



**SIMPLY REACH**

**ZK™ Mobile**

# **The Quick Start Guide**

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**Potix Corporation**

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# Before You Start

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## 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/>

## New to Sun Java Wireless Toolkit

The Sun Java Wireless Toolkit is a toolbox for developing wireless applications that are based on JavaME's Connected Limited Device Configuration (CLDC) and Mobile Information Device Profile (MIDP). The toolkit includes an emulation environments that you can emulate different mobile devices and test driving your ZK Mobile applications. Note that you don't have to learn JavaME to write ZK Mobile applications.

Download      Installer for Windows:  
[sun\\_java\\_wireless\\_toolkit-2\\_5\\_1-windows.exe](#)

A list of all available versions:  
<http://java.sun.com/products/sjwtoolkit/>

## 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 applications. Moreover, you can understand ZK Mobile 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

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File	Description
zkmob-0.8.5.tar.gz zkmob-0.8.5.zip	<p>The binary distribution of ZK Mobile, including ZK Mobile libraries.</p> <p>In addition to the ZK Framework, it is all you need to enable reach of your Web applications to mobile devices.</p>
zkmob-demo-0.8.5.zip	<p>Standalone <code>zkmob-demo</code> application in WAR and EAR format, and the source codes of <code>zkmob-demo</code>.</p> <p>It is the fastest way to test drive the features of ZK Mobile without configuring your Web server.</p>
zkmob-javadoc-0.8.5.zip	The Java API document of ZK Mobile framework.
zkmob-src-0.8.5.tar.gz	The source codes of ZK Mobile framework, including the third-party libraries to build the source codes.

## 2. Run the Demo

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### Deploy zkmob-demo-all

The simplest way to run the demo is to download `zkmob-demo-0.8.5.zip` from [http://sourceforge.net/project/showfiles.php?group\\_id=152762](http://sourceforge.net/project/showfiles.php?group_id=152762). Unzip it to a folder (we will call it `$ZKMOB` later in this article). You can deploy `zkmob-demo-all.war` or `zkmob-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.

### Setup Security Domain

Start **Preferences** program from **Sun Java(TM) Wireless Toolkit for CLDC**. The **Preferences** window shall pop out. Select **Security** in **Category** list, **MSA** in **Security Policy**, and **maximum** in **Security domain**. Press **OK** button.

