### Java Training (Intermediate)

#### 1. Introduction to Java

- What is Java?
- Java Features
- Sample Java Program
- ➤ JDK, JRE and JVM
- Java Variables
- Java Data Types
- Operators
- Keywords

### 2. Control Statements

- Java Control Statements
- ➤ If-else
- Java Switch
- ➤ For Loop
- While Loop
- Do While Loop
- Java Break
- Java Continue
- Java Comments

# 3. Object Class

- Object and Class
- Method
- Constructor
- Static keyword
- This keyword

### 4. Java OOPs Concepts

- Java Inheritance
  - ➤ Inheritance (IS-A)
  - Aggregation (HAS-A)
- Java Polymorphism
  - Method Overloading
  - Method Overriding
  - super keyword
  - final keywords
  - > Runtime Polymorphism
  - Dynamic Binding

- Java Abstraction
  - Abstract Class
  - Interface
- Java Encapsulation
  - Package
  - Access Modifiers
  - Encapsulation

### 5. Java Inner Class

### 6. Java String and Array

- Java String and operations on String
- Java Array and Types of Arrays

## 7. Exceptional Handling

- Java Exceptions
- > Try Catch block
- Nested Try
- ➤ Multi Catch
- > Finally block
- > Throw Keyword
- Throws Keyword

# 8. Multi-threading in Java and Synchronization

- ➤ Life cycle of a thread
- > Thread Creation
- Sleeping a thread
- > run() method
- Daemon thread
- > Thread pool
- Thread group
- Garbage Collection
- > Synchronization in Java
- Dead lock in Java

#### 9. Java I/O and Serialization

- Java Input/Output
- > File Input/Output Streams
- Buffered Input/Output Streams
- > File Permission
- Writer/Reader
- > File
- Java Serialization
- Java Transient keyword

### 10. Java Collections

- Collection Framework
- ArrayList, LinkedList
- List interface
- > Hashset. Linked Hashset
- Java Treeset
- Queue and Priority Queue
- Deque and ArrayDeque
- Map interface
- Hashmap. LinkedHashmap
- > Treemap
- HashTable
- Collections class
- Collection Interface

### 11. Java JDBC

- > JDBC Driver
- DB Connectivity steps
- Connectivity with MySQL
- Driver Manager
- > Connection, Statement, ResultSet, PreparedStatement

#### 12. Java Servlets

- > Servlets introduction
- Servlet Life Cycle
- ➤ Working of Servlet
- ➤ Servlet Request and Servlet Collaboration
- ServletConfig and ServletContext interfaces
- > Attribute in Servlet

#### Servlets Advanced

- Session Tracking
- > Event and Listener
- Servlet Filter
- > Servlet CRUD
- > Servlet Pagination

### 13. JSP

- > JSP Introduction
- > JSP Life Cycle
- Scripting Elements
- > Implicit Objects
- Directive Elements
- Exception
- Action Elements

- > MVC in JSP
- JSTLCustom Tags
- Pagination
- > JSP CRUD

# 14. Maven

- Maven Introduction
- Maven Repository And Its Types
- ➤ Pom.xml
- Maven Web App
- > Maven Goals And Plugins

# 15. Git / GitHub

- VCS (Version Control Management System)
- ➤ Git / ĠitHub Introduction
- > Tools and Terminologies
- Git Commands
- ➤ Working on git with a sample project