How to Install and Use ADB, the Android Debug Bridge Utility

by **Chris Hoffman** on October 5th, 2016

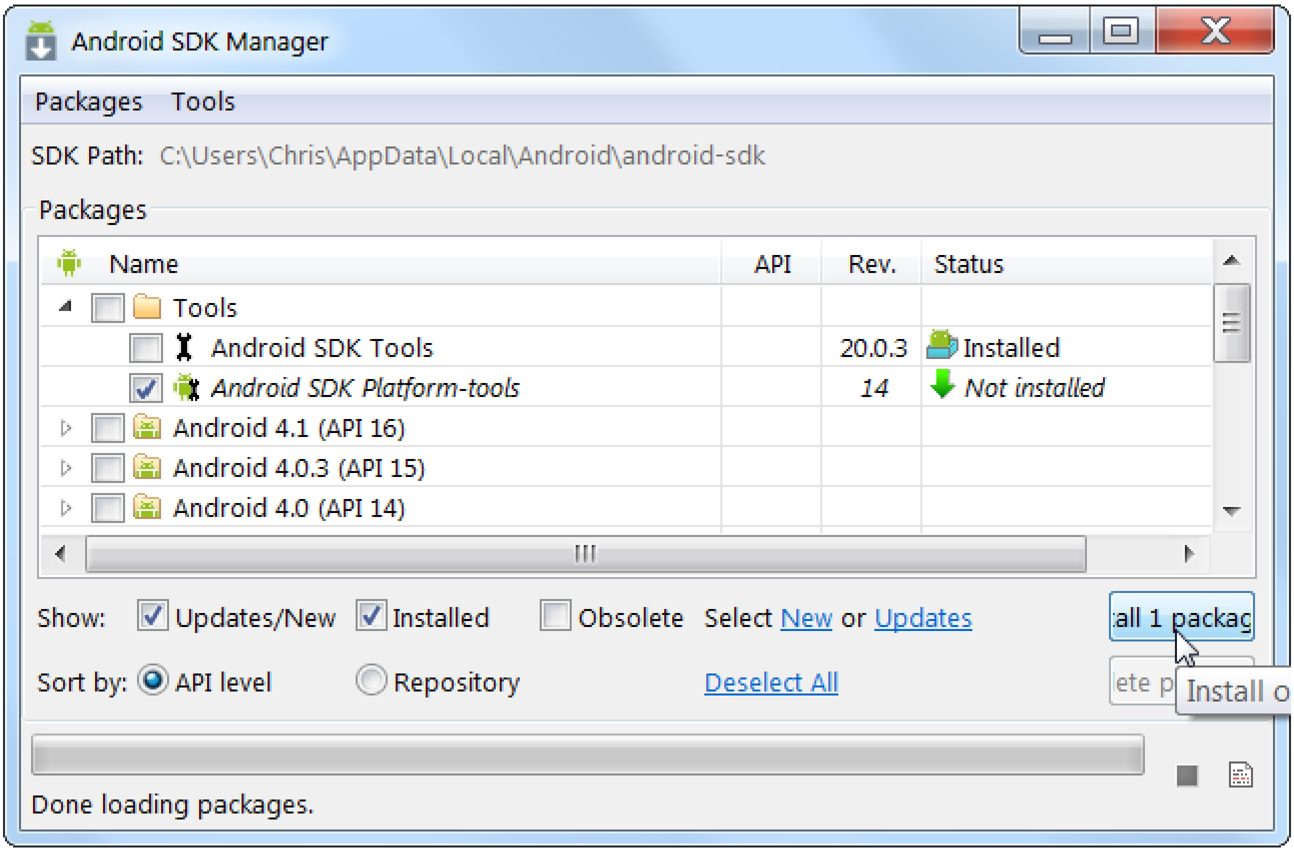
ADB, Android Debug Bridge, is a command-line utility included with Google's Android SDK. ADB can control your device over USB from a computer, copy files back and forth, install and uninstall apps, run shell commands, and more.

We've covered some other tricks that require ADB in the past, including backing up and restoring your smartphone or tablet and installing Android apps to your SD card by default. ADB is used for a variety of geeky Android tricks.

Step One: Set Up the Android SDK

Head to the Android SDK download page and scroll down to "SDK Tools Only", which is a set of tools that includes ADB. Download the ZIP file for your platform and unzip it wherever you want to store the ADB files–they're portable, so you can put them anywhere you want.

