Introduction

Learn the Java language and how to use JBuilder to create exciting and useful applets, applications, and software components with *Teach Yourself JBuilder 2 in 21 Days*. Java is now the language of choice for creating applications, applets, and software components for computers and the entire computing enterprise. JBuilder is a powerful integrated development environment that brings every level of Java software development within easy reach, including visual programming or RAD (Rapid Application Development). With Java and JBuilder there is no limit placed on your imagination and creativity. The Internet, the World Wide Web, in fact, the entire computing enterprise, are yours to create the Java programs for today and the future. *Teach Yourself JBuilder 2 in 21 Days* will teach you all you need to know to start you on your path.

How This Book Is Structured

Teach Yourself JBuilder 2 in 21 Days is intended to be read and absorbed over the course of three weeks. Nevertheless, the pace you keep is up to you. During each week you'll read seven chapters that present concepts related to Java and JBuilder and the creation of Java software. Each week covers a different general area of Java software development. The following is an outline of what to expect.

Week 1

During Week 1, you're introduced to the Java language and the JBuilder integrated development environment. You create Java applications and applets using JBuilder and use JBuilder's rapid application development (RAD) capabilities including visual programming.

Day 1

Day 1, "Introduction to JBuilder," explains what Java is, how it relates to JBuilder, and how to install JBuilder properly.

Day 2

Day 2, "Java Basics," shows you the building blocks of your Java programs, such as variables, types, expressions, operators, arrays, strings, conditionals, and loops.

Day 3

Day 3, "Java Intermediate," discusses classes and objects and how they relate to each other. You also explore behaviors and attributes.

Day 4

Day 4, "Java Advanced," discusses protection for class variables and methods, constant variables, classes that can't be subclassed, and methods that can't be overridden.

Day 5

Day 5, "JBuilder IDE," examines JBuilder's extensive menu system and shows you how to customize the JBuilder integrated development environment.

Day 6

Day 6, "User Interface Design," shows you the UI Designer, the Component Palette, and the Java Abstract Windowing Toolkit (AWT).

Day 7

Day 7, "JavaBeans Component Library," concludes Week 1 with an exploration of the Component Palette, which presents tabbed pages containing a wide range of JavaBeans software components that you can use in your JBuilder visual programming, or RAD, projects.

Week 2

During Week 2 you dig into building solid Java software, whether it be applets, applications, or software components. All of the elements you learned about Java and JBuilder in Week 1 come together in Week 2, enabling you to create Java programs.

Day 8

Day 8, "Applets, Applications, and Wizards," begins Week 2 by showing you how to create Java applications, including how to pass arguments to a Java program from a command line.

Day 9

Day 9, "Graphics, Fonts, and Multimedia," discusses how the graphics system works in Java. You explore the `Graphics` class and Java coordinate system used to draw to the screen. You also see how applets paint and repaint to a window.

Day 10

Day 10, "Streams and I/O," explains how you create, use, and detect the end of input streams. You learn how to use and nest filtered input streams. And you learn how to create, use, and close output streams.

Day 11

Day 11, “Compiling and Debugging,” explores using the Make and Rebuild commands to compile your Java programs in the JBuilder integrated development environment. You also learn how to get context-sensitive help to correct errors in your code.

Day 12

Day 12, “Handling Events,” shows you how your Java application responds to messages sent to it by the system. You learn how to handle event messages in your Java applications.

Day 13

Day 13, “Exception Handling,” shows you how to allow your program to cope with exceptions easily and to occasionally execute alternative code rather than simply shutting down.

Day 14

Day 14, “JBuilder Database Architecture,” teaches you JDBC and how it affects applet and application development.

Week 3

During Week 3 you learn about advanced Java and JBuilder topics including how to create JavaBeans software components, building database applications, and creating network-aware Java applications.

Day 15

Day 15, “Building Database Applications,” shows you how to set up Local InterBase, along with data sources. Create, update, and delete database tables. Design database application user interfaces.

Day 16

Day 16, “Multithreading,” explains what threads are and how they can make your programs work better.

Day 17

Day 17, “Persistence,” explores serializable and externalizable objects and teaches you about persistence security issues.

Day 18

Day 18, "Building JavaBeans," shows you the JavaBeans software component model and how to create these reusable software components known as beans. You also learn how to distribute the functionality of your code without distributing the source code itself.

Day 19

Day 19, "Deploying Java Programs," teaches you how to prepare and place program files making sure that the program works properly in its intended environment.

Day 20

Day 20, "Java Network Communications," teaches you how to create networking links in applets using the `URLConnection`, `Socket`, and `SocketServer` classes and handle network-related exceptions.

Day 21

Day 21, "Inside Java," explores the inner workings of the Java system, including the Java Virtual Machine, bytecodes, garbage collection, and security.

Conventions Used in This Book

Text that you type and text that you see on-screen appears in `monospace` type:

```
It will look like this.
```

to mimic the way text looks on your screen.

Variables and placeholders (words that stand for what you will actually type) appear in *`italic monospace`*.

Each chapter ends with questions pertaining to that day's subject matter, with answers from the author. Most chapters also include an exercise section and a quiz designed to reinforce that day's concept. (The answers appear in Appendix A.)

A Note presents interesting information related to the discussion.

A Tip offers advice or shows you an easier way of doing something.

A Caution alerts you to a possible problem and gives you advice on how to avoid it.

NEW TERM New terms are introduced using the New Term icon.

TYPE The Type icon identifies code that you can type in yourself. It usually appears next to a listing.

OUTPUT The Output icon highlights the output produced by running the Java application or applet.

ANALYSIS The Analysis icon designates the author's line-by-line analysis.

When a line of code is too long to fit on one line of this book, it is broken at a convenient place and continued to the next line. The continuation is preceded by a special code continuation character (➥).

Web Sites for Further Information

Two Web sites are particularly useful to the Java programmer who uses JBuilder. The offical Java Web site is provided by JavaSoft, a subsidiary of Sun Microsystems Inc., at `http://www.javasoft.com`. The official JBuilder Web site is provided by Inprise Corporation at `http://www.inprise.com/jbuilder/`.