

Learn how to build Java-based
BlackBerry apps from scratch



Beginning BlackBerry 7 Development

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Setting the Stage

There has never been a better time to develop applications for BlackBerry devices than right now. Since Research In Motion (RIM) launched the first models almost a decade ago, the BlackBerry smartphone has gone from relative obscurity to near universal visibility—think about how commonplace it has become to see people in airports, hotels, offices, or just about anywhere stealing a few minutes to check their e-mail or type replies. The BlackBerry software development kit (SDK) has been around since the first devices were released and has grown to include an extensive collection of examples and documentation, and a mature set of APIs and tools that have opened the door for all kinds of great applications, most of which only currently exist in someone’s imagination. And with the maturing of the BlackBerry community and the introduction of BlackBerry App World, it’s easier than ever to get your application noticed and downloaded by users worldwide.

In this chapter we’ll talk a bit about the basics of BlackBerry development: development environment options (there are a couple), other software and information you need, and some things to keep in mind. We’ll also walk through the download and setup of the development tools and simulators so you’re all set up to start building applications in the next chapter.

What This Book Is

This book is a guide to help you get started creating your own BlackBerry applications. This book is not about writing web applications for BlackBerry devices or about rapid application development (RAD) solutions, such as MDS Studio or the BlackBerry plug-in for Microsoft Visual Studio. This is about building professional, polished, native applications that take full advantage of the BlackBerry platform.

By the end of this book, you’ll have built several simple BlackBerry applications, learned how to run them on the various BlackBerry simulators, and learned how to package and deploy them onto real BlackBerry devices. You’ll learn how a BlackBerry application is put together, how to create great-looking user interfaces, how to interact with the user (using the keyboard and trackball/trackpad or touch screen, depending on the device), how to send and receive data over the wireless network, and more. Combined with the

extensive development resources and examples provided by RIM, you'll be on your way to creating the next killer application for this platform.

What You Need to Know Before You Can Begin

To be able to follow along, you should have previous programming experience in a modern object-oriented language. This book is not an introduction to object-oriented programming or even to the Java language. There are many excellent resources and tutorials available on the Internet.

BlackBerry applications are written in Java Micro Edition (Java ME), formerly called J2ME. This is a subset of Java Standard Edition (Java SE) that most Java developers work with. If you're familiar with Java SE or Java Enterprise Edition (Java EE), Java ME will be very easy to pick up.

If you're familiar with another object-oriented language—especially one with a similar syntax, such as C#, C++, or even Objective-C—you should similarly have no problem picking things up. C# developers in particular should be able to understand Java ME code with little or no effort.

One of the nice things about Java ME and the BlackBerry from the perspective of a beginner is that the API is small compared to desktop or server programming environments—you can learn a great deal of it fairly quickly. Of course, this is a double-edged sword; there will be times when you wish the API provided some functionality that bigger environments do, though the BlackBerry API is getting more functionality all the time.

Setting Up Your Development Environment

Before you can begin writing applications for BlackBerry you'll need a few things. First, you'll need a computer running Windows 2000 SP1 or later, Windows XP, Windows Vista, or Windows 7. Any desktop or laptop produced in the last few years should be sufficient, but as with any software development, the more RAM and CPU speed you have, the better your experience will be. Because you will be running an integrated development environment (IDE) of your choice (you have two options) and the simulator where you test your application, we recommend at least 4GB of RAM and a dual-core processor so you will be able to compile and run your BlackBerry application swiftly.

The first stop for all BlackBerry development tools and other resources is the BlackBerry Developer Zone, at www.blackberry.com/developers/ (see Figure 1–1). Here, you'll find free downloads, whitepapers, the developer knowledge base, and the BlackBerry Developer Forums. As a BlackBerry developer, you should get to know this site very well.

The screenshot shows the BlackBerry Developer Zone website. At the top, there is a navigation bar with links for NORTH AMERICA, WORLDWIDE, PARTNERS, DEVELOPERS, BLACKBERRY OVERVIEW, and SITE SEARCH. Below this is a secondary navigation bar with categories: DEVICES, SOFTWARE, SUPPORT & SERVICES, SOLUTIONS, WHERE TO BUY, and OWNERS LOUNGE. The main content area is titled 'Developers' and includes a 'Developer Login' section with fields for Username and Password, and a 'Log in' button. Below the login section, there are links for 'BlackBerry Browser Development', 'Rapid Application Development', and 'Java Application Development'. A 'BlackBerry App World' section is also present, with a link to 'Learn how to submit an application'. The right sidebar contains sections for 'WHAT'S NEW' (listing developer challenges and tutorials) and 'TOP DOWNLOADS' (listing various BlackBerry simulator and plug-in downloads).

Figure 1–1. *The BlackBerry Developer Zone*

In addition, in order to download any tools from RIM, you have to log in with a BlackBerry developer account. So take this time and sign up for yourself.

RIM does offer higher-level paid Independent Software Vendor (ISV) programs with additional support and other benefits, but you can develop and distribute applications with the free account. We recommend this to enterprise developers who have support Service Level Agreement (SLA) with clients, because if there is a support issue around a certain BlackBerry API, your ISV technical representative will then be able to answer your inquiries and/or provide workarounds for your problem. For more information, see <http://partners.blackberry.com/>.

Installing the Development Environment

There are two BlackBerry development environments produced by RIM: the BlackBerry Java Development Environment (JDE) and the BlackBerry JDE Plug-in for Eclipse. Both are very functional and have been used by developers to produce professional applications. The JDE has been around longer and is a bit more mature, but almost everything possible with the JDE can also be accomplished with the Eclipse plug-in. The

Eclipse plug-in leverages the entire Eclipse development platform, which includes a world-class source code editor and a lot of third-party plug-ins. Ultimately, the choice is a matter of personal preference. Although we have used JDE since the very beginning days of BlackBerry development and it has come a long way, the developer-friendly features of Eclipse IDE with the new updates to the BlackBerry JDE Plug-in for Eclipse make the latter a natural choice for BlackBerry development. For the rest of this book, we'll be focused on using the Eclipse plug-in.

Before you start development for BlackBerry, you will need to first decide what BlackBerry operating system (OS) version your application will support, which then will determine what Eclipse JDE plug-in component pack you will need to build your application. Each version of the component pack for the Eclipse plug-in corresponds to a major version of the BlackBerry OS. BlackBerry does a good job of keeping its OS backward compatible, so something developed for OS 5.0 generally will work the same on OS 6.0 and higher. However, you may want to use some features that are only available on a later OS. A safe minimum is 5.0, which covers majority of the BlackBerry devices on the market and is supported by BlackBerry App World.

Before installing the BlackBerry development tools, you'll need to install the Java SE JDK from www.oracle.com/technetwork/java/index.html. For most developers, downloading Java SE JDK v6.0 is a good choice—it will let you develop for BlackBerry Device Software version 4.5 and later, which covers majority of BlackBerry smartphones on the market. More specific information is available in the Developer Zone at <http://na.blackberry.com/eng/developers/javaappdev/javadevdev.jsp>.

Installing the BlackBerry Java Plug-In for Eclipse

To use Eclipse to develop for BlackBerry, you'll need to download Eclipse IDE. However, to make things simple for you, RIM has bundled Eclipse 3.6 (Helios) with the BlackBerry JDE Plug-in with BlackBerry SDK 7.0, which is shown in Figure 1–2. You can download the BlackBerry Java Plug-in for Eclipse at <http://us.blackberry.com/developers/javaappdev/devtools.jsp>.