

CORE JAVA Syllabus

DETAILS

Java commonly referred to as the father of all programming languages is a very important and highly trending course at SourceCode Institute. It involves object oriented programming and is used to master additional softwares in web, desktop serverside as well as in mobility. Java was designed to be easy to use and is therefore easy to write, compile, debug and learn than other programming languages. Java allows you to create modular programs and reusable code.

It is one of the best languages for beginners to learn. It is also open source and free to use, hence it's adopted by many companies world-wide.

Hands-on Programming Practice

Techno Knowledge Center



Beginning with C++

- What is C++, its Applications, Advantages etc.
- Difference between C and C++. major and minor difference.
- Creating C++ source file, Editing, Compiling, Linking, Debugging. Etc.
- Make File Utility, Command Line Arguments etc.

Introduction and Setting up Your Environment

- Introduction
- What is Java
- JRE vs. JDK
- Setting up the JDK
- Integrated Development Environment (IDE)
- Setting up IDE

Creating a Simple App

- Introduction
- Creating Your First Project
- Running From the Command Line
- Statement Structure and Whitespace
- Comments
- Creating and Running Project on IDE

Variables, Data Type and Math Operator

- Introduction
- Variables
- Primitive Data Types
- Primitive Types are Stored by Values
- Arithmetic Operators
- Type Conversion

Conditional Logic, Looping and Arrays

- Conditional Logic and Relational Operators
- Conditional Assignment
- If-else Statement
- Nested If Statements
- Block Statements and Variable Scope.
- Logical Operator
- Loops
- Arrays
- For-each Loop
- Switch Statement

Representing Complex Types with Classes

- Introduction
- Classes
- Using Classes
- Encapsulation and Access Modifiers
- Applying Access Modifiers
- Naming Classes
- Method Basics
- Existing from a method
- Method Return Values
- Special References: this and null
- Access, and Mutators

Class Initializers and Constructors

- Introduction
- Establishing Initial State
- Field Initial State
- Constructor and Adding Multiple Constructors
- Chain Constructor and Constructor Visibility
- Initialization and Construction Order

A Closer Look at Parameters

- Introduction
- Parameter Immutability

- Overloading
- Overloading Walkthrough
- Variable Number of Parameters

Class Inheritance

- Introduction
- Inheritance Basic and Types References
- Member Hiding and Overriding
- Object Class
- Equality
- Special Reference: Super
- Using Final and Abstract
- Inheritance and Constructors

Exceptions and Error Handling

- Introduction
- Error Handling with Exceptions
- Handling Exception by Type
- Exception and Methods
- Throwing Exception and Custom Exception

Working with Package

- Introduction
- What is package
- Package Create a Namespace
- Package Provide Access Boundaries
- Packages Act as a Unit of Distribution
- Jar file Creation

Exception Handling

- Introduction
- Creating Abstract Relationships with Interfaces.
- Implementing a Generic Interface
- Implementing Multiple Interfaces
- Declaring an Interface
- Extending and Interface

Static Members, Nested Types and Anonymous Classes

- Introduction
- Static Members
- Static Initialization Blocks
- Nested Types
- Inner Classes
- Anonymous

Collections

- Introduction
- Collections
- List
- Maps
- Set
- Queue

Threading

- Introduction
- Threads
- Threading Examples
- Creating a Thread
- Creating a Runnable
- Synchronization
- Inter Thread Communication

IO

- Introduction
- IO Basic
- Reading a file
- Writing a file
- Implementing a Stream
- Serialization and Deserialization
- Inter Thread Communication

Annotations

- Introduction
- What is an Annotation
- Annotation in Java
- Annotation Uses (Compiler)
- Using Built in Annotations
- Creating an Annotation

- Reflection
- Using a Custom Annotation

JDBC

- Introduction to JDBC
- Driver Types
- Establishing Database Connections
- Connections
- Statements
- Resultset
- PreparedStatement
- CallableStatement
- DatabaseMetaData
- ResultSetMetaData
- Transaction

TECHNO KNOWLEDGE CENTER