

Java Programming, Part 1

- Description:** This course introduces the student to writing object-oriented programs in Java.
- Prerequisites:** Prior study in object-orientation and UML is helpful, satisfied by attendance in the "Object Oriented Analysis and Design with the UML" course.
- Audience:** Business analysts, developers, managers and other people interested in learning how to program Java.
- Length:** Five days.

Objectives:

After taking this course, you will be able to:

1. Write Java classes using object-oriented techniques such as encapsulation, inheritance and polymorphism.
2. Write Java programs using basic syntax elements for looping and flow of control.
3. Write Java programs that define and manipulate standard Java data types.
4. Write Java programs that create and manipulate Java arrays and collections.
5. Write Java classes with constructors, overloaded methods and static members.
6. Write Java programs that catch and throw exceptions.
7. Write Java programs that define and implement interfaces.
8. Understand the basics of JavaBeans.

Chapters

Introduction to the Course

Introduction to Java

History of Java

Java Language Family Tree

Data Types and Assignment

Primitive Types
Reference Types

Operators

Math Operators
Equality Operators

Flow Control

The "if" Statement
Looping

Object-Oriented Programming Review

The Three Pillars
UML Fundamentals

Methods

Defining and Calling Methods
Constructors

Exception Handling

Catching Exceptions
Throwing Exceptions

Arrays and Collections

Defining and Manipulating Arrays
Using Collections

Inheritance and Polymorphism

Using Inheritance
Writing Extensible Classes using Polymorphism

Interfaces

What is an Interface?
Implementing Interfaces

Creating and Using JavaBeans

What is a JavaBean?
JavaBeans vs. Enterprise JavaBeans
Writing a JavaBean

Deploying Java Programs

CLASSPATH Issues
JAR Files