

This intensive, hands-on, two day course focuses on enhancing developers skills in the Java API libraries. Students will learn to use common API packages, such collections for storing groups of objects, Swing for building GUI applications, and JDBC for accessing a database. Students will also learn to use inner classes and regular expressions within their Java applications.

Course Objectives:

- Sort and tune collections in the java.util package.
- Define classes within other classes using inner classes.
- Use the java.awt and javax.swing packages to create simple GUI applications.
- Write Java programs that interface with databases via JDBC.
- Search for occurrences of patterns in strings with the java.util.regex package.

Audience: Programmers wanting to expand their knowledge of the Java API packages.

Prerequisites: *Introduction to Java* or equivalent experience is required.

Number of Days: 2 days

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| <p>1. Course Introduction
 Course Objectives
 Overview
 Suggested References</p> | <p>5. Introduction to JDBC
 The JDBC Connectivity Model
 Database Programming
 Connecting to the Database
 Creating a SQL Query
 Getting the Results
 Updating Database Data
 Finishing Up</p> |
| <p>2. Collection Sorting and Tuning
 Using Java 5.0 Features with Collections
 Sorting with Comparable
 Sorting with Comparator
 Sorting Lists and Arrays
 Collections Utility Methods
 Tuning ArrayList
 Tuning HashMap and HashSet</p> | <p>6. JDBC SQL Programming
 Error Checking and the
 SQLException Class
 The SQLWarning Class
 JDBC Types
 Executing SQL Queries
 ResultSetMetaData
 Executing SQL Updates
 Using a PreparedStatement
 Parameterized Statements
 Stored Procedures
 Transaction Management</p> |
| <p>3. Inner Classes
 Inner Classes
 Member Classes
 Local Classes
 Anonymous Classes
 Instance Initializers
 Static Nested Classes</p> | <p>7. Advanced JDBC</p> |
| <p>4. Introduction to Swing
 AWT and Swing
 Displaying a Window
 GUI Programming in Java
 Handling Events
 Arranging Components</p> | |

JDBC SQL Escape Syntax

The execute() Method

Batch Updates

Updatable Result Sets

Large Objects

Working with Savepoints

RowSets

CachedRowSet

DataSources

8. Regular Expressions

Pattern Matching and Regular

Expressions

Regular Expressions in Java

Regular Expression Syntax

Special Characters

Quantifiers

Assertions

The Pattern Class

The Matcher Class

Capturing Groups

**9. Appendix A – 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