Start the SDK Manager EXE and deselect everything except "Android SDK Platform-tools". If you are using a Nexus phone, you may also want to select "Google USB Driver" to download Google's drivers. Click the Install button. This downloads and installs the platform-tools package, which contains ADB and other utilities.



Android SDK Manager

Packages Tools

SDK Path: C:\Users\Chris\AppData\Local\Android\android-sdk

Packages

Name	API	Rev.	Status
☐ Tools			
☐ Android SDK Tools		20.0.3	Installed
☑ *Android SDK Platform-tools*		*14*	*Not installed*
☐ Android 4.1 (API 16)			
☐ Android 4.0.3 (API 15)			
☐ Android 4.0 (API 14)			

Show: ☑ Updates/New ☑ Installed ☐ Obsolete Select New or Updates

Sort by: ● API level ○ Repository Deselect All

Done loading packages.

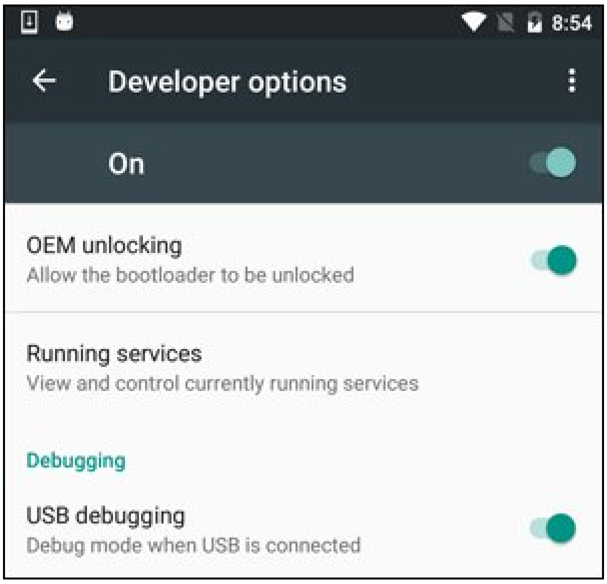
When it’s finished, you can close the SDK manager.

Step Two: Enable USB Debugging on Your Phone

To use ADB with your Android device, you must enable a feature called USB debugging. Open your phone’s app drawer, tap the Settings icon, and select “About Phone”. Scroll all the way down and tap the “Build Number” item seven times. You should get a message saying you are now a developer.

Head back to the main Settings page, and you should see a new option near the bottom called “Developer Options”. Open that, and enable “USB Debugging”.

Later on, when you connect your phone to your computer, you’ll see a popup entitled “Allow USB Debugging?” on your phone. Check the “Always allow from this computer” box and tap OK.



