Scripture
App Builder

Installation Instructions

Scripture App Builder: Installation Instructions

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You are free to print this manual for personal use and for training workshops.

The latest version is available at
http://software.sil.org/scriptureappbuilder/resources/

and on the Help menu of Scripture App Builder.

Contents

1. Introduction

Scripture App Builder does what its name suggests: it helps you to build customized Scripture apps for smartphones and tablets.

You specify the Scripture files to use, the app name, the fonts, the colours, the about box information, the audio and the icons. Scripture App Builder will package everything together and build the customized app for you. You then install it on your mobile device, send it to others by Bluetooth, share it on microSD memory cards and publish it to app stores on the Internet.

ParaTExt Files

Fonts

Icons   **Audio Files**

App for Android smartphones and tablets
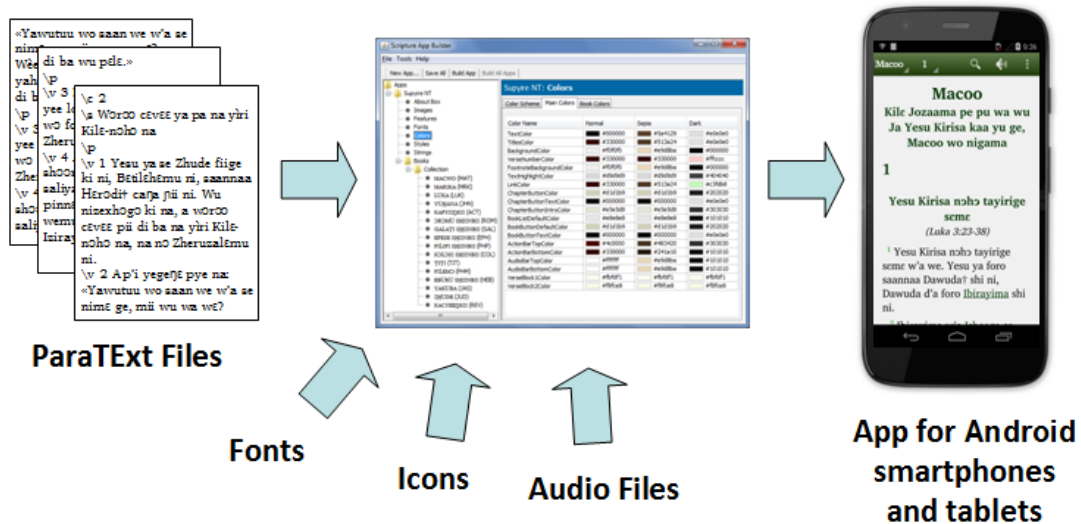
To install Scripture App Builder on **Windows**, please follow the instructions in section 2. For **Linux**, please find the instructions in section 3.

For **Mac**, you can find the installation instructions in the document **Installing and Building Apps on a Mac**.

2. Windows Installation

In order to run Scripture App Builder on Windows, you need to have 3 components installed on your computer:

1. Scripture App Builder
2. Java Development Kit (JDK)
3. Android Software Development Kit (SDK)

Here are more details on installing each of these three components.

2.1. Installing Scripture App Builder

Run the setup program, **Scripture-App-Builder-x.x-Setup.exe**, to install Scripture App Builder to your computer.

You can download the latest version from the **Download** page of the Scripture App Builder website: http://software.sil.org/scriptureappbuilder/download

2.2. Installing Java Development Kit (JDK)

You will need version 8 of the Java Development Kit (JDK) to build apps. We recommend you use Amazon Corretto, which is a free distribution of OpenJDK.

Go to the Amazon Corretto 8 Downloads page:

https://docs.aws.amazon.com/corretto/latest/corretto-8-ug/downloads-list.html

There are many download files on this page. You are looking for the file that corresponds to your computer's operating system type. It is easiest to download the msi (installer package file) rather than the zip file.

- Choose the **Windows x64** download if your computer is running 64-bit Windows, e.g. amazon-corretto-8.212.04.2-1-windows-x64.msi.

- Choose the **Windows x86** download if your computer is running 32-bit Windows, e.g. amazon-corretto-8.212.04.2-1-windows-x86.msi.

