

# Xamarin.Android Manual Installation

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## Installing Xamarin.Android on your Windows Machine

### Overview

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Developing Android applications on Windows can be done in either Xamarin Studio or Visual Studio with Xamarin.Android installed. Both Xamarin Studio and Xamarin.Android, can be installed through the *Unified Installer*, which is accessible through the [Downloads page](#). The Unified (or Universal) Installer will install all products required for development on Windows, including the Xamarin.iOS and Xamarin.Android plugins for Visual Studio.

However in some instances, it may not be possible to use the Unified Installer - for example with a network restriction. In this case, it is possible to download each Xamarin product individually by accessing your [store account](#), and manually installing each.

In this guide, we will walk through manually installing the Xamarin.Android platform and its external components. The following steps are required to manually install Xamarin.Android:

1. [Install the Java SDK \(JDK\)](#)
2. [Install the Android SDK](#)
3. [Install GTK#](#)
4. [Install Xamarin Studio for Windows \(Optional\)](#)
5. [Install Xamarin 3 \(Includes Xamarin.Android\)](#)
6. [Configure Xamarin.Android](#)

### Requirements

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Xamarin.Android works with any of the following setups:

- Latest version of Xamarin Studio on Windows 7 and above.
- Windows 7 and above with Visual Studio 2010 Professional or higher.

Xamarin.Android also requires that a 32-bit Java JDK 6 (1.6) be installed. Later versions of the JDK can also be installed *alongside* JDK 6, if required by your machine.

## Installing the Java SDK (JDK)

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The JDK can be downloaded from any browser by visiting [Oracle's website](#) and browsing to the section with the heading Java SE Development Kit 7u79. Before downloading the executable, we must first 'Accept License Agreement' in the header. We can then download the Windows x86 version by clicking the package name `jdk-7u79-windows-i586.exe`. This is shown in the screenshot below:

Java SE Development Kit 7u79		
You must accept the <a href="#">Oracle Binary Code License Agreement for Java SE</a> to download this software.		
<input type="radio"/> Accept License Agreement	<input checked="" type="radio"/> Decline License Agreement	
Product / File Description	File Size	Download
Linux x86	130.4 MB	<a href="#">jdk-7u79-linux-i586.rpm</a>
Linux x86	147.6 MB	<a href="#">jdk-7u79-linux-i586.tar.gz</a>
Linux x64	131.69 MB	<a href="#">jdk-7u79-linux-x64.rpm</a>
Linux x64	146.4 MB	<a href="#">jdk-7u79-linux-x64.tar.gz</a>
Mac OS X x64	196.89 MB	<a href="#">jdk-7u79-macosx-x64.dmg</a>
Solaris x86 (SVR4 package)	140.79 MB	<a href="#">jdk-7u79-solaris-i586.tar.Z</a>
Solaris x86	96.66 MB	<a href="#">jdk-7u79-solaris-i586.tar.gz</a>
Solaris x64 (SVR4 package)	24.67 MB	<a href="#">jdk-7u79-solaris-x64.tar.Z</a>
Solaris x64	16.38 MB	<a href="#">jdk-7u79-solaris-x64.tar.gz</a>
Solaris SPARC (SVR4 package)	140 MB	<a href="#">jdk-7u79-solaris-sparc.tar.Z</a>
Solaris SPARC	99.4 MB	<a href="#">jdk-7u79-solaris-sparc.tar.gz</a>
Solaris SPARC 64-bit (SVR4 package)	24 MB	<a href="#">jdk-7u79-solaris-sparcv9.tar.Z</a>
Solaris SPARC 64-bit	18.4 MB	<a href="#">jdk-7u79-solaris-sparcv9.tar.gz</a>
Windows x86	138.31 MB	<a href="#">jdk-7u79-windows-i586.exe</a>
Windows x64	140.06 MB	<a href="#">jdk-7u79-windows-x64.exe</a>

It is **essential** to install the 32-bit version of the Java JDK even if you're using 64-bit Windows. It is also important that v1.7 of the Java JDK is installed (although it is fine to have 1.8 or newer installed at the same time).

