

## Core Java (J2SE)



### Course Description:

This hands on course introduces experienced programmers to Java™ technology and Java programming techniques. The Java platform provides an object-oriented, portable and robust framework for application development. Included are core language concepts including fundamental data types, flow control, and standard function libraries.

The course emphasizes object oriented programming and modular design to support distributed development environments. Included are the design of classes and objects, inheritance and polymorphism, and the details about creating programs for use on a distributed network, with emphasis on JSP, Servlets, and JDBC. The course also includes coverage of the Java Collections API, fundamental I/O, exceptions, and exception handling.

The course is designed to leverage the participants' existing programming skills and to highlight the new and extended features of the Java programming framework as compared to other common languages. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

### Course Prerequisites:

Basic programming skills in a structured language. Knowledge and experience with Object-Oriented Design (OOD) is helpful, but not required.

## Target Audience:

This course is specially designed for the B.Tech/B.E (CSE/IT/EEE/ECE/Mech) and all other IT related Graduates and Post Graduate students. Mission Professionalism has conquered the job scenario and companies seek for well qualified, professional and skilled manpower. Quality Education and Performance Oriented Training is our motto.

## What Student/Professionals Will Learn?

- The advantages of using the Java platform
- How to code, compile and run standalone object-oriented Java programs
- Designing and writing Java classes suitable for a given application domain
- Writing robust Java software that gracefully handles run-time problems
- Coding Java programs using correct syntax and block structure
- Using Java to read from and write to files
- Manipulating files and directories in a platform-neutral way
- Writing multithreaded software
- Writing Java client/server software using TCP/IP networking
- Accessing and updating relational databases from Java software
- Writing and running servlets and JSPs
- Creating graphical user interfaces for Java software
- Writing web-based applications in Java
- How to download, install and use the tools in the Java Development Kit

## COURSE-CONTENT:

### Module –1: Introduction to Java programming

- The Java Virtual Machine
- Variables and data types
- Conditional and looping constructs
- Arrays

### Module –2: Object-oriented programming with Java Classes and Objects

- Fields and Methods
- Constructors
- Overloading methods
- Garbage collection

- Nested classes

### Module–3: Inheritance

- Inheritance
- Polymorphism
- Making methods and classes final
- Abstract classes and methods
- Interfaces

### Module 4: Exception handling

- The Exception class
- try-throw-catch-finally constructs

### Module 5: The Object class

- Cloning objects
- The JDK LinkedList class
- Strings
- String conversions
- Enumeration interface
- Wrapper classes

### Module 6: Packages

- Package access
- Documentation comments

### Module 7: Applets

- Configuring applets
- Applet capabilities and restrictions

### Module 8: Basics of AWT and Swing

- Layout Managers
- Event Handling
- The Action Listener interface
- Panels

- Classes for various controls, such as label, choice etc.
- Using the adapter cl

#### Module 9: Threads

- Synchronization
- join
- wait

#### Module 10: The I/O Package

- Input Stream and Output Stream classes
- Reader and Writer classes

#### Module 11: Basic concepts of networking

- Working with URLs
- Concepts of URLs
- Sockets

### **INTEGER Innovation will provide:**

- Training Slides taught during training by trainers
- Programmatic Examples
- Assignments of each topic in a module
- Demos executed during training session.
- Software's and installation guide (for future help)
- E-books for further reading in depth
- Reference links
- 24X7 online support for any queries or doubts.