When the file has downloaded, run it to install the JDK on your computer.

This will normally be installed into the C:\Program Files\Amazon Corretto folder.

2.3. Installing Android Software Development Kit (SDK)

There are two ways of installing the Android Software Development Kit (SDK):

1. **Copy the Android SDK files from someone else:**
   If you know someone who has already downloaded and installed the Android SDK, you can copy all the files from them.

   This method is especially useful in a training workshop where several people need to install the SDK but have limited internet bandwidth.

   See 2.3.1 for more details.

2. **Download the Android SDK packages from the internet:**
   Download the basic SDK command line tools and then download and install three additional packages. This method will require an internet connection.

   See 2.3.2 for more details.

2.3.1. Copying the Android SDK files from someone else

If you know someone who has already downloaded and installed the Android SDK and is successfully building apps with it, you can copy all of their Android SDK files to a folder on your computer.

You need to look for the top-level Android SDK folder, such as **c:\sdk**, and copy the whole folder and its contents to your computer. A location such as c:\sdk is good. If it makes it easier, you can zip the folders and then unzip them onto your computer.

Note that there is <u>no setup program to run</u>. Copying the files from one computer to another is sufficient.

Tip: A typical Android SDK folder can be quite large (several hundred MB, or even a few GB, depending on which additional packages have been installed). To build an app with Scripture App Builder, you do not actually need all of the Android SDK files. If you want to cut down the number of files, here is a list of the essential and optional folders:

Android SDK Folder	Required for building apps?
tools	Yes
build-tools	Yes (you only need the sub-folder for the latest version)
platforms	Yes (you only need android-29 for now)
platform-tools	Yes
add-ons	No
docs	No
extras	No
sources	No

Android SDK Folder	Required for building apps?
system-images	No, unless you want to use an emulator
temp	No

2.3.2. Downloading the Android SDK packages from the internet

To install the Android SDK from the internet, you need the basic SDK command line tools rather than the full Android Studio installation.

The installation will be done in two steps:

A. Download and install the basic SDK command line tools.
B. Download and install additional packages from within Scripture App Builder.

A. Download and install the basic SDK tools

Do the following:

1. Go to the Android Studio Download web page:
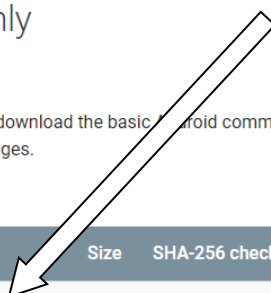   https://developer.android.com/studio

    But do not download Android Studio.

2. Scroll down to the bottom of the web page until you see the sub-heading,
    Command line tools only.

3. Download the latest Windows package,
    e.g. **commandlinetools-win-6200805_latest.zip**. The file size is around 77 MB.

4. Before downloading, you will need to click a checkbox to confirm you agree with the Terms and Conditions.

5. When the file has downloaded, unzip the contents of the file into a new folder on your computer, such as **c:\sdk**.

   When the file is unzipped, the c:\sdk folder should contain a single sub-folder named 'tools'. You do not need to run any setup program here.

   Important: Do not unzip the Android SDK into a sub-folder of the Program Files folder, otherwise you will have trouble updating the SDK components there.


B. Download and install additional SDK packages

The Android SDK as it stands will not be sufficient to build an app. You need to download three additional packages:

   (i)   Android SDK Build-tools (120 MB),

   (ii)   Android SDK Platform-tools (31 MB), and

   (iii)   Android SDK Platform (104 MB).

To install these packages:

