

# Course : Java expert, language advances from Java 5 to today

Practical course - 4d - 28h00 - Ref. JJK

Price : 2470 CHF E.T.

★★★★☆ 4,3 / 5

The java language and its environment first appeared around twenty years ago, and have been enriched over time, evolving considerably since the first versions. This training course presents in detail these evolutions concerning the language itself, the JVM and some common packages.

## Teaching objectives

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

- ✓ Master the new syntax and semantics introduced from Java 5 to the present day
- ✓ Give an overview of the evolution of the JVM
- ✓ Provide an overview of the evolution of some key packages

## Intended audience

Developers, software architects, project managers.

## Prerequisites

Good knowledge of basic Java (up to 1.4).

## Course schedule

### 1 Developments in readability and concise language

- Some syntactic language extensions.
- Default methods.
- Static methods in interface.
- Representation of numerical constants.

### Hands-on work

Simplify/generalize an existing program using java's new syntax.

### PARTICIPANTS

Developers, software architects, project managers.

### PREREQUISITES

Good knowledge of basic Java (up to 1.4).

### 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.

## 2 Changes in language typing

- Autoboxing/unboxing.
- Generics.
- Enumerated types.
- Type inference.

### Hands-on work

Advanced handling of generics and enums.

## 3 The introduction of functional programming

- Functional interfaces.
- Predefined functional interface libraries.
- Lambda expressions.
- Java streams 8.

### Hands-on work

Creating/using lambda expressions and streams.

## 4 The introduction of modularity

- Modules.
- Accessibility vs. legibility.
- The evolution of class loading.
- Developments in metaprogramming.

### Hands-on work

Building a modular application. Migration to module support.

## 5 Thread model evolutions

- The introduction of Callable<T>, Future<T> and ExecutorService.
- The fork/join model.
- New synchronization classes.

### Hands-on work

Implementing multithreaded concepts in a simple application

## 6 The evolution of the JVM

- Compilation.
- The Garbage Collector.
- Class loading.
- Time and date management.

## Dates and locations

### REMOTE CLASS

2026 : 21 Apr., 23 June, 25 Aug., 27 Oct., 15 Dec.

### 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 to review your request and its feasibility.