



SIMPLY REACH

ZK™ Mobile for Android

The Quick Start Guide

Version 0.8.1

Feburary 2008

Potix Corporation

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Before You Start

New to ZK Framework

Before developing ZK Mobile applications in Java (and running ZK Mobile demo in your machine), you have to install a ZK Framework first. Refer to the ZK's Quick Start Guide for more details.

Download ZK Standard Distribution and ZK Documentation
<http://www.zkoss.org/download/>

Note: zkand 0.8.1 works with ZK 3.0.0 and later only

New to Google Android

The Google Android is a is a fully integrated mobile platform of a Linux operating system, middleware, widgets set and applications. It also includes an emulation environments that you can emulate different mobile devices and test driving your ZK Mobile for Android applications.

Note: You don't have to learn Google Android to write ZK Mobile for Android applications.

Download Android SDK for Windows:
 [android_sdk_windows_m3-rc37a.zip](http://code.google.com/android/download.html)

A list of all available versions:
<http://code.google.com/android/download.html>

Installing the SDK

After downloading the SDK, unpack the .zip file to your preferred location on your machine. (For the rest of this document, we will refer to the directory where you installed the SDK as \$SDK_ROOT.)

Secondly, add \$SDK_ROOT/tools into your path:

On Windows, right click on **My Computer**, and select **Properties**. Under the **Advanced** tab, hit the **Environment Variables** button, and in the dialog that comes up, double-click on **Path** under **System Variables**, and add the full path to the **tools/** directory under \$SDK_ROOT to it.

New to Java Integrated Development Environment (IDE)

Eclipse is one of the most popular Java IDEs. With IDE, it is easier to develop and debug your ZK Mobile for Android applications. Moreover, you can understand ZK Mobile for Android better by debugging through ZK's source codes.

The step-by-step setup guide can be found in one of our small talks:

<http://www.zkoss.org/smalltalks/eclipse/ek.html>

1. What to Download

File	Description
zkand-0.8.1.tar.gz zkand-0.8.1.zip	The binary distribution of ZK Mobile for Android, including ZK Mobile for Android client, and server side HIL (Handset Interactive Language) components library. In addition to the ZK standard distribution, it is all you need to enable reach of your Web applications to mobile devices.
zkand-demo-0.8.1.zip	Standalone <code>zkand-demo</code> application in WAR and EAR format, and the source codes of <code>zkand-demo</code> . It is the fastest way to test drive the features of ZK Mobile for Android without configuring your Web server.
zkand-javadoc-0.8.1.zip	The Java API document of ZK Mobile for Android framework.
zkand-src-0.8.1.tar.gz	The source codes of ZK Mobile for Android framework, including the third-party libraries to build the source codes.

2. Run the Demo

Deploy zkand-demo-all

The simplest way to run the demo is to download `zkand-demo-0.8.1.zip` from <http://downloads.sourceforge.net/zk1/zkand-demo-0.8.1.zip>. Unzip it to a folder (we will call it `$ZKAND` later in this article). You can deploy `zkand-demo-all.war` or `zkand-demo-all.ear` to your Web or application server. Most Web or application servers have a management console that allows you to deploy an application painlessly.

For Tomcat server, you can copy it directly to the `$TOMCAT_DIR/webapps` directory, and then Tomcat will start the deployment automatically.

Installing ZK Mobile for Android Client

First of all, activates the Android emulator by double clicking **emulator.exe** under `$SDK_ROOT/tools` directory.

Secondly, activates a console program ("Click **Start**, Select **Run**, and then type "cmd" in the dialogue for Windows computers). Then, change the directory to `$ZKAND/client/`.

