

# Java SE 7 Programming (Advanced Java) Part-time 14 March

## Alignment

Oracle OCP Certification aligned to Oracle Exam 1Z0-804

## Prerequisites

You should already be at the [Beginner Java](#) level before attempting this course.

## Intended Audience

The Java SE 7 programming (Advanced Java) course is intended for people who has completed our [Beginner Java](#) course or is at the same level. The Advanced Java training course is meant to apply everything you have learned in the Beginner Java course, learning new things and making use of more practical features of Java like IO, networking, data structures and more. After completing this course and the one before, you would have covered most of the topics required to prepare for the international exam, OCA and OCP as well as build small SE applications. To get intensive job-graded preparation assistance, have a look at our [Java Bootcamp](#).

## 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 OCP Exam 1Z0-804
- Proceed to any of these courses
  - [OO Analysis and Design](#)
  - [Design Patterns](#)

- [Servlets and JSP Beginner and Advanced](#)
- [OCA/OCP Workshop](#)
- [Android Beginner](#)

## **Course Material**

Course Material Provided

## **Course Contents**

### Day 1:

#### Static Classes

- Static Methods,
- Static Variables
  - Math Class
  - Math Methods
- Static Imports

#### Wrapper classes

- Autoboxing
- Number formatting

#### Date / Time API

- Moving backward and forward in time
- Getting an object that extends Calendar
  - Working with Calendar objects
  - Highlights of the Calendar API

### Day 3:

#### I/O Fundamentals

- Saving Object state
- Implement Serializable
- Transient variables

#### File I/O (NIO.2)

- Java I/O Streams
  - Path Interface
    - File Class
- Stream API (NIO2)

### Day 5:

#### Collections and Generics

- Collections
- Sorting an ArrayList with Collections.sort()
- Generics and type-safety
  - Comparable interface
  - A Custom Comparator
- Collection API : lists, sets, maps
  - HashSet
  - HashMap
- Polymorphism wildcards

#### Lambda Built-in Functional Interfaces

- Listing the built-in interfaces included in java.util.function
- Core interfaces – Predicate, Consumer, Function, Supplier
  - Using primitive versions of base interfaces
- Using binary versions of base interfaces

### Day 2:Exception Handling

- What if you need to call risky code?
  - Checked Exceptions
    - Flow control in try/catch blocks
    - Exceptions are polymorphic
- When you don't want to handle an exception...
- Ducking (by declaring) only delays the inevitable

#### Nested Classes

- Getting GUI: A Very Graphic Story
  - Getting a user event
  - Listeners, Sources, and Events
- An inner class instance must be tied to an outer class instance
- How to make an instance of an inner class

### Day 4:

#### Networking

- Connecting, Sending, and Receiving
  - Network Sockets
  - Writing a simple server
  - Writing a Chat Client

#### Threads & Concurrency

- Thread class
- Runnable interface
- The Thread Scheduler
- Putting a thread to sleep
  - Atomic methods
- Using an object's lock
  - Synchronization

## Duration and pricing

- Full-time over 5 days (R8995 excl VAT)
- Part-time over 4 weeks (2 nights per week, 3 hour sessions) (R10995 excl Vat)
- Part-time over 8 Saturdays, 3 hour sessions (R10995 excl Vat)
- [Distance-learning](#) over up to 3 months (R7995 excl Vat)
- The OCP Exam is not included in the course price

## **Certificate**

1. Upon completion of this course we will issue you with attendance certificate to certify your attendance and / or completion of the prescribed minimum examples.
2. You may sit for our Advanced Java assessment test and on passing you will obtain our competency certificate.
3. Our Advanced Java assessment can be booked and taken by someone who has not enrolled for the course at a cost of R950.

## **Schedule**

On the calender on this page 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.

## **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 here](#).

## **Questions**

Please [email us](#)