

Hands-on course , 3
day(s)
Ref : JVA

Participants

Java designers, developers,
and project managers who
want to learn about the new
features of Java 8

Pre-requisites

Working in Java development,
knowledge of Java 5, 6, or 7
and basics of JavaScript.

Next sessions

Java 8: Learning new features through practice

This course will enable you to understand and practice the new features of Java version 8. You'll learn about lambda expressions and the possibilities offered by functional programming. You'll learn how to get JavaScript code to interact with Java code and discover new APIs.

OBJECTIVES

Use lambda expressions
Make use of the possibilities offered by functional programming.
Use JavaScript codes from Java 8
Learn the new date and time management API

[1\) Overview of what's new in Java 8](#)

[2\) Lambda expressions](#)

[3\) Advanced functional programming](#)

[4\) Java 8 Nashorn](#)

[5\) New Date and Time API](#)

[6\) Other new features](#)

1) Overview of what's new in Java 8

- General view of additions: 195 new entities (classes, interfaces, etc.).
- Lambda expressions.
- Writing SQL code in Java 8 code.
- Default implementations of interfaces and @FunctionalInterface, new annotations.
- Upgrades to streams.
- The new date and time management API.
- Upgrades to the APIs java.lang, java.util, java.net, etc.
- The ability to run JavaScript code with Java 8 Nashorn.

Workshop

Verifying that JDK 8 has been installed (tools, javadoc, etc.).

2) Lambda expressions

- Notion of embedded anonymous classes, improvements made by the lambda expression concept.
- Syntactical aspects (declaration, implementation, passing parameters, range of variables, etc.)
- The concept of a "functor" through "functional" interfaces and the java.util.function package.
- Using lambda-expressions to work with collections.
- Contributions in writing SQ code. Listeners...

Workshop

Discovering lambda-expressions.

3) Advanced functional programming

- The use of @FunctionalInterface.
- Functional interfaces provided by JDK 8.
- Predicate, Function, Supplier, Consumer, etc.
- References to methods and constructors.

Workshop

Implementing advanced aspects

4) Java 8 Nashorn

- JavaScript within Java? From Rhino in Java 7 to Oracle Nashorn, the ECMAScript-262 engine of Java 8.
- Using the jjs command line.
- Calling JavaScript code from a Java application, either directly or with a separate .js file.
- Calling Java code from a JavaScript script.

Workshop

JavaScript calls from Java.

5) New Date and Time API

- The difficulties caused by the Date and GregorianCalendar APIs, the JodaTime alternative, and JSR 310.
- The concepts of machine time and human time, the basic principles of the new API.
- Machine time management with java.time.Instant and java.time.Duration.
- Human time with java.time.LocalDate, java.time.LocalDateTime, java.time.LocalTime.

Workshop

Using the new date and time management API.

6) Other new features

- The new streams.

- Map-reduce.

Workshop

Implementing new features.