

JAVA

Core Java

Basics of Java

- Software introduction & importance
- Difference between c , c++& java
- Java - What, Where and Why?
- History and Features of Java
- Internals of Java Program
- Difference between JDK,JRE and JVM
- Internal Details of JVM
- Variable and Data Type
- Unicode System
- Naming Convention
- Structure of java program
- Java comment
- JDK Installations & path Variables

OOPS Concepts

- Over Structured and Procedural language
- Advantage of OOPs
- Object and Class
- Method Overloading
- Constructor
- static variable, method and block
- this keyword& this() Method
- Inheritance
- Relationships in java
- Method Overriding
- Covariant Return Type
- super keyword& super() method
- Instance Initializer block
- Final modifier
- Polymorphism
- Abstract class and Interface
- Downcasting with instanceof operator
- Package and Access Modifiers
- Importance of class paths
- Data conversion
- Encapsulation
- Abstraction
- Importance of java.lang.Objectclass
- Technique to create an object

- Java Array

String Handling

- String : What and Why?
- Immutable String
- String Comparison
- String Concatenation
- Substring
- Methods of String class
- StringBuffer class
- StringBuilder class
- Creating Immutable class
- toString method
- StringTokenizer class

Exception Handling

- Exception Handling : What and Why?
- try and catch block
- Multiple catch block
- Nested try
- finally block
- throw keyword
- Exception Propagation
- throws keyword
- Exception Handling with Method Overriding
- Custom Exception

Multithreading

- Multithreading : What and Why?
- Life Cycle of a Thread
- Creating Thread
- Thread Scheduler
- Sleeping a thread
- Joining a thread
- Thread Priority
- Daemon Thread
- Thread Group
- Performing multiple task by multiple thread

- Garbage Collection
- Runnable Interface

Synchronization

- Synchronization : What and Why?
- synchronized method
- synchronized block
- static synchronization
- Deadlock
- Inter-thread Communication
- Interrupting Thread

Input and output

- FileOutputStream&FileInputStream
- FileWriter&FileReader
- Input from keyboard by scanner
- PrintStream class
- PrintWriter class
- File Handling

Serialization

- Serialization & Deserialization
- Serialization with IS-A and Has-A
- transient keyword

Networking

AWT and EventHandling

Swing

LayoutManagers

Applet

Reflection API

- Reflection API
- newInstance() & Determining the class object
- javap tool
- Accessing private method from outside the class

Collection

- Collection Framework
- ArrayList class
- LinkedList class
- ListIterator interface
- HashSet class
- LinkedHashSet class
- TreeSet class
- Map interface
- HashMap class
- LinkedHashMap class
- TreeMap class
- Hashtable class
- Comparable and Comparator
- Properties class
- Iterator & Enumeration interface
- Convention interface
- List, Set & Sortedset interface
- Collections Class
- Vector & Dictionary Class