Course Outline

This course will last for 3 months with a frequency of 4-6 hours of training weekly, followed by assignments. Upon finishing this course, attendees are expected to know how to build professional Java applications using IntelliJ IDEA, and to debug and test them. Attendees will be able to handle data structures and use Java collections with optimized algorithms. Object oriented programming, multithreading, exception handling, files and streams are all topics that will be covered in this training. Moreover, topics such as DB using JDBC. Advanced J2EE topics, unit testing, and source control will be covered as well.

Topics included:

* **Professional Java Developer**
  + Installing JDK and IntelliJ IDEA
  + Diving into IntelliJ IDEA
  + Introduction to Java Applications
  + Source control using Git
  + Introduction to Classes, Objects, Methods, and Strings
  + Control Statements
  + Methods – A deeper look
  + Arrays
  + Classes and Objects – A deeper look
  + OOP – Polymorphism
  + OOP – Inheritance
  + Exception Handling
  + String manipulation
  + Files, Streams, and Object serialization
  + Java Collections
  + Concurrency and Multithreading
* **Algorithms and Data Structures**
  + Linked List
  + Stack
  + Queue
  + Binary Trees
  + Hash tables
  + Sorting algorithms
  + Searching algorithms
* **Advanced Topics**
  + Web services
  + Accessing Databases with JDBC
  + Servlets and JSPs
  + JUnit testing
  + Design Patterns
  + EJB
  + Maven
  + Hibernate
  + Spring