# Oracle® Workflow

Web Services Guide

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# 1 Introduction

Welcome to the *Oracle Workflow Web Services Guide*. This manual has been designed to help you work effectively with Web services in the Oracle E-Business Suite.

## 1.1 Intended Audience

This guide is intended for developers and consultants who wish to expose Web services in Oracle applications.

## 1.2 Related Documents

The following documents are related to this manual:

- *Oracle Workflow Administrator's Guide*
- *Oracle Workflow Developer's Guide*
- *Oracle Workflow User's Guide*
- *Oracle Workflow API Reference*
- *Oracle Applications System Administrator's Guide*
- *Oracle Applications CRM System Administrator's Guide*

# 2 Web Services Overview

With the increasing need for application-to-application communication and interoperability, Web services are rapidly gaining use on the World Wide Web. Web services provide a standard means of communication among

different software applications, even when the underlying platforms or frameworks are not the same.

A Web service is a software system identified by a Uniform Resource Identifier (URI). A Web service's public interfaces and bindings are defined and described using Extensible Markup Language (XML). Its definition can be discovered by other software systems. These systems may then interact with the Web service in a manner prescribed by its definition, using XML-based messages conveyed by Internet protocols.

General information about Web services, XML, and related technologies can be found at the World Wide Web Consortium Web site, www.w3.org.

# 3 Terms

**Service Group** A service group is the logical name of a Java class that contains methods that are exposed as services.

**Service Group Full Name** The complete name of a service group, corresponding to the following format: `<service group prefix>.<application shortname>.<service group name>`

**Services** Services are single units of work with defined inputs and outputs. They are implemented as methods of Java classes. Services are application-specific and usually represent a unit of business logic.

# 4 Exposing Java Web Services

This section describes how to expose Java methods as Web Services in the Oracle E-Business Suite. This process allows a standard means of communication between client applications, conducted over the Internet.

The current limitations are as follows:

- Only Java public APIs are supported.
- Only simple parameter data types are supported.

## 4.1 Registering Java Methods as Web Services

The infrastructure provided by Oracle9iAS Web Services is used for building Web services within the Oracle E-Business Suite. Each Java method to be exposed as a Web service must be registered as a *service* in Oracle 9iAS Web Services. In addition, the Java class which a method belongs to must be registered as a *service group*.

Use the following procedure to register service groups and services.

### Steps

1. Log in to the Oracle CRM System Administrator Console.
2. In the **Integration** tab, Click **Services**. See Section 4.3.1 for a screenshot of this page.
3. Click **Create** to begin creating a new service group. Creating a service group involves a three-step process. Each step has its own page which you must complete.
    a. In the first step, you define the general settings of the service group. See Section 4.3.2 for a screenshot of this page. Be sure to provide the fully qualified Java class name. This will be the name of the service group.
    b. In the second step, you define the methods which are to be exposed as Web services. See Section 4.3.3 for a screenshot of this page.
    c. In the third step, you define the *type mappings* (if any) of the service group. Type mappings are required for parameters of complex data types. See Section 4.3.4 for a screenshot of this page. Use the default serializers and deserializers provided to you by selecting the check boxes labeled **Use Default**. Note that the same rule must be applied to the data types that are nested inside another data type. Click **Create** to finish.
4. The new service group is listed in the table on the main **Services** page.

## 4.2 Updating Service Groups

To update the details of a service group which has already been created in the system, click its name in the table on the main **Services** page. On the pages that appear, you can edit the general settings, services, and type mappings of that service group much as you would when registering a new service group.

## 4.3 Screenshots

### 4.3.1 Main Service Group Page

The screenshot below is an image of the main service groups page. This page is located in the **Integration** tab. The page is organized into two areas, a **Service Group Prefix** area and a **Service Groups** area.

