

New Features of RAD v7 for WSAD v5 Developers

Course Description: The course is designed to give information on numerous new features available from RAD 7. After taking the class, students will be able to fully take advantage of WAS v6 and RAD v7.

Who Should Attend: This course is for developers who are currently using WSAD v5.x and are planning to move to RAD 7.

Prerequisites: Previous knowledge of Servlet, JSP and EJB development using WebSphere Studio Application Developer (WSAD) is required.

Benefits of Attendance: Upon completion of this course, students will be able to:

- fully take advantage of WAS v6 and RAD v7

Course Outline:

Introduction to RAD v7.0

The RAD 7 Product
Eclipse Platform
Rational Web Developer
RAD
Key Features in RAD v7.0
Views, Perspective, and Editor Areas
Basic Operations with RAD Views and Perspectives
The Java Perspective
The Debug Perspective
Navigator and Outline View
Package Explorer
Task and Problems View
Build and Validation
Import and Export Project
Code Completion, Templates and Snippets
Searching
Setup Compiler Class Path
JRE Switching
Refactoring
Changing Class, Method, and Variable Name
Moving a Class to a Different Package
Extracting Code to a Method
Pull Up and Push Down Methods
Migrating Workspace from RAD v6
Project Interchange
Migrating J2EE Applications
J2EE Migration Wizard

J2EE Tools

Project Explorer
Servers View
The J2EE and Web Perspective
Create an Enterprise App.
Setup Utility JAR
Create an EJB Project
Create a Web Project
Setup Dependent JAR Files
Create Server Instance and Server Configuration
Configure Server Instance
Add an Enterprise App. Proj. to the Test Server
Start and Stop the Server
Test and Debug a Servlet
Test and Debug a JSP

JDK 1.4 Features

JDK 1.4 New Features
Control Flow of Logging
Loggers
Logging API - Handlers
Logging API Formatters & Log Manager
JDK 1.4 - JAXP
JDK 1.4

JDK 1.4 - Assertions

New Features of Java SE 5

Generics - defined
Multiple Parameter Example
Using SampleGeneric
Using Multiple Parameters
Using Point
Java SE 5 Collection Interfaces
Using generics with Collection classes
Benefits of Generics
Advanced LinkedList Example
Generic Methods
Generic Methods Continued
Boxing and Unboxing
Autoboxing/unboxing
Enhanced for loop
Enhanced for loop in Generics
Enumeration data type
Enums in Java 5.0
Advanced Enums Reverse Lookup
Variable-length argument Lists

Web Application API Changes

Develop a Servlet in RAD
Create a Servlet
Run a Servlet in RAD
Servlet 2.4
New Methods of ServletRequest
SingleThreadModel
RequestDispatcher
Internationalization
Web.xml
Schema for Web.xml
Listeners
ServletRequestListener
ServletRequestEvent
ServletRequestAttributeListener
ServletRequestAttributeEvent
Simple Tag Handler API
Java Simple Tag Handler
The Tag Library Descriptor
JSP Page Using the Custom Action
Working With the Tag Body
JSP Tag Handler
Example: customer.tag File
JSP File Using Custom Tag
Working With the Body
Advantages of Using Tag Files

JSP Expression Language and STL

JSP Expression Language
Basic Usage
Built-in Objects
Working With Arrays and Maps
Operators
JSP STL (JSTL 1.1)

Run Time Version (JSTL 1.0)
Basic, Condition, and Iterator Tags
Internationalization (I18N)
Setting Preferred Locale
Specifying Resource Bundle
Display Translated Text
Display Number and Date, and Result
JDBC Tags
Specify Data Source
Performing a Query

EJB 2.1 Changes

Service Endpoint Interface
Other JAX RPC Artifacts
Developing a JAX RPC Web Services in RAD 6
JAX RPC Client programming Model
Container-Managed Timer Service
EJB Timer Service
Interaction between Timer Service and EJB
Timer Service API
Timer Service Interface
TimedObject Interface
Timer Interfaces
Timer and Transaction
Limitations of EJB Timer Service
EJB QL Enhancements
Annotation Based EJB Development
Annotation Scope
The @ejb.bean, @ejb.home, and @ejb.interface Tags
The @ejb.interface-method Tag
Annotation Based EJB Development
Create an Annotated Bean Class
Enhanced EAR File
Enhanced EAR File Editor
Deployment Descriptor Of An Enterprise File
Exporting an Enterprise Application into an EAR File
Exporting an Enterprise Application

Test-Driven Development with JUnit

Component Testing
Testing Frameworks
JUnit
JUnit TestCase
Assert Statements
TestSuite and TestRunners
JUnit in RAD
Add junit.jar Manually
JUnit in RAD
Component, EJB, and Web Service Testing

Application Profiling

Profiling Tool
Profiling Architecture
Profiling Sets (3)
Enable Profiling and Logging
Profiling a Java Class
Configure Profiling Criteria
Profiling Monitor View
Memory Usage Profiling
Memory Leak Analysis
Transaction-Oriented Memory Leak Analysis
Starting a server in profiling mode
Agent Controller and profiling mode
Collecting object references
Object Reference Table
Execution Flow View
Identify Performance Bottlenecks
Method Invocation Details view
Thread Analysis
Execution Flow - Threads
UML2 Trace Interaction view

Code Review

Rule
Rule Severity Level
Information on a Rule
Analysis Configurations
Configuring Code Reviews and Review Rules
Create User Defined Rule
Select a Template Window
Rule Properties
Perform Automated Code Review
Run Code Review
Code Review Details
Quick Fixes

Code Coverage

Code Coverage Displays Coverage, Package, and Class Statistics
Method Invocation View
Method Invocation Details
Method Invocation Details view
Code Coverage Statistics view
Coverage Statistics View

WebSphere Programming Model Exts. 1

Startup Bean
Creating a Startup Bean
Methods for Startup Beans
Enable Startup Bean Service
Asynchronous Beans
Transactions in Async. Beans
Work Managers
Work Manager Properties
Work Manager Screen
Using a Work Object

Scheduler Service
Configuring Schedulers
Admin Console Configuration
Scheduler Configuration
Scheduler Tasks
Developing Scheduler Clients
Create a Task Handler EJB
Create a Scheduler Bean
Create a Process() Method in an Session Bean
Create an EJB Task
Create a JMS Message Task

WebSphere Programming Model Exts. 2

Work Area
Work Area Service
Work Area Service Settings
UserWorkArea Interface
Work Area Property Modes
Work Area Considerations
Bidirectional Work Areas
Nested Work Areas
Using Work Areas
Completing Work Areas
Object Pool
Object Pool Manager
ObjectPoolManager and ObjectPool Interfaces
Object Pool Service Settings
Configure Object Pool Manager
Custom Object Pools
Sample Code
Application Profile
Access Intent
Application Profile
Unit of Work
Enable Application Profiling

Dynamic Caching for Web Apps.

Configuring Dynamic Cache
How Caching Works
Structure of cachespec.xml
URL Based Caching
Session Based Cache
Cache Priority
Configuring Cache Manager
ESI Cache