Core Java Programming

Introduction

- Java SE Platform Versions
- Java in Server Environments
- Java Architecture
- JDK and JRE and JVM
- Features of Java

Java Syntax and Class Review

- OOPS Concepts
- Java Class Structure
- Java Naming Conventions
- How to Compile and Run
- Primitive Data types
- Operators in Java
- Control statements
- For each loop
- Classes and Objects
- Using Java Arrays
- Static Keyword
- This Keyword
- Methods
- Constructors
- Garbage Collection
- Stack and Heap

Encapsulation and Subclassing

- Using Access Control
- Import and package statement
- Inheritance
- Creating Subclasses
- Overloading Methods
- Overloaded Constructors
- Overriding Methods
- Constructors in Subclasses
- Overriding Object methods
- Polymorphism

Abstract and Nested Classes

- Defining Abstract Classes
- Defining Abstract Methods
- Final Methods
- Final Classes
- Final Variables
- Enumerations
- Nested Classes

Interfaces and Lamda Expressions

- Java Interfaces
- Interface References
- default Methods in Interfaces
- static Methods in Interfaces
- Constant Fields
- Extending Interfaces
- Implementing and Extending
- Anonymous Inner Classes
- Lambda Expression Defined
- What Is a Lambda Expression

Exception Handling

- Exception & Error
- Exception handling mechanism
- Custom Exception

Java IO
- Discuss I/O
- Explain the concept of streams
- Explain the standard input/output streams
- Explain the classes InputStream and OutputStream
- Discuss Filtered and Buffered I/O operations
- Describe Reader and Writer classes
- Explain the classes ObjectInputStream and ObjectOutputStream
- Serialization

Collections

- Java Collections framework
- List
- Set
- Map
- Generics
- SortedMap
- Comparable interface
- Comparator interface
- Properties class

Java Streams
- Streams
- Map and filter operations
- Parallel Processing
- Collectors

Java Database Connectivity

- JDBC Architecture
- Types of JDBC Drivers
- Loading JDBC Driver
- Connecting to Database
- Manipulate data in the Database
- Transaction Management