

Java Programming

(5 days hands-on)

This course is aimed at students who are considering or are moving into developing business applications using Java, along with delegates who are preparing for the **Sun Certified Programmer for the Java Platform, Standard Edition 6 (CX-310-065)** certification examination.

Contents:

- **Introduction to Java:** What is Java? Java architecture; Java security
- **Java Software Development Kit:** Java SDK tools; Java compiler and Java interpreter; Building API documentation with Javadoc; Java archives
- **Java Language Fundamentals:** Java statements; Code blocks; Primitive data types; Literals and variables; Converting data types; Operators; Packages
- **Flow Control:** Decision making: if and if-else; The switch statement; Looping: for loops; while loops; do-while loops; for-each style loops; Assertions
- **Exception Handling:** Overview of exception handling; Catching exceptions; Throwing exceptions; Defining new exception classes
- **Using Classes:** Overview of object-oriented concepts; Classes vs. primitive types; Creating new objects; Invoking methods; Passing parameters and using return values; Tour of the Java 2 Standard Edition library; Overview of the Object class; Using String and StringBuffer classes; Using the Java wrapper classes
- **Defining New Classes:** Defining instance methods and instance variables; The 'this' keyword; Defining and calling constructors; Comparing and cloning objects; Defining class methods and class variables
- **Inheritance:** Defining subclasses; The 'protected' accessibility specifier; Accessing superclass members; Defining constructors; Polymorphism
- **Abstract Classes and Interfaces:** Defining abstract classes; Defining abstract methods; Defining interfaces; Using interfaces in design
- **Inner Classes:** Overview of inner classes; Defining and instantiating inner classes
- **Collections:** Overview of Java SE collection classes; Generics; Using List-based collection classes; Using Set-based collection classes; Using Map-based collection classes; Collection techniques
- **Input and Output:** Streams, readers, and writers; File and directory operations; Reading and writing to a file; Using filter classes
- **Concurrency:** Overview of multithreading; Creating new threads; Object locking; Using wait, notify, and notifyAll
- **New Java Language Features:** Annotations; Scripting integration; Overview of Web Service integration

Who Should Attend:

This training course is aimed at programmers who need to transition into Java development.

Prerequisites:

Experience using a contemporary programming language.