level. Send either of the following in "Authorization" header as per HTTP Basic scheme:
 - Username:Password
 - Security Token.

Tip: Use [Login Service](#) to obtain Security Token for given user credentials.

[Browse](#) [Search](#) [Printable Page](#)

[Diagnostics](#) [Home](#) [Logout](#) [Preferences](#) [Help](#)

[About this Page](#) [Privacy Statement](#)
Copyright (c) 2006. Oracle. All rights reserved.

The business service object interface information page contains the following information:

- **Overview Tab**

This tab displays read-only information about the selected business service object. It includes full description, interface source information, as well as methods contained in the selected business service object.

For more information on the interface source information, see Common Information on Interface Details, page 4-3.

For information about each method contained in the selected business service object interface, see Business Service Object Interface Method Information, page 4-48.

- **SOAP Web Service Tab**

This tab contains SOAP service information for a selected business service object. This includes service status, WSDL description and authentication type

information.

For more information about SOAP service, see *Common Information on SOAP Web Services*, page 4-8.

For information on viewing WSDL description, see *Reviewing Web Service WSDL Source*, page 4-16.

If a SOAP service has been successfully generated, the administrators can perform additional administrative tasks including deploying the generated service, or regenerating the service.

For more information on these administrative tasks, see *Performing Administrative Activities for SOAP Web Services*, page 4-9.

- **REST Web Service Tab**

This tab contains REST service information for the selected business service object. This includes service alias, service status, WADL description, verb, and service operation information.

Note that POST and GET HTTP verbs are supported for BSO as REST service operations. For more information about REST service, see *Common Information on REST Web Services*, page 4-11.

All REST services are secured by HTTP Basic Authentication or Token Based Authentication at HTTP or HTTPS transport level. For more information on REST service security, see *Managing Web Service Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Note: HTTPS is the recommended secure transport protocol while using the HTTP Basic Authentication security to authenticate user credentials (username and password).

If a REST service has been successfully deployed to an Oracle E-Business Suite application server, the administrators can undeploy the service to reset the service to its initial state - 'Not Deployed'.

For more information on these administrative tasks, see *Performing Administrative Activities for REST Web Services*, page 4-15.

Business Service Object Interface Method Information

The business service object interface method information page appears when you click a method name on the Overview tab, the SOAP Web Service tab, or the REST Web Service tab of the selected business service object interface details page.

Business Service Object Method Details Page

Service Bean Method Details : [getAccountMergeDetails](#)

[Browse](#)

[Search](#)

[Printable Page](#)

Internal Name **getAccountMergeDetails**
Interface [/oracle/apps/ar/hz/service/account/AccountMergeService](#)
Type **Business Service Object**
Status **Active**
Derived Method: [GetAccountMergeDetails \(Web Service Method\)](#)

Scope **Public**

Full Description

This operation is used to retrieve Account Merge Details for a merge that has already taken place. It will read the Customer Merge Header ID and extract the details of all the TCA Merged Entities.

Signature

Return

Type [oracle.apps.ar.hz.service.account.AccountMerge](#)
Description Account Merge result information.

Parameters

Sequence	Name	Type	Description
1	initMsgList	java.lang.String	The List that indicates if FND message stack within the API is initialized. Default value is T.
2	customerMergeHeaderId	oracle.jbo.domain.Number	Indicates the customer merge header numbers.
3	getMergeDetailFlag	java.lang.String	Indicates whether to fetch account merge details, default value is N.

In addition to common information, the general section of the method details page contains a link to the interface that uses this method.

The following regions also appear on the method information page:

- **Signature**

The region describes the interface method, parameter type, value, and return information.

- **Return**

If the return type is a service data object, you can click the link in the **Type** field to access the service data object information page.

- **Parameters**

If a parameter is a service data object, click the link in the **Type** column to access the service data object details page. See: [Reviewing Service Data Object](#), page 4-52.

Integration Repository Service

Based on business service object interface, Integration Repository Service is a service component residing in Oracle Integration Repository. It queries Integration Repository data, and provides information about all the interface definitions to facilitate the

integration between Oracle E-Business Suite and trading partners.

When you search for Integration Repository Service through the business service object interface type, all business service objects contained in the Integration Repository Service are displayed. You can grant the control access of each business service object method to appropriate users.

To access the Integration Repository Service interface, log in to Oracle E-Business Suite as a user who has the System Integration Analyst role and use the following steps to navigate to Integration Repository Service:

1. Select the Integrated SOA Gateway responsibility from the Navigator menu, and click the Integration Repository link that appears.
2. Click **Search**.
3. Enter the following information in the Search page:
 - Product Family: Application Technology
 - Interface Type: Business Service Object
4. Click **Go** to execute the search.
5. Click **Integration Repository Service** link from the search result table.

This opens the Business Service Object Interface information page. See: Business Service Object Interface information page, page 4-46.
6. Click a method name link in the Service Operations region to get to business service object method details.

See: Business Service Object Method Information, page 4-48.

Viewing WSDL Description

Click the **View WSDL** link in the SOAP Web Service tab to view the WSDL description generated.

The following sample shows the WSDL description for the Integration Repository Service:

```

<?xml version="1.0"?>
<definitions name="IntegrationRepositoryService"
targetNamespace="http://xmlns.oracle.
com/oracle/apps/fnd/rep/ws/IntegrationRepositoryService"
xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tns2="http://xmlns.oracle.com/apps/fnd/ServiceBean"
xmlns:tns1="http://xmlns.oracle.com/apps/fnd/rep/ws"
xmlns:tns="http://xmlns.oracle.
com/oracle/apps/fnd/rep/ws/IntegrationRepositoryService">
<types>
<xsd:schema>
  <xsd:import namespace="http://xmlns.oracle.com/apps/fnd/rep/ws"
schemaLocation="http://<hostname>:
<port>/webservices/AppsWSProvider/oracle/apps/fnd/rep/ws/IntegrationRepo
sitoryService.xsd"/>
</xsd:schema>
<xsd:schema elementFormDefault="qualified" targetNamespace="http:
//xmlns.oracle.com/apps/fnd/ServiceBean" >
  <xsd:element name="ServiceBean_Header">
    <xsd:complexType>
      <xsd:element name="RESPONSIBILITY_NAME" minOccurs="0" type="xsd:
string"/>
      <xsd:element name="RESPONSIBILITY_APPL_NAME" minOccurs="0" type="
xsd:string"/>
      <xsd:element name="SECURITY_GROUP_NAME" minOccurs="0" type="xsd:
string"/>
      <xsd:element name="NLS_LANGUAGE" minOccurs="0" type="xsd:string"/>
      <xsd:element name="ORG_ID" minOccurs="0" type="xsd:string"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:schema>
. . .

```

Note: Values passed in the Responsibility Name, Responsibility Application Name, Security Group, NLS Language, and Organization ID elements listed under the ServiceBean_Header are used to set applications context during service execution.

Please note that NLS Language and Organization ID are optional values to be passed. However, if the execution of a Business Service Object interface is dependent on any particular organization, then you must pass the ORG_ID element in the ServiceBean_Header of that SOAP request.

For more information, see *Setting Other Web Service Input Message Parts, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Please note that the user information is defined by the wsseUsername property passed within the security headers. Detailed instructions on how to pass the security headers along with the SOAP request, see *Passing Values to Security Headers, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

You might find the following information under <Method>_Response about error

messages if occur:

```
...
<xsd:complexType name="
IntegrationRepositoryService_GetServiceDescription_Response">
  ...
  <xsd:sequence>
    <xsd:element name="serviceDescription" type="oans3:
ServiceDescription" minOccurs="0" nillable="true"/>
    <xsd:element name="Message" type="oans1:ServiceMessage" minOccurs="
0" maxOccurs="unbounded"/>

    <xsd:element name="ErrorMessage" type="oans1:ServiceMessage"
minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType name>
```

Note: The Message and ErrorMessage elements listed under <Method>_Response are used for error messages if occur. The Message element will appear as warning messages in the SOAP response. It is used to display any warning messages returned by the API. The ErrorMessage element corresponds to OAExceptions that were raised during the method invocation. In general, the response for any service method can contain any of the following:

- The original output data
- Warning messages if any (in <Message> element)
- OAExceptions raised during the method invocation if any (in <ErrorMessage> element)

For more information about error messages, see Error Handling section, Building an OA Framework Application (the Basics) chapter, *Oracle Application Framework Developer's Guide*, available from My Oracle Support Knowledge Document 1087332.1, Oracle Application Framework Release Notes for Release 12.1.3.

Reviewing Service Data Object

A service data objects (SDO) defines a generic API for accessing and manipulating structured data as part of a Service Oriented Architecture (SOA). It is designed to simplify and unify the way in which applications handle data. The SDO API is independent of the actual data source. For example, SDO can be used to access XML data or SQL data.

The data objects associated with business service objects include *service data objects* (SDO) and *filter data objects* (FDO).