It is recommended that the Java JDK is placed in the directory **C:\Program Files (x86)\Java**. This is the default location, and is where your IDE will check to see if it is installed.

## Install Android SDK

The Android SDK contains all the tools and frameworks needed for developing an Android application. There are a number of steps needed to install it correctly, which are described below:

1. **Download Android SDK** – The Android SDK provides the API libraries and tools needed to build, test and debug applications on Android. It can be downloaded from <http://developer.android.com/sdk/index.html> and will have a file name like `installer_r[xx].[x].[x]-windows.exe`. As we will be using the Android SDK in Xamarin Studio or Visual Studio rather than Eclipse, it is not necessary to download the ADT bundle. Expand the Download for other platforms section and select the Windows installer under SDK tools only , as illustrated below:

2. **Install the Android SDK** – After downloading the SDK we need to install it. Follow the installation wizard to install the Android SDK, making sure to choose the option Install for anyone using this computer as



illustrated below:

This will provide the default location for the package, which will be extracted to **C:\Program Files (x86)\Android\android-sdk**.

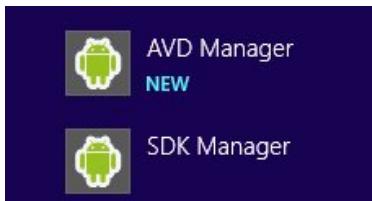
3. **Download the Android NDK** – This is Android's Native Development kit, which is used to embed .NET assemblies into native libraries. While the NDK is *generally* not used for developing an Android application, we recommend that you do install it. The Android NDK can be downloaded from <https://developer.android.com/tools/sdk/ndk/index.html>. Select the Windows 32-bit package, which should be named something similar to `android-ndk-r[X]-windows-x86.zip`, as illustrated below:

<b>Downloads</b>				
Platform	Package	Size (Bytes)	MD5 Checksum	
Windows 32-bit	<a href="#">android-ndk-r9d-windows-x86.zip</a>	491440074	b16516b611841a075685a10c59d6d7a2	
Windows 64-bit	<a href="#">android-ndk-r9d-windows-x86_64.zip</a>	520997454	8cd244fc799d0e6e59d65a59a8692588	
Mac OS X 32-bit	<a href="#">android-ndk-r9d-darwin-x86.tar.bz2</a>	393866116	ee6544bd8093c79ea08c2e3a6ffe3573	
Mac OS X 64-bit	<a href="#">android-ndk-r9d-darwin-x86_64.tar.bz2</a>	400339614	c914164b1231c574dbe40debef7048be	
Linux 32-bit (x86)	<a href="#">android-ndk-r9d-linux-x86.tar.bz2</a>	405218267	6c1d7d99f55f0c17ecbcf81ba0eb201f	
Linux 64-bit (x86)	<a href="#">android-ndk-r9d-linux-x86_64.tar.bz2</a>	412879983	c7c775ab3342965408d20fd18e71aa45	
Additional Download	Package	Size (Bytes)	MD5 Checksum	
STL debug info	<a href="#">android-ndk-r9d-cxx-stl-libs-with-</a>	104947363	906c8d88e0f02295c3bfe6b8e98a1a35	



Extract the NDK and place it in the same location as the SDK (**C:\Program Files (x86)\Android**). This should create a directory named **android-ndk**, potentially with a version number in the name, as seen below:

