SETC Training Corporate Logo

Java Training: Acquainting yourself with Objects (JINTRO, 4 jours)

Description

The course Acquainting yourself with Objects (Java Training) is an exploration of object oriented programming with Java. The course covers Java basics including variables, data types, control structures, packages & classes. The training also includes inheritance, polymorphism, abstract classes, interfaces, collections, serialization & the Java class library amongst others. Students will get hands-on experience writing Java code using the Eclipse environment.

Tarifs

- Tarification: $3,750/person
- Rabais de 10% lorsque vous inscrivez 3 personnes.

Plan de cours

What is Java?

- Binary compatible, source compatible and interpreted code
- The architecture of an interpreted platform
- Comparing .NET and Java
- Strengths and weaknesses of Java
- The Java Virtual Machine specifications and platform independence
- The origins of Java
- The Java compiler
- Working with Eclipse
- Debugging with Eclipse

The Components of Java: Data types, arithmetic operators and language elements

- Classes and Packages
- The primitive data types: byte, short, int, long, float, double, char and boolean
- Converting primitive data types
- Variables: declaration and instantiation
- Variables: the assignment operator
- Variables: using objects and constructors
- Declaring constants
- Arithmetic Operations: +, -, *, /, %
- Compound Operators: +=, -=, *=, /=, %=
- Operator precedence
- Increment and decrement operator: postfix and prefix forms
- Arithmetic Operators and data types
- Type casting
- Creating functions
- Passing parameters to functions

Control of Flow: Logical operators and conditional logic

- The elements of logic: From English to programming
- Fundamental logical operators: AND, OR, NOT
- Operator precedence
- Translating from English to formal logic
- Conditional logic: the if : else : statement
- Conditional logic: the switch statement

Control of Flow: Repetition

- What are loops?
- The for loop
- The while loop
- Using break and continue
- Comparing the for loop to the while loop

Strings, Characters and Arrays

- Declaring characters and Strings
- Using basic operators with Strings
- The functions of String
- Tokens and Expressions: Analyzing and parsing Strings
- Declaring arrays: From one to many dimensions
- Arrays and loops
- An example of the use of arrays

RUP and Object Oriented Analysis

- The Rational Unified Process
- From Inception to Transition
- Object Oriented Analysis
- Writing Fully Dressed Use Cases
- Identifying the Objects
- Defining Associations
- Adding Attributes
- Drafting a Domain Model

Object Oriented Design

- What is Design?
- UML Basic Syntax
- Identifying Generalizations
- Identifying Aggregations and Compositions
- Creating a Design Class Diagram

Object oriented concepts and Classes

- What is an object oriented programming?
- Defining effective and reusable
- Object Oriented Design: A general approach
- The object in Java: the class
- Defining member variables
- Encapsulation: The need for private member variables
- Creating properties: Defining inspector functions
- Creating a simple object
- Creating methods
- Defining the scope of a member: private, public and protected
- The special case of the constructor
- Defining constructors
- Exploring Memory Management and Finalizers

Inheritance and Polymorphism

- Object oriented design in a complex system
- Creating and using packages
- A multiple class example
- Inheritance: the is-a relationship
- Using inheritance to implement an object model
- Polymorphism