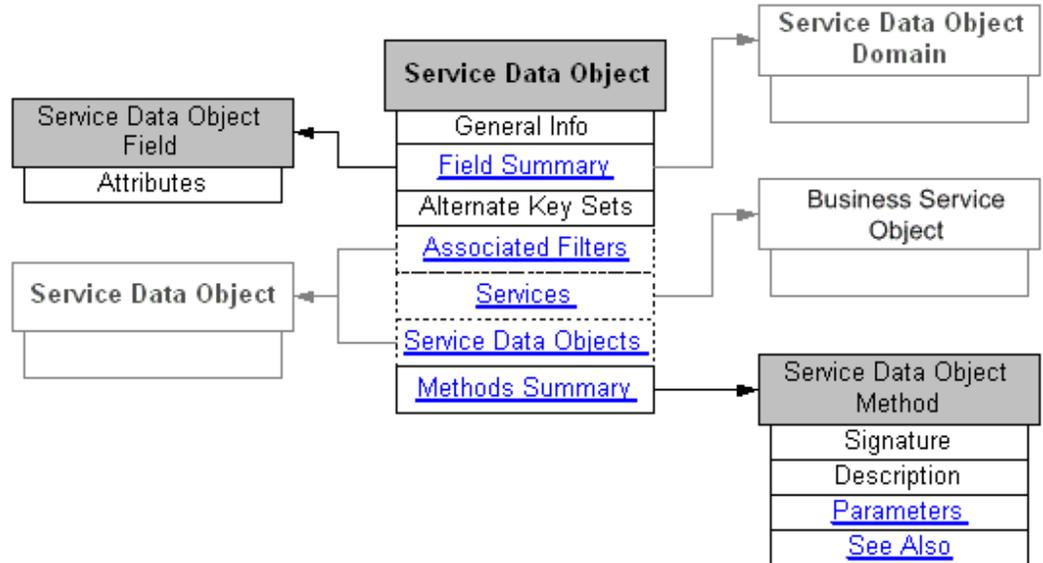
Service Data Object Information

This page is accessible from the `getDataList` and `processDataList` method

information pages. You can also access it directly from the Oracle Integration Repository browse interface, through the list of interface types.

The following diagram illustrates the basic structure of the service data object information page and its connections to related pages.

Service Data Object Basic Structure



The general section of the service data object page displays common information, page 4-1, plus the data object class name, implementation name, and its associated XML schema.

Click the XML schema name link to view the schema document displayed in a separate window.

Note: An XML schema describes the structure of an XML document with all input and output message definitions and data types.

Service Data Object Details Page

ORACLE Integration Repository

Home Logout Preferences Help Diagnostics

Integration Repository

View: Interface Type

Business Event
Business Service Object
Applications Technology
Discrete Manufacturing
Financial Receivables Suite
Financials
Order Management Suite
Configurator
Product Lifecycle Management
Public Sector
Service Suite
Depot Repair
Supply Chain Management
Composite - BPEL
Concurrent Program
EDI
Interface View
Java
Open Interface
PL/SQL
Service Data Object
Applications Technology
Product Lifecycle Management
Public Sector
Receivables
Service Suite
Depot Repair
Supply Chain Management
Depot Repair
Engineering
Web Service
XML Gateway Map

Integration Repository >
Repair Order

Search Printable Page

Service Data Object

Internal Name: /oracle/apps/csd/svcb/RepairOrder
Class: oracle.apps.csd.svcb.RepairOrder
Type: Service Data Object
Product: Depot Repair
Implementation: oracle.apps.csd.svcb.server.RepairOrdersSVO
XML Schema: RepairOrder

Status: Active
Scope: Public
Interface Source: Seeded

Repair order data object contains repair order information.

Full Description
Repair order data object contains repair order information.

Source Information
Source File: java/svcb/server/RepairOrdersSVO.xml
Source Version: 120.1
Source Product: CSD

Fields

Name	Type	Scale	Precision	Description	Primary Key	Sortable
RepairLineId	oracle.ifo.domain.Number		15	Repair line id is a generated key for the repair	Y	Y
FlowStatusId	oracle.jbo.domain.Number		0	Flow status id.	N	N

Alternate Key Sets
 TIP These are the key sets that can be used to identify an instance of this data object in the absence of the primary keys. These key sets are evaluated in the sequence specified:

Sequence	Key Set Name	Attributes
1	ByNumber	RepairNumber

Filters
These are the filters that can be used to filter data sources based on this service data object:
[Repair Order Filter](#)

Services
These are the Services that directly use this DataObject:
[Repair Order Service](#)

Service Data Objects
These are the DataObjects that directly reference this DataObject:
[Repair Order Service](#)

Methods

Name	Status	Description
setRepairLineId	Active	Sets RepairLineId.
getRepairLineId	Active	Gets RepairLineId.
setRepairNumber	Active	Sets RepairNumber.

The following regions also appear on the service object information page:

- **Fields**

Click a link in the **Name** column to view the field's complete attributes.

If the field type is a filter, you can click the link in the **Type** column to access the filter data object information page for that filter.

- **Alternate Key Sets**

These are the key sets that can be used to identify an instance of this data object in the absence of the primary keys. These key sets are evaluated in the sequence specified.

- **Filters**

The Filters region lists filters that can be used to filter data sources based on this service data object.

For example, data sources based on `BaseDataSourceNameDomain` service data object can be filtered by `BaseDataSourceNameFilter` filter data object.

Click the name of a filter (such as `BaseDataSourceNameFilter`) to access the selected filter data object information page.

- **Services**

The Services region lists the services that directly use this service data object.

Click the name of a service to access the information page for a business service object interface that uses this service object.

- **Service Data Objects**

This Service Data Objects region lists the data objects that directly reference this service data object.

Click the name of a service data object to access its information page.

- **Methods**

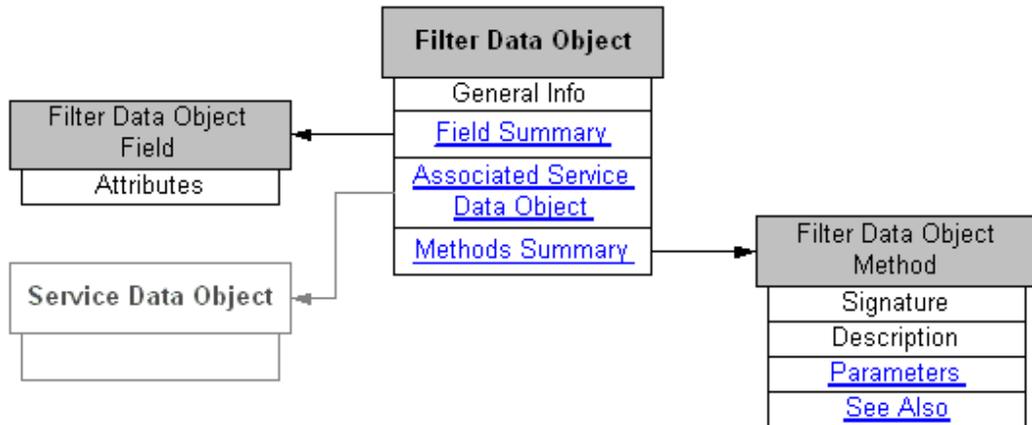
Click a link in the **Name** column to access the service object method information page.

Filter Data Object Information

This page is accessible only from the `getDataList` method information page.

The following diagram illustrates the basic structure of the filter data object information page and its connections to related pages.

Filter Data Object Basic Structure



A filter data object is a type of service object. The general section of the filter data object page displays common information, page 4-1, plus the data object class name, implementation name, filter type, and its associated XML schema information.

Note: There are two types of filter:

- Expression Filter: Allows a client program to construct a simple or complex expression, including nested expressions.
- Fixed Filter: Allows a simple list of attributes. This is used when the view object must do custom processing of filter attributes and the client program should not be allowed to build nested and complex filter expressions.

For more information on filters, see the *Oracle Application Framework Developer's Guide*, available from My Oracle Support Knowledge Document 1087332.1, Oracle Application Framework Release Notes for Release 12.1.3.

Click the XML schema name link to view the schema document displayed in a separate window.

Filter Data Object Information Page

The screenshot shows the Oracle Integration Repository interface. On the left is a navigation tree with categories like Business Event, Business Service Object, and Service Data Object. The main content area displays details for the 'Wf Agent Filter' service data object. It includes a search bar, a 'Printable Page' button, and several expandable sections: 'Full Description', 'Source Information', 'Fields', 'Associated Service Data Object', and 'Methods'. The 'Fields' section contains a table with columns for Name, Type, Scale, Precision, Description, and Search Criteria Type. The 'Associated Service Data Object' section contains a table with columns for Name, Status, and Description.

Wf Agent Filter

Personalize Stack Layout: (PageHeader)

Internal Name	/oracle/apps/fnd/wf/bes/sample/WfAgentFilter	Status	Active
Class	oracle.svc.expression.ExpressionFilter	Scope	Public
Type	Service Data Object		
Product	Application Object Library		
Implementation	oracle.apps.fnd.wf.bes.sample.server.WfAgentsSVO		
XML Schema	WfAgentFilter		
Filter Type	Expression Filter		

Personalize Stack Layout: (DescriptionStack)

internal use only

Full Description

internal use only

Source Information

Source File	java/wf/bes/sample/server/WfAgentsSVO.xml
Source Version	120.2
Source Product	FND

Personalize Stack Layout

Fields

Personalize Advanced Table: (MembersTable)

Name	Type	Scale	Precision	Description	Search Criteria Type
Name	java.lang.String		30		

Personalize Stack Layout: (AssoSDORN)

Associated Service Data Object

Personalize Flow Layout: (AssoSDFlow)

Data Sources based on the [WF Agent SDO](#) Service Data Object can be filtered by this Filter Data Object.

