Fundamentos de Java 7

Duración: 3 días (21 hrs)

Descripción general

Adquirir Conceptos fundamentales de Java 7, permitir a los estudiantes con poca o ninguna experiencia en programación, empezar a conocer esta área mediante el lenguaje Java. El curso muestra la importancia de la programación orientada a objetos, las palabras clave y las construcciones del lenguaje de programación Java, así como los pasos necesarios para crear programas simples de esta tecnología.

Objetivos

El curso introduce práctica en el conocimiento de los conceptos orientados a objetos básicos como, por ejemplo, herencia, encapsulación y abstracción. Aprenderán a crear y utilizar clases de Java simples que contengan matrices, bucles y construcciones condicionales. Además, serán capaces de utilizar y manipular referencias de objetos, así como a escribir código simple de manejo de errores.

Prerrequisitos del curso

- Para tomar este curso el único requisito es contar:
- Temario Introducción a Java 7.
- No es necesario tener conocimientos de programación en cualquier lenguaje

Esquema del curso

1 Introducing the Java Technology

- Relating Java with other languages
- Describing the various Java technologies such as Java EE, JavaME, Embedded Java SE
- Describing key features of the technology and the advantages of using Java
- Using an Integrated Development Environment (IDE)
- Showing how to download, install, and configure the Java environment on a Windows system.

2 Thinking in Objects

- Identifying objects and recognizing the criteria for defining objects
- Defining the problem domain
- Introducing the Java Language
- Compiling and executing a test program
- Identifying the components of a class
- Defining classes
- Creating and using a test class

3 Working with Primitive Variables

- Declaring variables and assigning values
- Using constants
- Describing primitive data types such as integral, floating point, textual, and logical
- Using arithmetic operators to modify values
- Declaring and initializing field variables

4 Working with Objects

- Declaring and initializing objects
- Using object references to manipulate data
- Using JSE javadocs to look up the methods of a class
- Working with String and StringBuilder objects
- Storing objects in memory

5 Using operators and decision constructs

- Creating if and if/else constructs
- Nesting and chaining conditional statements
- Testing equality between strings
- Using relational and conditional operators
- Using a switch statement
- Evaluating different conditions in a program and determining the algorithm

6 Creating and Using Arrays

- Accessing a value in an Array or and ArrayList
- Declaring, instantiating, and initializing a one-dimensional Array
- Using the import statement to work with existing Java APIs
- Declaring, instantiating, and initializing a two-dimensional Array
- Creating and initializing an ArrayList
- Using the args Array
- Using a for loop to process an Array

7 Using Loop Constructs

- Creating while loops and nested while loops
- Understanding variable scope
- Developing a do while loop
- Developing a for loop
- Using ArrayLists with for loops

8 Working with Methods and Method Overloading

- Using modifiers
- Passing arguments and returning values
- Creating static methods and variables
- Overloading a method
- Creating and Invoking a Method

9 Using Encapsulation and Constructors

- Implementing encapsulation
- Creating constructor

10 Introducing Advanced Object Oriented Concepts

- Adding abstraction to your analysis and design
- Creating and implementing a Java interface
- Using inheritance
- Understanding the purpose of Java interfaces
- Using types of polymorphism such as overloading, overriding, and dynamic binding
- Working with superclasses and subclases

11 Handling Errors

- Using Javadocs to research the Exceptions thrown by the methods of foundation classes
- Understanding the different kinds of Exceptions in Java
- Understanding the different kinds of errors that can occur and how they are handled in Java
- Writing code to handle Exceptions

12 The Big Picture

- Looking at some Java applications examples
- Creating packages and JAR files for deployment using java
- Two and three tier architectures