Java for COBOL Programmers

Duration: 5 Days *(Face-to-Face & Remote-Live)*, or 35 Hours *(On-Demand)*

Price: $2495 *(Face-to-Face & Remote-Live)*, or $1495 *(On-Demand)*

Discounts: We offer multiple discount options. Click here for more information.

Delivery Options: Attend face-to-face in the classroom or remote-live attendance.

Students Will Learn

- Object oriented concepts
- Java syntax and control structures
- Data types and expressions
- Packages, classes, objects and methods
- arrays
- String handling
- Exception handling
- Inheritance and polymorphism
- Input and output stream processing
- GUI programming concepts

Course Description

This hands on Java Programming course provides experienced COBOL programmers with the ability to utilize the structure and syntax of the object oriented Java programming language for both general business and Internet programming applications. The student is prepared to code, test, and execute Java programs making use of the facilities provided by the language. Because procedural programming uses a different paradigm than object oriented programming, this course concentrates on the application of basic object oriented concepts.

This class is intended for experienced COBOL programmers or programmers experienced in any procedural (non object-oriented) programming language. Students who already understand object-oriented programming techniques should attend the Java Programming course instead of this course.

Course Prerequisites

Familiarity with and experience using COBOL or any procedural programming language.

Course Overview

Introduction

Objected Oriented Concepts

- Features of Java
- Java Security
- History and Origin of Java
- Alternative Internet Technologies
- Stand-alone Programs
- Applets

- Features of Object Oriented Languages
- Procedural (COBOL) vs. Object Oriented
- Data Abstraction
- Encapsulation
- Inheritance
- Polymorphism
- Messages
- Effects of OO Approach
- Basic OO Design (CRC Cards)

Java Basics

- Java Syntax
- Java Program Structure
- Simple and Compound Statements
- Comments and Readability
- Identifier Names
- Reserved Keywords
- Variable Declarations
- Native Data Types
- Basic Output

Expressions and Operators

- Operators
- Expressions
- Operators
    - Assignment
    - Increment/Decrement
    - Type Cast

Class Methods and Constructors

- Class Methods
    - Method Overloading
    - this Reference
    - Instance vs. Class Methods
- Constructors and Finalizers
    - Overloaded Constructors
    - Static Initializers
    - Finalizer Methods

Control Statements

- Conditional Statements
- Iterative Statements
- Comparison and Logical
- Operators

Inheritance and Polymorphism

- Inheritance
    - Concepts and Terminology
    - Syntax
    - Member Access
    - Constructors and Finalizers
- Polymorphism
    - Concepts and Terminology
    - Syntax
    - Overriding Methods
- Interfaces
    - Purpose for Interfaces
    - Creating Interfaces
    - Using Interfaces

Classes and Packages

- Packages
    - Uses
    - Importing
    - Creating
    - `classpath` Variable
- Defining Classes
    - Data Members
    - Methods Members
- Instantiating Classes
- Accessing Class Members
    - Member Access Control
    - Access Specifiers

Arrays and Strings

- References and Objects

Error and Exception Handling

- Exception Handling Model

- Arrays
  - Declaring Arrays
  - Accessing Array Elements
  - Physical layout of Arrays
  - Arrays of Objects
  - Copying Arrays
  - Multi-Dimensional Arrays
- Strings
  - String class Methods
  - `StringBuffer` class Methods
  - Passing Arguments to main

Introduction to GUI Layout and Event Handling

- Overview of Graphical User Interface Components
- Containers and Layout Managers
- Event Handling

- Exception Class Hierarchy
- Raising and Exception
- Dealing with Exceptions
- Defining Exception Classes

Input/Output Streams

- Standard Streams
- The `java.io` Package
  - InputStream and OutputStream
  - Reader and Writer
- File I/O
- Filtered Streams
- Buffered Streams
- Data Streams
- Character Streams

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