**Module: Core Java 1.8**

**Duration: 5 Days**

• Java technology overview  
o Components that make up the Java programming language  
o Java Features  
o Java development tools  
o Different deployment architectures  
o Java language syntax  
o Construct statements in Java  
  
• Compiling and Running a Simple Program  
o Java Platform  
o Setting Up Your Computer  
o Writing a Program  
o Compiling the Program  
o Interpreting and Running the Program  
  
• Basics I: Flow Control in Java  
o Decision making flows  
§ if-else blocks  
§ switch-case blocks  
o Iterative flows  
§ while loop  
§ do-while loop  
§ for loop

• Java development environment  
o JRE  
o JDK  
o JVM  
o Classpath  
o Path  
  
• Object Oriented Programming using Java  
o Class, method, properties  
o Creating Objects  
o Constructors  
o Constructor Overloading  
o Method Overloading  
o The this keywords  
o Packages  
o Access specifiers

o import keyword  
o Life Cycle of an Object  
o Java memory management  
o Garbage Collection

Day -2

• Inheritance and Polymorphism  
o Inheritance in Java  
o Inheriting classes  
o Overriding methods  
o Creating Abstract classes, interfaces and methods  
  
• Other Class Features  
o Create static variables, methods, and initializers  
o Create final classes, methods, and variables  
o Create and use enumerated types  
o Use the static import statement  
o Arrays of primitives  
o Arrays of objects  
o Enhanced for loop  
  
• Classes in Java  
o Object class  
o Overview of java.util.lang package  
o String class  
o Date class  
o Calendar class  
o Stringbuffer class  
o Using string classes  
o Scanner  
  
  
  
• Exceptions / Error Handling  
o Define exceptions  
o Use try, catch, throw, throws and finally statements  
o Describe exception categories  
o User Defined exceptions  
  
• Collections and Generics Framework  
o Collections framework  
o Legacy collection classes  
o Comparable and Comparator interfaces  
o Use generic collections  
o Use type parameters in generic classes  
  
• I/O Fundamentals  
o Command-line arguments  
o Properties class  
o Serialize and deserialize objects  
o Distinguish readers and writers from streams  
o Describe files and file I/O  
  
• Java Database Connectivity (JDBC)  
o Introduction to JDBC API  
o Understanding JDBC Interfaces  
§ Connection  
§ Statement  
§ PreparedStatement  
§ CallableStatement  
§ ResultSet  
o Create, Read, Update & Delete Queries  
o Fetching of results  
  
• Overview of Java8  
o Functional Interfaces  
o Lambdas  
o Stream API  
o Date / Time API  
o Default and static methods  
o Method References