

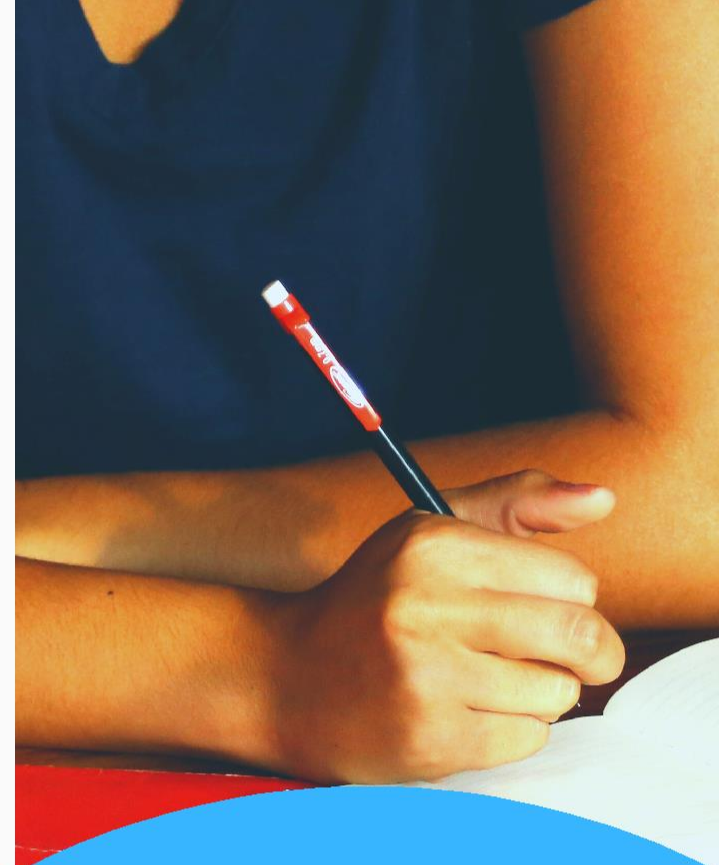
BBS Technologies

Contact us:

No-3499,14th Main road,Hal 2nd Stage
Indiranagar , Bangalore-560008,Karnataka
(INDIA) Cont.No:+91-8040927430
Email: Info@bbstechnologies.in

Core Java

BBS Technologies
<http://bbstechnologies.in/>



Core Java Course Content

Module 1: Introduction

- Java Why? What? How? When? Where?
- Different Java Versions.
- How Java is different from other Technologies

Module 2: Introduction To Java Programming Environment

- How to Install & set Path.
- A Simple Java Program
- Compiling & executing Java Program
- Phases of Java Program
- Analysis of a Java Program
- Understanding Syntax and Semantic Error,
- Runtime Exception
- Name of a Java Source File
- Platform Independency
- Java Technology (JDK, JRE, JVM, JIT)
- Features of Java
- Text Editors

Module 3: Fundamentals of Java Programming

- Naming convention of Java language
- Comments
- Statements
- Blocks (Static, Non-static/instance)
- Identifiers

- Keywords
- Literals
- Primitive Data Types, Range
- Reference (User defined) Data type
- Variables (Primitive, Reference)
- Type Casting, Default Value
- Operators
- Interview questions

Module 4: Control Structures

- Decision Control Structure (if, if-else, if else if, switch –case)
- Repetition Control Structure (do –while, while, for)
- Interview questions

Module 5: Input Fundamentals And Datatypes In Java

- Java program inputs from Keyboard
- Methods of Keyboard inputs
- Scanner, Buffered Reader
- Problem Solving
- What is Array
- Instantiation of an Array
- Elements, Default Value, for-each loop, varargs
- Length of an Array (What is –Array Index Out Of Bounds Exception)
- Increasing, Decreasing the Size and Copy of an Array
- Multi-Dimensional Arrays
- Program/Interview questions Difference between C and C++ with Java

Module 6: Object Oriented Programming (OOPS Concepts In Deep)

- Procedural Vs Object Oriented Program

- Different type of Program Procedural Vs Object Oriented.
- Introduction to Object Oriented
- Abstraction, Encapsulation, Inheritance,
- Polymorphism.
- Introduction to Classes and Objects
- Custom Class Definition
- Instance and Static Variables
- Different ways to create Object Instance
- Instance Variable and its role in a Class
- Constructors, types of Constructor,
- Constructor Rule, Constructor Overloading
- Static Variable and its use.
- Methods and their behaviour.
- Constructor vs Methods
- Constructors
- "this" Keyword
- Java Access Modifiers (and Specifiers)
- Call by value, Call by reference