Personalize Stack Layout

Methods

Personalize Advanced Table: (MethodsSummaryTable)

Name	Status	Description
addName	Active	Adds a ValueExpression for Name attribute.
addName	Active	Adds a ValueExpression for Name attribute.

The following regions also appear on the service object information page:

- **Fields**

Click a link in the **Name** column to view the field's complete attributes.

- **Associated Service Data Object**

This region describes the associated service data object name that can be filtered by this selected filter data object.

Click the name of a service data object to access the service data object information page.

- **Methods**

Click a link in the **Name** column to access the object method information page.

Service Data Object Method Information

The type of information provided for filter data object methods is the same as for service data object methods. The data object method information page appears when you click a method name on the service data object information page or the filter data object information page.

Service Data Object Method Information Page



The screenshot displays the Oracle Integration Repository interface. The top navigation bar includes the Oracle logo, the text "Integration Repository", and links for Home, Logout, Preferences, Help, and Diagnostics. The main content area is titled "Integration Repository" and shows a breadcrumb trail: "Integration Repository > Repair Order > Repair Order Filter >". The method name "setRepairLineId" is displayed at the top of the main content area, with "Search" and "Printable Page" buttons to its right. Below the method name, there are three expandable sections: "Signature", "Description", and "Parameters". The "Signature" section shows the method signature: `public void setRepairLineId(oracle.jbo.domain.Number value);`. The "Description" section contains the text: "Sets RepairLineId.". The "Parameters" section is a table with columns for Value, Prompt, and Description. The parameter is `RepairLineId` with the description "Generated unique id for the repair order.". Below the "Parameters" section is a "See Also" section with a link to `getRepairLineId`. On the left side of the page, there is a "View" dropdown menu set to "Interface Type" and a tree view of the repository structure, including folders like Business Event, Business Service Object, Applications Technology, Discrete Manufacturing, Financial Receivables Suite, Financials, Order Management Suite, Product Lifecycle Management, Public Sector, Service Suite, Supply Chain Management, Composite - BPEL, Concurrent Program, EDI, and Interface View.

In addition to a description, the following regions also appear on the service data object method information page:

- **Signature**

This region describes the interface method, parameter type, value, and return type information.

- **Parameters**

This region contains descriptions of the parameters that are listed in the Signature region.

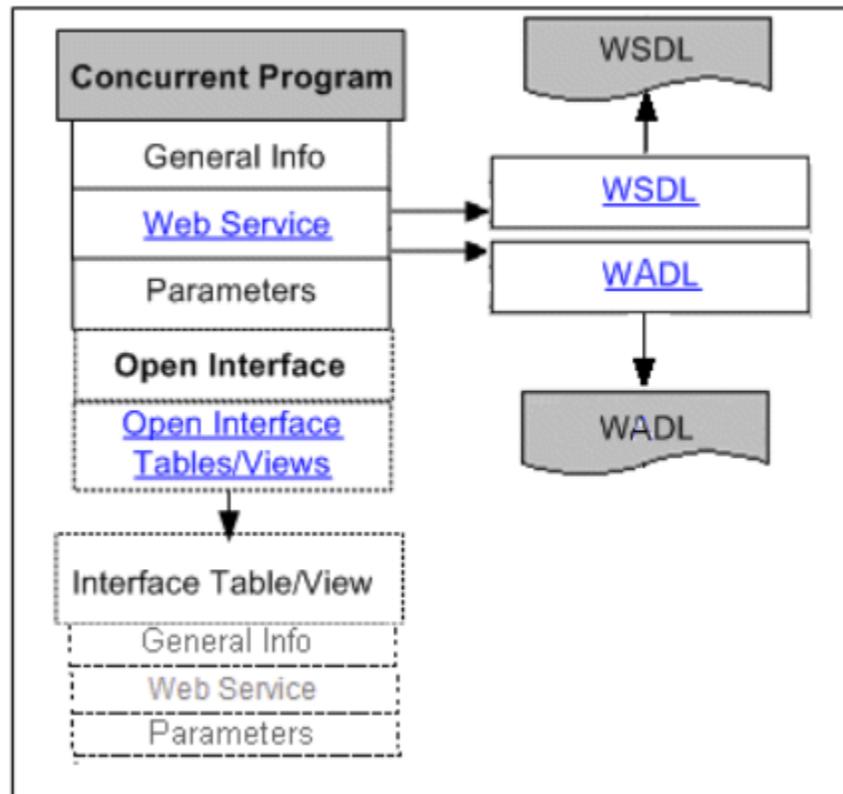
- **See Also**

This region displays related service object methods. Click a related object method link to access the selected service object method details.

Concurrent Program Information

The following diagram illustrates the basic structure of the concurrent program information page and its connection to the related Open Interface information page:

Basic Structure of the Concurrent Program Information Page



Concurrent programs can be exposed as both SOAP services and REST services. Therefore, the interface details page includes general section of a selected concurrent program, the Overview tab, the SOAP Web Service tab, and the REST Web Service tab.

Users who have the Integration Repository Administrator role can find an additional **Grants** tab displayed in the interface details page. This tab allows the administrators to create and revoke security grants. For more information on how to manage security grants, see *Managing Grants*, page 4-23.

For information on the general section, see *Common Information*, page 4-1.

Concurrent Program Interface Details Page

The screenshot shows the Oracle Integration Repository interface. At the top, there is a navigation bar with the Oracle logo and 'Integration Repository' text. Below this, there are links for 'Navigator', 'Favorites', 'Diagnostics', 'Home', 'Logout', 'Preferences', and 'Help'. The main content area is titled 'Integration Repository > Concurrent Program : Calculation Submission'. It features three buttons: 'Browse', 'Search', and 'Printable Page'. Below these buttons, there is a table of metadata:

Internal Name	CALCULATION	Scope	Public
Type	Concurrent Program	Interface Source	Oracle
Product	Incentive Compensation		
Status	Active		
Business Entity	Incentive Compensation Plan		

Below the metadata, there are three tabs: 'Overview', 'SOAP Web Service', and 'REST Web Service'. The 'Overview' tab is selected. It displays the following information:

Service Alias: **calcu**
REST Service Status: **Deployed** | [View WADL](#)
Verb: **POST**

Service Operations

Name	Internal Name	Included Operations
Process	Process	✓

REST Service Security

REST Web Service is secured by HTTP Basic Authentication at HTTP Transport level. Send either of the following in "Authorization" header as per HTTP Basic scheme:

- Username:Password
- Security Token.

Tip: Use [Login Service](#) to obtain Security Token for given user credentials.

At the bottom right, there are three buttons: 'Browse', 'Search', and 'Printable Page'.

Note: For more information about Web services, see Understanding Web Services, page 2-1.

The concurrent program details page contains the following information:

- **Overview Tab**

This tab displays read-only information about the selected concurrent program. It includes full description, interface source information, as well as concurrent program specific parameters contained in the selected concurrent program.

For more information on the interface source information, see Common Information on Interface Details, page 4-3.

- **SOAP Web Service Tab**

This tab contains SOAP service information for a selected concurrent program. This includes service status, WSDL description, interaction pattern, and authentication type information.

For more information about SOAP service, see Common Information on SOAP Web Services, page 4-8.

For information on viewing WSDL description, see *Reviewing Web Service WSDL Source*, page 4-16.

If a SOAP service has been successfully generated, the administrators can perform additional administrative tasks including deploying the generated service, or regenerating the service.

For more information on these administrative tasks, see *Performing Administrative Activities for SOAP Web Services*, page 4-9.

- **REST Web Service Tab**

This tab contains REST service information for the selected concurrent program. This includes service alias, service status, WADL description, verb, and service operation information.

Please note that POST is the only HTTP verb supported in this release. For more information about REST service, see *Common Information on REST Web Services*, page 4-11.

All REST services are secured by HTTP Basic Authentication or Token Based Authentication at HTTP or HTTPS transport level. For more information on REST service security, see *Managing Web Service Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Note: HTTPS is the recommended secure transport protocol while using the HTTP Basic Authentication security to authenticate user credentials (username and password).

If a REST service has been successfully deployed to an Oracle E-Business Suite application server, the administrators can undeploy the service to reset the service to its initial state - 'Not Deployed'.

For more information on these administrative tasks, see *Performing Administrative Activities for REST Web Services*, page 4-15.

Concurrent Program Method Details Page

The concurrent program method details page appears when you click a method name in the Overview tab, the SOAP Web Service tab, or the REST Web Service tab.

Note: Oracle Integration Repository supports REST service enablement for Open Interface Tables and Views. If a concurrent program is linked to an open interface table or view, this concurrent program can be viewed and displayed under the Open Interface category and can be available as a REST service.

