



## Android Libraries

Android offers a number of APIs for developing your applications. The following list of core APIs should provide an insight into what's available; all Android devices will offer support for at least these APIs:

- ❑ **android.util** The core utility package contains low-level classes like specialized containers, string formatters, and XML parsing utilities.
- ❑ **android.os** The operating system package provides access to basic operating system services like message passing, interprocess communication, clock functions, and debugging.
- ❑ **android.graphics** The graphics API supplies the low-level graphics classes that support canvases, colors, and drawing primitives, and lets you draw on canvases.
- ❑ **android.text** The text processing tools for displaying and parsing text.
- ❑ **android.database** Supplies the low-level classes required for handling cursors when working with databases.
- ❑ **android.content** The content API is used to manage data access and publishing by providing services for dealing with resources, content providers, and packages.
- ❑ **android.view** Views are the core user interface class. All user interface elements are constructed using a series of Views to provide the user interaction components.
- ❑ **android.widget** Built on the View package, the widget classes are the “here’s one we created earlier” user-interface elements for you to use in your applications. They include lists, buttons, and layouts.
- ❑ **com.google.android.maps** A high-level API that provides access to native map controls that you can use within your application. Includes the MapView control as well as the Overlay and MapController classes used to annotate and control your embedded maps.
- ❑ **android.app** A high-level package that provides access to the application model. The application package includes the Activity and Service APIs that form the basis for all your Android applications.
- ❑ **android.provider** To ease developer access to certain standard Content Providers (such as the contacts database), the Provider package offers classes to provide access to standard databases included in all Android distributions.
- ❑ **android.telephony** The telephony APIs give you the ability to directly interact with the device’s phone stack, letting you make, receive, and monitor phone calls, phone status, and SMS messages.
- ❑ **android.webkit** The WebKit package features APIs for working with Web-based content, including a WebView control for embedding browsers in your activities and a cookie manager.

In addition to the Android APIs, the Android stack includes a set of C/C++ libraries that are exposed through the application framework. These libraries include:

- ❑ **OpenGL** The library used to support 3D graphics based on the Open GL ES 1.0 API
- ❑ **FreeType** Support for bitmap and vector font rendering
- ❑ **SGL** The core library used to provide a 2D graphics engine
- ❑ **libc** The standard C library optimized for Linux-based embedded devices
- ❑ **SQLite** The lightweight relation database engine used to store application data
- ❑ **SSL** Support for using the Secure Sockets Layer cryptographic protocol for secure Internet communications