COURSE OVERVIEW

Course Name:
(D102474GC10)
Java SE Programming II

COURSE DURATION: 5 Days

Gauteng:
3rd Floor, 34 Whitely Road
Melrose Arch
Johannesburg
2196

Gauteng:
192 on Bram
192 Bram Fischer Drive
Ferndale, Randburg
Johannesburg
2160

Cape Town:
3rd Floor, Thomas Pattullo Building
19 Jan Smuts St
Cape Town
8000

Durban:
9 Mountview Close
Broadlands
Mount Edgecombe
Durban
4302

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INTRODUCTION

This entry-level course is aimed at programmers who are new to Java and who need to learn its concepts, language constructs, and data types. Included in the agenda are topics on exception handling, lambda expressions, and modular programming. The course is designed for programmers who will apply these language skills to develop programs using the latest major versions of the JDK, currently Java 11. Students practice the skills learned in each lesson through hands-on labs.

DELIVERY METHOD

Our courses have flexible delivery options:
- In-person classroom training at the Impactful training facilities
  - Johannesburg, Durban, Cape Town
- Virtual instructor-led training
- Nationally: on-site at the client

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TARGET AUDIENCE

- Developers
- Implementers
- Data Science

PREREQUISITES

Java SE: Programming I Ed 1

COURSE OVERVIEW

After completing this course, students will be able to:

- Create Java applications that leverage the object-oriented features of the Java language, such as encapsulation, inheritance, and polymorphism.
- Execute a Java application from the command line.
- Create applications that use the Java Collections framework.
- Search and filter collections using Lambda Expressions
- Implement error-handling techniques using exception handling.
- Implement input/output (I/O) functionality to read from and write to data and text files.
- Manipulate files, directories and file systems using the JDK NIO.2 specification.
- Perform multiple operations on database tables, including creating, reading, updating, and deleting using both JDBC and JPA technology.
- Use Lambda Expression concurrency features.
- Apply modular programming practices and services to applications.
- Create high-performing multi-threaded applications.

COURSE CONTENT

Functional Programming

- Functional Interfaces and Lambda Expressions
- Collections Streams, and Filters
- Built-in Functional Interfaces

Java API Programming and Secure Coding Concepts

- I/O (Fundamentals and NIO2)
- Secure Coding
- Database Applications with JDBC
- Localization

Modular Programming

- Introduction to Modular Programming in Java
- Services in a Modular Application
- Migration to a Modular Application

Collections and Generics

- What is the Collections Framework?
- Iterators
- Type-Wrapper Classes
- What are Generics?

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Streams and Parallel Streams

- Concurrency
- Parallel Streams
- Terminal Operations: Collectors
- Creating Custom Streams
- Exception Handling and Assertions
- Exceptions
- Error handling

ASSOCIATED EXAMS & CERTIFICATION

1Z0-088