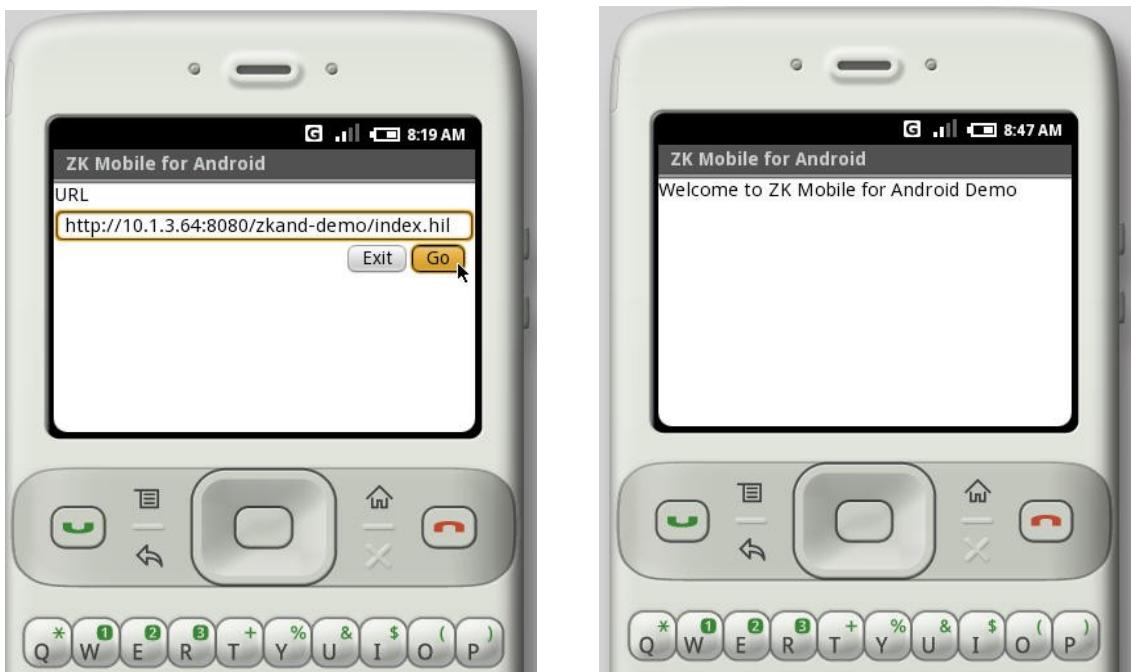
Type-in the following command: **adb install zkand.apk**

Start the ZK Mobile for Android Client

Open the Android emulator, you should see five icons on the bottom of the screen. Then, clicks left arrow key twice to change selection to "Applications." Clicks center arrow key, and you should see those applications installed on your Android emulator. Change your selection to "ZK Mobile for Android", and clicks the center arrow key to active the client.



You should see an input field and two buttons on the screen. Replaces **your-ip-address** with your real IP address, ex.10.1.3.64. Then, clicks the **Go** button, and it will bring you to the page.



If you want to go back to the home page of browser, simply clicks the return arrow button, and selects **Go Home** in the popup menu. Last, you could end this click by clicking the **Exit** button.



3. Installation

ZK Mobile for Android consists of a set of libraries. There are two ways to install them to Tomcat Web server. First, copy them to the shared directory (for Tomcat, it is `shared/lib`), so all Web applications can use them. Second, copy them to the `WEB-INF/lib` directory of the Web application, such that you can deploy your Web application to any Web server you want.

Here we illustrate first how to install ZK Mobile for Android libraries to the shared directory. It varies from one Web server to another.

Install ZK Mobile for Android Computing on Tomcat

1. Before install ZK Mobile for Android Computing on Tomcat, you have to **install ZK Framework first**. Refer to the ZK's Quick Start Guide/Install ZK on Tomcat for details.
2. Stop Tomcat.
3. Uncompress `zkand-0.8.1.zip` or `zkand-0.8.1.tar.gz`
4. Copy `dist/lib/*.jar` to `$TOMCAT_HOME1/shared/lib`
5. Re-start Tomcat.
6. Deploy `demo/bin/zkand-demo.war` to Tomcat. It can be done by use of the Tomcat manager, or by copying it to `$TOMCAT_HOME/webapps` directly. If you prefer copying directly, you have to stop Tomcat first.
7. Start the ZK Mobile for Android client as described in previous section. In client's URL Entry page browse to `http://your-ip-address/zkand-demo/test/hello.hil` or `http://your-ip-address:8080/zkand-demo/test/hello.hil`, depending on your configuration.

