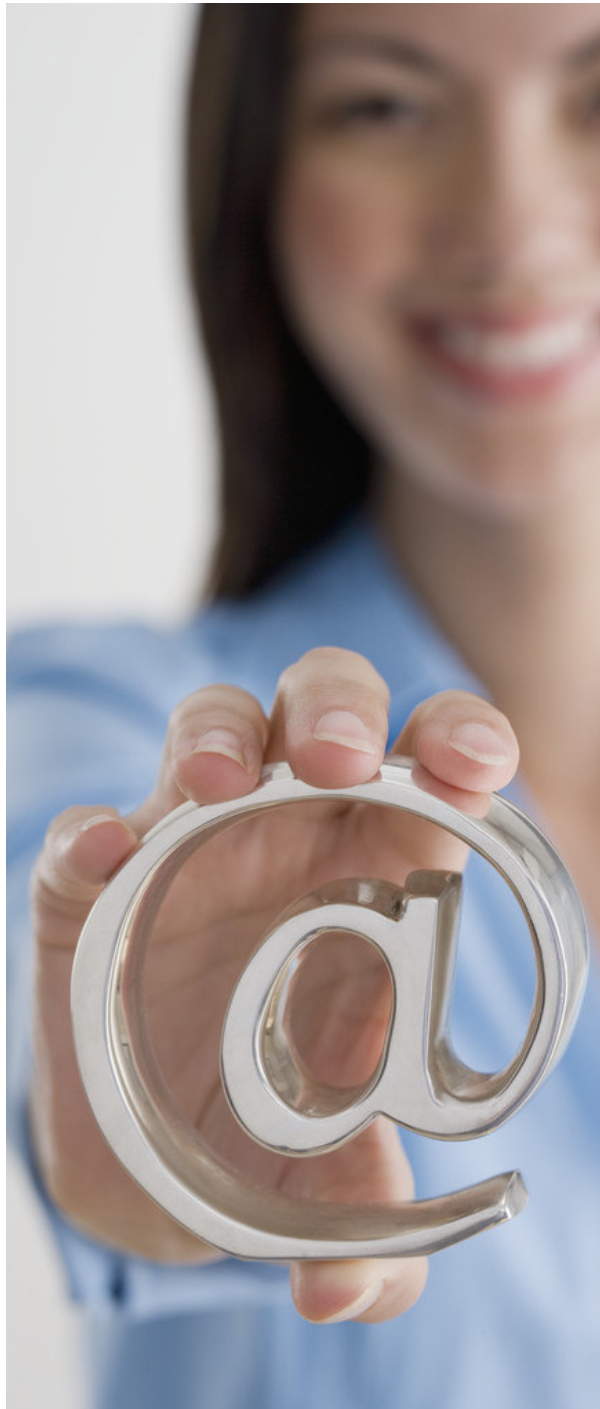


Java Optimization for J2SE

MIE-OPTZ-J2SE @ 2 days



Exclusively delivered by
ECS Training Division



Synopsis

How to optimize your Java programs so that they're faster, smaller and more maintainable? These areas of concerns will be tackled accordingly in this course.

This course is for participants who are involved in Java coding. It is also for those who had completed Java programming courses & seeking to optimize the efficiency of the codes written down to the level of syntax.

With this upgraded skill set mastered in this course, student can universally applied them to various versions of Java Software Development.

Who Can Benefit

Students who can benefit from this course are programmers who are interested in optimization of Java programming language.

Prerequisites

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

- Understand object-oriented principles
- Completed the SL-275: Sun Java Programming course and have created and compiled Java programs
- Create and edit text files using a text editor

Skills Gained

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

- Understand the concepts behind optimization
- Analyze and perform J2SE optimization
- Understand how the java compiler optimization works with JVM specs
- Profiling your java application by using "java -prof" option
- Analyse between good & bad coding (with example)
- Java performance tuning tips when using API Collection

Related Courses

- Before: SL-275: Sun Java™ Programming Language
- After: FJ-310: Developing J2EE™ Compliant Applications
- After: Java Optimization for J2EE <New!>



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REGISTRATION AND INFORMATION

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Course Outline

What Is Code Optimization?

The optimization lore

Optimization with JDK Compiler

Types of Code Optimizations

Analysis

- Variable accesses
- Data types:
- Objects and methods
- Just-in-time vs interpreted:
- Loop invariant code motion:
- Common subexpression elimination:
- Strength reduction:

Maintainability

- Use good tools:
- Coding standards:
- No fancy tricks:
- No assumptions:
- Documentation:
- Avoid gray areas:
- Avoid incompatible code:

Size

- Use JAR files:
- Don't reinvent API classes:
- Exploit inheritance:
- Turn on compiler optimization:
- Separate out common code:
- Don't initialize big arrays:
- Dates are big (not just broken)
- Put static final constants in interfaces:
- Watch for string concatenation:

Speed

- Exploiting multiprocessors
- Input/output
- Synchronization
- The costs of Strings
- Using API classes
- Know your switches
- Reusing objects
- Exceptions ; Methods

Costs of Common Operations

- Understanding the cost of common operations
- Describing on the cost of common Java operations on various systems
- Example of common conversion between string and number

Optimization techniques in Lists (API Collection)

- Describing performance issues with different types of operations like, adding objects, removing objects, etc into the API Collection of type List

Optimization techniques in Set (API Collection)

- Describing performance issues with different types of operations like, adding objects, removing objects, etc into the API Collection of type Set

What is Performance Tuning of the Operating System

- Getting to understand what is the "normal" behavioral pattern of the Operating System

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