Preparing Rapise for Android Mobile Testing

Rapise lets you record and play automated tests against native applications on a variety of mobile devices using the Android operating system. Rapise gives you the flexibility to test your applications on either real or simulated devices.

This section explains **how to setup your environment for mobile testing**, once that is done, you can the go to the section that explains the process for using Rapise to actually perform mobile testing.

Rapise uses a third-party open-source tool called **Appium** (http://appium.io) that is used to actually host the mobile devices and Rapise essentially communicates to the device via. Appium:

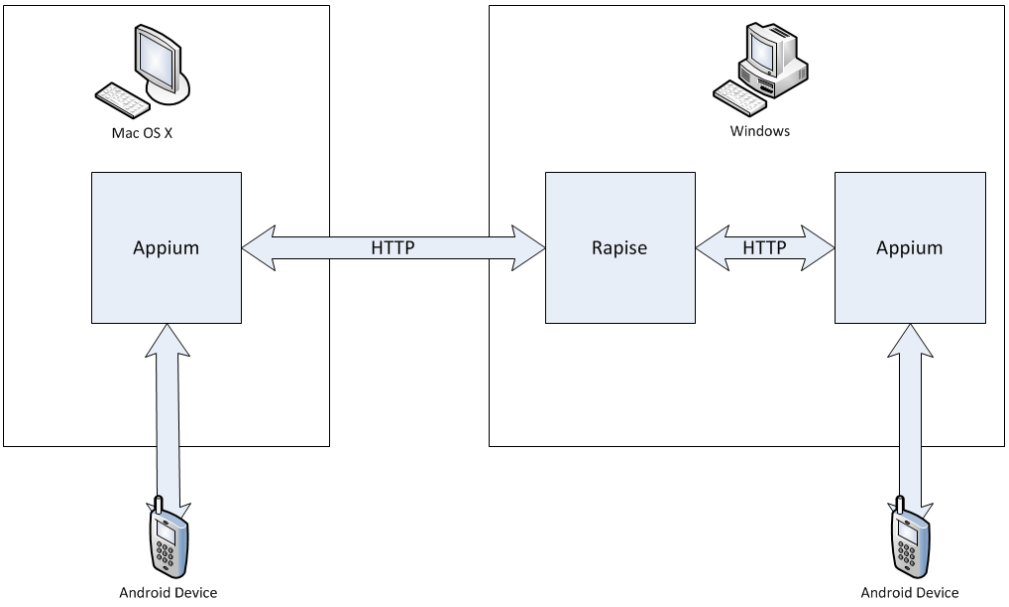
Testing Architectures

Rapise runs on Windows computers (PC) and Android devices (both real and simulated) can be tested on either an Apple Macintosh (Mac) computer or a PC. So this means that there are two separate possible testing environments that you may need to setup:

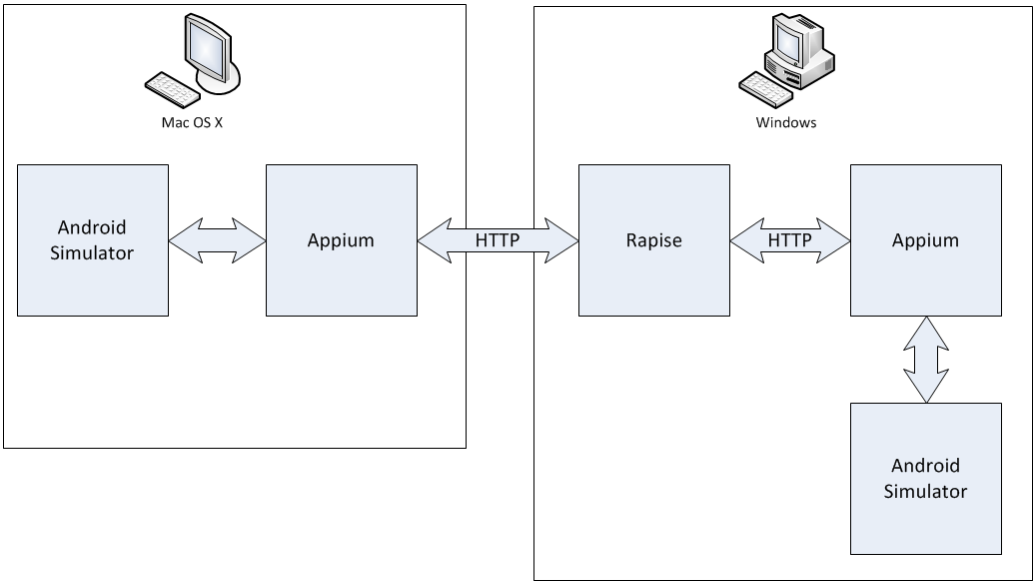
- **Using a Mac to Host Android Devices.** It will be necessary to install **Appium** and **Android Studio** onto the Mac and connect to Appium over the network from Rapise running on your PC.
- **Using a PC to Host Android Devices.** You can either install **Appium** and **Android Studio** onto a separate PC or you can simply use the same PC that is running Rapise. The only difference will be whether the URL used to connect to Appium is a localhost URL or one pointing to the other PC.