Install ZK on Jetty

1. Before install ZK Mobile for Android on Jetty, you have to install ZK framework first. Refer to the ZK's Quick Start Guide/Install ZK on Jetty for details.
2. Stop Jetty.
3. Uncompress `zkand-0.8.1.zip` or `zkand-0.8.1.tar.gz`

¹ `$TOMCAT_HOME` is where you installed Tomcat.

4. Copy `dist/lib/*.jar` to `$JETTY_HOME2/ext`
5. Deploy `demo/bin/zkand-demo.war` to Jetty by copying it to `$JETTY_HOME/webapps` directly.
6. Start Jetty.
7. Start the ZK Mobile for Android client as described in previous section. In client's URL Entry page browse to `http://your-ip-address/zkand-demo/test/hello.hil` or `http://your-ip-address:8080/zkand-demo/test/hello.hil`, depending on your configuration.

Deploy your Application as a WAR file or an EAR file

In additions to installing ZK Mobile for Android libraries to the Web server, you can put them into your Web application such that you can deploy your Web application to any Web server.

To bundle ZK Mobile for Android libraries with the WAR file

Copy `dist/lib/*.jar`, and `dist/lib/ext/*.jar` from `zkand-0.8.1.zip` to the `/WEB-INF/lib` directory in your WAR file.

To bundle ZK libraries with the EAR file

Copy `dist/lib/*.jar`, and `dist/lib/ext/*.jar` from `zkand-0.8.1.zip` to the root directory of your EAR file, such that all your Web applications (in the same EAR file) can share them.

Working with MySQL³

To open the connection under zscript, you have to put MySQL JDBC driver (`mysql-connector-*.jar`) under the `$TOMCAT_DIR/common/lib` directory.

² `$JETTY_HOME` is where you installed Jetty.

³ <http://www.mysql.com>

4. The Content of Distribution

This chapter describes the content of zkand-0.8.1.zip.

client

This directory holds the ZK Mobile for Android client jar and a client deployment JAD file.

doc

This directory holds the documents including Quick Start Guide and User Guide.

dist/lib

This directory holds the binary libraries required to run ZK Mobile for Android.

dist/src

This directory holds the source codes in JAR format. These JAR files are used for debugging in IDE, such as Eclipse. You cannot build the binary libraries from these. Rather, download and uncompress zkand-src-0.8.1.tar.gz.

dist/WEB-INF

This directory holds the TLD and XSD files that might be useful to develop ZK Mobile for Android applications.

5. The Content of Demo Distribution

This chapter describes the content of zkand-demo-0.8.1.zip.

/

This directory holds the executable: zkand-demo.war, zkand-demo-all.war, zkand-demos.ear and zkand-demos-all.ear. Refer to the **Installation** chapter for details.

/zkand-demo

This directory holds the source codes of the ZK Mobile for Android demo.

/MyHandsetAPP

This directory holds an empty ZK Mobile for Android application which you can start your new ZK Mobile for Android application from.

6. My First ZK Mobile for Android Application

Prepare WEB-INF/web.xml

ZK Mobile for Android Computing is an extension to the ZK Framework so you have to prepare first the web.xml that can be used to run ZK application. Then add one more zkLoader servlet mapping specific for the ZK Mobile for Android applications. Then, what you need to do is to copy files with .hil extension to the proper directories in your Web applications.

```
<servlet-mapping>
    <servlet-name>zkLoader</servlet-name>
    <url-pattern>*.hil</url-pattern>
</servlet-mapping>

<welcome-file-list>
    <welcome-file>index.hil</welcome-file>
</welcome-file-list>
```

My First Hello World

Create a file called hello.hil with the following content. Then, start the ZK Mobile for Android client to see the result, say <http://your-id-address:8080/zkdemo/test/hello.hil>.

```
<frame title="My First window" visible="true">
    Hello, World
</frame>
```

Then, the result is depicted as follow.