For more information about the Open Interface integration type, see

In the Parameters region, the parameters used in the selected interface are listed in a table. It includes parameter name, parameter type, required or not, displayed or not, and description information.

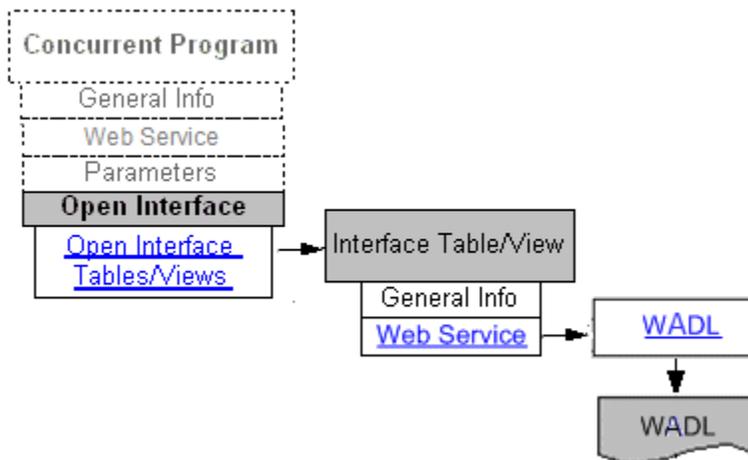
Open Interface Information

Open Interface integrations are always implemented using concurrent programs; therefore, the Interface Type in the header region of the Open Interface details page is categorized as "Concurrent Program & Open Interface".

This type of interface stores the interface data, including active status, and whether it stores data inbound to Oracle E-Business Suite or outbound to another system.

The following diagram illustrates the basic structure of the Open Interface information and its connection to the related interface table or view information page.

Basic Structure of the Open Interface Information Page



The Open Interface information table lists the open interface tables and views that store the interface data, including active status, and whether it stores data inbound to Oracle E-Business Suite or outbound to another system. Click an interface table name to access the information page for that table.

Open Interface List

The screenshot displays the Oracle Integration Repository web application. The top navigation bar includes the Oracle logo, the text 'Integration Repository', and links for Home, Logout, Preferences, Help, and Diagnostics. A left-hand navigation pane shows a tree view of interface categories, with 'Contracts Core' selected. The main content area is titled 'Interface List : Contracts Core' and features a search bar and filters for 'Interface Source' (set to 'All') and 'Scope' (set to 'All'). Below these filters is a table with an 'Export' button and columns for Name, Internal Name, Product, Type, Source, Status, and Description. Three interface entries are listed:

Name	Internal Name	Product	Type	Source	Status	Description
Clause Import Open Interface	OKCARTICLEIMPORT	Contracts Core	Open Interface	Oracle	Active	Executes the Open Interface for Creating and Updating Clauses in Clause Library.
Clause Import Open Interface	OKCCLAUSEIMPORTXML	Contracts Core	Open Interface	Oracle	Active	Executes the Open Interface for Creating and Updating Clauses in Clause Library. It also creates and updates User Defined Variables, Relationships, Flex ValueSets and flex Values. It uses the tables OKC_ART_INTERFACE_ALL, OKC_VARIABLES_INTERFACE, OKC_ART_RELS_INTERFACE, OKC_VALUESETS_INTERFACE and OKC_VS_VALUES_INTERFACE.
Import Repository Contracts	OKC_REP_IMPORT	Contracts Core	Open Interface	Oracle	Active	Executes the Import Repository Contracts concurrent program.

Open Interface integrations can be available as REST services. The interface details page includes general section of a selected open interface, the Overview tab and the REST Web Service tab.

Users who have the Integration Repository Administrator role can find an additional Grants tab displayed in the interface details page. This tab allows the administrators to create and revoke security grants. For more information on how to manage security grants, see *Managing Grants*, page 4-23.

For information on the general section, see *Common information*, page 4-1.

Open Interface Information

The Open Interface details page appears when you click an Open Interface name from the interface list table in the Integration Repository.

Open Interface Details Page

The screenshot shows the Oracle Integration Repository interface. At the top, there is a navigation bar with 'ORACLE Integration Repository' and links for 'Home', 'Logout', 'Preferences', 'Help', and 'Diagnostics'. Below this, the breadcrumb path is 'Integration Repository > Open Interface : AR Autoinvoice'. The main content area displays details for the 'AR Autoinvoice' interface, including its internal name 'RAXMTR', type 'Concurrent Program and Open Interface', and status 'Active'. It also lists business entities like 'Credit Memo', 'Debit Memo', and 'Receivables Invoice'. A table under the 'REST Web Service' tab shows service operations with columns for Name, Direction, and HTTP methods (GET, POST, PUT, DELETE). A tip at the bottom suggests using 'Login Service' to obtain a Security Token.

Name	Direction	GET	POST	PUT	DELETE
AR Autoinvoice					
RA_INTERFACE_DISTRIBUTIONS_ALL	Inbound	✓			
RA_INTERFACE_ERRORS_ALL	Inbound			✓	
RA_INTERFACE_LINES_ALL	Inbound	✓	✓	✓	✓
RA_INTERFACE_SALESCREDITS_ALL	Inbound				✓
SUBMIT_CP_RAXMTR			✓		

The Open Interface details page contains the following information:

- **Overview Tab**

This tab displays read-only information about the selected open interface table. It includes full description, interface source information, as well as concurrent program specific parameters.

For more information on the interface source information, see Common Information on Interface Details, page 4-3.

- **REST Web Service Tab**

If the selected Open Interface is an open interface table, click the REST Web Service tab to display the REST service information. This includes service alias, service status, WADL description, verb, and service operation information.

Please note that the supported HTTP verbs are determined by the direction of an open interface table.

- For an open interface table with Inbound direction, all four HTTP methods – GET, POST, PUT, and DELETE – can be shown as REST service operations if

they were all selected during the service deployment.

- For an open interface table with Outbound direction, only the GET HTTP method can be shown.
- For the associated concurrent program (SUBMIT_CP_<internal name of the associated concurrent program>, such as SUBMIT_CP_RAXMTR) shown as the last entry in the table, only the POST HTTP method can be shown.

For more information about REST service, see Common Information on REST Web Services, page 4-11.

All REST services are secured by HTTP Basic Authentication or Token Based Authentication at HTTP or HTTPS transport level. For more information on REST service security, see *Managing Web Service Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Note: HTTPS is the recommended secure transport protocol while using the HTTP Basic Authentication security to authenticate user credentials (username and password).

If a REST service has been successfully deployed, the administrator can undeploy the service to reset the service to its initial state - 'Not Deployed'.

For more information on these administrative tasks, see *Performing Administrative Activities for REST Web Services*, page 4-15.

Open Interface Table Details Page

Click a name link in the Service Operations table to display the selected Open Interface Table details page containing interface table columns and their attributes, such as data type, data length, data precision, data scale, and data requirement.

Open Interface Table Details Page

ORACLE Integration Repository

[Home](#) [Logout](#) [Preferences](#) [Help](#) [Diagnostics](#)

Integration Repository

[Navigator](#) [Favorites](#)

[Integration Repository](#) > [Open Interface : AR Autoinvoice](#) > [Open Interface Table Details : AR Interface Distributions](#) > [Open Interface Table Details : AR Interface Lines](#) > [Open Interface Table Details : AR Interface Errors](#)

Browse
Search
Printable Page

Internal Name	RA_INTERFACE_ERRORS_ALL	Status	Active
Type	Interface Table	Scope	Public
Product	Receivables		
Business Entities	Credit Memo , Debit Memo , Receivables Invoice		
Online Help	See the related online help		

Source Information

Source File	patch/115/odf/arati.odf
Source Version	120.10.12010000.5
Source Product	AR

Full Description

The RA_INTERFACE_ERRORS_ALL table stores information about interface data that failed the AutoInvoice validation step. Oracle Receivables uses the information in this table to generate the AutoInvoice Validation report. AutoInvoice identifies all errors for each transaction line, thus reducing multiple validation and correction cycles. . Please refer to the appendix of the Oracle Receivables User Guide or online help for more detailed information on Open Interface table columns, including import validation and destination columns. . The primary keys for this table are INTERFACE_LINE_ID, INTERFACE_SALESCREDIT_ID, and INTERFACE_DISTRIBUTION_ID.

Columns

Name	Type	Data Length	Data Precision	Data Scale	Required	Description
INTERFACE_LINE_ID	NUMBER	22	15	0	Yes	Identifies the interface line
INTERFACE_SALESCREDIT_ID	NUMBER	22	15	0	No	Identifies the sales credit
INTERFACE_DISTRIBUTION_ID	NUMBER	22	15	0	No	Identifies the distribution line
MESSAGE_TEXT	VARCHAR2	2000			No	Error message text
INVALID_VALUE	VARCHAR2	240			No	The invalid value that failed validation
LINK_TO_LINE_ID	NUMBER	22	15	0	No	The INTERFACE_LINE_ID of the line to which this line that failed validation is linked
ORG_ID	NUMBER	22	15	0	No	Organization identifier
INTERFACE_CONTINGENCY_ID	NUMBER	22	15	0	No	Identifies the contingency

Browse
Search
Printable Page

[Integration Repository](#) [Administration](#) [Home](#) [Logout](#) [Preferences](#) [Help](#) [Diagnostics](#)

[About this Page](#) [Privacy Statement](#)
Copyright (c) 2006, Oracle. All rights reserved.