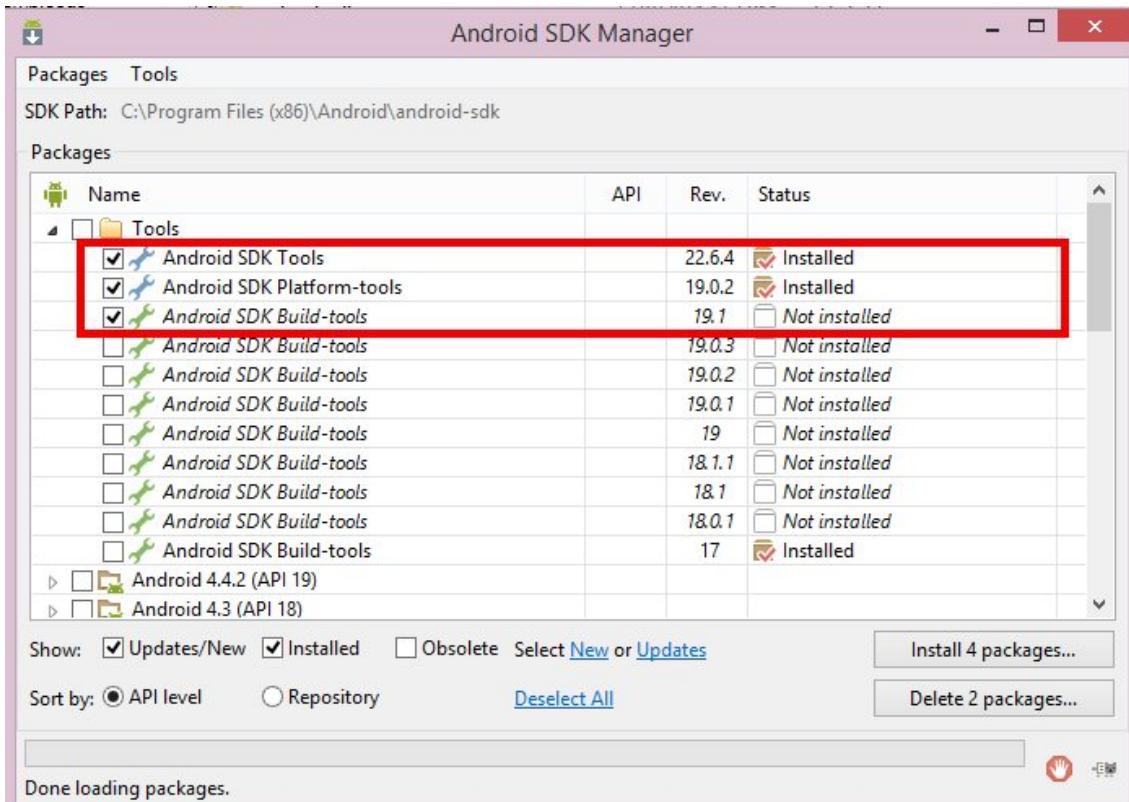
4. Run the **SDK Manager** – Locate the Android SDK Manager in your start menu, and click on it to open.



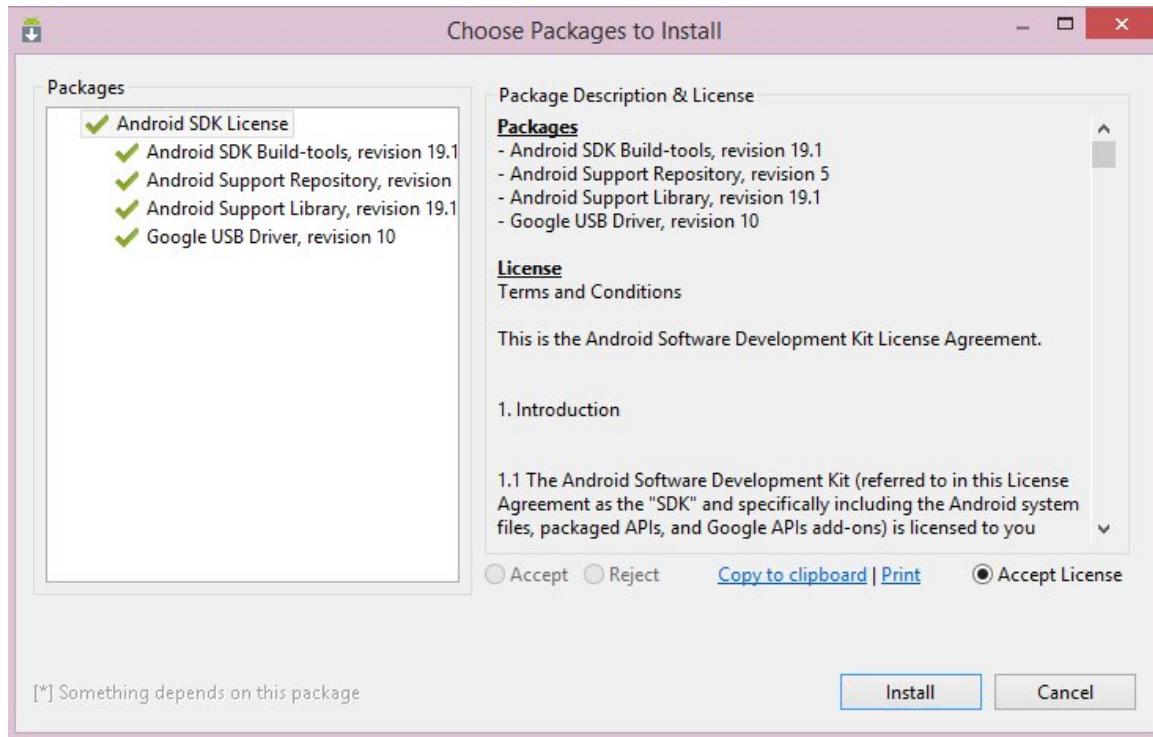
5. Install the required **SDK Tools and APIs** – Once launched, we can use the Android SDK manager to select the relevant components for installation. The latest version of the following components must always be selected:

