

Core Java Course Syllabus

80% Practical training & 20% Theory

Experts Available 24x7 for your queries

35 to 45 Hrs. of training

Trainer Profile

Our Trainers provide complete freedom to the students, to explore the subject and learn based on real-time examples. Our trainers help the candidates in completing their projects and even prepare them for interview questions and answers. Candidates are free to ask any questions at any time.

- More than **7+ Years** of Experience
- Expert level Subject Knowledge and fully up-to-date on real-world industry applications
- Trainers have experienced on multiple real-time projects in their Industries

Learn how to use Core Java from beginner level to advanced techniques which is taught by experienced working professionals. With our Core Java Training you'll learn concepts in expert level with practical manner.

Module 1: Introduction (Duration-0.5hr)

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

Module 2: Introduction to Java Programming Environment (Duration-1hr)

- 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
- Consoles

Module 3: Fundamentals of Java Programming (Duration-1hr)

- The 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
- Program/Interview questions

Module 4: Control Structures (Duration-1hr)

- Working with Control Structures
- Types of Control Structures
- Decision Control Structure (if, if-else, if-else if, switch –case)
- Repetition Control Structure (do-while, while, for)
- Program/Interview questions

Module 5: Input Fundamentals And Datatypes In Java (Duration-1hrs)

- Java program inputs from Keyboard
- Methods of Keyboard inputs
- Scanner, Buffered Reader
- Problem Solving
- Java Array
- What is Array
- Array Declaration in java vs C and C++.
- Instantiation of an Array
- String vs character array. Accessing Array
- Elements, Default Value, for-each loop, var args
- 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
- Program/Interview questions Difference between C and C++ with Java
- Application Compilation and Run
- Interview related Question and Answer

Module 6: Object-Oriented Programming (OOPS Concepts In Deep) (Duration-4hrs)

- Procedural Vs Object-Oriented Program
- Different types of Program Procedural Vs Object Oriented.
- Top-Down Vs Bottom-Up Approach
- 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 behavior.
- Constructor vs Methods
- Constructors
- “this” Keyword
- Java Access Modifiers (and Specifiers)
- Programming Interview related Question and Answer
- Call by value, Call by reference

Module 7: Command-Line Arguments (Duration-1hr)

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

Module 8: Integrated Development Environment (Duration-0.5hr)

- 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 (Duration-1hr)

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

Module 10: Inheritance (Duration-2hrs)

- 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 Inheritance (Duration-2hrs)

- 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 the object of Interface

Module 12: Polymorphism (Duration-1hr)

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

Module 13: Package (Duration-2hrs)

- Package and Classpath and its use
- First, look into Packages
- Benefits of Packages
- Package Creation and Use
- First, look into the Classpath

- Classpath 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 (Duration-2hrs)

- 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: New Concepts In Package (Duration-2hr)

- Autoboxing and Auto unboxing
- Static import.
- The instance of the operator.
- Enum and its use in Java
- Working with jar

Module 16: Garbage Collection (Duration-0.5hr)

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

Module 17: Exception Handling (Duration-2hrs)

- 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 18: Multithreading (Duration-3hrs)

- Introduction
- Advantages
- Creating a Thread by inheriting from Thread class
- Run() and start() method.
- The constructor of Thread Class
- Various Method of Thread Class
- Runnable Interface Implementation
- Thread Group
- The 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 19: Input and Output Streams (Duration-3hrs)

- Java I/O Streams
- 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 20: Serialization (Duration-0.5hr)

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

Module 21: Collection Framework (Duration-3hrs)

- 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, TreeMap,
- SortedMap, LinkedHashMap, etc.
- Iterator, Enumerator.
- Using Queue, Deque, SortedQueue, etc.
- Using HashSet, TreeSet, LinkedHashSet, 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

Module 22: Java 8/9/10 Features (Duration-1hr)

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