# Android Development Tools

The Android SDK includes several tools and utilities to help you create, test, and debug your projects. A detailed examination of each developer tool is outside the scope of this book, but it's worth briefl y reviewing

what's available. For more detail than is included here, check out the Android documentation at: http://code.google.com/android/intro/tools.html

As mentioned earlier, the ADT plug-in conveniently incorporates most of these tools into the Eclipse IDE, where you can access them from the DDMS perspective, including:

❑ **The Android Emulator** An implementation of the Android virtual machine designed to run on your development computer. You can use the emulator to test and debug your android applications.

❑ **Dalvik Debug Monitoring Service (DDMS)** Use the DDMS perspective to monitor and control the Dalvik virtual machines on which you're debugging your applications.

❑ **Android Asset Packaging Tool (AAPT)** Constructs the distributable Android package files (.apk).

❑ **Android Debug Bridge (ADB)** The *ADB* is a client-server application that provides a link to a running emulator. It lets you copy fi les, install compiled application packages (.apk), and run shell commands.

The following additional tools are also available:

❑ **SQLite3** A database tool that you can use to access the SQLite database fi les created and used by Android

❑ **Traceview** Graphical analysis tool for viewing the trace logs from your Android application

❑ **MkSDCard** Creates an SDCard disk image that can be used by the emulator to simulate an external storage card.

❑ **dx** Converts Java .class bytecode into Android .dex bytecode.

❑ **activityCreator** Script that builds Ant build fi les that you can then use to compile your Android applications without the ADT plug-in Let's take a look at some of the more important tools in more detail.