- Android SDK Tools
- Android SDK Platform-tools
- Android SDK Build-tools.

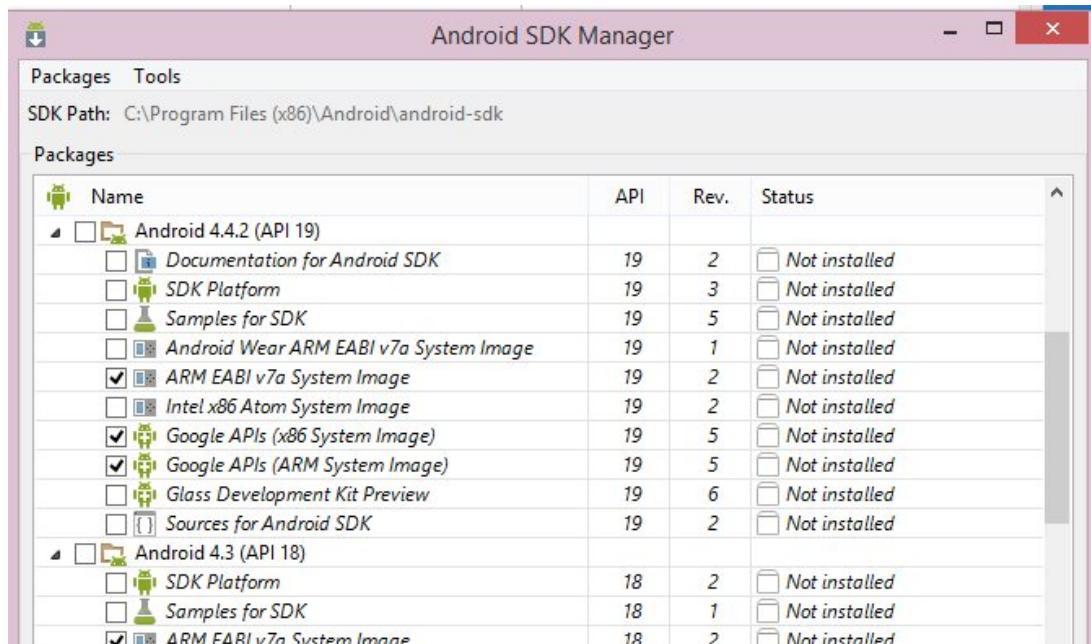
These selections are indicated in the screenshot below:

