



0208 942 5724

Email: Info@aspecttraining.co.uk

Web: www.aspecttraining.co.uk

Java Programming

Duration: 5 Days

Overview:

Aspect Training's Java Programming training course focuses on the fundamentals of the Java language, object oriented development and the structure of Java applets and applications. It covers Java Platform 2 up to version 5.0.

Delegates will learn how to develop Java systems that use various core API packages. They will develop systems that support multi-threading and networking. Java has always been associated with GUI development and this course shows delegates how to develop graphical applets and applications using the JFC (AWT and Swing).

This course helps delegates to prepare for Sun Certified Java Programmer Exam CX-310-055 Version 5.0.

Prerequisites:

This course is aimed at anyone who needs to learn how to develop in Java. Some experience with another programming language would be an advantage

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Course Topics:

Introducing Java

Introduction
The Java Development Environment
The Java Runtime Environment
Compiling and Executing Java Programs
Java Programs
Introduction to Java Security
Packages

The Java Language

Variables
Data Types
Declaring Variables
Primitive Variables
Reference Variables
Declaring, Initializing and Releasing
Reference Variables
Arithmetic and Comparison Operators
Shortcut Operators
Short-Circuit Operators
Converting Data Types
Code Blocks
Statements and Semi-Colons
IF... ELSE
IF... ELSE... IF
SWITCH CASE
WHILE...
DO... WHILE
FOR...
BREAK
The CONTINUE Statement
Comments
Strings

Objects and Classes

Introduction
Objects
Encapsulation
Classes
Class Member Data
Defining and Using Constructors
Static Initializers
Static Imports
Garbage Collection
Object Lifetime

Inheritance

Introduction
Classes and Inheritance
Methods in the Sub Class
Polymorphism
Other Inheritance Issues
Converting Reference Types
Wrapper Classes

Abstract Classes and Interfaces

Introduction
Abstraction
Abstract Classes
Abstract Class References
Abstract Methods
Abstraction Rules and Guidelines
Interfaces
Defining and Implementing an Interface
Type Conversions and Interfaces
Summary

Continued over....



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Collections

Introduction

The java.util Package

Lists

Maps

How to Choose a Collection Class

Generics

The Enhanced FOR Loop

Variable Method Arguments

Auto Boxing

Exceptions

Syntax Errors

Runtime Errors

Logical Errors

Exception Handling

Exception Objects

Handling Exceptions

User-Defined Exception Classes

Exception Handling Guidelines

Creating GUIs with the Abstract

Windowing Toolkit

Introduction

AWT Example

AWT Components

Layout Managers

Events

Introduction

The Java Event Model

Types of Event

Event Examples

Creating GUIs with Swing

Introduction

Swing Packages Overview

Swing Applets

Japplet

Swing Components

Swing Layouts

Files and Stream Input/Output

Introduction

Byte Oriented Input and Output Streams

Decoration

Character Oriented Streams

Standard I/O Streams

Examples Using I/O Streams

The File Class

Object Serialization

Introduction

Examples

Serialization Issues

The Externalizable Interface

Version Serialized Files

Java Beans

Introduction

What is a Component?

The Java Beans Component Model

Properties

Designing a JavaBean Class

Threads

Introduction

What are Threads?

Creating Threads

Implementing the Runnable Interface

Synchronizing Access to Resources

Communicating Between Threads

Networking and the URL Class

Introduction

The TCP/IP Network Model

TCP/IP Protocols

Uniform Resource Locator (URL)

Java and URLs

Java Archives - Jar Files

Introduction

Deploying Applets

Creating Jar Files

The Jar Manifest

Transmission Control Protocol (TCP)