The steps for setting each of these will be described separately.

For physical Android devices the architecture looks like:

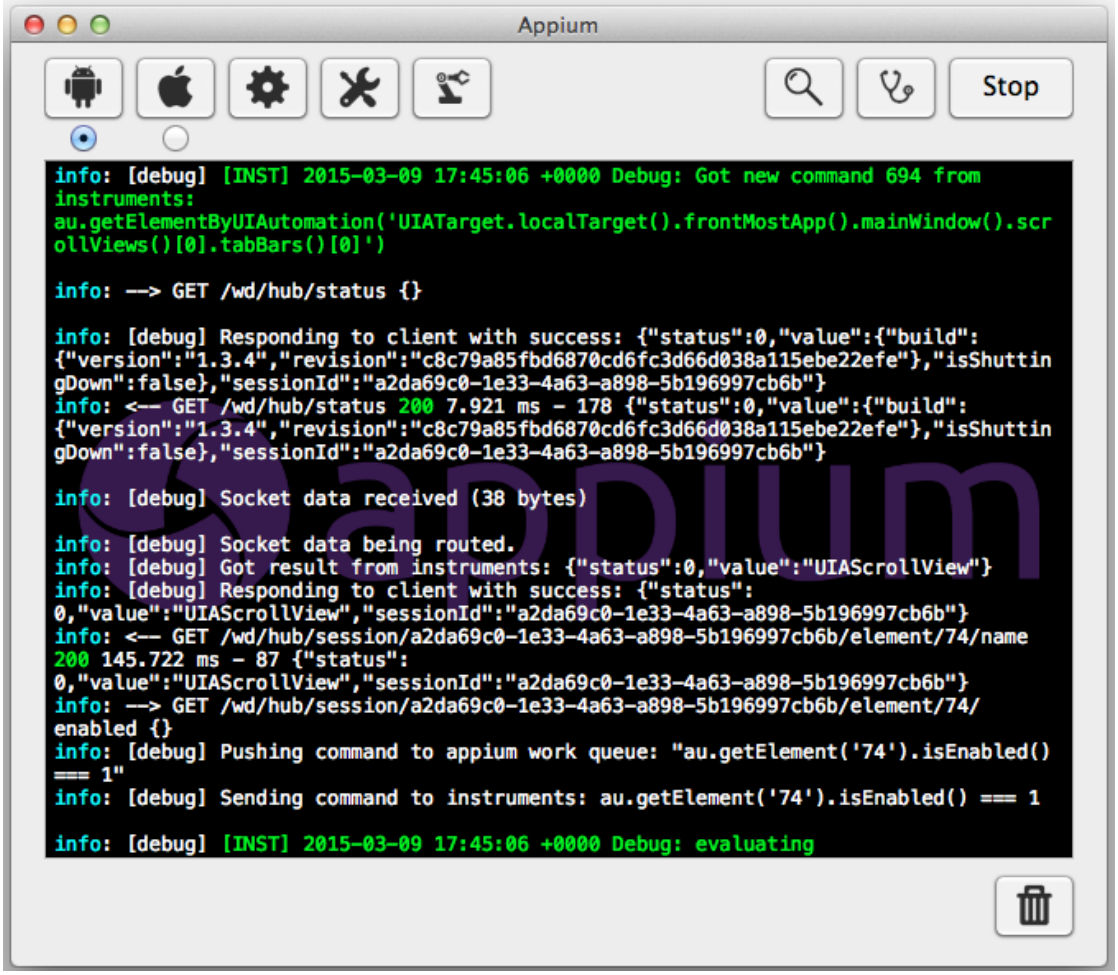


For simulated Android devices (using the Android Virtual Device Manager) the architecture looks like:



