

Training: Capstone Courseware
105 Migrating to Java 8

TRAINING GOALS:

Version 8.0

This course shows **Java-6** developers the new language features in **Java 7** and **Java 8** -- and more importantly illustrates best programming practices as they've been affected by these new features. This is an accelerated course that assumes long experience with earlier versions of Java. Students will leave familiar with various new bits of syntax, and also with an understanding of the exciting new options they have for API design and general-purpose **Java 8 coding**.

For those developers who need to cover more ground, this version of the course can be combined with an earlier version that introduces new features in Java 5 and Java 6.

This revision of the course targets the Java 8 language and Core API.

Learning Objectives

- Take advantage of Java-7 features including strings in switch/case and auto-selection of type parameters for generics.
- Use "try-with-resources" for simpler cleanup.
- Use Java as a functional language, making appropriate choices of tools including inner classes, functional interfaces, method references, and lambda expressions.
- Use the Stream API for efficient processing of data sets.
- Use the Time API to manage local dates and times effectively.

CONSPECT:

- New Features in Java 7
 - Binary Literals
 - Integer Literals with Underscores
 - String Types in switch/case
 - Auto-Detection of Type Parameters
 - Try-with-Resources
 - Multiple Exceptions in catch
- New Features in Java 8

- Functional Programming
 - Passing Behavior as a Parameter
 - Inner Classes
 - Functional Interfaces
 - Built-In Functional Interfaces
 - Lambda Expressions
 - Scope and Visibility
 - Deferred Execution
 - Method References
 - Creational Methods
 - Designing for Functional Programming
 - Default Methods
- Streams
 - The Stream Processing Model
 - Streams
 - Relationship to Collections
 - Advantages and Disadvantages
 - Iterating, Filtering, and Mapping
 - Primitive-Type Streams
 - Aggregate Functions and Statistics
 - Sorting
 - Generating, Limiting, and Reducing
 - Finding and Matching
 - Grouping
 - Flattening and Traversing
 - Sequential vs. Parallel Processing
- The Time API
 - A History of Time ... in Java
 - Limitations of Date and Calendar
 - The Time API
 - Temporal Types
 - Accessors and Adjusters
 - Formatting
 - Decomposition Into Fields
 - Date Arithmetic
 - Managing Precision

- Duration and Period
- Time Zones and Offsets
- Converting Between Time Zones

REQUIREMENTS:

Solid experience with **Java programming** at the **Java-5** or **Java-6** level is essential.

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by Capstone Courseware.

TRAINER:

Authorized Capstone Courseware Trainer.