

# Using the LiquidApps® Android Native Renderer

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## 1 Overview

LiquidApps communicates with a native Android application running on an Android device (or Google's Android Emulator) to produce live Android UI images as the user designs an Android UI in LiquidApps. This document explains how to set up an Android device to run the native Android renderer app and how to configure LiquidApps to use it.

## 2 Obtain the Android Renderer App

The app is available as a free download on the Android marketplace (<https://play.google.com>). Find it by searching for *LiquidApps Native Renderer*.

## 3 Create an Android Emulator

Use of an emulated device is possible, though not the preferred choice. Complete the steps in this section ONLY if you have chosen to run the Android Renderer App on an emulated device, rather than a physical Android device.

**Note:** Due to poor performance of the Android emulator, not all features of the Android platform will function correctly when running the Android Renderer App on an emulated device, and it will run slowly!

### 3.1 Install an Android SDK

1. Browse to <http://developer.android.com/sdk/index.html>
2. Expand the section labeled *DOWNLOAD FOR OTHER PLATFORMS* and install the *SDK Tools Only* installer package for your system. Once the file has downloaded, follow the instructions to install the Android SDK Tools Setup Wizard.
3. After installing the Android SDK Tools Setup Wizard, open the Android SDK Manager and install the SDK Tools and Android 4.1.2 (API 16).

### 3.2 Create and start the Android Emulator

1. Open the Android Virtual Device manager which was installed with the SDK Manager
2. Click **New...**The **Create New AVD** dialog appears
3. Type the name of the AVD, such as *my\_avd*
4. Choose a device that has a screen size similar to your target environment
5. Choose Android 4.1.2 as the target
6. Click **Create AVD**
7. Select the newly created AVD from the list in the Android Virtual Device Manager screen
8. Click **Start...** to create the AVD

### 3.3 Port Forwarding With the Android Emulator

Google's Android Emulator software uses an internal firewall between the emulated device and the host machine. You must tell the Android Emulator to forward the desired port to allow communication between LiquidApps and the Android Renderer app on the emulated device.

To do this, follow these steps on the machine where the Android Emulator is running:

#### 3.3.1 On Linux

1. Open a terminal console
2. Open a telnet connection to the Android Emulator, for example:  
`telnet localhost 5554`
3. Enter the port redirect command. In this example we'll assume port 4444:  
`redir add tcp:4444:4444`
4. Exit the telnet connection  
`Exit`

#### 3.3.2 On Windows

**NOTE:** Putty may produce an error the first time you try to forward the port; it should work the second time.

1. Install Putty from <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>
2. Open putty
3. In the Host Name field type `localhost`
4. In the Port field type `5554`
5. Select the radio button for the Telnet connection type
6. Click Open to start the connection
7. Enter the port redirect command. In this example we'll assume port 4444:  
`redir add tcp:4444:4444`
8. Exit the telnet connection  
`Exit`

If you are connecting to the Emulated device from an entirely different machine, keep in mind you may also need to open a port on the host computer itself if it is running firewall software.

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## 4 Install the Android Renderer App on a Device/Emulator

### 4.1 The Google Play Store

In the Android marketplace, find and install the “LiquidApps Native Renderer” app. This is the easiest and recommended way to install the app.

### 4.2 Via Email

If you already have the native renderer install file available to you, this option allows you to email the “LiquidApps Native Renderer” apk file to a Gmail account that is linked to your device.

Once this is done, just open the email and click on the “LiquidApps Native Renderer” apk attachment to install.

#### PREREQUISITE:

On the android device, navigate to Settings->Security and ensure that “*Unknown Sources*” is checked.

THE NEXT TWO OPTIONS IN THIS DOCUMENT ASSUME THAT THE DEVICE IS CONNECTED VIA USB PORT TO A COMPUTER.

### 4.3 Using Android Tools

Browse to <http://developer.android.com/sdk/index.html> and install the appropriate SDK installer package for your system. Once the file has downloaded, follow the instructions to install the Android SDK Tools Setup Wizard.

**Note:** This section assumes that PATH\_TO\_ANDROID is the path on your system to your Android SDK file (e.g., C:\Program Files (x86)\Android\android-sdk) and that PATH\_TO\_APP is the path on your system to the Android Render App apk file.

1. In a Linux terminal or Windows command prompt, navigate to  
PATH\_TO\_ANDROID\platform-tools
2. Install the AndroidRenderApp.apk file onto the device or emulator using the following command:

```
adb install PATH_TO_APP
```

**Note:** On Linux, it may be necessary to precede the command with “./”

### 4.4 Using a File Explorer

On the device using the google play store, search for ‘file explorer’ and install one of the file explorer apps available. We recommend using ES File Explorer File Manager.

With the device connected to a computer, ensure that the device and its file system are accessible from the computer. Copy the “LiquidApps Native Renderer” apk file from the computer to a folder on the device.

Using the file explorer for the android device, navigate to the “LiquidApps Native Renderer” apk file that was copied and attempt to open it. The device should begin installing the file.

## 5 Connecting LiquidApps to the Android Renderer App

Once the Android Renderer App has been installed on the device or emulator, it will be listed under applications as **LiquidAppsRenderer**. Run this application.

In LiquidApps:

1. Click the *Workbench* tab in the LiquidApps ribbon bar
2. Select the icon labeled *Preferences* to open the preferences dialog.
3. Expand *Renderer Preferences* and select *Android Native Renderer Settings* in the menu.
4. Set the address to the IP Address value displayed on the Android Renderer App. If you are using an emulated Android device, the IP Address is *localhost*.
5. Verify that the port is set to *4444* (for device or emulator).
6. Click *Apply*; verify that the text “*Connection succeeded. Server appears to be valid.*” appears at the top of the window.

Close the preferences window. You should now be able to render Android designs using the native renderer.