

J2SE™ Platform 5.0 for the Developer: Language Changes (SEM-DTJ-2762, 1 day)



COURSE DESCRIPTION

The J2SE™ Platform 5.0 for the Developer: Language Changes course provides students with a detailed look at the critical new features in Java™ 2 Platform, Standard Edition (J2SE™ platform) 5.0. The course topics include generics, the enhanced for loop, autoboxing and auto-unboxing, typesafe enumerators (enums), variable arguments (varargs), static imports, annotations (metadata modifiers), formatted input and output (I/O), and concurrency.

WHO CAN BENEFIT

Students who can benefit from this lecture series are Sun Professional Services consultants and architects, Sun product technical services engineers, Sun Java™ programmers, Sun Global Sales Organization (GSO) sales specialists, sales engineers, technical support engineers, and other Java™ developers.

PREREQUISITES

To succeed fully in this course, students should be able to:

- Understand the fundamentals of the Java programming language
- Understand the principles of object-oriented programming

SKILLS GAINED

- Upon completion of this course, students should be able to understand and
- Identify eight new features in J2SE platform 5.0 including language features and other features.

RELATED COURSES

Before:

SL-265: Java™ Technology for Structured Programmers

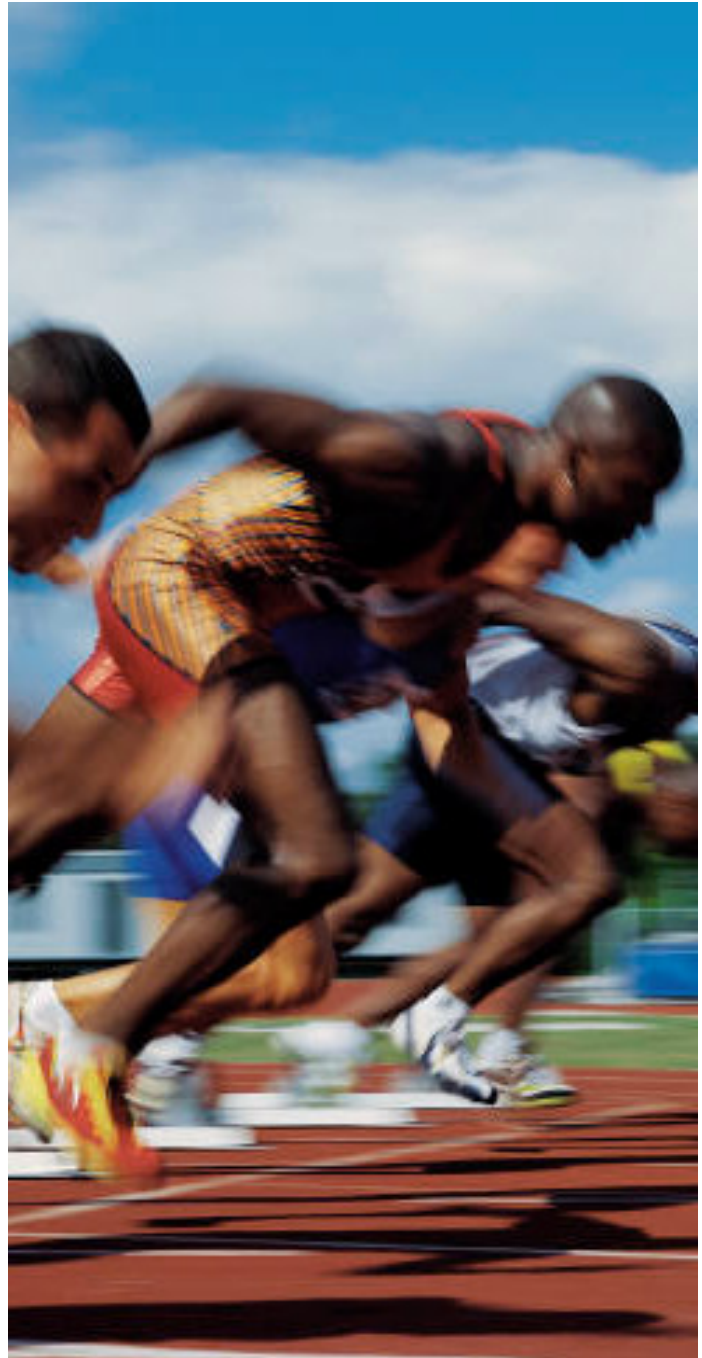
SL-275: Java™ Programming Language

WJB-275: Java™ Programming Language

After:

SL-285: Java™ Programming Language Workshop

WJTB-310: Java™ 2 Platform, Enterprise Edition (J2EE™) Platform



REGISTRATION AND INFORMATION

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COURSE OUTLINE

Module 1 - Overview

- Describe the J2SE platform 5.0 language enhancements
- Describe the new tools available in J2SE platform 5.0
- Describe changes to the core libraries

Module 2 - Generics

- Compare and contrast generic and non-generic collections
- Use the generic version of the Collections API
- Use generics with wildcards
- Write generic methods
- Integrate legacy (non-generic) code with generic code

Module 3 - Enhanced for Loop

- Use the enhanced for loop with generics
- Use the enhanced for loop with arrays
- Understand nested iterations with the enhanced for loop

Module 4 - Autoboxing

- Describe manual boxing/unboxing and autoboxing/autounboxing
- Use autoboxing with generics and the enhanced for loop

Module 5 - Typesafe Enums

- Describe a common enumerated type pattern before J2SE platform 5.0 and the problems involved
- Create a simple enum
- Create an enum with attributes and constructors
- Create an enum with value-specific methods

Module 6 - The Variable Arguments Feature (Varargs)

- Describe the issues with variable-argument methods before J2SE platform 5.0
- Use variable argument methods
- Create variable argument methods

Module 7 - Static Import

- Describe the purpose of static imports
- Use static imports with constants (static attributes), static methods, and enums

Module 8 - Annotations

- Compare annotations before J2SE platform 5.0 with the new annotations
- Use built-in annotations
- Create your own annotation type
- Use your own annotation type in source code
- Use your own annotation type at runtime
- Describe the Annotation Processing Tool (apt)

Module 9 - Formatted Library

- Use the PrintWriter format and printf methods in the program
- Use the Scanner API
- Use the Scanner API with regular expressions

Module 10 - Concurrency Library

- Compare the concurrency utilities before J2SE platform 5.0 with the new concurrency utilities
- Use an Executor or ExecutorService for thread management
- Use Futures and Callables for asynchronous computation
- Use locks and conditions as an improvement over the wait and notify methods
- Use atomic variables as an improvement over volatile variables

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