# Java Programming
## A Five Day Training Course

## Course Aims:

This course will enable participants to effectively use the Java language. Upon successful completion of the course they will be able to: describe the capabilities of Java; describe Java OOP terminology; explain the different class- protection mechanisms; use SunSoft's Java workshop development tool; create dynamic Web pages; handle I/O exceptions; design and create their own GUI; create animation routines using double buffered graphics; create multithreaded programs and create Java programs using TCP/IP sockets.

## Course Outline:

### Object-Oriented Terminology
### What is Object-Oriented?:
- What is an Object?; Abstraction
- Encapsulation; Object Communication
- Classes; Class Inheritance
- Polymorphism & Overloading; Abstract Class

### Java Syntax:
- Java: Keywords, Comments, Types, Operators and Flow Control

### Class Objects:
- Class Definition; Access Control
- Class Methods; Super And This
- Abstract Class; Interfaces; Packages

### Creating a Java Application:
- Creating a Simple Application; Compiling
- Running the Application; Common Errors

### Basic Java Classes:
- String Class; Creating String Objects
- Redefining a String Object
- Common String Methods; String Buffer Class
- Common String Buffer Methods
- Concatenation Operators; Java Arrays
- Working with Arrays; The Date Class
- Common Date Methods

### Java Applets:
- What is an Applet?; …An Appletviewer?
- Life Cycle of an Applet
- Implementing an Applet

### Java Applets, continued.
- init(); start(); stop(); destroy(); paint()
- HelloWorld Applet
- Other Simple Graphics Methods
- Supplying HTML Parameters
- Other Useful Member Functions
- Displaying Graphic Images
- Playing Audio Clips; Mouse Input

### Creating Graphical User Interfaces:
- Layout Policies; Buttons
- Checkbox Buttons; Radio Buttons
- Choice Buttons; Self-Contained Buttons
- Label Objects; Text Field Objects

### More Graphical Objects:
- Layout Managers; Flow Layout
- Border Layout; Grid Layout; Lists
- Text Areas; Scroll Bars; Canvases

### Java Exceptions:
- Exceptions; Creating Your Own Exceptions

### Advanced Java Applications:
- Applications; The Frame Class
- Frame Application; Menus; Other Features
- Adding Submenus; Adding Check Boxes
- Turning Applets into Applications

### File Input and Output:
- Stream I/0; Common Stream Methods
- File Class; Common File Methods
- Load & Save Panels; FileInputStream

## Target Audience:

Programmers / Web Developers who need to be able to program in Java.

## Assumed Knowledge:

Attendees must be competent programmers. Experience in C or C++ would be beneficial but is not essential, as would OOP experience.