1) Using a Mac to Host Android Devices

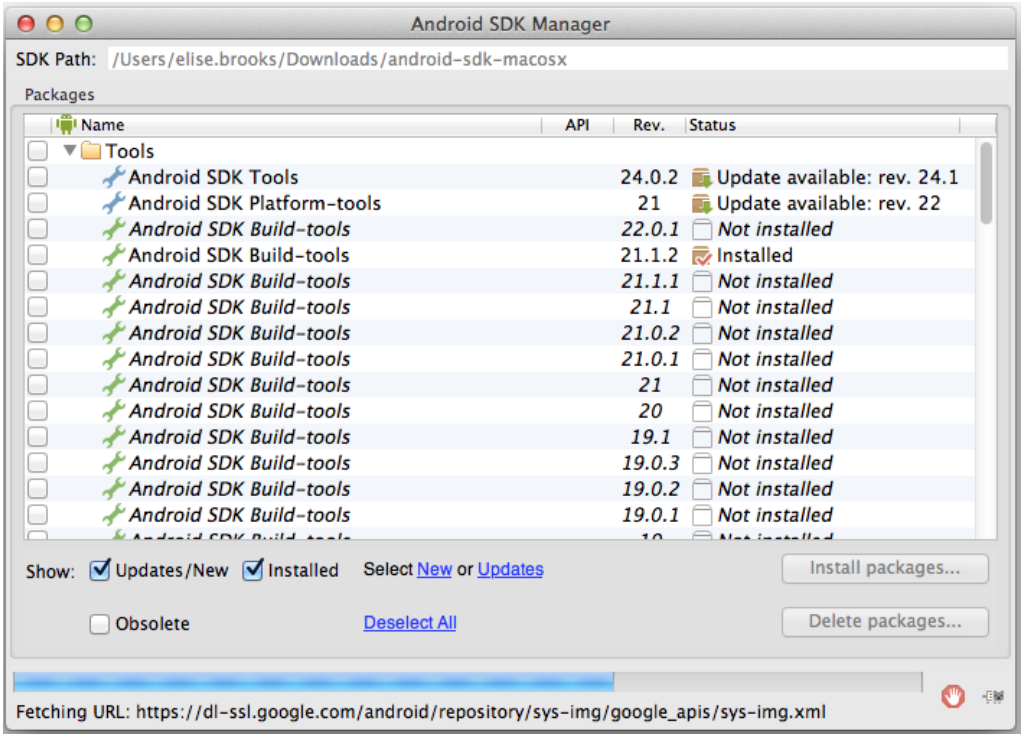
The first thing you need to do is go to the **Appium** website (http://appium.io) and install the latest version of Appium. Once it is installed, you need to select the option for **Android** and click the Play button to start the Appium server:



Once that is installed, you will then need to download and install the latest version of Java SE Development Kit (JDK) from the Oracle website (http://www.oracle.com/technetwork/java/javase/downloads/index.html). Once that has been installed, make sure that the **JAVA_HOME** environment variable has been set.

Once that is installed, you will then need to install the Android SDK (you may already have it installed if you are doing Android development). You can download it from: https://developer.android.com/sdk.

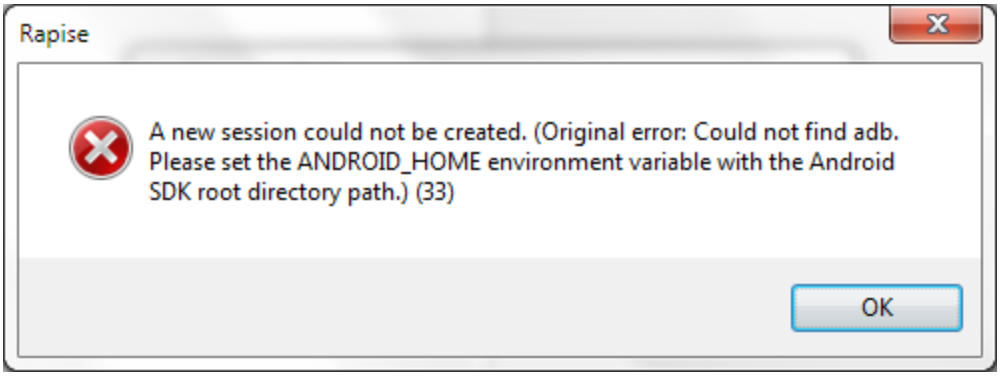
Once it has installed, you will use the **Android SDK Manager** to download and install the necessary packages:



If you are going to be testing a physical Android device, you will need to do the following:

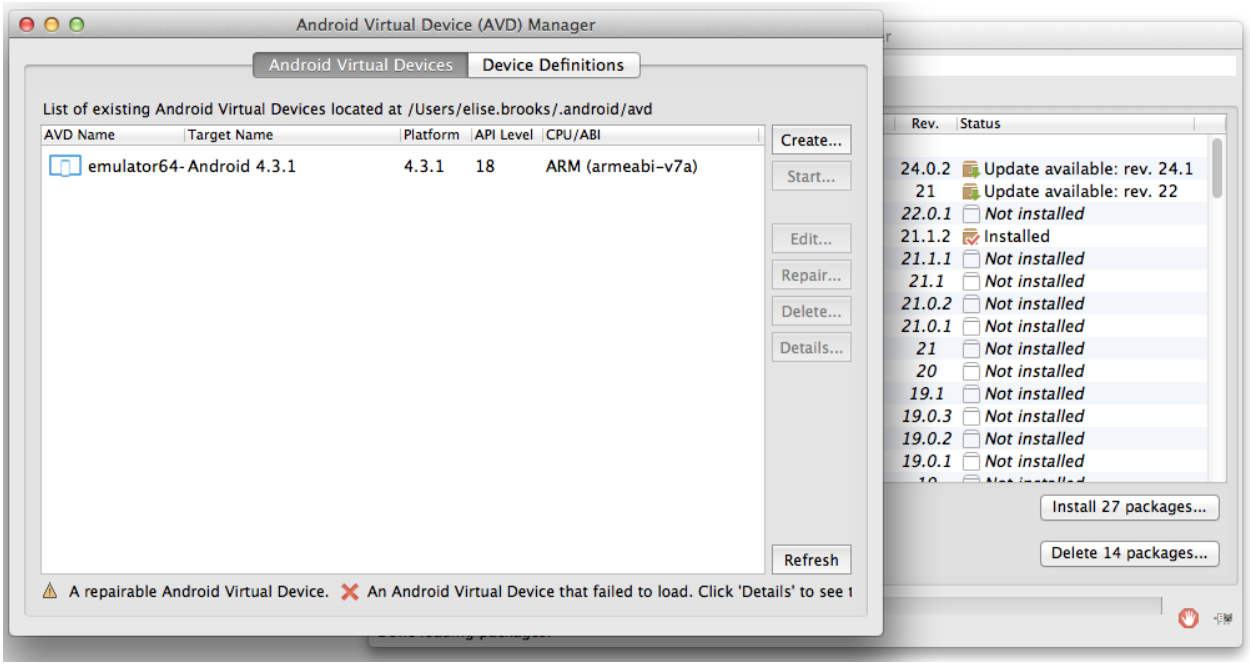
1. Make sure you have **enabled Developer mode** in the Android device itself:
   a. Open Settings> About on your Android phone or tablet.
   b. If you have a Samsung Galaxy S4, Note 8.0, Tab 3 or any other Galaxy device with Android 4.2, open Settings> More tab> About and tap it.
   c. If you have Galaxy Note 3 or any Galaxy device with Android 4.3, go to Galaxy Note 3 from Settings> General> About and tap the Build version 7 times.
   d. Now scroll to Build number and tap it 7 times.
   e. After tapping the Build Number 7 times, you will see a message “You are now a developer!” If you have a Galaxy S4 or any other Samsung Galaxy device with Android 4.2, the message reads as follows- “Developer mode has been enabled”.

Now when you try and connect to the device using the Rapise mobile spy, you may get the following message:



This means you need to use a MacOS X Shell window to add a **environment variable** called **ANDROID_HOME** and set it to the path of the installed Android SDK (typically something like `/Users/my.user/Downloads/android-sdk-macosx`).

If you want to test using the Android simulator,make sure you have installed it using the SDK manager. Then you can launch (from the main menu of the Android SDK Manager) the **Android Virtual Device (AVD) Manager**:



In this case you can just create the Android Virtual Device, Start it and then connect to it using Rapise.

You are now ready to start mobile testing of your Android device.