Developer options

On

OEM unlocking
Allow the bootloader to be unlocked

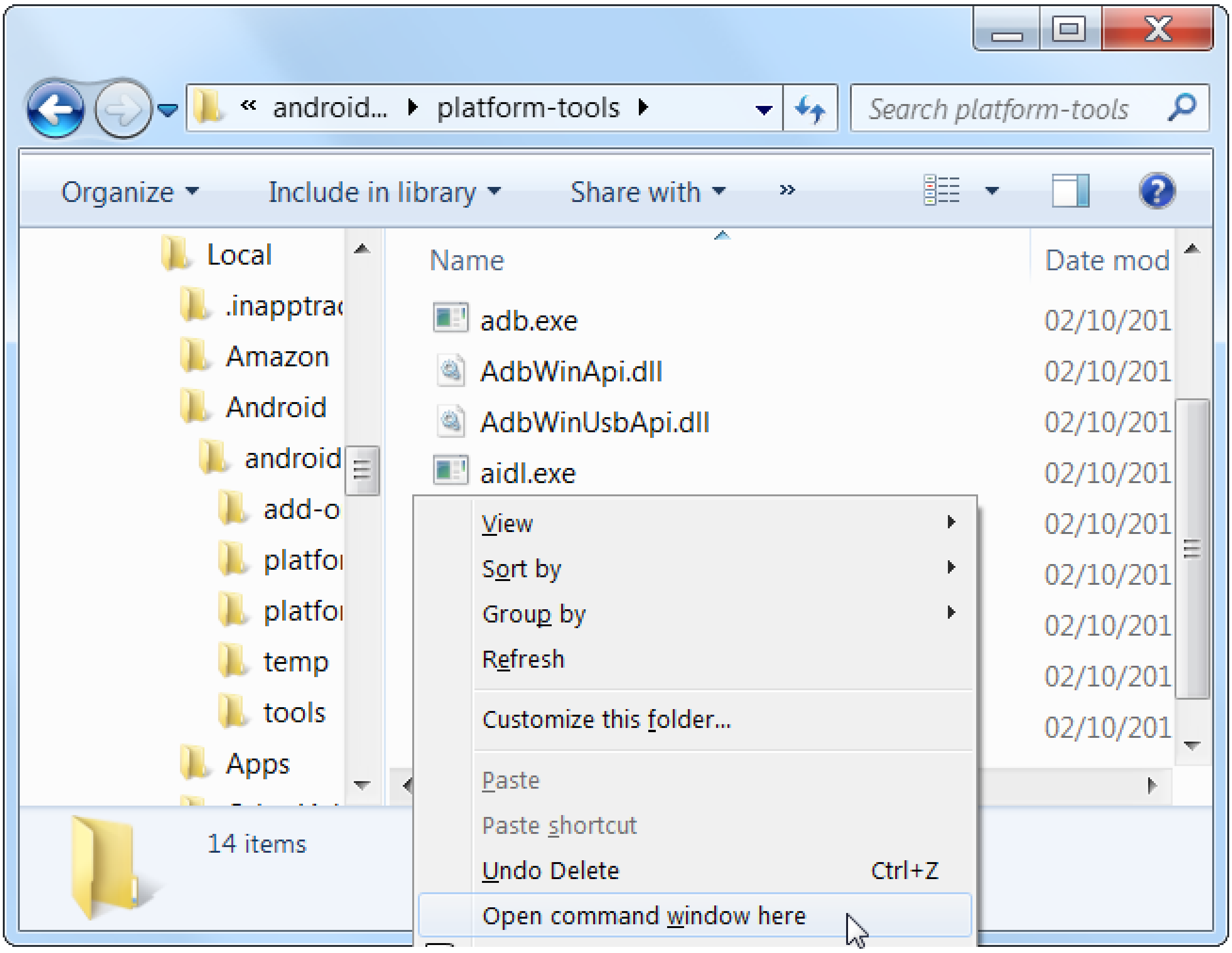
Running services
View and control currently running services

Debugging

USB debugging
Debug mode when USB is connected

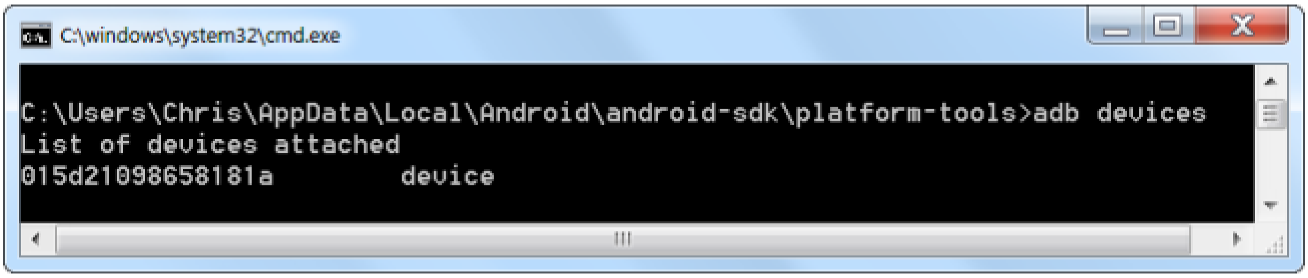
Step Three: Test ADB and Install Your Phone’s Drivers (if Needed)

Open the folder that you installed the SDK tools in and open the platform-tools folder. This is where the ADB program is stored. Hold Shift and right-click inside the folder. Choose “Open Command Window Here”.



To test whether ADB is working properly, connect your Android device to your computer using a USB cable and run the following command:

```
adb devices
```