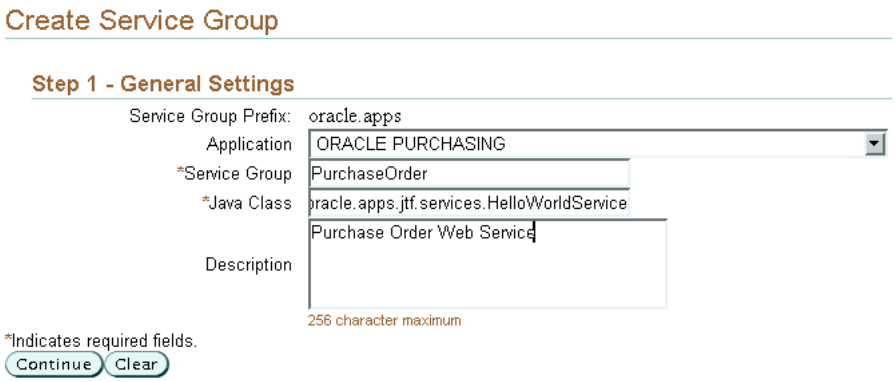
In the **Service Group Prefix** area at the top of the page, you can type into the text entry field and then click **Update** to specify the prefix for your service groups. This prefix is the first part of a service group full name, appearing before the application short name. Service group full names have

the following format: `<service group prefix>.<application shortname>.<service group name>`

The **Service Groups** area is the starting point for creating, updating, or removing service groups. The main feature of this area is a table which lists service groups by full name and Java class. Clicking the **Create** link above the table begins the service group registration process. Above the table, in the **Choose an Application** drop-down list, you can filter the display by application. Or, you can select the value **ALL** in the drop-down list to display all service groups for all applications. In the table, clicking the name of a service group allows you to begin editing the details of a particular service group. To delete service groups, you can select check boxes in the **Remove** column and then click the **Update** button. A **Restore** button is available to return the fields in and around the table to their original values.

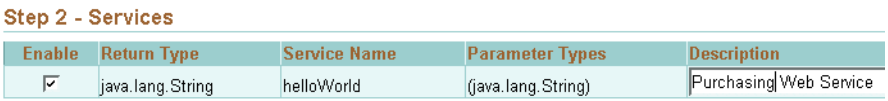

### 4.3.2 General Settings Page

The screenshot below is an image of the General Settings page, which displays after you click **Create** on the main service groups page. It contains the following fields: **Service Group Prefix** (a non-editable field), **Application**, **Service Group**, **Java Class**, and **Description**. The two required fields are **Service Group** and **Java Class**. In these fields, you must type the appropriate information. Optionally, you can choose an application from the **Application** drop-down list and/or type up to 256 characters in the **Description** field. If for some reason you need to clear the values in the editable fields, then you can click **Clear**. Clicking **Continue** saves your work and takes you to the next page in the flow, which is shown in Section 4.4.3.




### 4.3.3 Service List Page

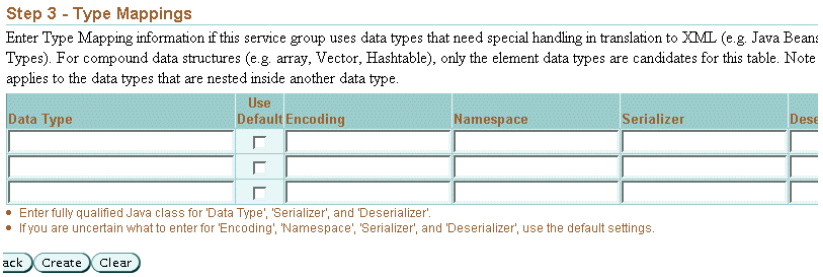
The screenshot below is an image of the Service List page, which displays after you click **Continue** on the General Settings page shown in Section 4.4.2. This page contains a table which lists services by service name, return type, and parameter type. It also contains a column of check boxes for enabling services and a column of text entry fields where you can optionally enter service descriptions. At the bottom of the table, you can click **Back**, **Continue**, or **Clear**. Clicking **Continue** takes you to the Type Mappings page, which is shown in Section 4.4.4.




### 4.3.4 Type Mappings Page

The screenshot below is an image of the Type Mappings page, which is the third and final page when creating a new service group. It offers a table for listing type mapping information when the service group uses data types that require special handling during translation to XML. Note that for compound data structures such as arrays, you can only enter element data types in the table. Also, the same rule must be applied to data types that are nested inside other data types. The table has text entry fields for **Data Type**, **Encoding**, **Namespace**, **Serializer**, and **Deserializer** information, as well as check boxes for using the default serializers and deserializers. It is recommended that you use the default settings. At the bottom of the table, you can click **Back**, **Create**, or **Clear**. Clicking **Create** saves the information

that you have entered on this page and the previous two pages. The new service group now appears in the table on the main service groups page.

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