

Custom

TRAINING INSTITUTE

Java Programming Using WebSphere 6.0 and Rational Application Developer (5 Days)

Custom Training Institute

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Java Programming Using WebSphere 6.0 and Rational Application Developer (CTI224)

Java is an object-oriented programming language specifically created for developing applications that will run on a LAN or the Internet. IBM's Rational Application Developer (RAD) provides a graphical environment for productive writing, testing, and debugging of Java applications, and IBM's WebSphere Application Server 6.0 (WSAS) provides an environment for deploying Java applications. Students will learn to use RAD to write standalone and LAN-based Java applications and applets and how to use WSAS to deploy those applications and applets.

Prerequisites: Prior programming experience with any procedural or object-oriented language. Experience with SQL or other GUI IDEs is helpful.

Minimum software requirements: Microsoft Windows XP Pro SP2 or Windows 2000 or later. IBM Rational Application Developer (RAD). IBM WebSphere Application Server (WSAS) 6.0 or later. Personal DB2 or equivalent relational database. Java-compatible browser.

Minimum hardware requirements: Pentium at 800 MHz, 512 Mb RAM; 5Gb free hard disk space before installation. Classroom machines should be networked. Internet access.

Microsoft PowerPoint on instructor's workstation for presentation purposes.

Module 1: Introduction and Overview

- Benefits and Features of Java
- The Java Virtual Machine
- Java's Core Packages
- The Java Developer's Kit
- Applets vs. Applications
- Object References
- Variables and Arrays
- Methods: Java's Functions
- Control Flow

Module 2: Object-Oriented Programming (OOP) in Java

- Abstraction
- Inheritance
- Interfaces
- Encapsulation
- Scope Modifiers
- Polymorphism
- Method Overloading

Module 3: Packages

- What are Packages
- Lifecycle of a Java Object
- Memory Management and Garbage Collection
- The lang Package
- The util Package
- The net Package
- The awt Package
- The io Package
- The applet Package
- Applets and HTML
- Events in the Lifetime of an Applet

Module 4: AWT and JFC

- How the AWT Works
- JFC Lightweight Framework
- Components and Containers
- Layout Managers
- Delegation Event Model
- Pluggable Look and Feel

Module 5: File I/O

- Files and Streams
- Standard Input and Output
- DataInput and DataOutput
- Random Access Files
- Networking I/O

Module 6: Object Serialization

- Object Streams
- Serializable Interface
- Protecting Data from Serialization
- Versioning

**Java Programming
Using WebSphere
6.0 and Rational
Application
Developer (CT1224) -
continued**

Module 7: Threads and Exception

Handling

- Multithreading
- Creating Threads
- The Error and Exception Hierarchy
- Throwing Exceptions
- Handling Runtime Exceptions
- The ThreadDeath Error

Module 8: Networking Java Applications

- Using Java to Network Applications
- Applets vs. Standalone Programs
- The URL class
- Sockets and `ServerSockets`
- Implementing a TCP/IP Server
- Protocol and Content Handlers

Module 9: Database Connectivity

- JDBC and How It Works
- Database Access Methods
- The DriverManager Class
- Database Connection URL
- Drivers and JDBC Architecture
- Connection and Statement Interfaces
- ResultSets and Data Manipulation

Module 10: Review and Summary