Setting up LiveCode with Android Studio

Based on the document at http://lessons.livecode.com/m/2571/l/625198-livecode-and-android-studio. Expanded, updated, and clarified.

LiveCode, Java, and Android Studio

As of LiveCode 8.1.5 you can use Android Studio with LiveCode to set up Android deployment.

You need to download and install **Java SDK version 8**. You need the Java Development Kit (JDK), not the Java Runtime Environment (JRE). You can download Java 8 here. (This is the deep link, and it may require an account: https://www.oracle.com/java/technologies/javase-jdk8-downloads.html.) If you already have Java 9 or 10 installed you will need to uninstall these and reinstall Java 8. ** You will need administrator access to the computer to install this.**

Instructions for uninstalling later Java versions on Mac: https://www.java.com/en/download/help/mac_uninstall_java.xml

Instructions for uninstalling Java on Windows: https://www.java.com/en/download/help/uninstall_java.xml

If it is not already installed, you will need to download the **Android Studio** SDK, here. ** You will need administrator access to the computer to install this.**
Android Studio will be installed to the Applications (Mac) or Program Files/Android (Windows) folder.

Opening the SDK Manager

Begin by starting up Android Studio (in the Applications folder). The first time you launch it you will go through a short setup wizard. Just click Next and accept all of the default settings. Click Finish when you get through the wizard. You will have to wait while Android Studio downloads a number of components. **You will need administrator access to the computer to install this.**

During the installation you may see a notice about "Running Intel® HAXM Installer". At that point you may also see a dialog box that says "System Extension Blocked". To allow this to install click Open Security Preferences. The Security & Privacy System preference window will open. Near the bottom, next to the notice about "Intel Corporation Apps", click Allow.
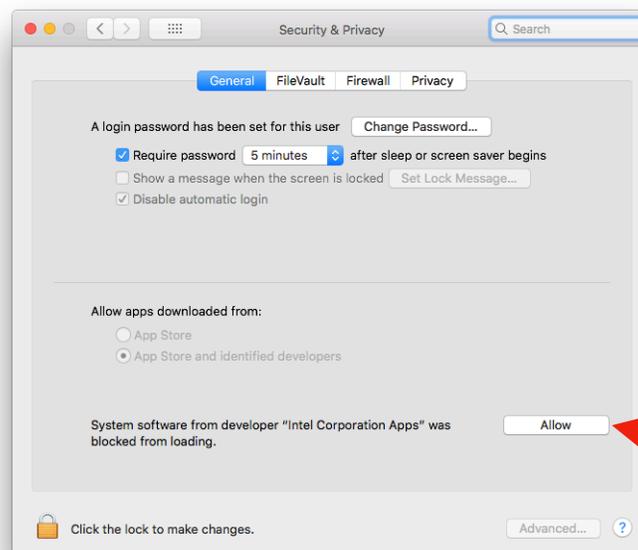
LiveCode requires certain packages to be installed. To open the SDK Manager, which allows additional packages to be installed select **SDK Manager** from the **Configure** menu on the Android Studio opening screen.
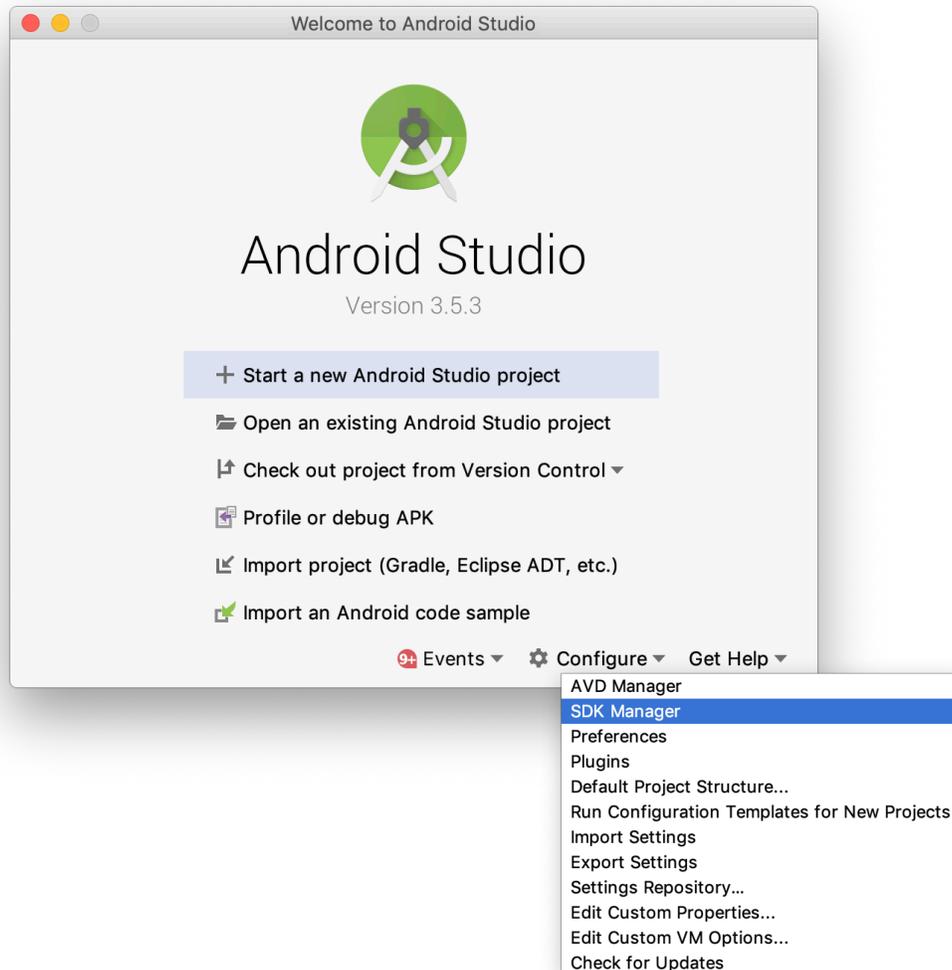
Installing the required packages

