IBM WebSphere Business Process Management V7.0

IBM WebSphere Adapter for Oracle E-Business Suite V7.0 Feature Pack 2 enhancements

This presentation covers WebSphere® adapter for Oracle E-Business Suite V7.0 Feature Pack 2 enhancements.

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This presentation details enhancements in Feature Pack 2 of the WebSphere Adapter for Oracle E-Business Suite (EBS). It starts with new XML gateway interface and IREP metadata discovery for supported interfaces for Oracle EBS. It also covers other enhancements for Oracle PL/SQL.

Section

XML gateway interface and IREP metadata discovery

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This section provides details about the XML gateway interface and IREP metadata discovery for supported interfaces in Oracle EBS.

Oracle E-Business Suite adapter – IREP metadata discovery and XML Gateway integration

- Currently,
  - PL/SQL (JDBC™ interface)

- In Feature Pack 2,
  - XML Gateway (web service based)
  - Integration Repository (web service based metadata discovery)

  - No iteration development

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Currently, the Oracle EBS adapter supports Oracle PL/SQL, which uses a JDBC interface. With Feature Pack 2, the adapter introduces a new XML gateway interface, which is web service based. XML Gateway is an interface type in Oracle E-Business Suite Integration Repository.

The adapter exposes the Integration Repository (IREP) as a web service with a specific WSDL, and invokes the Integration Repository (IREP) web service to receive the XML gateway interface metadata. In this release, XML gateway integration does not support iterative development.

Oracle EBS – IREP and XML Gateway service

Oracle EBS facility and interfaces for integration	Integration requirement description
XML Gateway	Supports Oracle XML Gateway interfaces through web service, supports both Oracle seeded XML Gateway interfaces (like Order Entry, Invoice Entry) and custom XML Gateway interfaces.
IREP (Integration Repository) metadata discovery	• Shipped as part of the Oracle E-Business Suite • IREP provides a complete catalog of Oracle E-Business Suite business service interfaces • Exposed as web services, which can be invoked to retrieve the structure and metadata of different business service interfaces (including XML Gateway, Open Interfaces, Concurrent Programs, PL/SQL APIs, etc)

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Here is the integration requirement description for XML gateway and Integration Repository metadata discovery. XML gateway supports Oracle seeded XML gateway interfaces such as Order Entry, Invoice Entry, and so on. It also supports custom XML gateway interfaces. Integration Repository metadata discovery is part of the Oracle EBS adapter. It provides a complete catalog of Oracle EBS business service interfaces and uses to be invoked to retrieve the structure and metadata of those interfaces.

Oracle EBS - XML Gateway integration (1 of 3)

- **What?**
  - XML Gateway is an interface type in Oracle EBS Integration Repository (IREP)
  - Allows outbound integration with Oracle EBS to transfer data to the application in both EMD and runtime
  - Expose XML documents in the specified format
  - Convert the payload DTD to XSD and formalize XSD then generate business objects
- **Why?**
  - Oracle EBS adapter provides the capability to interact with Oracle applications through Oracle XML Gateway and plays as a single entry point for Oracle E-Business Suite integration
  - XML Gateway is one of the most popular Oracle E-Business Suite interface type, support 150+ business functions of Oracle E-Business Suite
  - It is the most recommended integration point
  - Oracle ERP business function oriented, "open standard" web Service enablement; does not require much Oracle database experience

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XML Gateway is an interface type in Oracle EBS Integration Repository. It allows outbound integration with Oracle EBS and helps in transferring data to the application. The interface exposes the XML documents in the specified format that is widely used by the Oracle application's business objects and interfaces. It interacts with the Oracle interface tables and views, and it maps the underlying tables to XML format. The interface services contain a common standards-based approach for XML integration between Oracle E-Business Suite and other vendor applications. Examples of this include Enterprise Application Integration, web Service Integration, and so on.

The WebSphere Adapter for Oracle E-Business Suite supports the XML gateway interface, which integrates Oracle E-Business Suite with the other enterprise information systems using web services. XML Gateway is one of the most popular Oracle EBS interface types, and supports more than 150 business functions. It is also the most recommended integration point because of its Oracle ERP business function, oriented as 'open standard' web service enablement. This allows users to use XML Gateway without much Oracle database experience.

