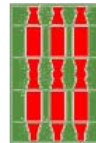




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Corso **Oracle Database Java Programming**

Descrizione

This course teaches participants how to develop Java programs. The course focuses on teaching the core Java language (J2SE), including essential object-oriented principles. In addition to Java, participants learn how to use Oracle JDeveloper as an aid to program development. During the course, you will develop stand-alone applications and applets, including their generation and testing through Oracle9i JDeveloper's IDE. This essential training provides you with the necessary skills for progressing to other courses in the Java developer curriculum.

Argomenti

Introducing the Java Platform

What is Java?

Benefits of the Java Programming and Runtime environment

Object Oriented approach

Architecture-Neutral deployment

Java and Internet computing

Bytecodes

The Java Virtual Machine (JVM)

Just-In-Time (JIT) compilers

JavaBeans

Database stored procedures

Oracle9i, Oracle9iAS

Java program execution steps

Just-In-Time (JIT) compiler

Key Java SDK components



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Defining Object Oriented Principles

Classes, objects and methods

Types of class models

Instantiation

Communication between objects

Describe Abstraction, Inheritance, Encapsulation, Aggregation and Polymorphism

Associations

Private and public private keywords and encapsulation

Compare and Contrast Sub-classes and Class members

Basic Java Syntax and Coding Conventions

Keywords

Java file structure (package, import, class)

Defining Classes

Specifying Methods (entry method main())

Java Symbols

Placing comments in Java code

Statements

Code Blocks

Exploring Primitive Data Types and Operators

Primitive data types

Declaring and initializing variables

Variable naming rules and conventions

Variable lifetime and scope

Type conversions

Static variables

Decimal, Octal, Hexadecimal

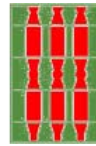
Character literals and Unicode escape sequences



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Controlling Program Flow

Decisions: if, switch, conditional operator
Repetition: while, do-while, for
Break and continue
Enumerators and iterators
Labeled break and continue

Creating Classes and Objects

Defining instance variables and instance methods
Creating objects using new and the default Constructor
Primitive variables vs. object references
Calling instance methods
Packages
Encapsulation using public and private access modifiers
Primitive vs. Reference variables
Defining class variables

Class Loading, Object Life Cycle and Inner Classes

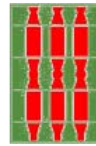
Instance variables and instance methods: a review
Method overloading
The "this" keyword
Initializing instance variables using initializers & constructors
defining and calling constructors
overloaded constructors
sharing code between constructors using "this"
Initializing class variables using static initializer blocks
Using Strings, StringBuffer, Wrapper and formatting Classes
The Java String class
String conversion and comparison



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Using the StringBuffer class to hold modifiable text
Overview of the wrapper classes
Conversions to and from primitive types using the wrapper classes
DataFormat, DecimalFormat, and MessageFormat classes
Introduce Streams

Building Java Using Oracle JDeveloper

JDeveloper components
Workspaces
Using the Project Wizard
Project Properties
Creating an Application
Understanding the generated files
Building and running the application
Modifying source code

Reusing Code with Inheritance and Polymorphism

Subclassing and inheritance: the concepts
Inheritance hierarchies
The extends keyword
What's in an object?
Constructors and inheritance
Overriding superclass methods
Calling superclass methods
Drilling down into a superclass

Using Arrays and Collections

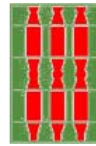
Construct an array of primitives
Construct an array of object references
Process command line arguments



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Handle command-line parameters in a Java application
Using Vectors
Hashtables and Properties
Reading command line and system, properties
Manually synchronizing ArrayLists and HashMaps

Structuring Code Using Abstract Classes and Interfaces

Abstract classes: the concepts and the syntax
Abstract methods
Defining and implementing interfaces
Polymorphism with abstract classes
Using interfaces to avoid multiple inheritences
Polymorphism with interfaces

Throwing and Catching Exceptions

What is an exception?
Throwable classes
Catching exceptions using try and catch
Ensuring code is executed using a finally block
Declared exceptions

User Interface Design: Planning a Form Layout

AWT and Swing
Swing containers
Container Hierarchy to control component groups and layout
Adding a JButton and JTextField components into a container
Building a GUI framework manually
Using JDeveloper to build the GUI framework
Layout managers
The Swing container toolbar

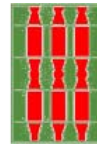
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Adding User Interface Components and Event Handling

Standard Swing components
Pluggable Look and Feel, and UIManager basics
The Swing toolbar
The Java event model
Adding event handlers using Oracle JDeveloper
Model View Controller principles using a List component
Using JOptionPane for informational and error messages

Building Components with Java Beans

Simple and complex JavaBeans
Structure of JavaBean
Method naming conventions
Introspection
Building JavaBeans
JavaBeans in JDeveloper

Building and Deploying Applets

Applets vs. applications
Applets vs. WebStart
The Applet class
Applet life cycle and important methods:
Writing and executing a simple applet with JDeveloper
Communicating with the user via Graphics and the console
Using the Appletviewer
HTML syntax for applets and applet parameters



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Moving Data In and Out of Files (optional topic, will be taught depending on the needs of individual classes.)

Onion architecture used for java I/O
Standard output (System.out.println)
Standard input (System.in)
Stream abstraction
Reading a line
Reading and writing a text file
Reading and Writing a data file
FilterInputStream and FilterOutputStream

Scalability and Multi-tasking with Threads (optional topic, will be taught depending on the needs of individual classes.)

What is a Thread?
What is Multi-Threading?
Life cycle of a thread
Creating a thread
Controlling a thread
Creating multiple threads
Synchronizing threads

Implementing Language Neutral Interfaces (optional topic, will be taught depending on the needs of individual classes.)

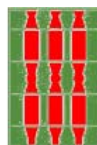
Locales
How Java represents characters
Formatting dates



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Other local customs
Text files
Reading text files
Writing text files
User visible messages

Obiettivi

Build, generate, and test Java applications and applets using Oracle9i JDeveloper
Internationalize Java applications
Write standalone applications with the Java programming language

Partecipanti

Sviluppatori Java

Prerequisiti obbligatori

Comprehensive experience using another structured programming language

Prerequisiti suggeriti

Basic knowledge of HTML
SQL1 (a.k.a Introduction to Oracle) or equivalent experience

Docenti

Personale docente Oracle University.

Durata del corso: **30 ore, in 5 giorni.**