# J008 - Java Web Services

## Course Objectives

This hands-on course introduces Web Services and open industry standards such as SOAP, UDDI, and WSDL. On the course, participants will learn to add powerful Web Services capabilities to their Java and J2EE applications, including web services for Enterprise Java Beans. Participants will write simple Java Web Services for Apache Axis and use the Eclipse platform and Oracle JDeveloper 10g to develop, debug, and deploy J2EE Web services to two different J2EE web containers (Apache Tomcat and OC4J).

## Who Should Attend

Analyst/Designers
Java Developers

## Prerequisites

PC Fundamentals
Java Programming
Understanding of XML is useful
Understanding of J2EE technologies advantageous

## Duration

3 Days

## Course Contents

**Introduction**
Web services overview.
Service oriented architecture (SOA).
XML, SOAP, WSDL introduced.

**Web Services Foundations**
Installing AXIS.
Using Tomcat.
Using Eclipse & JDeveloper 10g
Web services platforms & dependencies.
Deploying a simple stateless RPC Web Service to AXIS.
Deployment to AXIS with WSDD.
Writing Java clients.
Simple Object Access Protocol (SOAP).
Message envelope, header, body
Monitoring SOAP messages.
Universal Description, Discovery, and Integration (UDDI).
Understanding UDDI registries.

**Describe Services with WSDL**
Generating Web Services Description Language (WSDL).
Role, anatomy of WSDL documents.
Understanding WSDL structure.
Generate client stubs from WSDL.
Defining datatypes and port bindings.

**Creating Synchronous Web Services**
Writing services using Java Remote Procedure Calls (RPC) using JAX-RPC.
Generate, package & deploy services.

**J2EE Web Services**
Web Services as a J2EE 1.4 standard.
Write, deploy & expose a POJO from a J2EE server.
Write, deploy & expose an EJB as a Web Service.
J2EE 5 web service support

**The Java Web Services Developer's Pack**
JWSDP APIs.
JAX-RPC web services.
Create and run clients.
Serialization - complex types as parameters using AXIS.

**Advanced Topics**
The Amazon Web Service (AWS).
Stateful web services.
Writing and deploying Handlers.
Asynchronous messaging as an alternative to RPC.
Document-centric Messaging.
ANT tasks for AXIS deployment.
Web services security options.
SOAP Security: non-repudiation, integrity, confidentiality.

**Looking to the Future**
The future of interoperability.
Problems and pitfalls of web service methodologies.
Document-centric messaging with AXIS2.
Apache AXIOM.