

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 as 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. This course is current to Java 7 and uses the Eclipse IDE.

Course Objectives:

- Use the Java Collections Framework to work with groups of objects.
- Use the java.awt and javax.swing packages to create simple GUI applications.
- Write Java programs that interface with databases via JDBC.
- Match patterns in Java programs with regular expressions.

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

<p>1 Course Introduction Course Objectives Course Overview Using the Workbook 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 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>4 Introduction to Swing AWT and Swing Displaying a Window GUI Programming in Java Handling Events Arranging Components</p>	

- 7 **Advanced JDBC**
 - 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 – Core Collection Classes**
 - 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
- 10 **Appendix B – 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