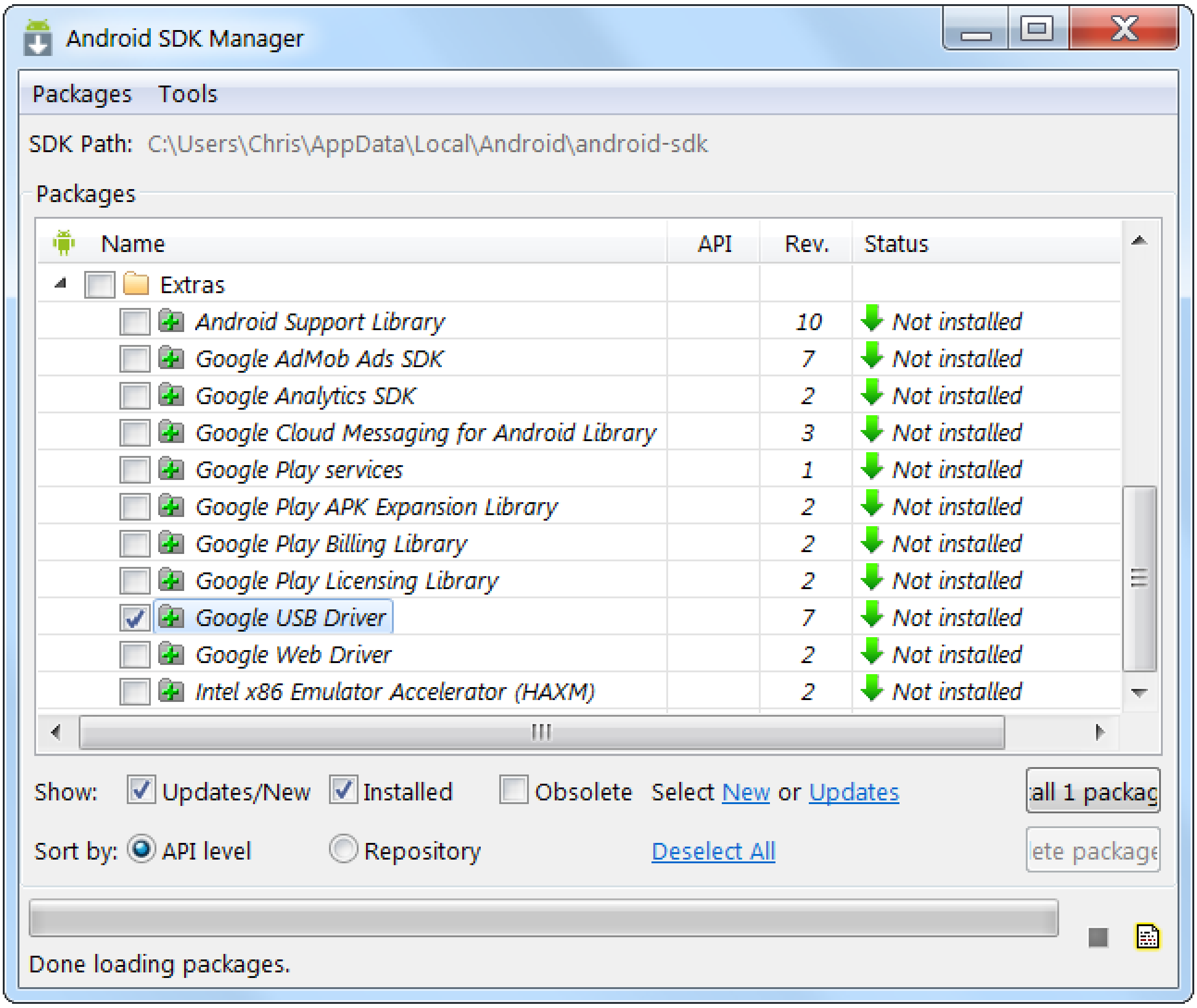


```
C:\Users\Chris\AppData\Local\Android\android-sdk\platform-tools>adb devices
List of devices attached
015d21098658181a        device
```

You should see a device in the list. If your device is connected but nothing appears in the list, you'll need to install the appropriate drivers.

Your phone's manufacturer may provide a downloadable driver package for your device. So head to their website and find the drivers for your device–Motorola's are here, Samsung's are here, and HTC's come as part of a suite called HTC Sync Manager. You can also search XDA Developers for driver downloads without the extra software.

You can also try installing the Google USB Driver from the Extras folder in the SDK Manager window, as we mentioned in the first step. This will work with some phones including Nexus devices.