The Android SDK Manager lets you select the packages you would like to install in your Android development environment. You can install other packages too, but by default, only a few packages are required.

As of LiveCode 9.5, you need to install **Android 9.0 (API 28)**. It's also a good idea to install the Android 4.0.3 (API 15) and Android 8.0 (Oreo) packages. Select those packages in the list and click the **Apply** button to install the packages. You will be required to accept a license agreement before the install can proceed. Once the installation has finished, click Finish.

Note: you can see the Android SDK location at the top of the Window. Take note of this as you will need it in the next step.
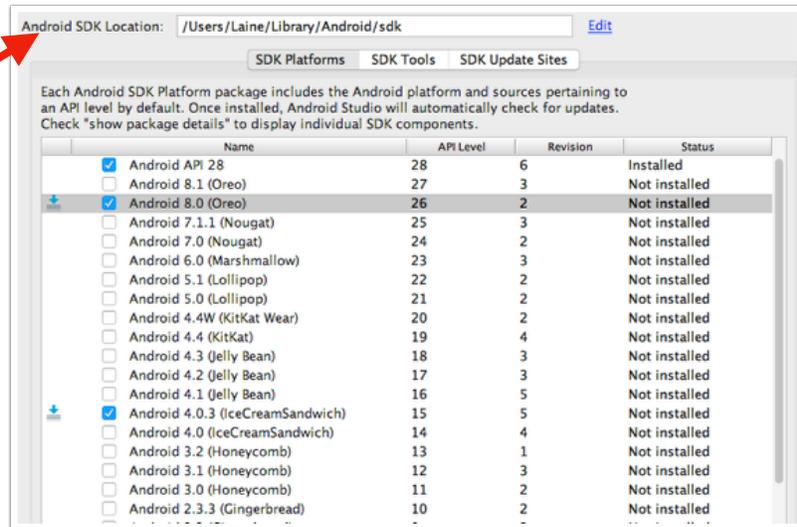
You are now finished installing Java and the Android SDK, and you can quit Android Studio.

Setting up an Android Emulator for testing.

Once Android Studio is installed and the required packages downloaded, you can use the Android Virtual Device (AVD) Manager to set up a virtual device for testing your apps, without the need to have a physical Android device

1. Open Android Studio
2. Open the AVD Manager by selecting AVD Manager from the Configure menu.
3. Click Create Virtual Device…
4. Follow the steps to create a virtual device. Remember that LiveCode can only use virtual devices with ARM processors.
5. Click the Launch button (green triangle) under Actions to start the virtual device.
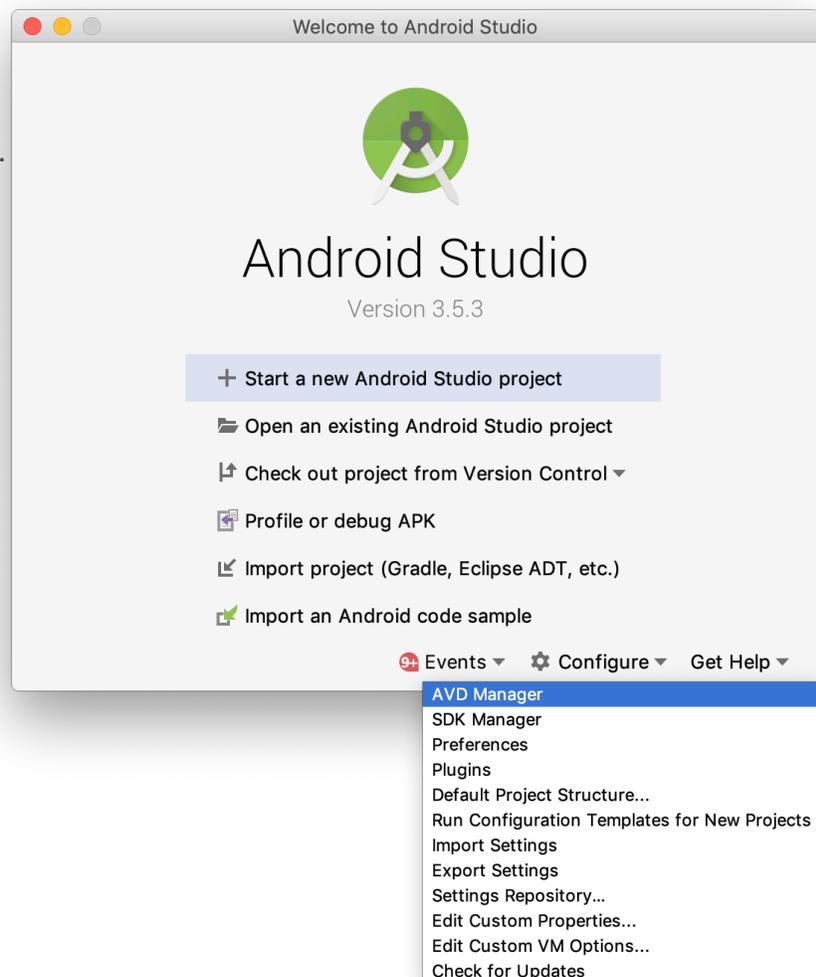
Configuring LiveCode for Android Support

