



<http://www.multimediacentre.co.za>

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Java level 1 course content (5-day)

Course Description

The course is a 5 day boot camp style course on the fundamentals of the Java language. The course is a good foundation for anyone wishing to program using Java, whether it be for desktop software (Java SE). Web application development (Java EE) or Android mobile application development.

Target Audience

Programmers and IT professionals

Prerequisites

Some previous programming experience required

Course Outline:

Overview of Java

- Brief history
- Java Editions and version numbering
 - Java components
 - JVM
 - Runtime library
 - JDK

Java Basics

- Java Syntax
- Compiling and executing Java programs

Java primitives

Java.lang

- String
- Math

Java control structures

- if ... else
- while loop
- for loop

Java Arrays

Methods (using static invocation)

- parameters
- overloading
- object references and passing by value vs by reference

Basic Object Oriented Programming

- Encapsulation
- Classes with static members
- Instance variables and dynamic methods
- Access modifiers
- Constructors

Inheritance

- Extending a class
- overriding methods
- overriding constructors
- abstract classes and methods
- interfaces

Collections

- ArrayList
- HashMap

Java IO

- STDIN
- Handling exceptions in IO
- Manipulating files with the file object
- Reading files
- Writing files
- Sockets

Socket server exercise

- Simple echo server
- Multi-threading echo server
- Adding logging
- Adding configuration file

Basic GUI programming

- Inner classes and anonymous inner classes introduced

Database access with JDBC

Javadoc

JAR