SDK Path: C:\Users\Chris\AppData\Local\Android\android-sdk

Packages

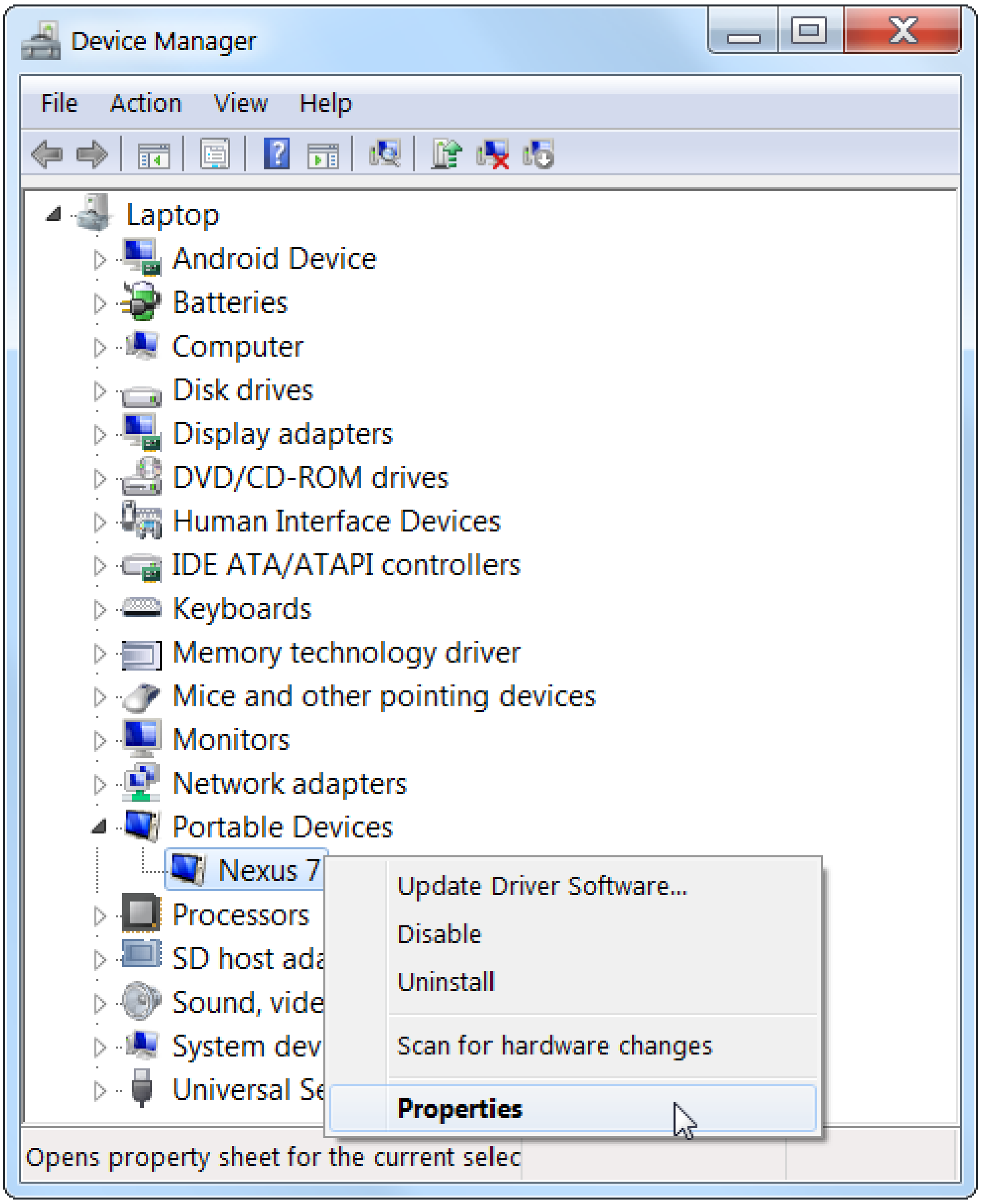
Name	API	Rev.	Status
□ Extras			
□ Android Support Library		10	Not installed
□ Google AdMob Ads SDK		7	Not installed
□ Google Analytics SDK		2	Not installed
□ Google Cloud Messaging for Android Library		3	Not installed
□ Google Play services		1	Not installed
□ Google Play APK Expansion Library		2	Not installed
□ Google Play Billing Library		2	Not installed
□ Google Play Licensing Library		2	Not installed
☑ Google USB Driver		7	Not installed
□ Google Web Driver		2	Not installed
□ Intel x86 Emulator Accelerator (HAXM)		2	Not installed