1. Launch **Scripture App Builder**.

2. Select **Tools** ⏵ **Settings** from the main menu.

3. Go to the **Android SDK** tab, which is the second tab.

4. Enter the Android SDK Location by clicking **Browse** and navigating to the SDK folder which you have just created. If you followed the suggestion above, this will be **c:\sdk**.
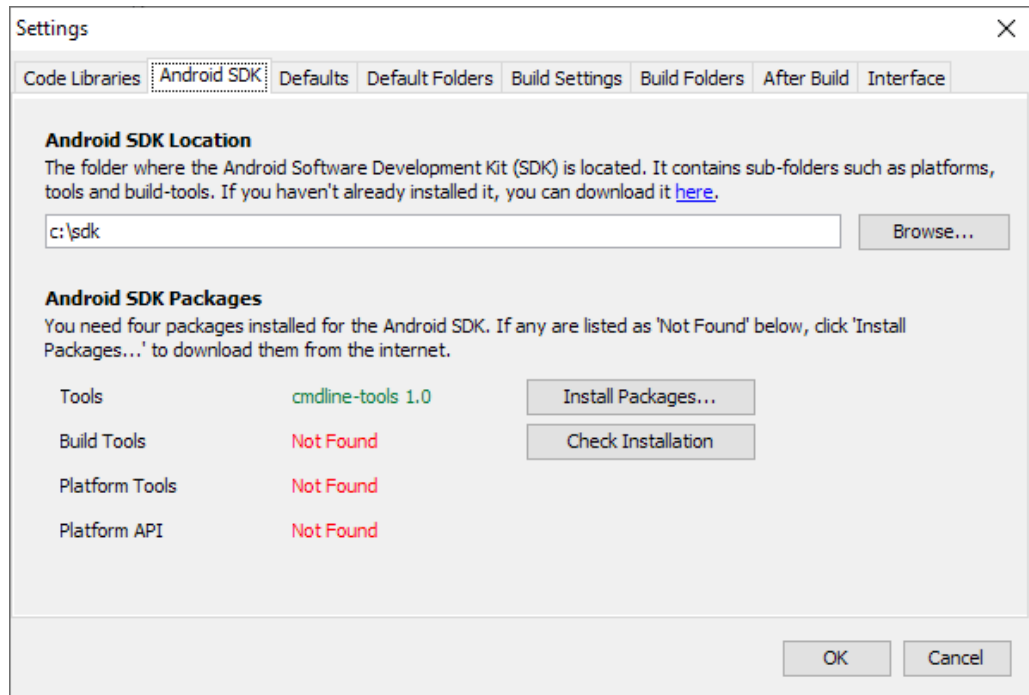
If the Android SDK location is valid, you should see the version of the Tools package displayed in green.

5. Click **Install Packages…** to begin downloading and installing the three packages that are "Not Found" (Build tools, Platform tools and Platform API). You will need an internet connection.

    Type **y** (for yes) followed by **Enter** to agree with the license agreement.
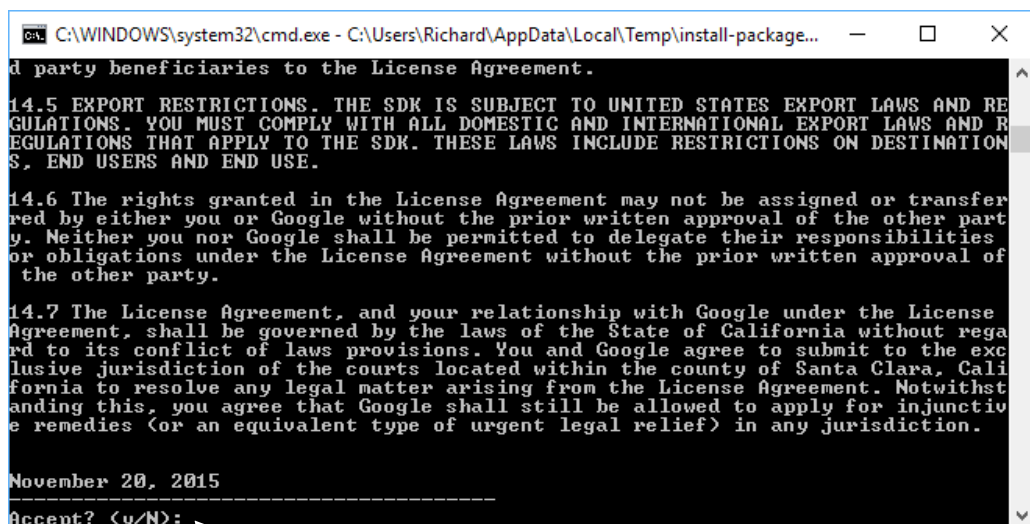
Type **y** and **Enter** to accept the license

Depending on the speed of your internet connection the downloads might take some time. There are over 230 MB of files to download.