Oracle EBS – XML Gateway integration (2 of 3)

Supporting terms	Description
Payload	• An XML document that contains the business information required for the business process in XML Gateway business integration.
WSDL	• A document written in XML. It contains the specifications of the web service such as the location of the service and the operations or methods that the service uses
DTD	• Defines the XML Gateway business data type for payload that contains a list of elements, attributes, entities, and notations. Oracle EBS adapter provides common translation from the DTDs into schema files. • User handles syntax gap between some specific DTD definition and schema files (XSD). • The payload XML document, which is created based on generated Schema files (XSD), is used to take the business data for business process in the XML Gateway interface.

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The external service wizard in WebSphere Integration Developer helps to create an XML-based integrated service document that can be used as a payload content to invoke the web service at runtime. Here are a few supporting terms that are used in this feature.

Payload is an XML document that contains the business information required for the business process in XML Gateway business integration.
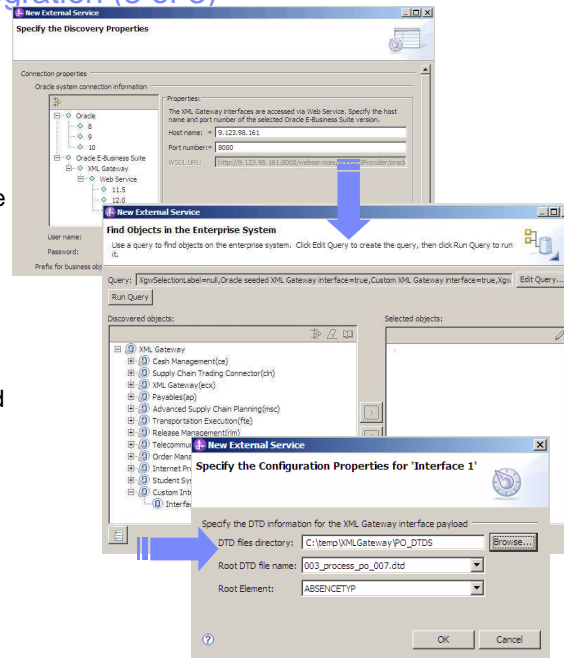
WSDL is a document written in XML and contains the specifications of the web service such as the location of the service and the operations or methods that the service exposes.

Last but not least, DTD defines the XML Gateway business data type for payload that contains a list of elements, attributes, entities, and notations. The Oracle EBS adapter provides common translation from the DTDs into schema files. It is user's task to provide the syntax gap between some specific DTD definition and schema files (XSD). The payload XML document, which is created based on generated schema files, is used to take the business data for business process in the XML Gateway interface.

Oracle EBS - XML Gateway integration (3 of 3)

- **How?**
  - Configure external service wizard
    - Select the Oracle E-Business Suite XML Gateway interface type, web service transport and specific EBS version/connection
    - Input the metadata information of the target business function (for example, Order Entry). The metadata includes original Payload DTD info
  - Configure runtime
    - No special configuration
    - Input XML Gateway Payload contents, invoke to access XML Gateway interface by adapter Runtime

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To configure the module for an XML Gateway interface, you can use the external service wizard in WebSphere Integration Developer. You can configure this interface only for outbound integration. You can select the number of interfaces you want to create. For each interface you create, you can select the required elements based on your business requirement. First, select the Oracle E-Business Suite version and specify the connection information for the selected XML Gateway interface. A list of discovered objects is displayed with different business service interfaces supported by the adapter. These result from your selection of the Oracle seeded XML Gateway interface or a custom XML Gateway interface, or both. Then select one or more interfaces from the Discovered objects list to specify the DTD information for those interfaces. With DTD information, you need to put the required DTD files for the XML Gateway interface in a local directory. Also, you need to know the root DTD file and root element for the selected XML Gateway interface.