Show: ☑ Updates/New ☑ Installed □ Obsolete Select New or Updates

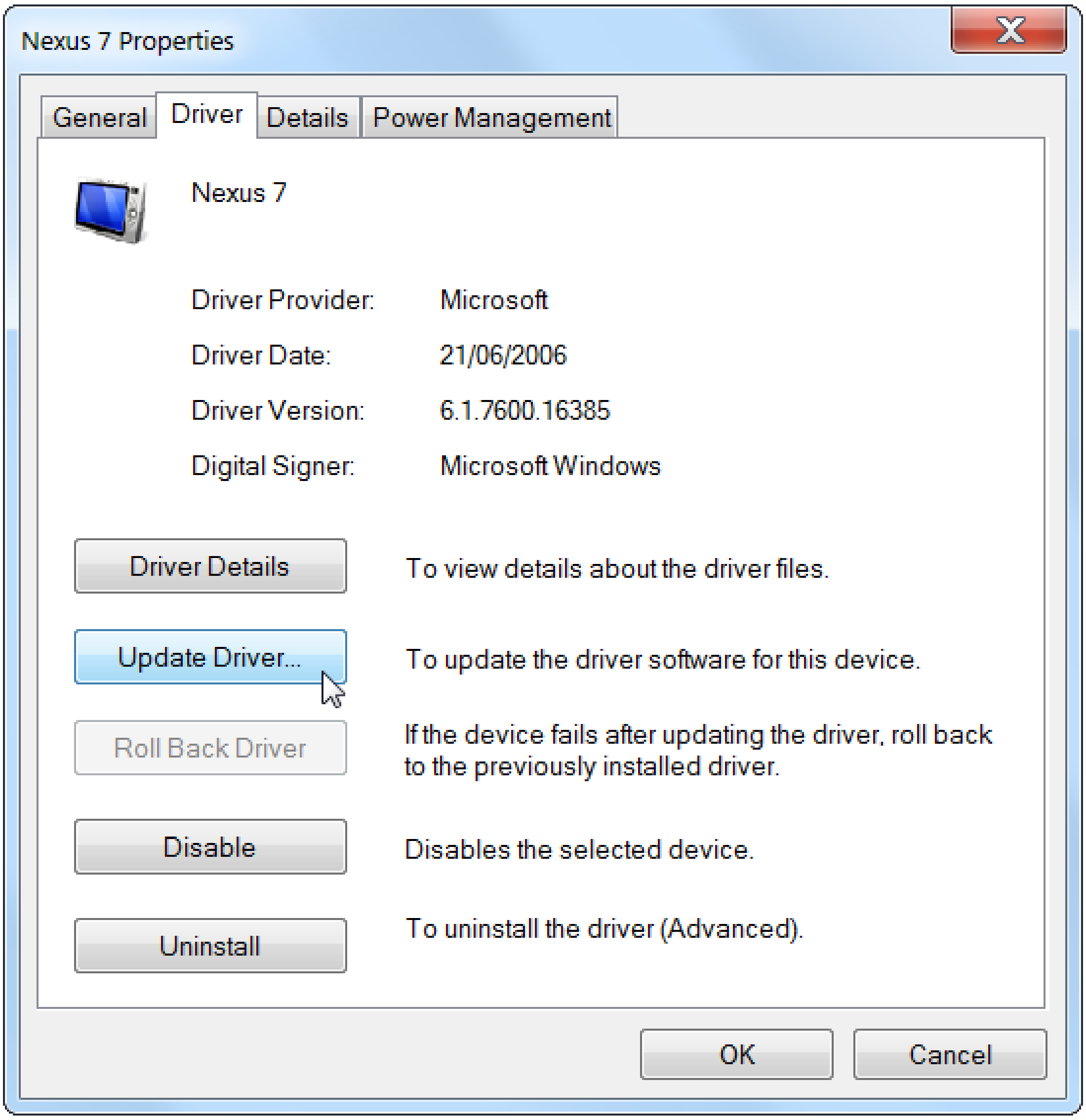
Sort by: ● API level ○ Repository Deselect All

Done loading packages.

If you use Google's USB driver, you may have to force Windows to use the installed drivers for your device. Open the Device Manager (click Start, type Device Manager, and press Enter), locate your device, right-click it and select Properties. You may see a yellow exclamation mark next to the device if its driver isn't installed properly.



On the Driver tab, click Update Driver.



Nexus 7 Properties

Nexus 7

Driver Provider: Microsoft

Driver Date: 21/06/2006

Driver Version: 6.1.7600.16385

Digital Signer: Microsoft Windows

To view details about the driver files.