As each of the three packages are downloaded and unzipped, you should see the progress.

If you get a message saying "Install… failed" or "Failed to read or create install properties file", this might be because:

- the internet connection is not working, or
- you do not have enough space on your hard disk.

If the installation of a package has failed, make sure you have an internet connection and enough hard disk space. Then click **Install Packages** again.

6. When all the required packages have been installed, click **Check Installation**. A message will appear listing the packages that have been installed.
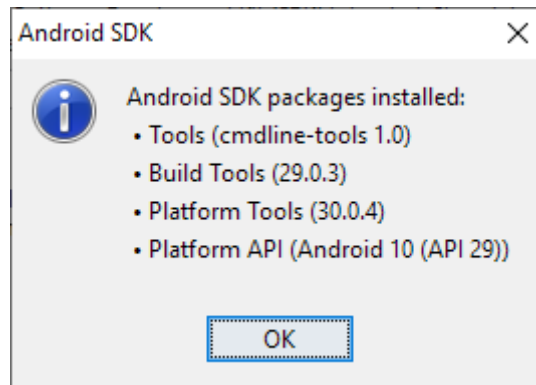
If the installation was successful, you should see the version numbers displayed in green:
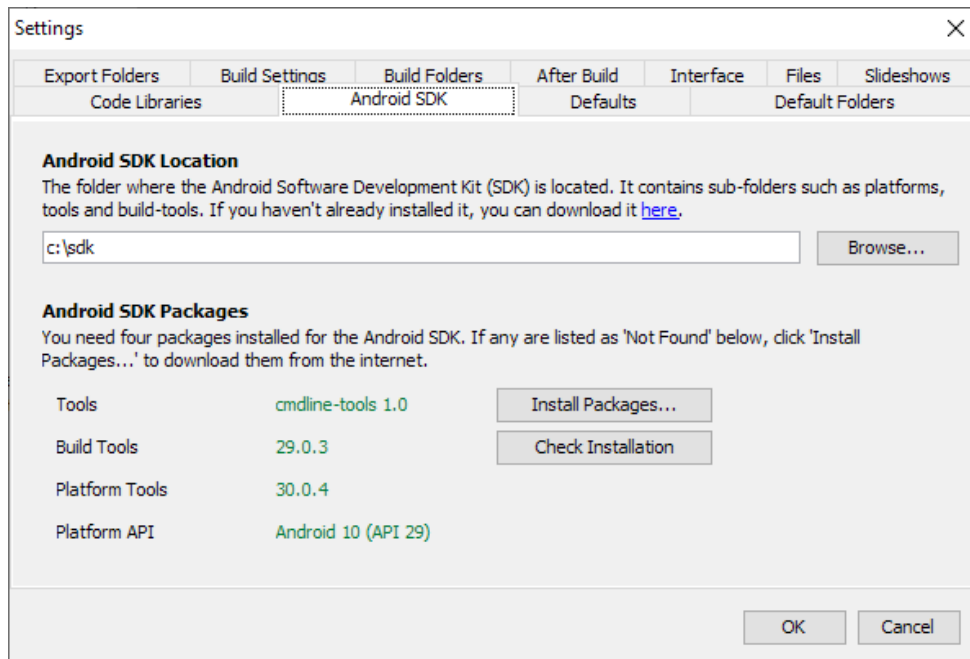
The Android SDK has now been installed for use by Scripture App Builder.

3. Linux Installation

To run Scripture App Builder on Linux, you need to have 3 components installed on your computer:

1. Scripture App Builder
2. OpenJDK 8 Java Development Kit (JDK)
3. Android Software Development Kit (SDK)

Packages are built for Ubuntu-based distributions (including Wasta-Linux) and are available in the SIL repository for Ubuntu. The package for Scripture App Builder already includes the dependencies on the package for OpenJDK 8 and a package that will download the Android SDK from the internet and install it.

You have the following installation options for how the Android SDK is installed:

1. Follow the instructions in section 3.2 to download everything directly from the Internet.

2. Follow the instructions in section 3.3 to download the Android SDK files prior to installing the packages.

3. Follow the instructions in section 3.4 if you already have the Android SDK installed and you do not want another copy installed.