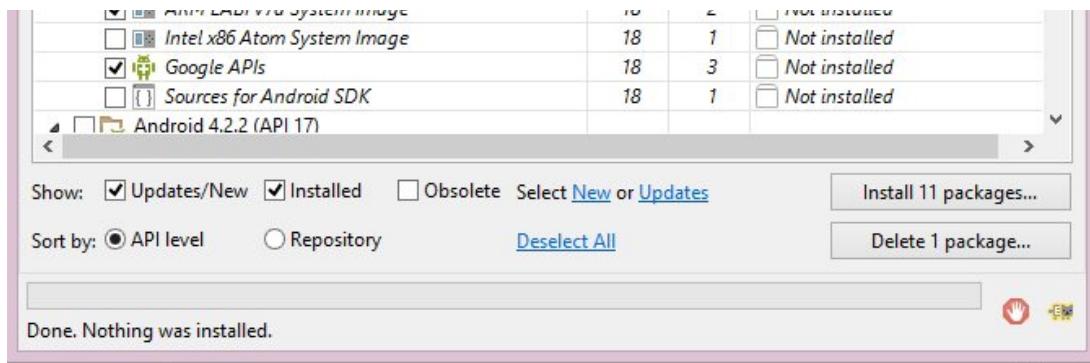


To install, click the Install [x] packages button, accept the Android SDK licenses on the following screen and click Install , as displayed below:



6. **Install more Android Platforms** – Deciding which platforms to install is entirely up to you, although it is recommended that at least the most popular platforms in the [Android Dashboard](#) be installed. The SDK manager can be accessed at any time through Xamarin Studio, to add new or additional API versions.





## Install Gtk

Gtk# is only needed if you plan to use Xamarin Studio in Windows, if you develop solely in Visual Studio you do not need to install it. Gtk# is a .NET binding for [GTK+](#) and various GNOME libraries which together with C# and the System libraries provide developers with great productivity for building graphical applications especially when compared to Gtk+.

This can be downloaded from the Download section on the Mono website, or by directly from [here](#).

### 1. Select Platform

Latest Version: 3.4.0 ([Release Notes](#))

Mac OS X Windows openSUSE

Previous Stable Version: 2.10.x ([Release Notes](#))

openSUSE Mac OS X **Windows** Solaris Other

### 2. Download Mono for Windows

This download works on all versions of Windows XP, 2003, Vista and Windows 7.