Interface View Information

The general section of the interface view information page displays when you browse from the tree nodes.

Open Interface View List

The screenshot displays the Oracle Integration Repository interface. The top navigation bar includes the Oracle logo, 'Integration Repository', and links for 'Navigator', 'Favorites', 'Diagnostics', 'Home', 'Logout', 'Preferences', and 'Help'. The left sidebar shows a tree view of interface types, with 'Property Manager' selected under the 'Financials' category. The main content area is titled 'Interface List : Property Manager' and features a search bar and filters for 'Interface Source' (All) and 'Scope' (All). Below the filters is an 'Export' button and a table of interface views.

Name	Internal Name	Product	Type	Source	Status	Description
Employee Space Assignment View	PN_SPACE_ASSIGN_EMP_PUB_V	Property Manager	Interface View	Oracle	Active	Identifies an employee space assignment and its attributes
Locations View	PN_LOCATIONS_PUB_V	Property Manager	Interface View	Oracle	Active	Identifies a location and its attributes

When you click the Open Interface view name from the interface list table in the Integration Repository, the Open Interface View details page appears.

Open Interface View Details Page

ORACLE Integration Repository

[Navigator](#) [Favorites](#) [Diagnostics](#) [Home](#) [Logout](#) [Preferences](#) [Help](#)

View Details : Active Subscriptions View

Browse Search Printable Page

Internal Name	WF_ACTIVE_SUBSCRIPTIONS_V	Status	Active
Type	Interface View	Scope	Public
Product	Workflow		
Business Entity	Business Event		

Overview REST Web Service

Full Description

WF_ACTIVE_SUBSCRIPTIONS_V view stores information about active subscriptions to business events. To be considered active, a subscription must have a status of Enabled, and both the subscription and its triggering event must be owned by products that are licensed with a status of Shared or Installed.

Source Information

Columns

Name	Type	Data Length	Data Precision	Data Scale	Description
SUBSCRIPTION_ON_ERROR_TYPE	VARCHAR2	30			SUBSCRIPTION_ON_ERROR_TYPE
EVENT_NAME	VARCHAR2	240			EVENT_NAME
GENERATE_FUNCTION	VARCHAR2	247			GENERATE_FUNCTION
SYSTEM_GUID	RAW	16			SYSTEM_GUID
SUBSCRIPTION_GUID	RAW	16			SUBSCRIPTION_GUID
SUBSCRIPTION_SOURCE_TYPE	VARCHAR2	8			SUBSCRIPTION_SOURCE_TYPE
SUBSCRIPTION_SOURCE_AGENT_GUID	RAW	16			SUBSCRIPTION_SOURCE_AGENT_GUID
SUBSCRIPTION_PHASE	NUMBER	22			SUBSCRIPTION_PHASE
SUBSCRIPTION_RULE_DATA	VARCHAR2	8			SUBSCRIPTION_RULE_DATA
SUBSCRIPTION_OUT_AGENT_GUID	RAW	16			SUBSCRIPTION_OUT_AGENT_GUID
SUBSCRIPTION_TO_AGENT_GUID	RAW	16			SUBSCRIPTION_TO_AGENT_GUID
SUBSCRIPTION_PRIORITY	NUMBER	22			SUBSCRIPTION_PRIORITY
SUBSCRIPTION_RULE_FUNCTION	VARCHAR2	247			SUBSCRIPTION_RULE_FUNCTION
WF_PROCESS_TYPE	VARCHAR2	30			WF_PROCESS_TYPE
WF_PROCESS_NAME	VARCHAR2	30			WF_PROCESS_NAME
SUBSCRIPTION_PARAMETERS	VARCHAR2	4000			SUBSCRIPTION_PARAMETERS
OWNER	VARCHAR2	30			

Browse Search Printable Page

[Diagnostics](#) [Home](#) [Logout](#) [Preferences](#) [Help](#)

[About this Page](#) [Privacy Statement](#)
Copyright (c) 2008, Oracle. All rights reserved.

Similar to the interface details page for open interface table, the open interface view details page contains the following information:

- **Overview Tab**

This tab displays read-only information about the selected open interface view. It includes full description, interface source information, and column information.

For more information on the interface source information, see Common Information on Interface Details, page 4-3.

- **REST Web Service Tab**

This REST Web Service tab contains REST service information for the selected

interface view. This includes service alias, service status, WADL description, verb, and service operation information.

Unlike open interface table that can be exposed as a REST service operation with various HTTP methods, GET is the only supported method for open interface view.

For more information about REST service, see *Common Information on REST Web Services*, page 4-11.

All REST services are secured by HTTP Basic Authentication or Token Based Authentication at HTTP or HTTPS transport level. For more information on REST service security, see *Managing Web Service Security, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Note: HTTPS is the recommended secure transport protocol while using the HTTP Basic Authentication security to authenticate user credentials (username and password).

If a REST service has been successfully deployed, the administrator can undeploy the service to reset the service to its initial state - 'Not Deployed'.

For more information on these administrative tasks, see *Performing Administrative Activities for REST Web Services*, page 4-15.

EDI Message Information

The general section of the EDI message information page displays common information, page 4-1 for the selected EDI message.

EDI message information page

The screenshot shows the Oracle Integration Repository interface. The left sidebar contains a tree view of categories such as Business Event, Financials, Lease Management, Business Service Object, Applications Technology, Application Object Library, Service Suite, Depot Repair, Supply Chain Management, Composite - BPOL, Concurrent Program, EDI, Financial Receivables Suite, Financials, Public Sector, Receivables, Interface View, Java, Open Interface, PL/SQL, Service Data Object, Web Service, and XML Gateway Map. The main content area displays details for the selected interface: 'OUT: Credit Memo/Debit Memo @12/CREADV/DEBADV'. The details include: Internal Name (AR:CDMD), Type (EDI), Status (Active), Product (Receivables), Direction (Outbound), and Scope (Public). A 'Full Description' section explains that this is the source file for an outbound Credit Memo/Debit Memo transaction. A 'Source Information' section lists the Source File (patch/115/sql/ECEPV02.sql), Source Version (120.5), and Source Product (EC). Search and Printable Page buttons are present at the top and bottom of the main content area.

The EDI Message information page also displays the message direction in the Direction field:

- Inbound indicates that the interface is for receiving an incoming transaction or message into Oracle E-Business Suite.
- Outbound indicates that the interface is for sending an outgoing transaction or message to another system.

Business Event Information

The general section of the Business Event displays common information, page 4-1 for business event.

Business Event Details Page

The screenshot shows the Oracle Integration Repository interface. The top navigation bar includes the Oracle logo, 'Integration Repository', and links for Home, Logout, Preferences, Help, and Diagnostics. A left-hand navigation pane shows a tree view of the repository structure, with 'Business Event' selected. The main content area displays the details for the 'Accept Applicant Assignment' business event. It includes a search and printable page button, a table of metadata (Internal Name, Type, Product, Status, Business Entity, Scope, Interface Source), a 'Full Description' section, and a 'Source Information' section.

Internal Name	oracle.apps.per.api.assignment.accept_apl_asg	Scope	Public
Type	Business Event	Interface Source	Oracle
Product	Human Resources		
Status	Active		
Business Entity	Applicant Assignment		

Full Description
This event is raised when the assignment status of an applicant is changed to Accepted.

Source Information

Source File	patch/115/xml/US/peasgabe.wfz
Source Version	120.2.12010000.2
Source Product	PER

An integration repository administrator can perform the administrative tasks:

- Subscribe to an event

An administrator can find the **Subscribe** button available in the event details page if the selected event is not subscribed. Clicking the **Subscribe** button lets you subscribe to the selected business event. Internally, an event subscription is automatically created for that event with `WF_BPEL_QAGENT` as Out Agent. Once the event subscription has been successfully created, a confirmation message appears on the Business Event interface detail page.

To consume the business event message, you should register to dequeue the event from Advanced Queue `WF_BPEL_Q`. If a business event is enabled and if there is at least one subscriber registered to listen to `WF_BPEL_Q`, then the event message will be enqueued in `WF_EVENT_T` structure to Advanced Queue `WF_BPEL_Q`.

For more information on how to dequeue messages, see the *Oracle Streams Advanced Queuing User's Guide and Reference*.

- Unsubscribe the event

The **Unsubscribe** button becomes available in the details page if the selected event has been subscribed. Clicking the **Unsubscribe** button lets you remove or unsubscribe the event.