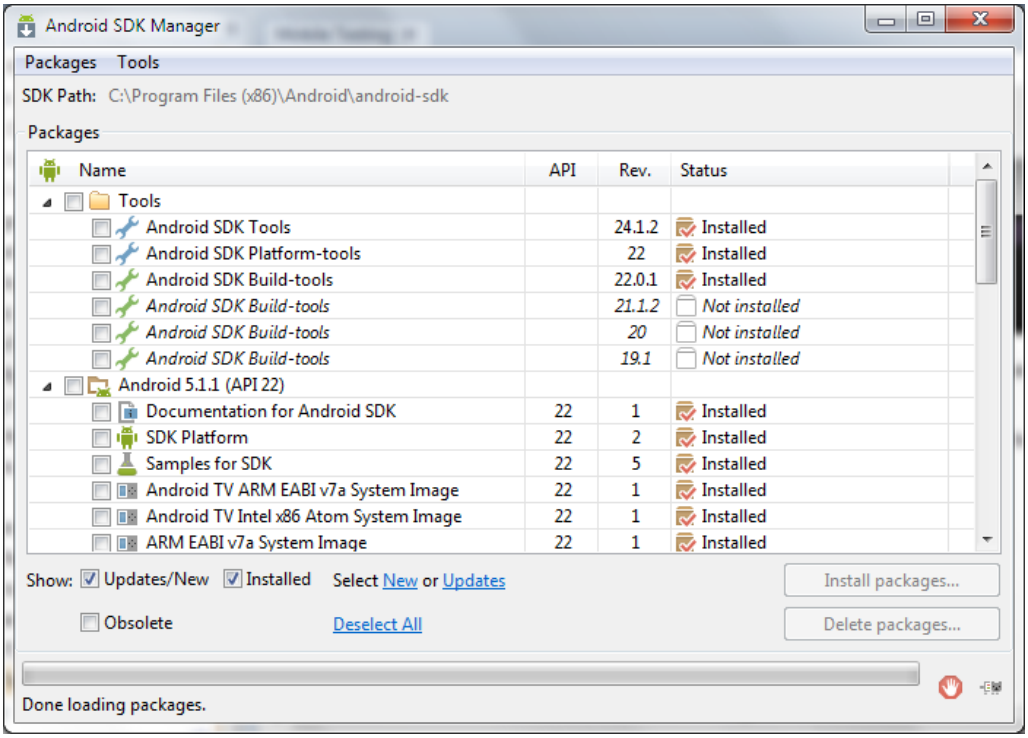
2) Using a PC to Host Android Devices

The first thing you need to do is go to the **Appium** website (http://appium.io) and install the latest version of Appium. Once it is installed, you can start it up and click the Play button to start the Appium server:

Once that is installed, you will then need to download and install the latest version of Java SE Development Kit (JDK) from the Oracle website (http://www.oracle.com/technetwork/java/javase/downloads/index.html). Once that has been installed, make sure that the **JAVA_HOME** environment variable has been set.

Once that is installed, you will then need to install the Android SDK (you may already have it installed if you are doing Android development). You can download it from: https://developer.android.com/sdk.

Once it has installed, you will use the **Android SDK Manager** to download and install the necessary packages:

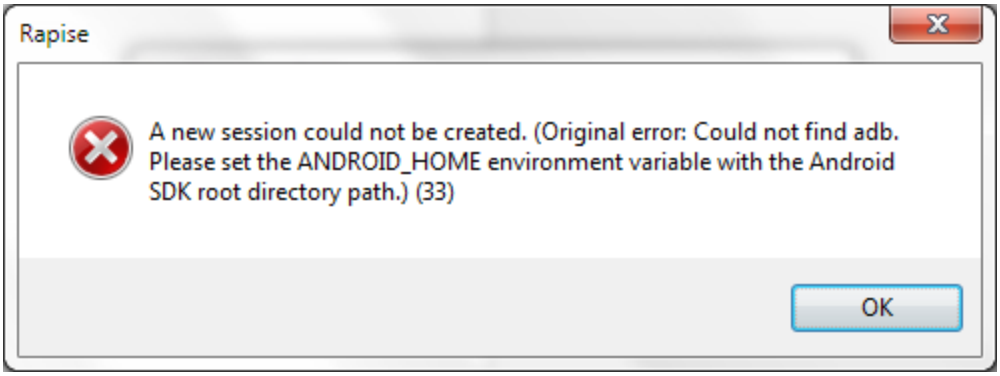


If you are going to be testing a physical Android device, you will need to do the following:

2. Locate the **Google Android USB drivers** that came with the Android SDK (`C:\Program Files (x86)\Android\android-sdk\extras\google\usb_driver`) and when you connect your Android device to the PC, choose to install these drivers rather than the standard ones.

