

# J2EE Web Services using RAD 7

**Length:**

5 days

**Description:**

This course presents an in-depth coverage of Web Services using Rational Software Developer (RAD) version 7.

**Course Objectives:**

Upon completion of this course, you will be able to:

- Understand the basics Web Services
- Create basic Web Services from Java Beans and WSDL
- Create a complete J2EE application
- Create a simple secure Web Service
- Understand the purpose and use of the various RAD functions and wizards

**Audience:**

The audience for this course is Java programmers. This course contains the material for developers interested in creating and maintaining Web Services written in Java using RAD 7.

**Course Content:****Chapter 1 - About this Course**

- 1.1 – Course Contents
- 1.2 – Overview
- 1.3 – Audience
- 1.4 - Course Objectives

**Chapter 2 - Web Services Overview**

- 2.1 – Topics
- 2.2 - Introduction
- 2.3 – What is a Web Service?
- 2.4 – Web Service Standards
- 2.5 – Implementing a Web Service
- 2.6 – Web Service Infrastructure
- 2.7 – Web Service Technologies
- 2.8 – Why Web Services?
- 2.9 – What is a Service Oriented Architecture?
- 2.10 – Services
- 2.11 – Connections
- 2.12 – SOA Technologies
- 2.13 – SOA Definitions
- 2.14 – Why SOA?

**Chapter 3 - Web Services Architecture**

- 3.1 – Topics
- 3.2 – Introduction
- 3.3 – Interoperability Stacks
- 3.4 – Industry Standards
- 3.5 – Web Service Scenarios
- 3.6 – Java Enterprise

## **Chapter 4 - Product Overview**

- 4.1 – Topics
- 4.2 - Introduction
- 4.3 – Rational Software Development Platform
- 4.4 – Product Versions
- 4.5 – Web Developer Versions
- 4.6 – Summary of New Features
- 4.7 – Specific Versions
- 4.8 – J2EE Specification Versions

## **Chapter 5 - Getting Started with RAD 7**

- 5.1 – Topics
- 5.2 – Workspace
- 5.3 – Workbench Preferences
- 5.4 – IDE
- 5.5 – Perspectives
- 5.6 – Views
- 5.7 – Editors
- 5.8 – Switching Perspectives
- 5.9 – Available Perspectives
- 5.10 – Projects
- 5.11 – Types of Projects
- 5.12 – Creating a New Project
- 5.13 – Project Properties

## **Chapter 6 - Create a New WAS 6.1 Server Profile**

- 6.1 – Topics
- 6.2 – The Problem
- 6.3 – Using the Profile Creation Wizard
- 6.4 – Add the New Server to RAD

## **Chapter 7 - Create a Simple SAAJ JAXM Web Service**

- 7.1 – Topics
- 7.2 – Introduction
- 7.3 – Create a new Project
- 7.4 – Create a new Package
- 7.5 – Create a new class
- 7.6 – Prepare for Deployment
- 7.7 – Create a Client
- 7.8 – Deploy
- 7.9 – Test

## **Chapter 8 - Create a Simple JAX-RPC Web Service**

- 8.1 – Topics
- 8.2 – Introduction
- 8.3 – Create a new Project
- 8.4 – Create a new Package
- 8.5 – Create a new class
- 8.6 – Run the Web Services Wizard
- 8.7 – Test
- 8.8 – Examine the Generated Files

## **Chapter 9 - SOAP**

- 9.1 – Topics

- 9.2 - Introduction
- 9.3 – Messaging Over the Web
- 9.4 – The SOAP Messaging Model
- 9.5 – Declaring and Using Namespaces
- 9.6 – SOAP Namespaces
- 9.7 – The SOAP Envelope
- 9.8 – The Message Header
- 9.9 – Header Entry Attributes
- 9.10 – The Message Body
- 9.11 – SOAP Over HTTP
- 9.12 – SOAP Over SMTP
- 9.13 – SOAP Over FTP
- 9.14 – Messaging Styles
- 9.15 –Data Encoding
- 9.16–Service Model vs. Encoding
- 9.17 –The encodingStyle Attribute
- 9.18 –The SOAP “Section 5” Encoding
- 9.19 – Encoding Arrays
- 9.20 – Attachments

### **Chapter 10 - WSDL**

- 10.1 – Topics
- 10.2 - Introduction
- 10.3 – The WSDL Specification
- 10.4 – Basic WSDL Example
- 10.5 – XML Schema Data Typing
- 10.6 – Complex Types

### **Chapter 11 - Create a SOAP with Attachments Web Service**

- 11.1 – Topics
- 11.2 - Introduction
- 11.3 – Create a new Project
- 11.4 – Create a new Folder
- 11.5 – Create a new WSDL File
- 11.6 – Run the Web Services Wizard
- 11.7 – Add Code to AttachmentIBMBindingImple
- 11.8 – Create a Handler Class
- 11.9 – Add the Handlers Class to webservices.xml
- 11.10 – Create a Client from a WSDL file
- 11.11 – Add a Test JSP
- 11.12 – Add the Attachments
- 11.13 – Test the Web Services

### **Chapter 12 - J2EE Web Services**

- 12.1 – Topics
- 12.2 – Introduction
- 12.3 – Web Service-Related J2EE Extensions
- 12.4 – The J2EE Web Service Client Programming Model
- 12.5 – The Web Service Server Programming Model
- 12.6 – Web Service-Related Deployment Descriptors
- 12.7 – Ease into Web Service Development with J2EE

### **Chapter 13 - Create a J2EE Web Service Application**

- 13.1 – Topics
- 13.2 - Introduction
- 13.3 – Create a new Project

- 13.4 – Create the Database
- 13.5 – Create the JNDI Name for the Database
- 13.6 – Create the DAO Pojo to Access the Database
- 13.7 – Create a Session Bean
- 13.8 – Generate the Web Service from the EJB
- 13.9 – Test the Web Service
- 13.10 – Create the Business Service
- 13.11 – Create the Business Delegate Web Service
- 13.12 – Test the Business Delegate Web Service
- 13.13 – Create the Client
- 13.14 – Create a JSP Client
- 13.15 – Test by running the JSP on the Server

#### **Chapter 14 - Web Services Security**

- 14.1 – Topics
- 14.2 – Introduction
- 14.3 – The Security Triad
- 14.4 – General WS-Security Model
- 14.5 – Details of WS-Security XML Encryption
- 14.6 – Real-world WS-Security Scenario
- 14.7 – WebSphere Application Server (WAS 6.1) support of WS-Security
- 14.8 – Customer WS-Security Scenarios

#### **Chapter 15 - Create a Secure Web Service**

- 15.1 – Topics
- 15.2 – Introduction
- 15.3 – Create a Simple Java Bean
- 15.4 – Create the Web Service from the Java Bean
- 15.5 – Test the Web Service
- 15.6 – Create Key Stores
- 15.7 – Create an SSL Configuration for the Server
- 15.8 – Create an SSL Configuration for the Client
- 15.9 – Modify the Web Container
- 15.10 – Configure the Web Service Client Deployment Descriptor
- 15.11 – Test