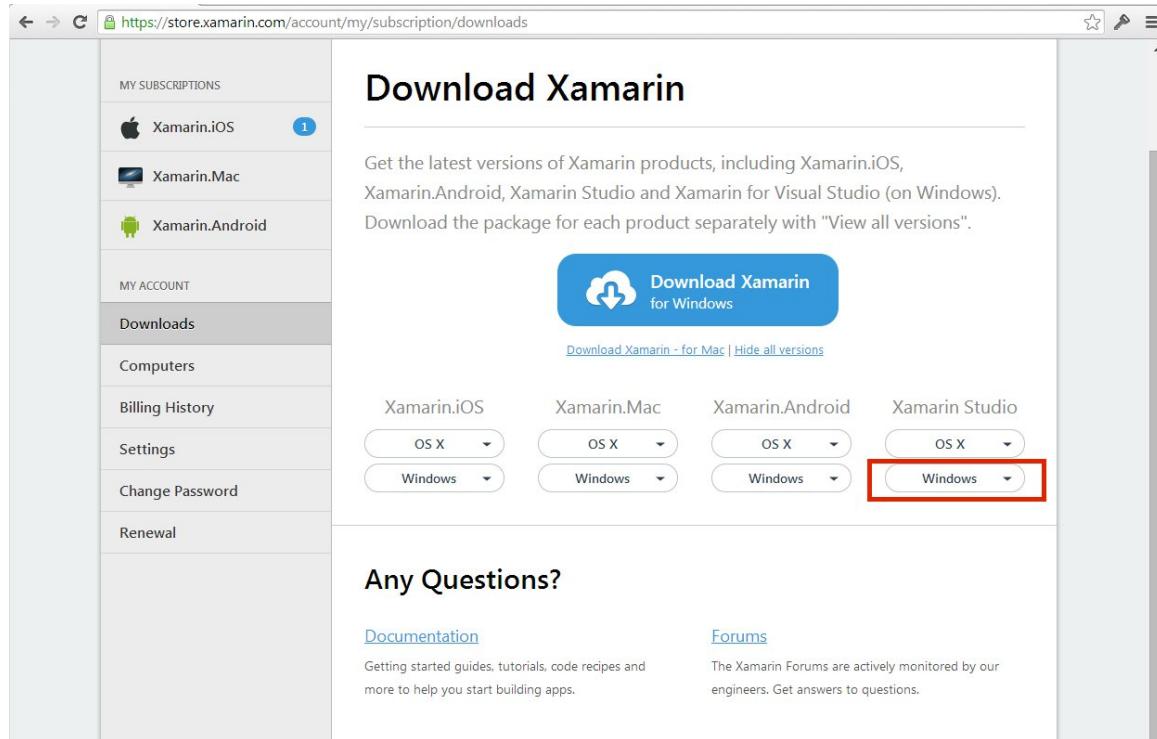
- Mono for Windows, Gtk#, and XSP

## Install Xamarin Studio

After all the building blocks have been installed, it's time for us to install our IDE. When using Windows you have a choice of IDE – Xamarin Studio or Visual Studio, we recommend having both. In this section we will look at installing Xamarin Studio.

Xamarin Studio is an open-source Integrated Development Environment (IDE) designed for building Mono-based applications.

To download Xamarin Studio, log in to your Xamarin account on the [Store page](#) and navigate to the Downloads Page:



The screenshot shows a web browser window with the URL <https://store.xamarin.com/account/my/subscription/downloads>. On the left is a sidebar with links like 'MY SUBSCRIPTIONS' (Xamarin.iOS, Xamarin.Mac, Xamarin.Android), 'MY ACCOUNT' (Downloads, Computers, Billing History, Settings, Change Password, Renewal), and 'Any Questions?' sections for Documentation and Forums. The main content area is titled 'Download Xamarin' and contains a large blue button labeled 'Download Xamarin for Windows'. Below it are four dropdown menus for 'Xamarin.iOS', 'Xamarin.Mac', 'Xamarin.Android', and 'Xamarin Studio', each with 'OS X' and 'Windows' options. The 'Windows' option under 'Xamarin Studio' is highlighted with a red box. At the bottom, there's a section for 'Any Questions?' with links to 'Documentation' and 'Forums'.

This page enables the download of each individual product that make up Xamarin. From here, download the latest version of Xamarin Studio and Xamarin.Android,

Once downloaded, click on the .exe file to install the product, and follow the Installation Wizard.

## Install Xamarin 3 for Visual Studio

First things first, if you plan to develop with Visual Studio, you must already have a valid copy of Visual Studio 2010 Professional or higher installed on your machine. Xamarin 3 can then be installed to allow development with Xamarin.Android in Visual Studio.

With Xamarin 3, installing either Xamarin.Android or Xamarin.iOS from the download page will install all necessary components for using Xamarin in Visual Studio. Therefore if you have already installed Xamarin.iOS, you can go ahead and skip this section.

To install Xamarin.Android in Windows, visit the [Store page](#) and navigate to Downloads:

The screenshot shows the 'Download Xamarin' page. On the left is a sidebar with 'MY SUBSCRIPTIONS' containing links for Xamarin.Mac, Xamarin.Android, and Xamarin.iOS. Under 'MY ACCOUNT', there are links for Downloads, Computers, Billing History, Settings, Change Password, and Renewal. The main content area has a heading 'Download Xamarin' with a blue button labeled 'Download Xamarin for Windows'. Below it is a link 'Download Xamarin - for Mac | Hide all versions'. There are four dropdown menus for different products: Xamarin.Mac (OS X, Windows), Xamarin.Android (OS X, Windows, highlighted with a red box), Xamarin.iOS (OS X, Windows), and Xamarin Studio (OS X, Windows). A section titled 'Any Questions?' contains links for 'Documentation' and 'Forums'.