For more information about subscribing to business events, see *Subscribing to Business Events, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Working With Composite Services

This chapter covers the following topics:

- Overview of Composite Services
- Viewing Composite Services
- Downloading Composite Services

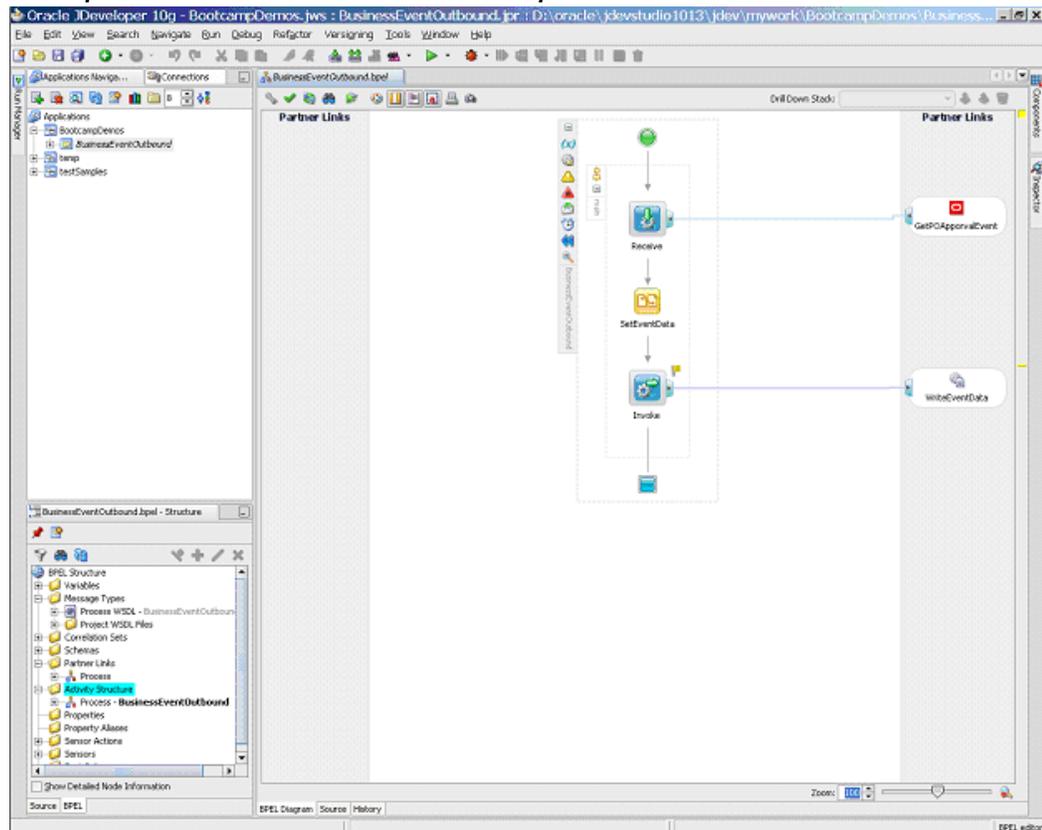
Overview of Composite Services

A composite service consists of a collection of native packaged public interfaces or called native services that belong to a specific product or product family and are available in the Integration Repository.

Composite services use the native service as building blocks to construct the sequence of business flows. Basically, this interface type orchestrates the invocation sequence of discrete Web services into a meaningful end-to-end business process through a Web service composition language BPEL (business process execution language). For example, use Oracle BPEL Process Manager (BPEL PM) to integrate the Order to Receipt business process that contains sales order entry, item availability check, pack and ship, and invoice to Accounts Receivable sub processes handled by various applications. This approach effectively tightens up the control of each individual process and makes the entire business flow more efficiently.

To create a composite service, integration developers need to specify the invocation sequence in Oracle JDeveloper by using the BPEL language. This composite service has its own WSDL definition and endpoint through the creation of a partner link which allows an outbound business event, for example, to be published to the Oracle BPEL Process Manager or to interact with a partner service.

A Composite Service - BPEL in Oracle JDeveloper



How to create and administer composite services, see *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide* and *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide* for details.

Additional Information: Since composite services can be designed and created in Oracle JDeveloper and Oracle Eclipse, based on the different creation methods, composite services can have various composite types such as BPEL, ESB (enterprise service bus), or SCA (service component architecture) types. BPEL and ESB are the typical composite interface types designed using Oracle JDeveloper. However, composite service - BPEL is the only composite service type supported in this release.

Viewing Composite Services

You can view composite services by navigating to the Composite Service interface type directly from the Oracle Integration Repository Browser window or performing a search by selecting Composite Service interface type in the Search page.

By clicking a composite service name link from the navigation tree or search results,

you will find the composite service interface details page where displays composite service name, description, BPEL file, and other annotated information.

The composite service details page allows you to perform the following tasks in the BPEL Files region:

- View a WSDL file by clicking the URL link
See: Reviewing Web Service WSDL Source, page 4-16.
- View the composite - BPEL file by clicking the URL link
You will find the BPEL code displayed in a pop-up window containing major BPEL process components and activities included for the composite service.

Users granted with the Download Composite Service privilege can find additional **Download Service** in the interface details page. This lets you download a corresponding composite service project file, such as a BPEL file, to your local machine.

See: Downloading Composite Services, page 5-3.

It is important to note that a composite service - BPEL itself consisting of multiple native services is considered as a Web service. Therefore, there is no **Generate** or **Regenerate** shown in the composite service details page.

To view a composite service:

1. Log in to Oracle E-Business Suite as a user who has the System Integration Analyst role. Select the Integrated SOA Gateway responsibility. Select the Integration Repository link.
2. In the Integration Repository tab, select 'Interface Type' from the View By drop-down list.
3. Expand the Composite Service interface type node to locate your desired composite service.
4. Click the composite service that you want to review to open the Composite Service Interface Details page.
5. Click the WSDL link to review the WSDL description.
6. Click the BPEL link to view the BPEL code.

Downloading Composite Services

In addition to viewing composite service details and reviewing a WSDL file, users with the download privilege can download a composite service BPEL .JAR file to your local directory.

Important: In general, only system integration developers and integration repository administrators can download the composite services. However, general users (system integration analysts) who are granted the download privilege, an Integration Repository Download Composite Service permission set FND_REP_DOWNLOAD_PERM_SET, can also perform the download action. Otherwise, users will not find **Download Service** available in the details page.

For information about how to grant Download Composite Service privilege, see Role-Based Access Control (RBAC) Security, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Composite Details Page with Download Privilege

The screenshot shows the Oracle Integration Repository interface. On the left is a navigation tree with categories like Business Event, Business Service Object, Composite - BPEL, Concurrent Program, EDI, Interface View, Java, Open Interface, PL/SQL, and Applications Technology. The main content area displays details for a composite service named 'Test Process'. It includes a 'Download Service' button and a table of metadata.

Internal Name	oracle.apps.oe.TestBPELProcess	Scope	Public
Type	Composite - BPEL	Interface Source	Oracle
Product	Order Entry		
Status	Active		
Business Entity	Sales Order		

Below the metadata table, there is a 'Full Description' section stating 'This is a Test BPEL File.' and a 'BPEL Files' section listing two files with their URLs: 'BPEL File' and 'Abstract WSDL'.

To download the relevant files aggregated in a .JAR file for a composite service BPEL project, navigate to the composite service details page for a service that you want to download, and then click **Download Service** to download the file to your local machine.

Note: After downloading the file, system integration developers can unzip the BPEL .JAR file and open the BPEL process in Oracle JDeveloper for further modification on service endpoints if needed. Additionally, the developers can deploy the BPEL process. Since composite services are typically not deployed within Oracle E-Business Suite, a separate BPEL PM (SOA Suite or a third party BPEL PM server) is needed to deploy the BPEL composite services. For example, the developers can deploy it to Oracle BPEL server through Oracle BPEL

Process Manager. See *Oracle E-Business Suite Integrated SOA Gateway Developer's Guide* for details.

To download a composite service:

1. Log in to Oracle E-Business Suite as a user who has granted the download composite service privilege. Select the Integrated SOA Gateway responsibility from the navigation menu and then select the Integration Repository link.
2. In the Integration Repository tab, select 'Interface Type' from the View By dropdown list.
3. Expand the Composite Service interface type node to locate your desired composite service.
4. Click the composite service that you want to download it to open the Composite Service Interface Details page.
5. Click **Download Service** to download the selected composite file to your local machine.

Working with Custom Integration Interfaces and Services

Overview of Custom Integration Interfaces

Oracle Integration Repository provides the capability to display annotated custom integration interfaces that are created for native and composite services.

Integration developers create and annotate custom integration interfaces based on the Integration Repository annotation standards. These annotated source files can then be uploaded to the Integration Repository through backend processing.

Since custom interface definitions can be created for various interface types, including custom interface definitions for XML Gateway Map, Business Event, PL/SQL, Concurrent Program, Business Service Object, Java, Java Bean Services, Application Module Services, and Composite Service for BPEL type, these annotated interface definitions are merged into the interface types they belong to and displayed together with Oracle interfaces from the Integration Repository browser window.

Note: Please note that custom interface types of EDI, Open Interface Tables, and Open Interface Views interfaces are not supported in this release.

Oracle Integration Repository currently does not support the creation of custom Product Family and custom Business Entity.