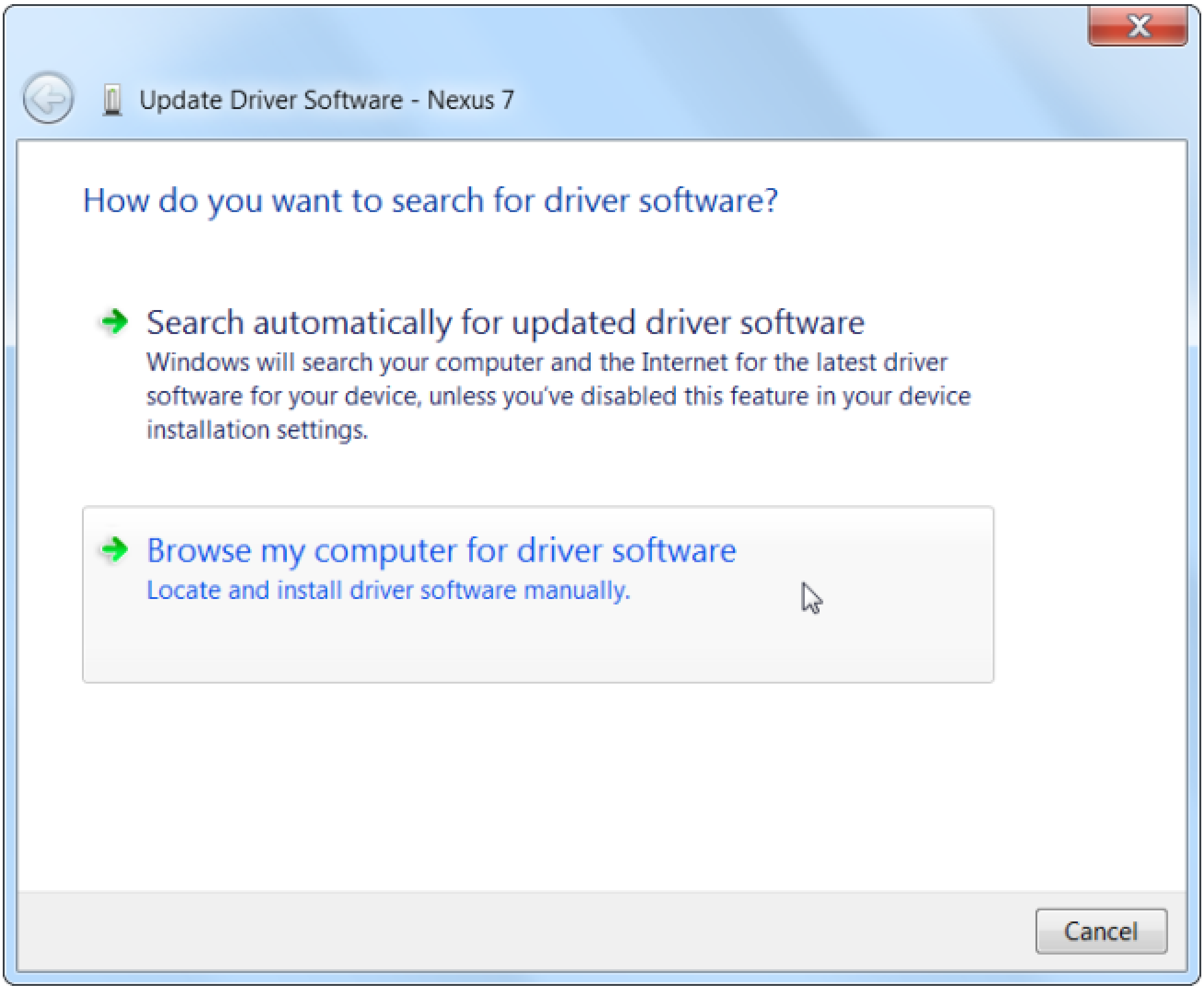
To update the driver software for this device.

If the device fails after updating the driver, roll back to the previously installed driver.

Disables the selected device.

To uninstall the driver (Advanced).

Use the Browse my computer for driver software option.



