

Java Basics

Group rates available – Inquire for more details

Duration: 20 hours

Overview:

- UWINPro's JAVA Basics training course teaches aspiring Java programmers the skills they need to successfully write their first applications in Java.

Prerequisites:

- This Java training course can be tailored for audiences ranging from first-time programmers to experienced OO developers seeking to learn Java.

Hands-on/Lecture Ratio:

- This is 70% hands-on, 30% lecture, with the lecture segments lasting for 90 minutes.

Software Needed:

- Any operating system that supports Java 1.5.0 or later.
- Java SE SDK 1.5, 1.6, or later.
- The Java tool the students are likely to use after the class (if no tool has been selected, a good free tool is Eclipse, downloadable from <http://www.eclipse.org/downloads/>).

Objectives:

- To teach attendees the fundamentals of Java programming and how to use Java to write applications.
- To teach attendees core object-oriented concepts, including classes, packages, objects, methods, properties, abstraction, polymorphism, inheritance, encapsulation, and more.

Course Outline

Getting Started with Java SE

- What is Java?
- How to Get Java
- A First Java Program
- Compiling and Interpreting Applications
- The JDK Directory Structure

Datatypes and Variables

- Primitive Datatypes
- Declarations
- Variable Names
- Numeric Literals
- Character Literals
- String

- String Literals
- Arrays
- Non-Primitive Datatypes
- The Dot Operator

Operators and Expressions

- Expressions
- Assignment Operator
- Arithmetic Operators
- Relational Operators
- Logical Operators
- Increment and Decrement Operators
- Operate-Assign Operators (+=, etc.)
- The Conditional Operator
- Operator Precedence
- Implicit Type Conversions
- The Cast Operator

Control Flow

- Statements
- Conditional (if) Statements
- Adding an else if
- Conditional (switch) Statements
- while and do-while Loops
- for Loops
- A for Loop Diagram
- Enhanced for Loop
- The continue Statement
- The break Statement

Methods

- Methods
- Calling and Defining Methods
- Method Parameters
- Scope
- So, Why All the static?

Object-Oriented Programming

- Introduction to Object-Oriented Programming
- Classes and Objects

- Fields and Methods
- Encapsulation
- Access Control
- Inheritance and Polymorphism
- Best Practices

Objects and Classes

- Defining a Class
- Creating an Object
- Instance Data and Class Data
- Methods and Constructors
- Access Modifiers

Using Java Objects

- Printing to the Console
- printf Format Strings
- StringBuilder and StringBuffer
- Methods and Messages
- toString
- Parameter Passing

Inheritance in Java

- Inheritance and Casting
- Method Overriding and Polymorphism
- Super
- The Object Class

Exception Handling

Projects and Conclusion