

**Soft-Train**



*At Soft-Train  
Technology Works*

# Java Programming Fundamentals (5 Days) ST80008

**COURSE GOAL:** To prepare students to use the language of Java in a business environment.

**PREREQUISITES:** Knowledge of other programming languages and or database programming.

**LEARNING OBJECTIVES:**

Upon completion of this course the student will be able to:

- Using Arrays
- Using Methods
- Defining Classes
- Destroying and Finalizing Objects
- Understand Subclasses and Inheritance
- Declaring Variables
- Understanding Java Security

## Key Topics:

### I. Introduction

- A. What Is Java?
- B. What is Java Good For?
- C. Key Benefits of Java
- D. An Example Program

### II. The Type System

- A. The Basics
- B. Why Have Three
- C. Inside and Out
- D. Beware
- E. A Real Problem

### III. Exceptions

- A. The Basics
- B. Packages and Access Control
- C. An Example
- D. Pages and the Filesystem

### IV. Garbage Collection

- A. The Basics
- B. Garbage Collection and References
- C. Memory Leaks
- D. Other Resources

### V. The Java Virtual Machine

- A. The Basics
- B. Security
- C. Portability
- D. Portability Traps

### VI. Javadoc

- A. The Basics
- B. Implementation Documentation
- C. Package Documentation
- D. Style Guides, Editors, and Nonterminating Discussions

## **VII. Collections**

- A.** The Basics
- B.** Parameterized Types
- C.** Advanced Topics
- D.** Random Access
- E.** Some Last Thoughts

## **VIII. Remote Method Invocation and Object Serialization**

- A.** The Basics
- B.** Synchronizing
- C.** Subtypes
- D.** RPC System

## **IX. Concurrency**

- A.** The Basics
- B.** Synchronizing
- C.** Atomic Data
- D.** Review

## **X. The Developer**

- A.** IDEs
- B.** JUnit
- C.** FindBugs
- D.** Other Tools