Module 7: Command-Line Arguments

- What is a Command-Line Argument?
- Java Application with Command-Line Arguments
- Conversion of Command-Line Arguments
- Passing Command-Line Arguments
- Using methods (Static, Non Static)

Module 8: Integrated Development Environment

- Using various Editors
- Program Compilation, Execution in Editor

- Using Eclipse IDE
- Project Set Up
- Source File Generation
- Application Compilation and Run

Module 9: Inner Class

- First View of Inner Class
- Outer Class Access
- Types of Inner Class

Module 10: Inheritance

- Complete concepts of Inheritance
- Sub-Classes
- Object Classes
- Constructor Calling Chain
- The use of "super" Keyword
- The use of "private" keyword inheritance.
- Reference Casting

Module 11: Abstract Classes and Interface

- Introduction to Abstract Methods
- Abstract Classes and Interface
- Interface as a Type
- Interface v/s Abstract Class
- Interface Definition
- Interface Implementation
- Multiple Interfaces' Implementation
- Interfaces' Inheritance
- How to create object of Interface

Module 12: Polymorphism

- Introduction to Polymorphism
- Types of Polymorphism
- Overloading Methods
- Overriding Methods
- Hiding Methods
- Final Class and Method
- Polymorphic Behaviour in Java
- Benefits of Polymorphism
- "Is-A" vs "Has-A"
- Association Vs Aggregation
- Interview related Question and Answer.

Module 13: Package

- Package and Class path and its use
- First look into Packages
- Benefits of Packages
- Package Creation and Use
- First look into Class path
- Class path Setting
- Class Import
- Package Import
- Role of public, protected, default and private w.r.t package
- Namespace Management
- Package vs. Header File
- Creating and Using the Sub Package
- Sources and Class Files Management

Module 14: Using Predefined Package & Other Classes

- Java.lang Hierarchy
- Object class and using toString(), equals(),hashCode(), clone(), finalize() etc
- Using Runtime Class, Process Class to play music, video from Java Program
- Primitives and Wrapper Class
- Math Class
- String, StringBuffer, StringBuilder Class
- String Constant Pool
- Various usage and methods of String,StringBuffer, StringBuilder
- Wrapper Classes
- System Class using gc(), exit(), etc.

Module 15: Garbage Collection

- Garbage Collection Introduction
- Advantages of Garbage Collection
- Garbage Collection Procedure
- Java API
- Interview related Question and Answer

Module 16: Exception Handling

- Introduction to Exceptions
- Effects of Exceptions
- Exception Handling Mechanism
- Try, catch, finally blocks
- Rules of Exception Handling
- Exception class Hierarchy, Checked &
- Unchecked Exception
- Throw & throws keyword

- Custom Exception Class
- Chained Exception.
- Resource handling & multiple exception class
- Interview related Question and Answer.

Module 17: Multithreading

- Introduction
- Advantages
- Creating a Thread by inheriting from Thread class
- Run() and start() method.
- Constructor of Thread Class
- Various Method of Thread Class
- Runnable Interface Implementation
- Thread Group
- Thread States and Priorities
- Synchronization method, block
- Class & Object Level Lock
- Deadlock & its Prevention
- Inter thread Synchronization
- Life Cycle of Thread
- Deprecated methods : stop(), suspend(),resume(), etc
- Interview related Question and Answer

Module 18: Input and Output Streams

- Java I/O Stream
- I/O Stream - Introduction
- Types of Streams
- Stream Class Hierarchy
- Using File Class

- Copy and Paste the content of a file
- Byte Streams vs Character Streams
- Text File vs Binary File
- Character Reading from Keyboard by Input Stream Reader
- Reading a Line/String from Keyboard by Buffered Reader
- Standard I/O Streams Using Data Streams to read/write primitive data
- PrintStream vs PrintWriter Using StreamTokenizer and RandomAccessFile
- Interview related Question and Answer

Module 19: Serialization

- Introduction to Serialization
- Using Object Streams to read/write object
- Transient Keyword
- Serialization Process
- Deserialization Process
- Interview related Question and Answer

Module 20: Collection Framework

- Generics (Templates)
- What is generic
- Creating User defined Generic classes
- The java.util package
- Collection
- What is Collection Framework
- List, Set & Map interfaces
- Using Vector, Array List, Stack, Linked List, etc.
- Using Collections class for sorting

- Using Hashtable, Hash Map, Tree Map,
- SortedMap, LinkedHashMap etc.
- Iterator, Enumerator.
- Using Queue, Deque, SortedQueue, etc.
- Using HashSet, TreeSet, LinkedHashMap etc
- Using Random class
- Using Properties in a Java Program
- Using user defined class for DataStructure
- Using Date and Formatting Date class.
- Interview related Question and Answer