To easily distinguish annotated custom interface definitions from Oracle interfaces, Oracle Integration Repository provides the following capabilities:

- Ability to restrict display of custom or Oracle interfaces (seeded) in the Interface List page from the navigation tree
- Ability to search on custom or seeded integration interfaces for a product family in the Search page

The interface details page displays an additional value indicating whether this interface is a custom or seeded one.

For Integration Repository annotation standards, see *Integration Repository Annotation Standards, Oracle E-Business Suite Integrated SOA Gateway Developer's Guide*.

This section discusses the following topics:

- Searching Custom Integration Interfaces, page 6-2
- Viewing Custom Integration Interfaces, page 6-5
- Performing Additional Web Service Activities for Custom Integration Interfaces, page 6-6

Searching Custom Integration Interfaces

You can find custom integration interfaces in the following ways:

- From the Interface List page, select Custom from the Interface Source drop-down list along with a value for the Scope field to restrict the custom integration interfaces display.

Interface List Page with "Custom" Selected as the Interface Source

The screenshot shows the Oracle Integration Repository interface. The left sidebar contains a tree view of interface categories, with 'User Management' selected under 'Java'. The main content area displays the 'Interface List : User Management' page. The 'Interface Source' dropdown is set to 'Custom'. The table below lists the interfaces:

Name	Internal Name	Product	Type	Source	Status	Description
RegistrationAdmin	oracle.apps.fnd.umx.registration.RegistrationAdmin	User Management	Java	Oracle	Active	RegistrationAdmin includes methods to support registration with Oracle User Management.
RegistrationBean	oracle.apps.fnd.umx.registration.RegistrationBean	User Management	Java	Oracle	Active	Registration Bean allows you to store data captured during the registration flow in a temporary storage until approved.
RegistrationURLFramework	oracle.apps.fnd.umx.util.URLFramework	User Management	Java	Oracle	Active	URLFramework includes methods to support Centralized Account Provisioning System in Oracle Applications.

- From the Search page, click **Show More Search Options** to select 'Custom' from the Interface Source drop-down list along with any interface type, product family, or scope if needed as the search criteria.

Search Page with "Custom" Selected as the Interface Source

ORACLE Integration Repository

Home Logout Preferences Help Diagnostics

Integration Repository

Search Browse

Interface Name Internal Name

Product Family All Interface Type PL/SQL

Product All Business Entity

[Hide More Search Options](#)

TIP Select Category before a Category Value

Category All Web Service Status All

Category Value Standard All

Interface Source Custom Standard Specification

Status All Scope All

Custom

Oracle Clear All

Export

Name	Internal Name	Product	Type	Source	Status	Description
Custom SDR	CUSTOM_SDR	Trade Management	PL/SQL	Custom	Active	This custom PL/SQL package can be used for SDR
Custom SDR1	CUSTOM_SDR1	Trade Management	PL/SQL	Custom	Active	This custom PL/SQL package can be used for SDR
Custom Supplier Ship and Debit Request	CUSTOM_SD_REQUEST	Trade Management	PL/SQL	Custom	Active	This custom PL/SQL package This package can be used to Create Ship & Debit Request

Browse

Integration Repository SOA Monitor Home Logout Preferences Help Diagnostics

About this Page Privacy Statement Copyright (c) 2006, Oracle. All rights reserved.

For example, select 'Custom' as the Interface Source and 'PL/SQL' as the Interface Type to locate the custom interfaces for PL/SQL type.

To view the custom integration interface details page:

1. Log on Oracle E-Business Suite with the Integrated SOA Gateway responsibility. Select the Integration Repository link to open the repository browser.
2. You can locate custom integration interface definitions from the following two ways:
 - **From the Interface List page**
Select the following values:
 - Interface Source: Custom
 - Scope: Select an appropriate value
 - **From the Search page**
 1. Click **Show More Search Options** to open more search options.

2. Select the following values:
 - Interface Source: Custom
 - Scope: Select an appropriate value
 - Product Family: Select an appropriate value
3. Click **Go** to execute the search.

Custom integration interfaces that match your search criteria should be displayed in a table format.
4. Select a custom integration interface name link from the search result to view the interface details.

Note that the custom integration interface details page shows 'Custom' as the Interface Source value allowing you to differentiate it from Oracle seeded interfaces.

Viewing Custom Interface Details

After performing a search on custom integration interfaces either from the Interface List page or from the Search main page, you can view the details page for a selected custom integration interface from the search result.

Select a custom integration interface name link from the search result table, the interface details page appears where you can find the interface name, description, and other annotated information.

Please note that all custom integration interface definitions have 'Custom' value in the Interface Source field and this value distinguishes it from a seeded one.

Users who have the Integration Repository Administrator role can perform the following tasks:

- For the custom interface that can be exposed as SOAP Web service
 - Generate SOAP Web services
 - Deploy (undeploy or redeploy) SOAP Web services
- For the custom interface that can be exposed as REST Web service
 - Deploy REST Web services
 - Undeploy REST Web services

For more information about these administrative tasks, see [Performing Additional Web](#)

Performing Additional Web Service Activities for Custom Integration Interfaces

In addition to viewing custom integration interface details, users with administrator role can perform the following administrative tasks:

- **For Custom Integration Interfaces with Support for SOAP Web Services**

- **Generating Custom SOAP Web Services**

Users who have the Integration Repository Administrator role can find **Generate WSDL** (or **Generate** for the custom PL/SQL interface) available in the interface details page. Clicking **Generate WSDL** (or **Generate**) automatically generates the custom SOAP service with corresponding WSDL file. See: *Generating SOAP Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide.*

- **Deploying Custom SOAP Web Services**

If the custom service has already been generated successfully, users who have the Integration Repository Administrator role can find **Deploy** available for the selected custom integration interface. Prior to deploying the service to the application server, the administrator must first select at least one authentication type for the generated service supported by SOA Provider.

If the service has been successfully deployed, the Web Service Status field will be updated to 'Deployed'. The **View WSDL** link appears along with the selected authentication type(s) for the deployed custom web service.

- **Redeploying or Undeploying Custom SOAP Web Services**

The following buttons appear if a custom web service has been successfully deployed:

- **Redeploy:**

This allows the administrators to redeploy the custom service when needed. If changes are made to the Authentication Type field for the deployed service, the administrator must redeploy the custom web service.

- **Undeploy:** This allows the administrators to undeploy the custom service that has been deployed earlier.

See: *Deploying and Undeploying SOAP Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide.*

- **Viewing Log Messages**

To effectively troubleshoot any issues or exceptions encountered at each stage of service development and deployment life cycle, the administrators can view design-time logs through the Interface Details page and runtime logs through the SOA Monitor user interface for the service or operation if the logging is enabled and configured properly at required logging category level.

For information on how to view design-time logs, see *Viewing Generate and Deploy Time Logs, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

For information on how to view log messages through SOA Monitor, see *Viewing Service Processing Logs, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

For detailed information about each administrative task listed here, see *Administering SOAP Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **For Custom Interfaces with Support for REST Web Services**

Note: Supported interfaces for custom REST services are PL/SQL APIs, Concurrent Programs, Business Service Objects, Java Bean Services, and Application Module Services. Although Open Interface Tables and Views can be exposed as REST services, custom interfaces of this interface type are not supported.

- **Deploying Custom REST Web Services**

Before deploying a custom interface as a REST service, the administrator must specify service alias for the selected interface. If the selected custom interface type is Java Bean Services, Application Module Services, or Business Service Object, the administrator also needs to specify HTTP verbs for the desired methods contained in the selected interface before deployment.

If the custom REST service has been successfully deployed, the REST Service Status field is updated to 'Deployed' from 'Not Deployed'. This indicates that the active service is ready to accept new service requests.

For more information on deploying custom REST services, see *Deploying REST Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **Undeploying Custom REST Web Services**

If a custom service has been successfully deployed, the administrators can click **Undeploy** to undeploy the REST service if necessary and at the same time to reset the service status to its initial state - 'Not Deployed'.

For more information on undeploying REST services, see *Undeploying REST*

Web Services, *Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

For detailed information about administrative tasks, see *Administering REST Web Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **For Business Events**

The administrators can subscribe to a business event by clicking **Subscribe** in the business event interface details page. This creates subscription for the selected event.

For information on how to subscribe to an event, see *Subscribing to Business Events, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

- **For Custom Composite Integration Interface**

- Viewing Custom Composite Services

You can view custom composite service details including the associated WSDL file for a selected custom composite service.

To locate a custom composite service, you can perform a search from the Search page. Click **Show More Search Options** to display more search fields. Enter the following values in the Search page along with product family, scope, or any other values if needed as criteria:

- Interface Source: Custom
- Interface Type: Composite

can view a custom composite service details, and download the .ZIP file for a composite service if it is available for download.

For more information on viewing composite services, see *Viewing Composite Services, page 5-2*.

- Downloading Custom Composite Services

Similar to downloading native packaged composite services, users who have the download privilege can download a custom composite - BPEL .JAR file to their local directories by clicking **Download Service** in the interface details page.

For more information on how to download a composite service, see *Downloading Composite Services, Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*.

Glossary

Agent

A named point of communication within a system.

