

# Java 8: Learning new features through practice

Hands-on course of 3 days - 21h

Ref.: JVA - Price 2024: €1 870 (excl. taxes)

## EDUCATIONAL OBJECTIVES

At the end of the training, the trainee will be able to:

- 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

## THE PROGRAMME

last updated: 01/2018

### 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.

*Hands-on work* : 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...

*Hands-on work* : 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.

*Hands-on work* : 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.

*Hands-on work* : JavaScript calls from Java.

#### TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

#### ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more. Participants also complete a placement test before and after the course to measure the skills they've developed.

#### TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

#### TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

#### ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at [psh-accueil@ORSYS.fr](mailto:psh-accueil@ORSYS.fr) to review your request and its feasibility.

## 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.LocalTime, java.time.LocalDateTime.

*Hands-on work : Using the new date and time management API.*

## 6) Other new features

- The new streams.
- Map-reduce.

*Hands-on work : Implementing new features.*

# DATES

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Contact us