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Intensive and hands-on, this five day course emphasizes becoming productive quickly in Java, Android, and Eclipse. This course quickly covers the Java 5.0 language syntax, and then moves into more advanced features of the language such as abstract classes, interfaces, packages, and exception handling. The Java section of this course culminates with coverage of inner classes and threads. The course then turns to Android specifics where students will learn how to create applications using views, resources, and layouts. If time allows, students will also learn how to create Android dialogs and menus. This course is current to Android 2.3, Gingerbread and Java 6.

Course Objectives:

- Write stand-alone applications using the Java language.
- Accurately implement Object-Oriented concepts using Java features, such as classes, interfaces, and references.
- Create well-scoped classes using packages.
- Write programs which both handle and create exceptions.
- Define classes within other classes using inner classes.
- Use threads to improve performance of Java programs.
- Install, configure, and use your Android development environment.
- Create an Android application.
- Create an Android activity and manage its lifecycle.
- Access Android resources programmatically to enable maintenance and localization.
- Create full-featured graphical Android user interfaces.
- Control the organization of your screen with layouts.

Audience: Programmers moving to the Java language and Android development.

Prerequisites: Professional programming experience in C++ or C# required. Knowledge of Object-Oriented concepts is required.

Number of Days: 5 days

1	Course Introduction		Running Eclipse for the First Time
	Course Objectives		Editors, Views, and Perspectives
	Overview		Setting up a Project
	Suggested References		Creating a New Java Application
2	Getting Started with Java SE		Running a Java Application
	What is Java?		Shortcut Key Sequences
	How to Get Java		More Shortcut Key Sequences
	A First Java Program		Importing Existing Java Code into
	Compiling and Interpreting Applications		Eclipse
	The JDK Directory Structure	4	Language Fundamentals
3	Eclipse		A Java Program
	Introduction to Eclipse		If Statements
	Installing Eclipse		Switch Statements



Loop Statements The finally Block Syntax Details **Exception Methods Primitive Datatypes Declaring Exceptions** Variables **Defining and Throwing Exceptions** Errors and RuntimeExceptions. Expressions in Java Strings 10 **Advanced Java Features** Arrays Enumerated Types - Pre-Java 5.0 Enhanced for Loop Enumerated Types Today 5 **Objects and Classes** More Enumerated Types Defining a Class **Abstract Classes** Creating an Object Interfaces Instance Data and Class Data Using Interfaces Collections Methods Generics Constructors Access Modifiers The Collections Framework 11 Encapsulation **Inner Classes** 6 **Using Java Objects** Inner Classes Printing to the Console Member Classes printf Format Strings Local Classes StringBuilder and StringBuffer Anonymous Classes Methods and Messages Static Nested Classes toString 12 Threads Parameter Passing Non-Threaded Applications Comparing and Identifying Objects Threaded Applications **Destroying Objects Creating Threads** Using the Primitive-Type Wrapper **Thread States** Classes **Runnable Threads Coordinating Threads** Autoboxing 7 **Inheritance in Java Interrupting Threads Runnable Interface** Inheritance Inheritance in Java **Race Conditions** Casting Synchronized Methods Method Overriding Deadlocks Polymorphism Synchronized Blocks super 13 **Getting Started with Android** The Object Class Android Overview **Packages** 8 Android Architecture Packages The Dalvik VM The import Statement Android Components Static Imports Android Development Environment **CLASSPATH** and Import A Simple Android Application **Defining Packages** The Android Emulator Package Scope User Interface Layouts 9 **Exception Handling** Android Event Handlers **Exceptions** Overview LogCat Catching Exceptions



14 Activities 18 Activities Creating an Activity Activity Lifecycle Callback Methods **Resource Conservation** Intents AndroidManifest.xml Packaging 15 Resources Resources Alternative Resources R.java String Resources String Arrays Boolean and Integer Resources Color and Dimension Resources Style Resources Image Resources System Resources Localization Format Strings 16 **Views and Event Handlers** Views and ViewGroups **Common Properties** Text View Edit Text TextChanged Events Button Check Box and Toggle Button Radio Group and Radio Buttons DatePicker ProgressBar and RatingBar Threads and Handlers AsyncTask 17 Layouts LinearLayout FrameLayout RelativeLayout TableLayout Combining Layouts Scrolling Screen Orientation Changes **Graphical Layout Tool**

Toast **Custom Toast** Dialogs **Dismissing a Dialog** AlertDialog AlertDialog Buttons AlertDialog Items Custom Dialogs ProgressDialog DatePickerDialog 19 **Appendix B – Menus** Menus and Menu Items OptionsMenu **Reacting to Menu Item Selections** ContextMenu **Submenus** CheckBoxes and Radio Buttons in Menu

Items

Appendix A – Dialogs

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