At runtime, no special configuration is needed. You can just input XML Gateway Payload contents and invoke them to access an XML Gateway interface from the target runtime.
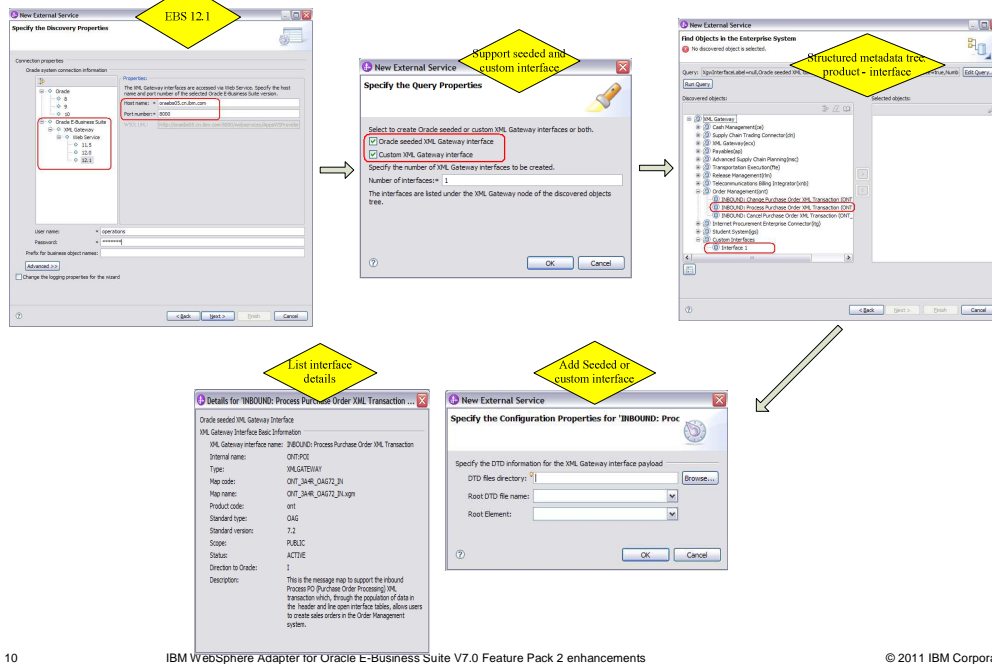
Oracle EBS - IREP metadata discovery

- **What?**
  - Oracle E-Business Suite exposes IREP as web service with a specific WSD
  - Invoke IREP web service to retrieve XML Gateway interface metadata
- **Why?**
  - Support for metadata discovery for the supported interfaces
  - IREP is the key feature of Oracle EBS, making seamless integration between Oracle EBS adapter and WebSphere Integration Developer/WebSphere Process Server
  - It is the most recommended integration point
  - Provides the capability to interact with Oracle IREP to make seamless XML Gateway integration
  - Oracle ERP business function oriented, "open standard" web service enablement; does not require much Oracle database experience
- **How?**
  - Configure the external service wizard
    - Select the Oracle E-Business Suite XML Gateway interface type, web service transport and specific EBS version including connection details
    - Select to work with Oracle seeded XML Gateway interface or custom XML Gateway interface or both
    - Adapter displays IREP structured metadata tree for XML Gateway interface type
    - Select specific XML Gateway interface and get specific IREP metadata for this interface

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The Oracle EBS exposes the Integration Repository (IREP) as a web service with a specific WSDL. It invokes the IREP web service to receive the XML gateway interface metadata. The IREP is the key feature available in Oracle EBS that makes integration seamless between the Oracle EBS adapter, WebSphere Integration Developer, and WebSphere Process Server. It is also the most recommended integration point because of its capability to interact with Oracle IREP to make XML gateway integration. As mentioned in the XML gateway feature, this is Oracle ERP business function-oriented, and does not require much Oracle database experience.

In the external service wizard, once you connect to the selected Oracle EBS, the adapter displays an IREP structured metadata tree for the XML gateway interface type. From there, you can select a specific XML Gateway interface and get IREP metadata that is specific for this interface.
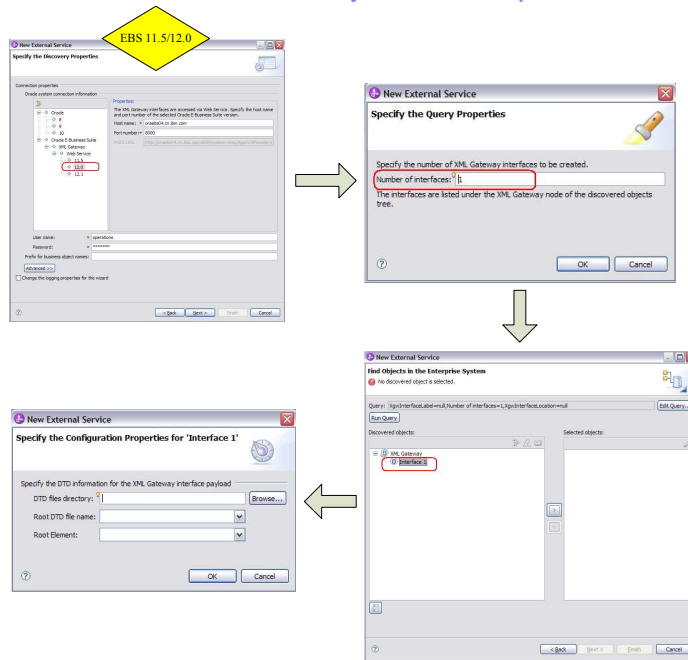
Oracle EBS 12.1 – Key screen captures

Here are screen captures of Oracle EBS 12.1. Depending on which version you are using, the external service wizard displays different screens. With Oracle EBS 12.1, you have the option to select an Oracle-seeded XML gateway interface or a custom XML gateway interface.

