

Java 5: Advanced Programming

Course length: 3 days

Course Description

Now that you have a basic knowledge on Java, you will be able to create simple applications. However, you need to equip yourself with enhanced programming knowledge in order to create efficient applications. Java 1.5 is loaded with new and advanced features that will enable you to develop larger and more focused applications. In this course, you will examine and work with the advanced and the additional features of Java.

Course Objective: You will work with the advanced features of Java.

Target Student: Students should be skilled and experienced in using J2SE. They should have knowledge of database structure and terminology. Also, the students should understand object-oriented programming.

Prerequisites: To ensure your success, we recommend you first take the following courses or have equivalent knowledge:

- Java 2: Programming Language
- Object-Oriented Programming: Principles

Delivery Method: Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

Course Content

Lesson 1: Working with Data Structures

Topic 1A: Create Arrays

Topic 1B: Manage Array Data

Topic 1C: Use Enumerated Data Types

Topic 1D: Work with Collections

Topic 1E: Work with Other Data Structures

Lesson 2: Examining the Concepts of Java

Topic 2A: Use Regular Expressions

Topic 2B: Use Assertions

Topic 2C: Examine Objects at Runtime

Topic 2D: Use Reflection

Topic 2E: Compare Objects for Equality

Lesson 3: Using Exception Handlers

Topic 3A: Handle Exceptions

Topic 3B: Write Exception Handlers

Topic 3C: Handle Custom Exceptions

Topic 3D: Handle Chained Exceptions

Lesson 4: Using the Java I/O Package

Topic 4A: Deploy Java I/O Package

Topic 4B: Work with Input and Output Streams

Topic 4C: Work with Character Streams

Topic 4D: Read Files

Topic 4E: Write to a File

Topic 4F: Manipulate I/O Objects



Lesson 5: Using Multi-Threaded Programs

Topic 5A: Examine a Multi-Threaded Program
Topic 5B: Deploy Threads
Topic 5C: Synchronize Threads

Lesson 6: Examining Java Database Connectivity Concepts

Topic 6A: Explore Database Concepts
Topic 6B: Modify Data in a Database
Topic 6C: Access Databases
Topic 6D: Execute Transactions

Lesson 7: Exploring Networking Basics

Topic 7A: Examine Networking Concepts
Topic 7B: Identify a Computer on a Network
Topic 7C: Establish a Client-Server Connection
Topic 7D: Use Datagram Sockets

Lesson 8: Exploring New I/O APIs

Topic 8A: Manage Data Using Buffers and Channels
Topic 8B: Work with Channels and Buffers
Topic 8C: Examine Memory-Mapped File

Lesson 9: Handling Essential APIs

Topic 9A: Use Print Services
Topic 9B: Manage Log Events Using Java Logging API
Topic 9C: Use the Preferences API

Appendix A: Sun Certified Programmer for the Java 2 Platform Standard Edition 5.0 - Exam Objectives

