

# Java Beginner (Covering OCA)

This Beginner Java Training Course will give you the fundamentals of the Java Programming Language with an emphasis on OO. This course is aligned with the Oracle Certified Associate in Java Programming Certification.

## Prerequisites / Further Training

You should not be a complete beginner for this course. If you cannot [pass this test](#), you must do [Intro To Programming](#) Course first.

## Alignment

OCA: Oracle Certified Associate Java SE 8 Fundamentals Exam 1Z0-808

## Intended Audience

- Intended for people who have some knowledge of programming and want to learn Java and OO
- **NB:** This is NOT an [Introduction to Programming](#) course.

## After this course, you should be able to

- Have a good understanding of programming and the building blocks of an OO programming language, with an emphasis on JAVA. Prepare for Oracle OCA Exam 1Z0-803
- 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.
- Proceed to practical training that assumes 00 knowledge like [Advanced Java](#), [Angular](#), [React](#) and more

## Course Material

Course Material Provided

## Course Contents

### Day 1

#### Introducing Java Technology

- Breaking the Surface
- The way Java works
- Code Structure in Java
- Anatomy of a class
- The main() method
- Netbeans IDE and Debugging

#### Loop and decision constructs

- Looping
- Conditional branching
- A trip to Objectville
- Inheritance,Overriding
- Class variables and methods
- Making your first object,Using main

### Day 2

#### Primitives

- Know your Variables
- Declaring a variable
- Primitive types
- Java keywords

#### Objects

- Reference variables

- Object declaration and assignment
- Objects on the garbage collectible heap
- Arrays
- How Objects Behave
- Methods use object state
- Method arguments and return types
- Pass-by-value

## **Encapsulation**

- Getters and Setters
- Encapsulation
- Using references in an array

## **Day 3**

### **Arrays and ArrayLists**

- Extra Strength Methods
- Building a one-dim ArrayList game
- Preparing to code
- Coding
- Random numbers<
- Using user-input
- For loops
- Casting primitives
- String conversion
- Using the Java Library
- Two Dimensional ArrayList Structures
- Enhancing the game
- Coding the game
- Boolean expressions
- Using the Java library (API)
- Using packages
- Using the HTML API docs and

## **Day 4**

### **Polymorphism. Method Overloading**

- Better Living in Objectville
- Understanding inheritance
- Designing an inheritance tree
- Avoiding duplicate code
- Overriding methods
- IS-A and HAS-A · What do you inherit from your superclass?
- What does inheritance really buy you?
- Polymorphism
- Rules for overriding
- Method overloading

## **Advanced OO Concepts**

- Serious Polymorphism
- Some classes should not be instantiated
- Abstract classes
- Abstract methods
- Polymorphism in action
- Class Object
- Taking objects out of an arraylist
- Compiler checks the reference type
- Get in touch with your inner object
- Polymorphic references
- Casting an object reference (moving lower in the inheritance tree)
- Deadly Diamond of Death
- Using interfaces (the best solution)

## **Day 5**

### **Garbage Collection**

- Life and Death of an Object
- The stack and the heap
- Methods on the stack
- Where local variables live
- Where instance variables live

- The miracle of object creation

## **Constructors**

- Constructors, Initializing state of a new Object
- Overloaded constructors
- Superclass constructors
- Invoking overloaded constructors using this()
- Life of an object, Garbage collection

## **Handling Errors**

- Handling Errors
- Handling Exceptions

## **Duration and pricing**

In [Price Group A](#)

## **Certificate.**

Please read about our [certificates](#).

## **Bookings**

You can download the course registration form on our home page or by clicking [here](#)

## **Brochure**

You may download a pdf copy of this page by clicking on the pdf icon at the top of the page.

## **Questions**

Please [email us](#)

## **Schedule**

On the calendar below. If your browser doesn't display the calendar below, please click on [this link](#) or try using [Google Chrome](#), alternatively please enquire via our [Contact Us](#) page.