

Core Java Syllabus/J2SE

At the end of the java course, you will have great knowledge of core java and its concepts and you'll be able to develop desktop application Swing **and JavaFX**. Core java is base technology for all the java technologies and its Framework.

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
- Type Casting
- Naming Convention
- Arrays
- Introduction
- Class
- Object
- static Keywords
- Constructors
- This Key Word
- Inheritance
- Super Key Word
- Polymorphism (Over Loading & Over Riding)
- Abstraction
- Encapsulation
- Abstract Classes
- Interfaces

Control Statements

- If, if..else , ladder if statements
- Loops: for , while , do while
- For-each loop
- Switch statement
- Ternary Operator
- Programs for practice
- Programs based on numbers,array,pattern etc.

PACKAGES

- Introduction to packages
- User Defined Packages
- Access Modifiers
- Concept of jar files
- creating jar file

OOPS Concepts

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
- Custom Exception

Input and output in Java

- Introduction to IO in Java
- Concept of Streams
- Important class hierarchy of IO

- Reading from file
- Writing to File
- Reading Image file
- Writing to Image file
- Serialization basics
- Transient keyword

GUI

- Introduction to AWT
- Disadvantage of AWT
- Introduction to Swing
- Creating First Application using Swing
- Layout Manager to arrange the Components
- Flow Layout
- Border Layout
- Grid Layout
- Event Handling
- Event Handling by 3 ways
- Event classes and Listener Interfaces
- JButton class
- JRadioButton class
- JTextField
- JTextArea class
- JComboBox class

- JColorChooser class
- JProgressBar class
- Digital Watch
- Displaying Image
- Menu and Menu Item
- Simple Project
- Introduction to **Java FX**
- **Working with java FX**
- **One simple project**

Collection Framework

- Introduction to Collection Framework
- Working with Collection Framework classes
- Commonly used collection Framework Interfaces like List, Set and Map.

We will in this course how to make projects (desktop application)

- Create simple form
- We will create scientific calculator.
- We will create some fun game.
- And much more stuff during course.