By now, you should have successfully installed the required software in your development environment. The next step is to launch LiveCode and configure it to interface with the Android SDK.

Launch the LiveCode IDE and select Edit -> Preferences to launch the Preferences menu. Then select Mobile Support and you are presented with the dialog shown in this step.
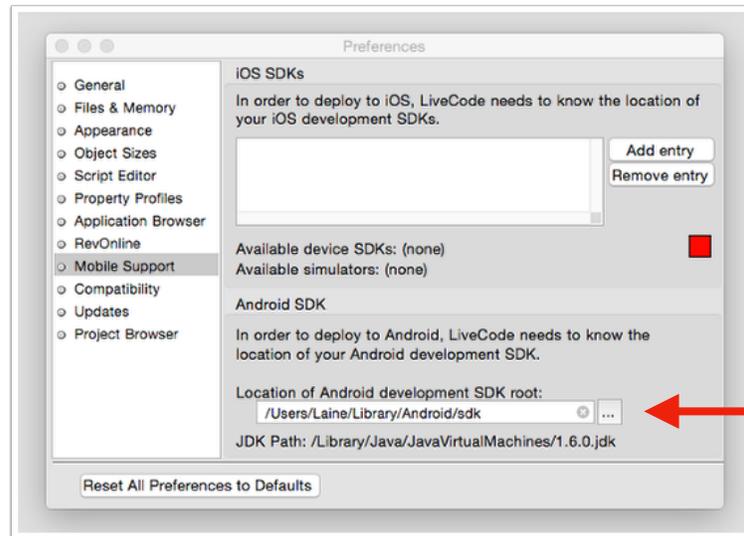
This dialog allows you to configure the path to the Android SDK root, which you should already have installed. Select **...** under Android SDK and choose the folder containing the Android SDK root. The file path to the SDK root folder may look something like:

Mac: /Users/youruser/Library/Android/SDKs
Windows: C:\Users\youruser\AppData\Local\Android\Sdk

Validation checks are made once you specify the location of the Android SDK root. This ensures that you have selected a valid location and have the required Android components installed.

The following error message may appear if something is wrong with your set up:

```
The chosen folder is not a valid Android SDK. Please ensure you have
installed it correctly, and enabled support for Android 4.0.3.
```

This indicates that the path you specified is not pointing at the Android SDK root. You may have to navigate one level deeper into the folder hierarchy to access the root folder.

⚠️ It is likely that the Android SDK has been installed into a folder that is hidden by default, meaning you can't browse to it from LiveCode. Showing hidden files and folders on your operating system should allow you to browse to the SDK root.

Here is how to show hidden folders.

Mac: You need to show your hidden Library folder, which is located at /Users/<username>/ Library. If you do not see a Library folder in your user home folder, see the instructions at "How to Keep the Library Folder Visible" at https://www.macrumors.com/how-to/reveal-library-folder-in-macos/ . After you follow this process you should be able to see your Library folder, both in the Finder and in LiveCode.

Windows 10: You need to show your hidden AppData folder, which is hidden by default on Windows. *Do this to show it*:

1. Open a Windows Explorer window.
2. Select the C drive.
3. On the File Explorer ribbon, switch to the View tab.
4. Expand the Options button by clicking on the black triangle below the button.
5. Select Change Folder and Search Options (see right).
6. In the Folder Options dialog box select the View tab and set the options as below.
7. Click Apply.
8. Your AppData folder should now be visible in both Explorer and LiveCode.