



## Java SE: Programming II

Oracle - Java & Dev

- **Nível:**
  - **Duração:** 30h
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### Sobre o curso

This is a second-level course for programmers learning the Java language. It rounds-out the topics that were taught in [Java SE: Programming I](#), and provides additional key skills for Java programmers, such as secure coding, modular programming, and database access.

This course uses today's main Java version for its practices (currently Java 11).

### Objetivos

- Create Java applications that leverage the object-oriented features of the Java language, such as encapsulation, inheritance, and polymorphism
  - Execute a Java application from the command line
  - Create applications that use the Java Collections framework
  - Search and filter collections using Lambda Expressions
  - Implement error-handling techniques using exception handling
  - Implement input/output (I/O) functionality to read from and write to data and text files
  - Manipulate files, directories and file systems using the JDK NIO.2 specification
  - Perform multiple operations on database tables, including creating, reading, updating and deleting using both JDBC and JPA technology
  - Use Lambda Expression concurrency features
  - Apply modular programming practices and services to applications
  - Create high-performing multi-threaded applications
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### Destinatários

- Data Scientist
- Developer

- Implementer
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## Pré-requisitos

### Required Prerequisite

- [Java SE: Programming I](#)
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## Programa

- Functional Programming
- Modular Programming
- Streams and Parallel Streams
- Java API Programming and Secure Coding Concepts
- Collections and Generics
- Exception Handling and Assertions

### Functional Programming

- Functional Interfaces and Lambda Expressions
- Collections Streams, and Filters
- Built-in Functional Interfaces

### Modular Programming

- Introduction to Modular Programming in Java
- Services in a Modular Application
- Migration to a Modular Application

### Streams and Parallel Streams

- Concurrency
- Parallel Streams
- Terminal Operations: Collectors
- Creating Custom Streams

### Java API Programming and Secure Coding Concepts

- I/O (Fundamentals and NIO2)
- Secure Coding
- Database Applications with JDBC

- Localization

## **Collections and Generics**

- What is the Collections Framework?
- Iterators
- Type-Wrapper Classes
- What are Generics?

## **Exception Handling and Assertions**

- Exceptions
- Error handling
- Assertions