# Programming With Java Course Content(45 Days)

## 1. Introduction to Basic JAVA

- 1.1 Features of JAVA.
- 1.2 JVM, JRE, JDK.
- 1.3 Internal detail of JVM.

## 2. Java Fundamentals

- 2.1 Data types.
- 2.2 Operators.
- 2.3 Control Statements.
- 2.4 Loop statements.
- 2.5 Arrays.
- 2.6 String.
- 2.7 Enumerated types.

## 2. Essentials of Object-Oriented Programming

- 3.1 Object and Class Definition.
- 3.2 Inheritance.
- 3.3 Class Fundamentals.
- 3.4 Constructor.
- 3.5 Method Overloading.
- 3.6 Method Overriding.
- 3.7 Static Members.
- 3.8 Understanding Interface.
- 3.9 Using Interfaces class.

## 4. Packages.

- 4.1 Why packages.

- 4.2 Creating packages.

- 4.3 Understanding Class path.

- 4.4 Access modifiers and their Scope.

## 5. Exception Handling.

- 5.1 Importance of Exception Handling.

- 5.2 Exception Propagation.

- 5.3 Exception Types.

- 5.4 Using try and catch.

- 5.5 throw, throws, finally.

- 5.6 Writing User defined Exceptions.

## 6. I/O Operations in Java.

- 6.1 Byte Oriented Streams.

- 6.2 File Handling.

- 6.3 Readers and Writers

## 7. Multithreaded Programming.

- 7.1 Introduction to Multi-Threading.
- 7.2 Understanding Threads and its States.
- 7.3 Java Threading Model.
- 7.4 Thread class and Runnable Interface
- 7.5 Thread Priorities.
- 7.6 Thread Synchronization.
- 7.7 Preventing Deadlocks.
- 7.8 Preventing Deadlocks.

## 8. Network Programming.

- 8.1 Introduction to Networking.
- 8.2 Inet Address.
- 8.3 TCP Socket and Server Socket.

## 9. Abstract window Toolkit (AWT).

- 9.1 Graphics.

- 9.2 Color and Font.

- 9.3 AWT Components/Controls.

- 9.4 Event Handling and Layouts.

## 10. Database Programming using JDBC.

- 10.1 Introduction to JDBC.

- 10.2 JDBC Drivers & Architecture.

- 10.3 Connecting to Databases.

## Servlets and JSP

## 11. Servlet API.

- 11.1 HTML Forms.

- 11.2 HTTP: Request-response, headers, GET, POST.

- 11.3 Overview: How Servlets Work.

- 11.4 Servlet Lifecycle: init(), service(), destroy().

- 11.5 Requests and responses.

- 11.6 Core Servlet API: Generic Servlet, Servlet Request, and Servlet Response.

- 11.7 HTTP Servlets: HttpServletRequest, HttpServletResponse and HttpServlet.

- 11.8 Accessing Parameters.

- 11.9 Request Dispatcher: Including and forwarding.

### 12. Java Server Pages.

- 12.1 Basics and Overview.

- 12.2 JSP architecture.

- 12.3 JSP tags and JSP expressions.

- 12.4 Lifecycle of a JSP.

- 12.5 Data sharing among servlets & JSP.

- 12.6 JSP Directives.

## LIVE Projects Covered

- 13.1 Developing a Chat Application using UDP.
- 13.2 Developing a Chat Application using TCP.
- 13.3 Calculator
- 13.4 Online attendance system