Oracle EBS 11.5 and 12.0 – key screen captures

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Here are key screen captures of Oracle EBS 11.5 and 12.0. Notice the option to select a seeded or custom XML gateway interface is not available.

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Other enhancements

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This section provides details about other enhancements for Oracle PL/SQL.

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Oracle EBS – PL/SQL data type BOOLEAN

- Support Oracle PL/SQL data type Boolean
  - With special data types like Record, Boolean that are commonly used in Oracle E-Business Suite pre-built stored procedures
  - Processes these data types automatically
    - Convert Boolean value into Integer value
    - Accept value 1 for 'True', 0 for 'False'

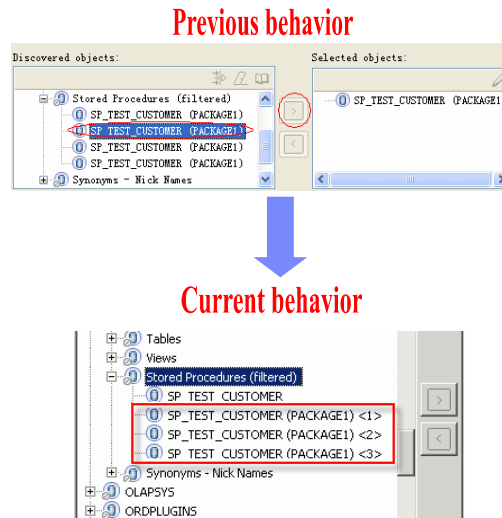IBM WebSphere Adapter for Oracle E-Business Suite V7.0 Feature Pack 2 enhancements © 2011 IBM Corporation

Oracle PL/SQL has some special data types - like Record and BOOLEAN - that are commonly used in Oracle E-Business Suite pre-built stored procedures. In Feature Pack 2, the adapter supports the Boolean data type for stored procedures and stored functions with Record type parameter automatically.

When the stored procedure or stored function has the "Record with Boolean" type parameter in the Oracle database, the adapter cannot support such business objects because the Oracle JDBC driver does not support calling arguments or return values of the PL/SQL BOOLEAN types. The adapter translates the value between Boolean and Integer types for stored procedure or stored function in and out parameters. This means the adapter translates Boolean values into Integer values, using 1 for 'TRUE' and 0 for 'FALSE'.

Oracle EBS – Overloaded SP/SF

Previous behavior

- Previously,
  - Could not distinguish different overload SP/SF
  - Results in selecting of overload SP/SF which might contain the wrong parameters
- With Feature Pack 2,
  - Support for overloaded SP/SF in Oracle database
    - Distinguishes the original SP/SF from the overloaded ones, and add the right parameters for the selected SP/SF
    - Add '<number>' tag which corresponding to OVERLOAD sequence in Oracle database.

Current behavior

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Previously, there was no way to easily identify the overload stored procedure or function. This could result in selecting the overloaded stored procedure or stored function that contained the wrong parameters. With Feature Pack 2, the adapter can distinguish the original stored procedure or function from the overloaded ones, and add the right parameters for the selected procedure or function. The adapter adds a number tag that corresponds to an overload sequence in the Oracle database. These corresponding parameters for the selected procedure or function are added based on the overload sequence.

Section

Summary

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This section provides the summary and references.

Summary

- Summary
  - Learned new enhancements in Feature Pack 2
    - Introduced IREP and XML Gateway service
    - Learned about support for Oracle PLSQL data type BOOLEAN used in Oracle Stored Procedure parameters.
    - Learned about support for overloaded stored procedures/stored functions
- References
  - WebSphere adapter for Oracle EBS user guide
  - WebSphere Adapter V7.0 Feature Pack 2 information center
    - http://www-01.ibm.com/software/integration/wbiadapters/library/infocenter/#wsa70pack2

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This presentation introduced new WebSphere adapter for Oracle EBS V7.0 Feature Pack 2. In this presentation, you have learned about new enhancements including introduction of new XML Gateway interface and metadata discovery for supported interfaces for Oracle E-Business Suite. You also learned about enhancements in supporting Boolean data type used in Oracle SP/SF as well as in supporting for overloaded SP/SF.

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