

# Deccansoft Software Services

(A Microsoft Learning Partner)

## Core Java Syllabus

### Module 1: Java Language Environment

In this Module you will know the features of this language. Don't put so much time on this, if you don't get it leave it, you will understand while learning the further concepts.

- ❖ Object Oriented
- ❖ Platform Independent
- ❖ Automatic Memory Management
- ❖ Compiled / Interpreted approach
- ❖ Robust
- ❖ Secure
- ❖ Dynamic Linking
- ❖ Multi-Threaded
- ❖ Built-in Networking

### Module 2: Java Fundamentals

In this module you will learn how to implement our logics in the programming.

- ❖ Data types
- ❖ Operators
- ❖ Control Statements
- ❖ Arrays
- ❖ Enhanced for-loop
- ❖ Enumerated types,
- ❖ Static import
- ❖ Auto boxing
- ❖ C-style formatted I/O
- ❖ Variable arguments

### Module 3: Essentials of Object-Oriented Programming

In this module you will learn the basic definitions and uses and how to make our code in more structure way.

- ❖ Object and Class Definition
- ❖ Using encapsulation to combine methods and data in a single class

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- ❖ Inheritance and Polymorphism

#### Module 4: Writing Java Classes

In this module you will learn all the concepts OOPS where we will use all these concepts in our daily way of life by knowingly or unknowingly. By learning this module you can be able to create a code in a standard format.

- ❖ Encapsulation
- ❖ Polymorphism
- ❖ Inheritance
- ❖ OOP in Java
- ❖ Class Fundamentals
- ❖ Using Objects
- ❖ Constructor
- ❖ Garbage Collection
- ❖ Method Overloading
- ❖ Method Overriding
- ❖ Static Members
- ❖ Understanding Interface
- ❖ Using Interfaces

#### Module 5: Packages

In this module you will learn how to re-use/access our class files when it is in same package/different package/different project.

- ❖ Why packages
- ❖ Understanding Class path
- ❖ Access modifiers & their Scope

#### Module 6: Exception Handling

In this module you will learn how to handle our standalone applications/web applications

- ❖ When an exception occurs.
- ❖ Importance of Exception Handling
- ❖ Exception Propagation
- ❖ Exception Types
- ❖ Using try and catch
- ❖ throw, throws, finally
- ❖ Writing User defined Exceptions

**Module 7: I/O Operations in Java**

In this module you will learn how to create a file and how to modify/read/write/handle an existing file.

- ❖ Byte Oriented Streams
- ❖ File Handling
- ❖ Readers and Writers

**Module 8: Multithreaded Programming**

In this module you will learn how to perform multiple tasks at a same time or it may be partially. Here tasks can be either running multiple code simultaneously when some background code is running or to run the code one after another or it may be at a time.

- ❖ Introduction to Multi-Threading
- ❖ Understanding Threads & its States
- ❖ Java Threading Module
- ❖ Thread class & Runnable Interface
- ❖ Thread Priorities
- ❖ Thread Synchronization
- ❖ Interthread Communication
- ❖ Preventing Deadlocks

**Module 9: Java Util Package / Collections Framework**

In this module you will learn how to make/get our content in a user's prospective/his requirement, when it is in same file or it may be in a different file even if it is in different format.

- ❖ Collection & Iterator Interface
- ❖ Enumeration
- ❖ List and ArrayList
- ❖ Vector
- ❖ Comparator
- ❖ Set Interface & SortedSet
- ❖ Hashtable
- ❖ Properties

**Module 10: Generics**

In this module you will learn how to create our own class type parameters where we can reuse the same code by giving different inputs.

- ❖ Introduction to Generics
- ❖ Using Built-in Generics Collections

- ❖ Writing Simple Generic Class
- ❖ Bounded Generics
- ❖ Wild Card Generics

### Module 11: Abstract Window Toolkit

In this module you will learn how to create standalone application by using all the concepts which we learn previously. In here we will make mini frameworks we can make our applications more visible, more styling, more user interface Remember we need to write lot of code in here for creating a template and for our own logics.

- ❖ Graphics
- ❖ Color and Font
- ❖ AWT Components/Controls
- ❖ Event Handling & Layouts

### Module 12: Swing Programming

In this module you don't need to create any template in here the template is already created for us and just we need to add some our own components in it and to add our styles and some logic for our application that's it in here writing the code for creating template and components is reduced, In here we differentiated Module, designing, and our logical part.

- ❖ Introduction to Swing & MVC Architecture
- ❖ Light Weight Component
- ❖ Swing Hierarchy
- ❖ Atomic Components e.g. JButton, JList and more
- ❖ Intermediate Container e.g. JPanel, JSplitPane and more
- ❖ Top-Level Container e.g. JFrame and JApplet
- ❖ Swing Related Events