

## Java Course Content

Java training teaches students with little or no programming experience to begin to learn programming using the Java programming language. It explores the significance of object-oriented programming.

### Learn To:

- Use various Java programming language constructs to create several Java technology applications.
- Use decision and looping constructs and methods to dictate program flow.
- Perform basic error handling for your Java technology programs.
- Implement intermediate Java programming and object-oriented (OO) concepts in Java technology programs.
- Construct and deploy small-to-medium scale web applications found in intranet and low-volume commercial sites by using JavaServer Page (JSP page) technology and servlets

### Benefits to You

By investing in this course, you'll develop a solid foundation in the Java programming language upon which to base continued work and training. It features the Java Platform, Standard Edition 7 (Java SE 7), and uses the Java SE Development Kit 7 (JDK 7) product.

### Prerequisite

Any Graduate but knowledge of any programming is suggested

## Java Online Training Course Content

### 1. Getting Started with OOPS and Java

- Object-Oriented Programming
- Introduction to Object-Oriented Programming
- Encapsulation
- Inheritance
- Polymorphism
- Abstraction

- What is Java?
- History of Java
- How to get Java
- Compiling and interpreting application
- The JDK Directory Structure
- Inside JVM
- A first java program
- Introduce SOP and Scanner
- Comments (Line, Block, Java Doc)

### 2. Datatypes and Variables

- Primitive Datatypes
- Non-Primitive Datatypes
- Declarations
- Variable Names
- Numeric Literals
- Character Literals
- String Literals
- The Dot Operator

### 3. Operators and Expressions

- Assignment Operator
- Arithmetic Operator
- Relational Operators
- Logical Operators
- Increment and Decrement Operators
- Operate-Assign Operators(+=,etc.)
- The Conditional Operator
- Operator Precedence
- Implicit Type Conversions
- The Cast Operator

### 4. Control Flow

- Expressions
- Statements
- Conditional(if) Statements
- Adding an else if
- Conditional (switch) Statements
- While and do-while Loops
- For Loops
- The continue Statement
- The Break Statement

### 5. Arrays

- One Dimensional Arrays
- Multi-Dimensional Arrays
- Enhanced For Loop

### 6. Introducing Classes

- Classes and Objects
- Fields and Methods
- Methods
- Calling Methods
- Defining Methods
- Method Parameters
- Method Overloading
- Variable argument parameters methods
- Constructors
- Garbage Collection
- Access Modifier (private, public, protected, default)
- Non-Access Modifier (static, final, abstract)
- keywords: this
- Wrapper Classes
- String, StringBuilder and StringBuffer

### 7. Inheritance in Java

- Inheritance
- Inheritance in Java
- Method Overriding
- Keywords (Super & Final)
- Abstract Classes
- Interfaces

### 8. Inner Classes and Packages

- Inner Classes Concept
- Anonymous Inner Class
- Static inner class
- Packages
- Defining Packages
- Package Scope
- CLASSPATH and Finding Packages
- The import Statement
- Static Imports

### 9. Exception Handling

- Exception Overview
- Catching Exceptions
- The Finally Block
- Exception Methods
- Declaring Exceptions
- Defining and Throwing Exceptions

## Java Course Content

- Errors and RuntimeExceptions

### 10. Input/Output Streams

- Overview of Streams
- Bytes vs. Characters
- Converting Byte Streams to Character Streams
- File I/O
- Binary Input and Output
- Basic and Filtered Streams
- Serialization
- Reading and Writing Objects
- Print Writer Class
- Scanner Class
- File Class

### 11. MultiThreading in Java

- Non-Threaded Applications
- Threaded Applications
- Creating Threads
- Thread States
- Runnable Threads
- Coordinating Threads
- Interrupting Threads
- Runnable Interface
- Synchronizing Threads
- Interthread Communication
- ThreadGroups
- Advanced Locking Concepts

### 12. Collection Framework and Generics

- Generics
- The Collection Framework
- The List Interface
- ListImplementation Classes
- The Set Interface
- Set Implementation Classes
- The List Interface
- List Implementation Classes
- The Map Interface
- Map Implementation Classes
- Sorting with Comparator and Comparable
- Sorting Lists and Arrays
- Collections Utility Methods

### 13. Internalization and Property class

- Internalizing application
- Locale
- ResourceBundle
- Properties class

- Date Time formatter
- Number Formatter

### 14. Date and Time Handling in Java

- Date
- Calendar

### 15. Neworking Basics and Classes

- Url
- UrlConnection
- HttpURLConnection

### 16. Introduction to Eclipse

### 17. Introduction to standalone application and Applet

- (Optional: If required for project)
- Introduction to AWT
- Introduction to Swing

## Advance Java Training - Course Outline

### 1.0 Eclipse

- Eclipse Introduction
- Project definition and configurations
- Execution and debugging
- Advance features

### 2.0 JDBC

- JDBC Introduction
- JDBC Architecture
- Java Database Connectivity Steps
- Test JDBC Driver Installation & Connection
- Types of JDBC Drivers
- Inserting Data into SQL Tables
- Retrieving Data from SQL Tables
- Update SQL Tables

### 3.0. Servlet

- History of Web Applications
- Support for Servlets

- HTTP Servlet Basics
- The Servlet Lifecycle
- Retrieving Information
- Sending HTML Information
- Sending Multimedia Content
- Advance Servlet Features (Forward, Include, Redirect)
- Session Tracking
- Security
- Database Connectivity
- What's New in the Servlet API

### 4.0. JSP

- Introduction to JSP
- Introducing Java Server Pages Technology
- JSP Architecture
- Reading the Request Information
- Retrieving the data posted to a JSP file from HTML file
- JSP Elements (Directives, Declaration, Scriptlets, Actions)
- Introduction to the JSP tags
- Accessing database from JSP
- Working with JSP Sessions
- JSP Cookies Example
- JSP and JavaBeans
- Disabling Session in JSP
- JSP and JavaBeans
- JavaServer Pages Standard Tag Library (JSTL)
- File uploading