

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

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

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

Nested Classes

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

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 Pooling
- ✓ Thread Group
- ✓ ShutdownHook
- ✓ Performing multiple task by multiple 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
- ✓ StreamTokenizer class

Serialization

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

Reflection API

- ✓ Reflection API
- ✓ newInstance() & Determining the class object

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

- ✓ Assertion
 - ✓ For-each loop
 - ✓ Varargs
 - ✓ Static Import
 - ✓ Autoboxing and Unboxing
 - ✓ Enum Type
 - ✓ Annotation
- etc.

A large, light blue watermark of the Java logo is centered on the page. It features the word "Java" in a stylized font with a trademark symbol (TM) to the right. Above the text are several curved, flame-like shapes in yellow and light blue, representing the Java logo's design.

Advance Java

JDBC

- ✓ JDBC Drivers
- ✓ Steps to connect to the database
- ✓ Connectivity Database
- ✓ DriverManager
- ✓ Connection interface
- ✓ Statement interface
- ✓ ResultSet interface
- ✓ PreparedStatement
- ✓ ResultSetMetaData
- ✓ Storing file
- ✓ Retrieving file
- ✓ Transaction Management

Servlet and JSP

- ✓ Servlet: What and Why?
- ✓ Basics of Web
- ✓ Servlet API
- ✓ Servlet Interface
- ✓ GenericServlet
- ✓ HttpServlet
- ✓ Servlet Life Cycle
- ✓ How servlet works?

ServletRequest

- ✓ ServletRequest methods
- ✓ Registration example with DB

Servlet Collaboration

- ✓ RequestDispatcher
- ✓ sendRedirect

ServletConfig

- ✓ ServletConfig methods
- ✓ ServletConfig example

ServletContext

- ✓ ServletContext methods
- ✓ ServletContext example

Session Tracking

- ✓ Cookies
- ✓ Hidden Form Field
- ✓ URL Rewriting
- ✓ HttpSession

Filter

- ✓ Filter
- ✓ Authentication Filter
- ✓ FilterConfig
- ✓ Useful examples

JSP

Design Pattern

- ✓ Singleton
- ✓ DAO
- ✓ DTO
- ✓ MVC
- ✓ Front Controller
- ✓ Factory Method