3.1. Add SIL repository for Ubuntu

To install packages from the SIL repository for Ubuntu, the repository must be added to the APT sources.

Note: **Wasta-Linux** already includes configuration for the SIL repository for Ubuntu and so you can skip this section.

If you are using another **Ubuntu-based distribution**, please follow the instructions below (or in the online document: Setting up Repositories to download SIL Software).

1. Open a Terminal window.

2. Open the file **/etc/apt/sources.list** in a text editor:

   ```
   $ sudo gedit /etc/apt/sources.list
   ```

3. Add the following line to the bottom of the file (use trusty or xenial based on the version of Ubuntu you are using):

   ```
   deb http://packages.sil.org/ubuntu xenial main
   ```

4. Save the edits to the file.

5. Back in the terminal window, add the repository security key :

```
$ wget http://packages.sil.org/sil.gpg -O- | sudo apt-key add -
```

3.2. Installing all packages from the Internet

Note: **Ubuntu 14.04** (Trusty Tahr) does not include the required Java 8 SDK. It is available from a Personal Package Archive (PPA). It is preferred to use packages from known sources. The PPA for OpenJDK uploads is owned by an Ubuntu/Canonical employee. Use at your own risk. Use the following command to add this PPA to the APT sources before trying to install.

```
$ sudo add-apt-repository ppa:openjdk-r/ppa
```

To install all the required software from the command line, type:

```
$ sudo apt-get update

$ sudo apt-get install -y scripture-app-builder
```

Note: **Wasta-Linux** does not automatically install recommended packages. To get everything installed, also install android-sdk-installer.

```
$ sudo apt-get install -y scripture-app-builder android-sdk-installer
```

3.3. Downloading the Android SDK files prior to package installation

The **android-sdk-installer** package simplifies downloading and installing the Android SDK. Its default behaviour is to download the appropriate files from Google's Android software repository during the install. If this would be a problem due to bandwidth usage during the install, the files can be downloaded prior to installation.

3.3.1. Downloading the Android SDK files

On a computer connected to the internet, use the following command line instructions to create a new folder and download 4 zip files (approximately 400MB).

```
$ mkdir -p ~/Downloads/android-sdk-zips

$ cd ~/Downloads/android-sdk-zips

$ wget -ci http://bit.ly/android-sdk-urls
```

Note: the -c option will allow the downloads to be resumed if it fails part way through the download.

3.3.2. Provide zip files during the package install

Use **debconf** to pre-seed the package with the location of the files and install the package.

```
$ echo android-sdk-installer android-sdk-installer/dldir string ~/Downloads/android-sdk-zips | sudo debconf-set-selections

$ sudo apt-get install android-sdk-installer

$ echo android-sdk-installer android-sdk-installer/dldir string | sudo debconf-set-selections
```

3.4. Installing without Android SDK

The **android-sdk-installer** package is a recommended package for the **scripture-app-builder** package. If the Android SDK is already installed, Scripture App Builder can use the current installation.

```
$ sudo apt-get update

$ sudo apt-get install scripture-app-builder --no-install-recommends
```

Set the ANDROID_HOME environment variable to the path of the Android SDK installation to allow Scripture App Builder to find it automatically. Otherwise you can use the **Tools ➢ Settings** dialog in Scripture App Builder to specify the path.

3.5. Automating Android SDK installation

The **android-sdk-installer** will prompt you to accept the license for the Android SDK. To automate the installation (e.g. in an Ansible playbook), pre-seed the answer to this question.

```
$ echo android-sdk-installer android-sdk-installer/accepted-android-sdk-eula boolean true | sudo debconf-set-selections

$ sudo apt-get install android-sdk-installer
```

4. How to build your first app

To build your first app with Scripture App Builder, follow the instructions in the first chapter of the document *'Scripture App Builder – 2 Building Apps'*.

5. Troubleshooting

When I try to launch Scripture App Builder, I get the message "Could not find the main class… Program will exit".

This might be because your computer is running an older version of the Java Runtime Environment (JRE). Scripture App Builder requires at least Java 8.

Java 7 and earlier versions are no longer being supported, so it is a good idea to upgrade your Java installation for security reasons.

You can find the download here: https://www.java.com/en/download/