



APPLICATION AND WEB DEVELOPMENT

Java Programming

LENGTH

4 days

PRICE (Excl. GST)

NZD 3500

VERSION

Java SE 7

WHY STUDY THIS COURSE

Intensive and hands-on, the course emphasises becoming productive quickly as a Java® application developer.

This course quickly covers the Java language syntax and then moves into the object-oriented features of the language. Students will then use several of the provided API packages, such as I/O streams, collections, Swing GUI programming, and accessing a database with JDBC. This course is current to Java 7 and uses the Eclipse IDE.

JAVA AT LUMIFY WORK

Learn from our technical instructors with application development experience. Gain hands-on experience with writing, compiling, and running a Java program to become productive quickly as a Java application developer,



WHAT YOU'LL LEARN

Upon successful completion of this course, you will be able to:

- › Define Java terms such as JRE, JSDK, and JVM
- › Write, compile, and run a Java program

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Java Programming



My instructor was great being able to put scenarios into real world instances that related to my specific situation.

I was made to feel welcome from the moment I arrived and the ability to sit as a group outside the classroom to discuss our situations and our goals was extremely valuable.

I learnt a lot and felt it was important that my goals by attending this course were met.

Great job Lumify Work team.



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COURSE SUBJECTS

1. Course Introduction

- Course Objectives
- Course Overview
- Using the Workbook
- Suggested References

2. Getting Started with Java

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

3. Eclipse

- Introduction to Eclipse
- Installing Eclipse
- Running Eclipse for the First Time
- Editors, Views, and Perspectives
- Setting up a Project
- Creating a New Java Application
- Running a Java Application
- Debugging a Java Application
- Importing Existing Java Code into Eclipse

4. Language Fundamentals

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Lumify Work Customised Training

We can also deliver and customise this training course for larger groups saving your organisation time, money and resources.

For more information, please contact us on [0800 835 835](tel:0800835835).

- A Java Program
- If Statements
- Switch Statements
- Loop Statements
- Syntax Details
- Primitive Datatypes
- Variables
- Expressions in Java
- Strings
- Arrays
- Enhanced for Loop

5. Objects and Classes

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

6. Using Java Objects

- Printing to the Console
- printf Format Strings
- StringBuilder and StringBuffer

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- Methods and Messages
- toString
- Parameter Passing
- Comparing and Identifying Objects
- Destroying Objects
- The Primitive-Type Wrapper Classes
- Enumerated Types

7. Inheritance in Java

- Inheritance
- Inheritance in Java
- Casting
- Method Overriding
- Polymorphism super
- The Object Class

8. Advanced Inheritance and Generics

- Abstract Classes
- Interfaces
- Using Interfaces
- Collections
- Generics
- Comparable

9. Packages

- Packages

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- The import Statement
- Static Imports
- CLASSPATH and Import
- Defining Packages
- Package Scope

10. Exception Handling

- Exceptions Overview
- Catching Exceptions
- The finally Block
- Exception Methods
- Declaring Exceptions
- Defining and Throwing Exceptions
- Errors and RuntimeExceptions

11. Input/Output Streams

- Overview of Streams
- Bytes vs. Characters
- Converting Byte Streams to Character Streams
- File Object
- Binary Input and Output
- PrintWriter Class
- Reading and Writing Objects
- Closing Streams

12. Core Collection Classes

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- The Collections Framework
- The Set Interface
- Set Implementation Classes
- The List Interface
- List Implementation Classes
- The Queue Interface
- Queue Implementation Classes
- The Map Interface
- Map Implementation Classes

13. Collection Sorting and Tuning

- Sorting with Comparable
- Sorting with Comparator
- Sorting Lists and Arrays
- Collections Utility Methods
- Tuning ArrayList
- Tuning HashMap and HashSet

14. Inner Classes

- Inner Classes
- Member Classes
- Local Classes
- Anonymous Classes
- Instance Initialisers
- Static Nested Classes

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15. Introduction to Swing

- AWT and Swing
- Displaying a Window
- GUI Programming in Java
- Handling Events
- Arranging Components
- A Scrollable Component
- Configuring Components
- Menus
- Using the JFileChooser

16. Swing Events and Layout Managers

- The Java Event Delegation Model
- Action Events
- List Selection Events
- Mouse Events
- Layout Managers
- BorderLayout
- FlowLayout
- GridLayout
- BoxLayout
- Box
- JTabbedPane

17. Introduction to JDBC

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- The JDBC Connectivity Model
- Database Programming
- Connecting to the Database
- Creating a SQL Query
- Getting the Results
- Updating Database Data
- Finishing Up

18. JDBC SQL Programming

- Error Checking and the SQLException Class
- The SQLWarning Class
- JDBC Types
- Executing SQL Queries
- ResultSetMetaData
- Executing SQL Updates
- Using a PreparedStatement
- Parameterised Statements
- Stored Procedures
- Transaction Management

19. Appendix A: Introduction to Threads

- Non-Threaded Applications
- Threaded Applications
- Creating Threads
- Thread States

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- Runnable Threads
- Coordinating Threads
- Interrupting Threads
- Runnable Interface
- ThreadGroups

20. Appendix B: Thread Synchronisation and Concurrency

- Race Conditions
- Synchronised Methods
- Deadlocks
- Synchronised Blocks
- Synchronised Collections
- Thread-Aware Collections
- Thread Communication - wait()
- Thread Communication - notify()
- Executor
- Callable

21. Appendix C: Advanced JDBC

- JDBC SQL Escape Syntax
- The execute() Method
- Batch Updates
- Updateable Result Sets
- Large Objects
- Working with Savepoints

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- RowSets
- CachedRowSet
- DataSources

22. Appendix D: Eclipse Shortcuts

- Shortcut Key Sequences
- More Shortcut Key Sequences

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WHO IS THE COURSE FOR?

Programmers moving to object-oriented programming using Java.

PREREQUISITES

- Professional programming experience in C, C++, or C#® is required
- Knowledge of Object-Oriented concepts is required

The supply of this course by Lumify Work is governed by the booking terms and conditions. Please read the terms and conditions carefully before enrolling in this course, as enrolment in the course is conditional on acceptance of these terms and conditions.

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