In the Windows dropdown under Xamarin.Android, download the latest version

## Configure Xamarin.Android

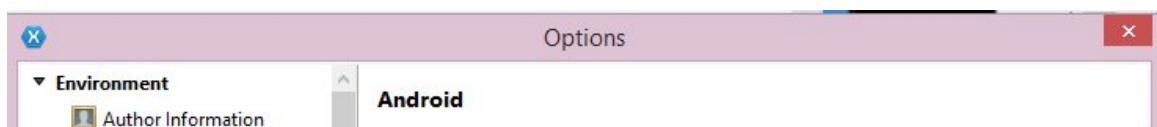
Finally, after we've installed the different parts, we can configure them to complete our installation:

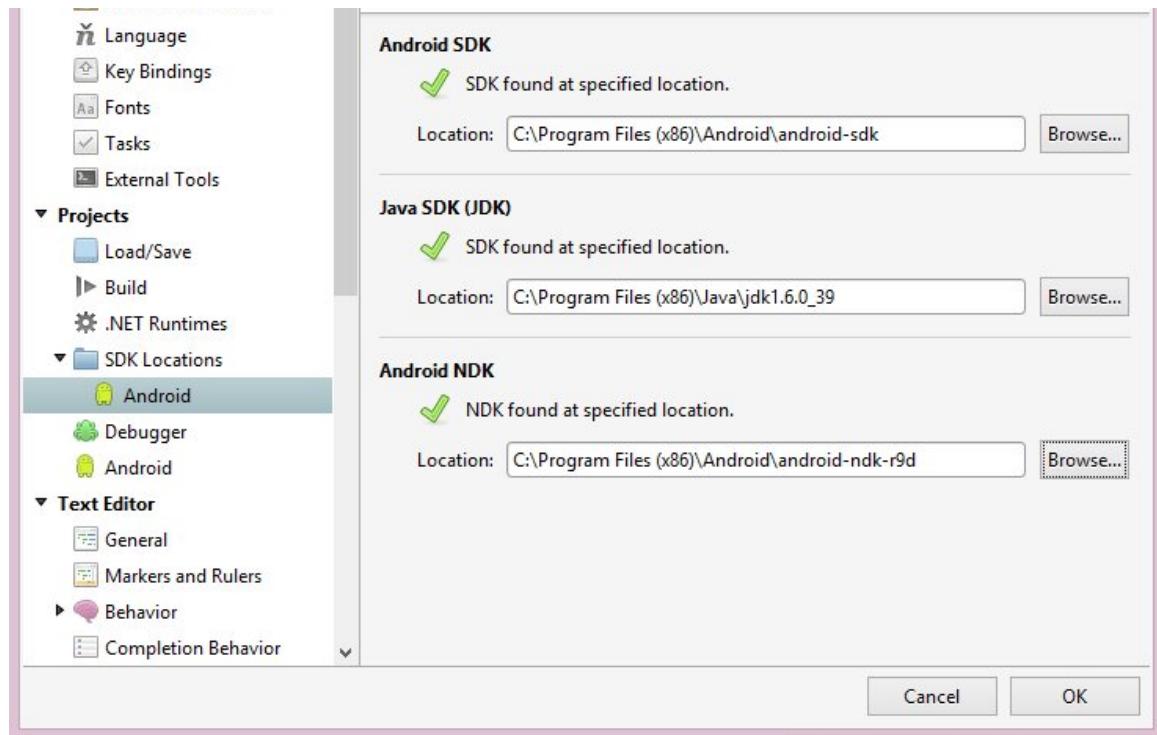
- **Configure the SDKs** – Once we've installed the SDK prerequisites listed above, we need to configure the paths to the corresponding platform installation directories in our IDE.
- **Configure the Emulator** – In order to run and debug our Xamarin.Android applications, we need to use the Android Virtual Device (AVD) Manager to create and configure devices. Instructions for this can be found in the [Configuring the Emulator](#) guide.

