

Core Java

Introduction to Java

- Java Language
- Java Platforms
- Java Technologies
- History of Java

Java Vs C

- Similarities between C and Java
- Differences between C and Java

Standard Edition of Java

- JDK
- PATH
- CLASSPATH

Java Application Development

- Developing, Compiling and Executing a simple Java program
- Details of main() of a stand-alone Java program

Data Types

- int
- float
- char
- double
- boolean
- short
- long
- byte

Object Oriented Programming through Java

- Encapsulation
- Class

- Object
- Attributes(properties)
- Operations(methods)

Core Java

Leaders in Training

- Reference Vs Object
- Real time Object Oriented Examples

Constructors

- No argument constructor
- Parameterized constructor
- Constructor Overloading
- Explicit Vs Implicit Default Constructor

Wrapper Classes Accessibility Modes

- private
- protected
- default
- public

Inter-Object Communication

- Message Passing
- Message Sender
- Message Receiver
- Message

Arrays static Modifier

- static variables
- static methods
- static blocks
- static classes

Method Overloading

Inheritance

- Implementing Inheritance in Java
- Types of Inheritance
- Super class
- Sub class
- Constructors in Inheritance
- Method Overriding
- abstract classes
- abstract methods

Polymorphism

- Static polymorphism
- Dynamic polymorphism
- Static binding Vs Dynamic Binding

Interfaces

- Interface Vs abstract class
- Role of interfaces in Real time projects
- Interfaces inheriting from other interfaces
- Declarative Multiple Inheritance using Interfaces

Packages

String Handling

- String
- StringBuffer
- StringBuilder

Exception Handling

- Types of Errors
- Need of Exception Handling
- try, catch, throw, throws, finally
- try with resources
- Exception Hierarchy
- User defined Exceptions

IOStreams

- Byte Oriented Streams
- Character Oriented Streams
- java.io.File class
- Object Serialization

Multithreading

- Multi tasking Vs Multithreading
- Life cycle of a thread
- java.lang.Thread Vs java.lang.Runnable
- Developing Multithreaded Java applications
- Synchronization
- Dead lock
- Inter-thread communication

Inner Classes

- Inner class
- Nested class
- Different types of inner classes

java.lang.Object class

Garbage Collection

java.util.Properties

java.util.StringTokenizer

Dealing with date and time

Collection Framework

- List based collection interfaces and classes
- Set based collection interfaces and classes
- Map based Interfaces and classes
- Cursors in collections
- Generics in Collections
- Collection Vs Collections
- java.util.Comparator Vs java.lang.Comparable

Annotations

Java 8 features

Java application development using Eclipse IDE