

Java Fundamentals

Duration: 4 days

Course Overview

Java is a widely used cross platform language with many classes available which makes it easy to implement almost any feature or functionality you can imagine. Java has the development tools you need available for free, such as IntelliJ and Eclipse which are powerful, easy to use, integrated development environments (IDE). This course includes exercises using some or all of those tools.

Who should attend?

- Test Analysts
- Test Engineers
- Developers

Prerequisites & pre-reading guidelines

- Have a basic understanding of programming concepts
- Exhibit the ability to solve logical problems.
- Good internet connection
- Ability to download and install files

How certification is earned

Upon completion of the course the delegate will receive an Expleo certificate.

Course Objectives

By the end of the course attendees, through instructor-led online presentations and exercises, will be able to:

- Use Java programming language constructs to create a Java 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 write simple error handling code
- Use the SE 8 `java.time` and `java.time.format` package to format and print the local date and time

Context

Java fundamentals training is for those who are new to Java or object orientated programming including decision and looping constructs, inheritance, encapsulation, and abstraction.

Related courses

- Linux Essentials
- Using Selenium In CSharp With Workshop
- Using Cucumber With Selenium
- Using Selenium With Workshop

Course Outline

Getting Started

- Describe basic and object-oriented programming concepts
- Describe the Java platform and identify types of Java programs
- Install and configure the Java SDK
- Write a simple Java program and add comments

Data Types

- Use constants and variables
- Use various data types

Methods, Classes, Objects

- Create and use methods
- Create classes and instantiate objects from classes

OOP Concepts

- Define blocks and scope of a variable
- Overload method and constructors
- Work with constants
- Use prewritten imported methods and Gregorian calendars

Input Selection

- Accept keyboard input
- Draw flowcharts and make decisions by using if...else and switch statements
- Use AND, OR, conditional, and NOT operators, and their order of precedence

Loops

- Use while...do and do...while loops, and discuss shortcut arithmetic operators
- Use for and nested loops

Characters and Strings

- Have an understanding of how to manipulate Char, String and StringBuffer

Arrays

- Declare and initialize an array
- Declare and create an array of objects
- Search an array for an exact match or a range of values

Array Manipulation

- Pass arrays to methods, use the length field, and create an array of strings
- Sort arrays
- Create two-dimensional and multidimensional arrays

Introduction to Inheritance

- Implement interfaces and extend classes
- Override superclass methods
- Use information hiding and protection

Advanced Inheritance

- Create abstract classes and use dynamic method binding
- Create an array of objects and compare objects. Object as base class
- Create interfaces and packages

Exceptions

- Throw and catch exceptions
- Specify and handle exceptions
- Trace and create your own exceptions

Contact

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