

# RKV IT Solutions Pvt. Ltd.

Comes with Core Java @ Patna from basis to Advance concept in core Java with Industrial Project by more than 5 year experienced faculty

The Environment like growing each and every day in life . You will get company mail account from first day of training and private limited company certificate which will be benefited at the time of interviews.

## INTRODUCTION TO JAVA

- What is Java
- Features of Java
- Java Virtual Machine
- C , C++ & Java : A Comparison
- Platforms of Java & Versions
- The JDK Directory Structure
- First Java Program

## DATA TYPES AND VARIABLES

- Data types and its Significance
- 8 Data Types in Java & Complete Overview
- Types of Variables, Operators & Statements
- Numeric Literals, Character Literals
- String and String literals
- Array, non-Primitive data type and Dot operator

## INPUT/OUTPUT

- Accepting Input from the keyboard
- Reading Input with Java.util.scanner class
- Displaying Output with System.out.printf():
- Displaying formatted Output with String Format ():

## OPERATORS AND EXPRESSIONS

- Expression
- Different Types of Operator with complete overview

- Operator precedence
- Type Conversions and casting
- Using strings and arrays in java

## **CONTROL FLOW STATEMENTS**

- Statements
- Conditional statements
- Decision making statement
- Control Structure: Looping
- Jumps in loop (Break and continue statement)

## **OBJECT ORIENTED PROGRAMMING**

- Introduction to OOP
- Classes and objects
- Encapsulation
- Access Control
- Polymorphism
- Inheritance

## **CLASSES & OBJECTS**

- Concept of Class
- How to create a class and an object
- The content of class (the variables, methods, blocks, and nesting)
- Access Modifiers

## **METHODS IN JAVA**

- Method Prototype
- Static Methods
- Methods concept and declaration
- Calling and Defining Methods
- Passing Parameters in Method (Primitives & Objects)
- The Constructors and their internals

## **INHERITANCE & POLYMORPHISM**

- Concept of Inheritance

- Types of Inheritance
- The super keyword
- Polymorphism
- Method Overriding
- Method overloading

## **ABSTRACT CLASS & INTERFACE**

- Abstract Class and abstract method
- Defining Interfaces
- Multiple Inheritance using Interface
- Implementing and Extending Interfaces
- Abstract Class VS Interfaces

## **Inner Classes**

- What is inner class
- Need of inner classes
- Types of inner classes
- Implementation of inner classes (of all types) based on their requirement

## **PACKAGES**

- The Import statement
- Static import
- CLASSPATH and Import
- Defining packages
- Packages Scope

## **USING JAVA OBJECTS**

- Printing to the Console
- String Buffer and String Builder
- Creating String Buffer Object
- String Buffer Class Methods
- String Builder Class
- Parameter Passing
- Comparing and Identifying Objects, Destroying Objects

## **EXCEPTION HANDLING**

- Errors in Java Program
- Concepts of Exceptions(Runtime and Compiletime)
- Keywords: Throw & Throws
- The finally Block
- Declaring, Defining and Throwing Exceptions
- Multiple Exceptions
- Assertions

## **MULTI-THREADING CONCEPT**

- What is a thread
- Threaded and Non Threaded Applications
- Creating thread using two methods
- Constructors and methods of Thread class
- Life cycle of thread and thread states
- Runnable, Coordinating and Interrupting Threads
- Synchronization
- Need of Synchronization
- Inter-Thread communication
- Deadlocks

## **INPUT/OUTPUT STREAMS**

- Overview of Streams
- Bytes vs. Characters and converting these two Streams
- File Object and Binary I/O
- PrintWriter and PrintReader Class
- Reading and Writing Objects

## **COLLECTION FRAMEWORK**

- Introduction of Collection Framework
- Collection API (the classes and interfaces)
- String Tokenizer
- Date & Time facilities.

- The methods of Collection interface
- List Interface (the Array List, Vector, Linked List, and Stack classes)
- The Iterator, ListIterator, and Enumeration interfaces
- Set Interface (the HashSet, LinkedHashSet classes)
- Map Interface (the Hashtable, HashMap, LinkedHashMap, classes)
- The Comparable and Comparator interfaces
- The TreeMap and TreeSet classes
- How Collection Framework is used in industry (the real Project Development)

## REFLECTION API

- What is reflection API
- Need of reflection
- The Method, Field, Constructor and Modifier class
- Implementation of the reflection concepts

## JDBC (JAVA DATABASE CONNECTIVITY)

- Types of JDBC Drivers
- The java.sql package
- Manipulating records of a ResultSet
- object through User Interface and The JDBC Exception classes
- Database Connectivity and data Navigation
- Data Manipulation (using Prepared Statements, Joins, Transactions, Stored Procedures)

## JAVA APPLETS

- Introduction and Applet Examples
- **Applet's Life Cycle**
- Methods for Adding UI Components
- Methods for Drawing and Event Handling
- Graphics programming

## GUI programming with Swing