

Java 6 Performance Tuning (TT3110-J6)

Length: 2 days

Description

Students who attend Java 6 Performance Tuning will leave this course armed with the required skills to improve their Java applications using sound coding techniques and best practices.

Audience

Programmers with prior practical Java development experience

Prerequisite

This is an intermediate and beyond- level Java course, designed for **experienced** Java developers who wish to get up and running with advanced skills immediately. This is a hands-on programming class.

Topics

WRITING HIGH PERFORMANCE APPLICATIONS

- Performance: Process and Issues
- Architecture of the JVM
- Memory Management Issues
- CPU Performance Issues
- Threading Issues
- Profiling and Benchmarking
- Determining What to Profile
- Determining What to Tune
- Profiling Tools
- Tactical vs. Strategic Optimization
- Code Optimization Techniques
- Design Optimization Techniques
- Impact of Exceptions
- Impact of Reflection
- Using Profilers
- Applying Code Optimization
- Applying Design Optimization

EFFECTIVE JAVA

- Creating and Destroying Objects
- Factory Methods
- Impact of Finalizers
- Methods Common to Most Objects
- Classes and Interfaces
- Immutability

- Composition vs. Inheritance
- Exceptions
- Managing Exceptions Efficiently
- Threads
- Impact of Synchronization
- Threading Constructs to Avoid
- Serialization
- Impact of readObject()

DATA STRUCTURES

- Efficient Strings and Arrays
- String Alternatives
- Array Copying
- Introduction to Algorithmic Analysis
- Efficient Use of Collections
- Choosing a Collection
- Tuning Collection Constructors
- Using Collection Algorithms
- Writing a Collection
- Security

SPECIAL TOPICS: J2EE TUNING (OPTIONAL)

- The Performance Tuning Guide
- Basic Tuning Principles and Concepts
- Establishing Performance Bounds
- Server Tuning Options