Agent Listener

A type of service component that processes event messages on inbound agents.

BPEL

Business Process Execution Language (BPEL) provides a language for the specification of executable and abstract business processes. By doing so, it extends the services interaction model and enables it to support business transactions. BPEL defines an interoperable integration model that should facilitate the expansion of automated process integration in both the intra-corporate and the business-to-business spaces.

Business Event

See Event.

Concurrent Manager

An Oracle E-Business Suite component that manages the queuing of requests and the operation of concurrent programs.

Concurrent Program

A concurrent program is an executable file that performs a specific task, such as posting a journal entry or generating a report.

Event

An occurrence in an internet or intranet application or program that might be significant to other objects in a system or to external agents.

Event Activity

A business event modelled as an activity so that it can be included in a workflow process.

Event Data

A set of additional details describing an event. The event data can be structured as an XML document. Together, the event name, event key, and event data fully communicate what occurred in the event.

Event Key

A string that uniquely identifies an instance of an event. Together, the event name, event key, and event data fully communicate what occurred in the event.

Event Message

A standard Workflow structure for communicating business events, defined by the datatype `WF_EVENT_T`. The event message contains the event data as well as several header properties, including the event name, event key, addressing attributes, and error information.

Event Subscription

A registration indicating that a particular event is significant to a system and specifying the processing to perform when the triggering event occurs. Subscription processing can include calling custom code, sending the event message to a workflow process, or sending the event message to an agent.

Function

A PL/SQL stored procedure that can define business rules, perform automated tasks within an application, or retrieve application information. The stored procedure accepts standard arguments and returns a completion result.

Integration Repository

Oracle Integration Repository is the key component or user interface for Oracle E-Business Suite Integrated SOA Gateway. This centralized repository stores native packaged integration interface definitions and composite services.

Interface Type

Integration interfaces are grouped into different interface types.

JSON

JSON (JavaScript Object Notation) is a text-based open standard designed for human-readable data interchange. The JSON format is often used with REST services to transmit structured data between a server and Web application, serving as an alternative to XML.

Loose Coupling

Loose coupling describes a resilient relationship between two or more systems or organizations with some kind of exchange relationship. Each end of the transaction

makes its requirements explicit and makes few assumptions about the other end.

Lookup Code

An internal name of a value defined in a lookup type.

Lookup Type

A predefined list of values. Each value in a lookup type has an internal and a display name.

Message

The information that is sent by a notification activity. A message must be defined before it can be associated with a notification activity. A message contains a subject, a priority, a body, and possibly one or more message attributes.

Message Attribute

A variable that you define for a particular message to either provide information or prompt for a response when the message is sent in a notification. You can use a predefined item type attribute as a message attribute. Defined as a 'Send' source, a message attribute gets replaced with a runtime value when the message is sent. Defined as a 'Respond' source, a message attribute prompts a user for a response when the message is sent.

Notification

An instance of a message delivered to a user.

Notification Worklist

A Web page that you can access to query and respond to workflow notifications.

Operation

An abstract description of an action supported by a service.

Port

A port defines an individual endpoint by specifying a single address for a binding.

Port Type

A port type is a named set of abstract operations and abstract messages involved.

Process

A set of activities that need to be performed to accomplish a business goal.

REST

Representational State Transfer (REST) is an architecture principle in which the Web services are viewed as resources and can be uniquely identified by their URLs. The key

characteristic of a REST service is the explicit use of HTTP methods (GET, POST, PUT, and DELETE) to denote the invocation of different operations.

SAML Token (Sender-Vouches)

This type of security model authenticates Web services relying on sending a username only through Security Assertion Markup Language (SAML) assertion.

SAML is an XML-based standard for exchanging authentication and authorization data between security domains, that is, between an identity provider and a service provider. SAML Token uses a sender-vouches method to establish the correspondence between a SOAP message and the SAML assertions added to the SOAP message.

See Username Token.

Service

A service is a collection of related endpoints.

Service Component

An instance of a Java program which has been defined according to the Generic Service Component Framework standards so that it can be managed through this framework.

SOA

Service-oriented Architecture (SOA) is an architecture to achieve loose coupling among interacting software components and enable seamless and standards-based integration in a heterogeneous IT ecosystem.

SOAP

Simple Object Access Protocol (SOAP) is a lightweight protocol intended for exchanging structured information in a decentralized, distributed environment. It uses XML technologies to define an extensible messaging framework providing a message construct that can be exchanged over a variety of underlying protocols.

Subscription

See Event Subscription.

Username Token

A type of security model based on username and password to authenticate SOAP requests at run time.

See SAML Token (Sender-Vouches).

WADL

Web Application Description Language (WADL) is designed to provide a machine-processable description of HTTP-based Web applications. It models the resources provided by a service and the relationships between them.

Web Services

A Web service is a software system designed to support interoperable machine-to-machine interaction over a network. It has an interface described in a machine-processable format (specifically WSDL). Other systems interact with the Web service in a manner prescribed by its description using SOAP-messages, typically conveyed using HTTP with an XML serialization in conjunction with other Web-related standards.

Workflow Engine

The Oracle Workflow component that implements a workflow process definition. The Workflow Engine manages the state of all activities for an item, automatically executes functions and sends notifications, maintains a history of completed activities, and detects error conditions and starts error processes. The Workflow Engine is implemented in server PL/SQL and activated when a call to an engine API is made.

WSDL

Web Services Description Language (WSDL) is an XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information. The operations and messages are described abstractly, and then bound to a concrete network protocol and message format to define an endpoint.

WS-Addressing

WS-Addressing is a way of describing the address of the recipient (and sender) of a message, inside the SOAP message itself.

WS-Security

WS-Security defines how to use XML Signature in SOAP to secure message exchanges, as an alternative or extension to using HTTPS to secure the channel.

XML

XML (Extensible Markup Language) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable.

Index

A

accessing the repository, 3-3

B

browsing the interfaces, 3-6

by integration standard, 3-8

by interface type, 3-7

by product family, 3-7

business entity, 3-6

Business Event, 3-13, 4-70

business interface, 3-1

business service object, 3-16

general information, 4-53

Integration Repository Service, 4-49

method information, 4-48

service data object, 4-52

C

common information

interface details, 4-3

managing grants, 4-23

REST service, 4-11

web service, 4-8

Reviewing Web Service WADL Sources,
4-19

review WSDL, 4-16

common interface information, 4-1

Composite service, 3-17

Composite Services, 5-1

concurrent program, 3-14, 4-59

Custom Integration Interfaces, 6-1, 6-5

administrative tasks, 6-6

searching custom interfaces, 6-2

D

discovering interfaces

by browsing, 3-6

by searching, 3-8

E

EDI, 3-15, 4-69

general information, 4-70

F

filter data object

general information, 4-56

method information, 4-58

I

Integration Repository Service, 4-49

integration standard

browsing by, 3-6, 3-8

searching by, 3-12

interface information

common information, 4-1

source information, 4-3

interface types, 3-1, 3-12

browsing by, 3-6, 3-7

Business Event, 3-13, 4-70

business service object, 3-16

Composite service, 3-17

concurrent program, 3-14, 4-59

- EDI, 3-15, 4-69
- interface view, 3-15, 4-66
- Java, 3-15, 4-36
- open interface, 3-15, 4-62
- PL/SQL, 3-14, 4-32
- service data object, 4-52
- XML Gateway, 3-14, 4-27

interface view, 3-15, 4-66

J

- Java, 3-15, 4-36
 - Application Module Services, 4-41
 - Java APIs for Forms, 4-45
 - Java Bean Services, 4-38
 - method information, 4-37
 - Security Services, 4-43
- Java service interface
 - filter data object information, 4-55

O

- open interface, 3-15, 4-62
 - table information, 4-63
- Oracle E-Business Suite Integrated SOA Gateway
 - Architecture, 1-4
 - Major Features, 1-1
 - Overview, 1-1
- Oracle Integration Repository, 5-1, 5-2
 - discovering and reviewing, 3-6
 - Discovering and Reviewing, 3-6
- overview, 6-1

P

- PL/SQL, 3-14, 4-32
 - procedure/function information, 4-35
 - Web service tab, 4-34, 4-60
- product codes, 4-3
- product family browsing, 3-7

R

- Review Composite Services, 5-2

S

- search criteria, 3-8
 - business entity, 3-6
 - category, 3-9

- integration standard, 3-17
- interface type, 3-12
- internal name, 4-4
- scope, 3-11
- status, 3-10
 - Web service status, 3-10
- searching for interfaces, 3-8
- security, 3-11
- service data object
 - method information, 4-58
 - service data object information, 4-52
- SOA
 - common terms, 2-2

U

- Understanding Service Enablement
 - service enablement overview, 2-1
 - SOA in Oracle E-Business Suite, 2-3, 2-5
 - using the repository, 3-5

V

- viewing custom interface details, 6-5

W

- Web service
 - downloading, 5-3

X

- XML Gateway, 3-14, 4-27
 - general information, 4-28
 - integration standards, 3-8, 3-17
 - method information, 4-31
 - Web Service, 4-28
 - Web service subtab, 4-28