

# JAVA SE 8: FUNDAMENTALS

Oracle Certified Associate, Java SE  
8 Programmer



## Introduction

This Java SE 8 Fundamentals training introduces you to object-oriented programming using the Java language. Through hands-on exercises, you'll begin to build a baseline of knowledge to propel your career in development.

Fully updated for Java Platform, Standard Edition 8 (Java SE 8), this course, gets you started programming in Java right away. The course begins with the basics, such as how to create, compile, and run a Java program. Then moves on to the keywords, syntax, and constructs that form the core of the Java language.

In all, you will get more than 200 practice questions that mirror those on the actual test in content, tone, and format. Beyond fully preparing you for the challenging exam, the course also serves as an ideal on-the-job reference.



## Course Content:

- Declarations
- Access control
- Object orientation
- Assignments
- Operators and Flow control
- Exceptions
- Strings, Arrays and ArrayLists

## Electronic content includes:

- This course contains:
  - 200+ practice exam questions
  - Fully customizable test engine
  - Electronic copy of secured book PDF "Java Programmer I Exam Guide"

## Course Objectives

- Write Java code that uses variables, arrays, conditional and loop constructs
- Manipulate primitive numeric data and string data using Java operators
- Create Java classes and use object references
- Access the fields and methods of an object
- Manipulate text data using the methods of the String and StringBuilder classes
- Use casting without losing precision or causing errors
- Declare, override, and invoke methods
- Access and create static fields and methods
- Use classes from the java.time and java.time.format packages to format and print the local date and time
- Encapsulate a class using access modifiers and overloaded constructors
- Define and implement a simple class hierarchy
- Demonstrate polymorphism by implementing a Java Interface
- Use a Predicate Lambda expression as the argument to a method
- Handle a checked exception in a Java application

## Audience

- Application Developers
- Developers
- Project Manager
- System Administrator
- Team Leader
- Technical Administrator
- Technical Consultant

## Course Duration

- 40 hours

## Learn To:

- Use Java programming language constructs to create a Java technology application.
- Use decision and looping constructs and methods to dictate program flow.
- Understand basic object-oriented concepts such as inheritance, encapsulation, and abstraction.
- Use and manipulate object references, and to write simple error handling code.
- Use the new SE 8 java.time and java.time.format packages to format and print the local date and time.
- Specify a data modification by passing a predicate lambda expression to the Collections class.

## Benefits to You

- By enrolling in this course, you'll expand your knowledge of Java SE 8, while building your Java skill set.
- You'll build a solid basis in the Java programming language upon which to base continued work and training.

## Course Content

### Module 1: What Is a Java Program?

- Introduction to Computer Programs
- Key Features of the Java Language
- The Java Technology and Development Environment
- Running/testing a Java program

### Module 2: Creating a Java Main Class

- Java Classes
- The main Method

### Module 3: Variables

- Introducing variables
- Working with Strings
- Working with numbers
- Manipulating numeric data

### Module 4: Declarations and Access Control

- Java Refresher
- Features and Benefits of Java
- Identifiers and Keywords
- Define Classes
- Use Interfaces
- Declare Class Members
- Declare and Use Enums

### Module 5: Object Orientation

- Encapsulation
- Inheritance and Polymorphism
- Polymorphism
- Overriding/Overloading
- Casting
- Implementing and Interface
- Legal Return Types
- Constructors and Instantiation
- Initialization Blocks
- Statics

### Module 6: Assignments

- Stack and Heap
- Literals, Assignments, and Variables
- Scope
- Variable Initialization
- Passing Variables into Methods
- Garbage Collection

### Module 7: Operators

Java Operators

### Module 8: Flow Control and Exceptions

- Using if and switch Statements
  - Creating Loops Constructs
  - Handling Exceptions
- Common Exceptions and Errors

### Module 9: Strings, Arrays, ArrayLists, Dates and Lambdas

- Using String and StringBuilder
- Working with Calendar Data
- Using Arrays
- Using ArrayLists and Wrappers
- Advanced Encapsulation
- Using Simple Lambdas