## Configure the SDKs

### Xamarin Studio

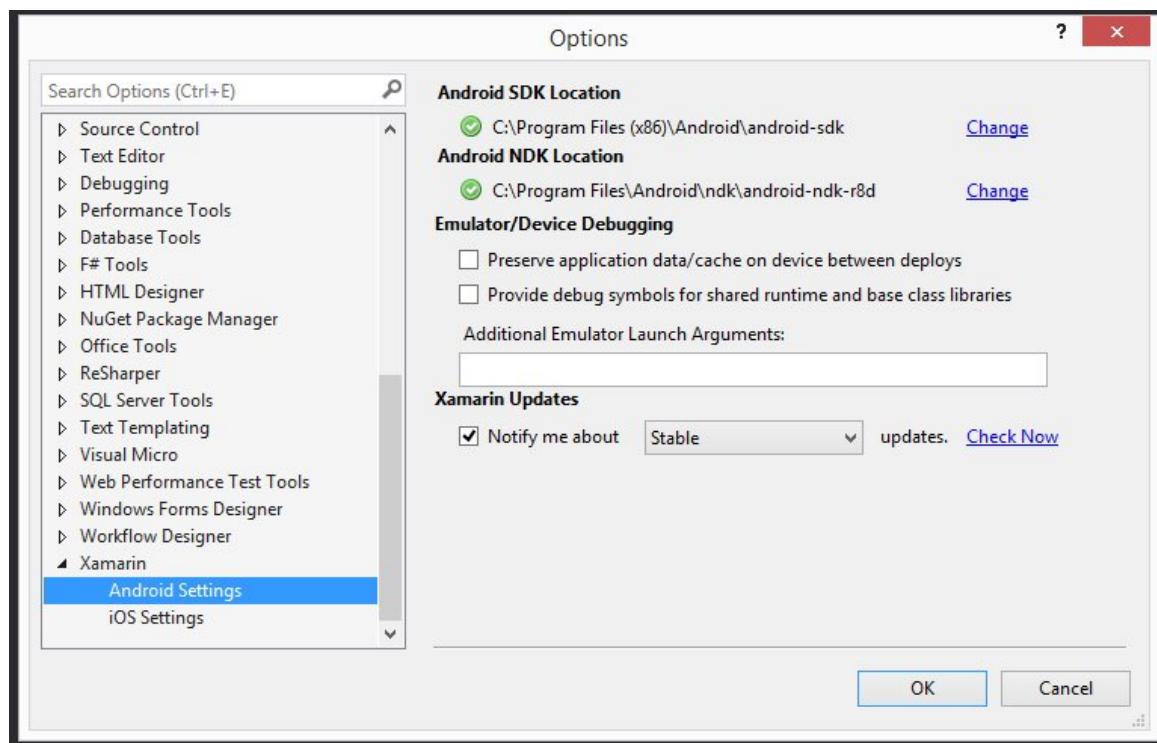
In the menu bar, navigate to Tools > Options, and locate Android under SDK Locations as illustrated in the screenshot below:





## Visual Studio

In the menu bar navigate to Tools > Options and locate Android under Xamarin, as illustrated below:



## Configure Java SDK (JDK)

Xamarin Studio will target the default location for the Java JDK. If we had already installed the JDK or if it was installed to a different location than the default, we could then configure that installation path by clicking Browse and then navigating to the appropriate path.

Visual Studio is slightly different and you will notice in the screenshot above that, unlike Xamarin Studio, there is no option to select the path for the JDK. This is because the location is looked up in the Registry and set in the background.

## Configure the Android SDK

In the Android SDK section of the Locations dialog, we can specify the installation path of our Android SDK. Click Browse, and then navigate to the Android SDK directory. Make sure that the correct path to the Android NDK is also specified.

## Summary

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Congratulations! You should now get your [device set up for development](#) or [configure the Android emulator](#).

In this article, we examined the components and steps needed to complete the Xamarin.Android installation. We looked at how to install and configure the required runtimes and SDKs, Xamarin Studio and Visual Studio, and how to configure Xamarin.Android for development.