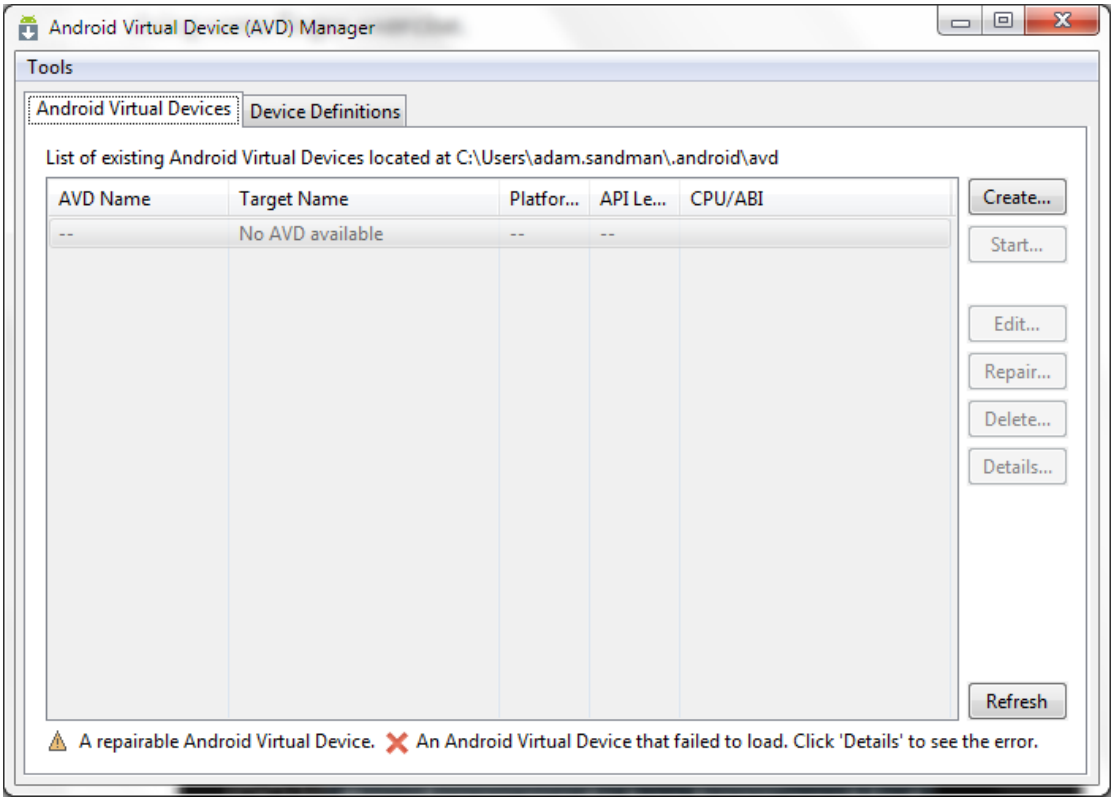
3. Make sure you have **enabled Developer mode** in the Android device itself:
   a. Open Settings> About on your Android phone or tablet.
   b. If you have a Samsung Galaxy S4, Note 8.0, Tab 3 or any other Galaxy device with Android 4.2, open Settings> More tab> About and tap it.
   c. If you have Galaxy Note 3 or any Galaxy device with Android 4.3, go to Galaxy Note 3 from Settings> General> About and tap the Build version 7 times.
   d. Now scroll to Build number and tap it 7 times.
   e. After tapping the Build Number 7 times, you will see a message “You are now a developer!” If you have a Galaxy S4 or any other Samsung Galaxy device with Android 4.2, the message reads as follows- “Developer mode has been enabled”.

Now when you try and connect to the device using the Rapise mobile spy, you may get the following message:



This means you need to use the Windows control panel to add a **System environment variable** called **ANDROID_HOME** and set it to the path of the installed Android SDK (typically `C:\Program Files (x86)\Android\android-sdk`).

If you want to test using the Android simulator,make sure you have installed it using the SDK manager. Then you can launch (from the Windows Start Menu) the **Android Virtual Device (AVD) Manager**:



In this case you can just create the Android Virtual Device, Start it and then connect to it using Rapise.

You are now ready to start mobile testing of your Android device.