

Core Java

Basics of 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

OOPS Concepts

- Advantage of OOPs
- Object and Class
- Method Overloading
- Constructor
 - static variable, method and block
 - this keyword
- Inheritance (IS-A)
- Aggregation and Composition (HAS-A)
- Method Overriding
- Covariant Return Type
- super keyword
- Instance Initializer block
- final keyword
- Runtime Polymorphism
- static and Dynamic binding
- Abstract class and Interface
- Downcasting with instanceof operator

- Package and Access Modifiers
- Encapsulation
- Object class
- Object Cloning
- Java Array
- Call By Value and Call By Reference
- strictfp keyword
- Creating API Document

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

Nested Classes

- Nested Class : What and Why?
- Member Inner class
- Anonymous Inner class
- Local Inner class
- static nested class
- Nested Interface

Multithreading

- Multi threading : What and Why?
- Life Cycle of a Thread
- Creating Thread

Thread Scheduler

- Sleeping a thread
- Joining a thread
- Thread Priority
- Daemon Thread
- Thread Pooling
- Thread Group
- ShutdownHook
- Performing multiple task by multiple thread
- thread
- Garbage Collection
- Runnable class

Synchronization

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

Input and output

- FileOutputStream & FileInputStream
- ByteArrayOutputStream
- SequenceInputStream
- BufferedOutputStream & BufferedInputStream
- FileWriter & FileReader
- CharArrayWriter
- Input from keyboard by InputStreamReader
- Input from keyboard by Console
- Input from keyboard by Scanner
- PrintStream class
- PrintWriter class
- Compressing and Uncompressing File
- Reading and Writing data simultaneously
- DataInputStream and DataOutputStream

Serialization

- Serial ization & Deserial ization
- Serial ization wi th IS-A and Has-A
- transient keyword

Networking

- Socket Programming
- URL class
- Displaying data of a web page
- InetAddress class
- DatagramSocket and DatagramPacket
- Two way communication

AWT and EventHandling

- AWT Controls
- Event Handl ing by 3 ways
- Event classes and Listener Interfaces
- Adapter classes
- Creating Games and Appl ications

Swing

- Basics of Swing
- JButton class
- JRadioButton class
- JTextArea class
- JComboBox class

- JTable class
- JColorChooser class
- JProgressBar class
- JSeparator class
- Digital Watch
- Graphics in swing
- Displaying Image
- Edit Menu for Notepad
- Open Dialog Box
- Creating Notepad
- Creating Games and applications

LayoutManagers

- BorderLayout
- GridLayout
- FlowLayout
- BorderLayout
- CardLayout

Applet

- Life Cycle of Applet
- Graphics in Applet
- Displaying image in Applet
- Animation in Applet
- EventHandling in Applet
- JApplet class
- Painting in Applet
- Digital Clock in Applet
- Analog Clock in Applet

- Parameter in Applet
- Applet Communication
- Creating Games

Reflection API

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

Collection

- Collection Framework
- ArrayList class
- LinkedList class
- ListIterator interface
- HashSet class
- LinkedHashSet class
- TreeSet class
- PriorityQueue class
- ArrayDeque class
- Map interface
- HashMap class
- LinkedHashMap class
- TreeMap class
- Hashtable class
- Comparable and Comparator
- Properties class

JDBC

- JDBC Drivers
- Steps to connect to the database
- Connectivity with Oracle
- Connectivity with MySQL
- Connectivity with Access without DSN
- DriverManager
- Connection interface
- Statement interface
- ResultSet interface
- PreparedStatement
- ResultSetMetaData
- DatabaseMetaData
- Storing image
- Retrieving image
- Storing file
- Retrieving file
- Stored procedures and functions
- Transaction Management
- Batch Processing
- JDBC New Features
- Mini Project

Java New Features

- Assertion
- For-each loop
- Varargs
- Static Import
- Autoboxing and Unboxing

- Enum Type
 - Annotation
 - etc.
- Internationalization
- International ization
 - ResourceBundle class
 - I18N wi th Date
 - I18N wi th Time
 - I18N wi th Number
 - I18N wi th Currency