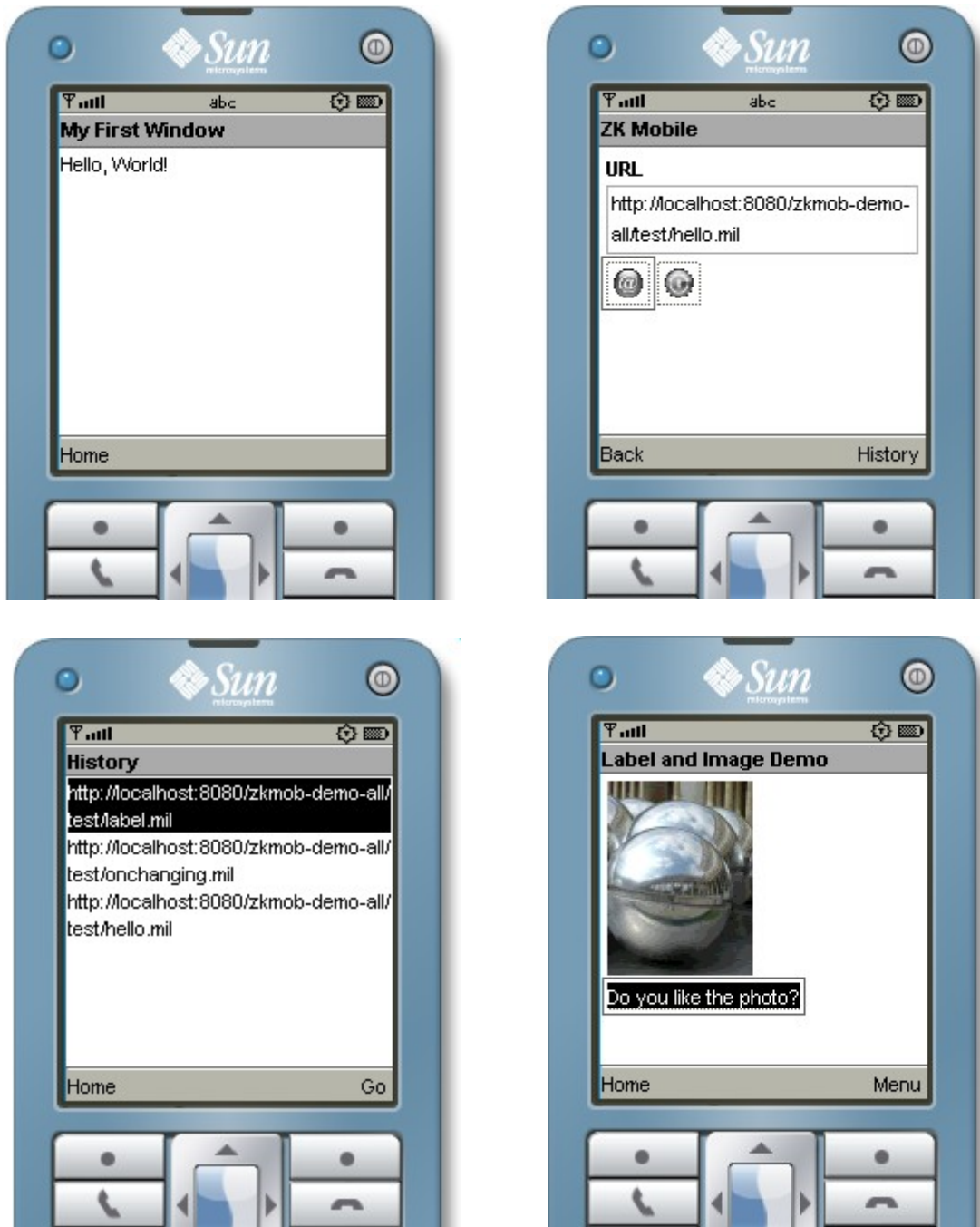
### Start the ZK Mobile Client

Start **Run MIDP Application ...**. In **Select a JAD file to Run** navigation dialog find and select the `$ZKMOB/client/zkmob.jad` and press **Run** button. A mobile device emulator shall appear with the **ZK Mobile** option. Press the **Launch** button and appear the ZK Mobile's **URL Entry** page. Now



press the **Go** button and you should see the **Hello World!**.

You can then click the **Home** button and it brings you back to ZK Mobile's **URL Entry** page again. You can move focus to the @ history icon and click the History button. There you will see the pre-bookmarked demo program URL list. Select what you want to try and click the **Go** button and ZK Mobile client will bring you there.



## 3. Installation

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ZK Mobile 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 libraries to the shared directory. It varies from one Web server to another.

### Install ZK Mobile Computing on Tomcat

1. Before install ZK Mobile 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 `zkmob-0.8.5.zip` or `zkmob-0.8.5.tar.gz`
4. Copy `dist/lib/*.jar` to `$TOMCAT_HOME1/shared/lib`
5. Re-start Tomcat.
6. Deploy `demo/bin/zkmob-demo.war` to Tomcat. It can be done by use of the Tomcat manager, or by copying it to `$TOMCAT_HOME/webapps` directly. If you prefer copying directly, you have to stop Tomcat first.
7. Start the ZK Mobile client as described in previous section. In client's URL Entry page browse to `http://localhost/zkmob-demo/test/hello.mil` or `http://localhost:8080/zkmob-demo/test/hello.mil`, depending on your configuration.

### Install ZK on Jetty

1. Before install ZK Mobile 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 `zkmob-0.8.5.zip` or `zkmob-0.8.5.tar.gz`

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<sup>1</sup> `$TOMCAT_HOME` is where you installed Tomcat.



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

## Deploy your Application as a WAR file or an EAR file

In additions to installing ZK Mobile 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 libraries with the WAR file

Copy `dist/lib/*.jar`, and `dist/lib/ext/*.jar` from `zkmob-0.8.5.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 `zkmob-0.8.5.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 MySQL<sup>3</sup>

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

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<sup>2</sup> `$JETTY_HOME` is where you installed Jetty.

<sup>3</sup> <http://www.mysql.com>

## 4. The Content of Distribution

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This chapter describes the content of `zkmob-0.8.5.zip`.

### **client**

This directory holds the ZK Mobile client jar, client deployment JAD file, and a security certificate that signed the ZK Mobile client jar.

### **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.

### **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 `zkmob-src-0.8.5.tar.gz`.

### **dist/WEB-INF**

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

## 5. The Content of Demo Distribution

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This chapter describes the content of `zkmob-demo-0.8.5.zip`.

**/**

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

### **/zkmob-demo**

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

### **/MyMobileApp**

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

## 6. My First ZK Mobile Application

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### Prepare WEB-INF/web.xml

ZK Mobile 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 applications. Then, what you need to do is to copy files with .mil extension to the proper directories in your Web applications.

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

<mime-mapping>
    <extension>jad</extension>
    <mime-type>text/vnd.sun.j2me.app-descriptor</mime-type>
</mime-mapping>

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

### My First Hello World

Create a file called hello.mil with the following content. Then, start the ZK Mobile client to see the result, say <http://localhost:8080/zkdemo/hello.mil>.

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

Then, the result is depicted as follow.