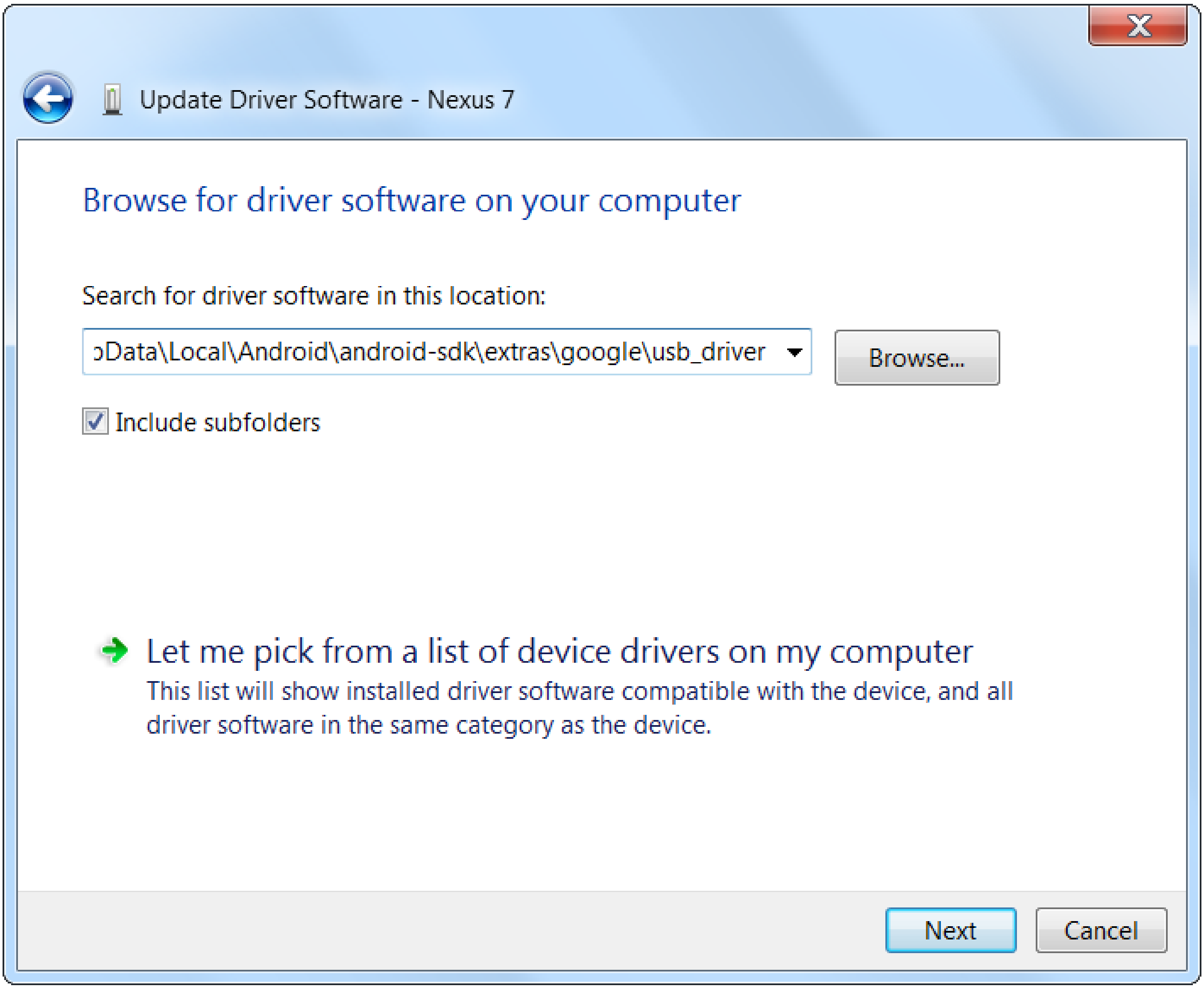
Update Driver Software - Nexus 7

How do you want to search for driver software?

➔ Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

➔ Browse my computer for driver software
Locate and install driver software manually.

You'll find the Google USB Driver in the “Extras” folder where you installed your Android SDK files. Select the `google\usb_driver`folder and click Next.



Update Driver Software - Nexus 7

Browse for driver software on your computer

Search for driver software in this location:

ɔData\Local\Android\android-sdk\extras\google\usb_driver

☑ Include subfolders

Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.

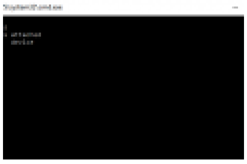
Once you've installed your device's drivers, plug in your phone and try the adb devices command again:

```
adb devices
```

If all went well, you should see your device in the list, and you are ready to start using ADB!

Step Four (Optional): Add ADB to Your System PATH

RELATED ARTICLE



How to Edit Your System PATH for Easy Command Line Access in Windows

As it stands, you have to navigate to ADB's folder and open a Command Prompt there whenever you want to use it. However, if you add it to your Windows System PATH, that won't be necessary–you can just type `adb` from the Command Prompt to run commands whenever you want, no matter what folder you're in.

The process is a bit different on Windows 7 and 10, so check out our full guide to editing your System PATH for the steps required to do this.

Useful ADB Commands

In addition to the variety of tricks that require ADB, ADB offers some useful commands:

```
adb install C:\package.apk – Installs the package located at
C:\package.apk on your computer on your device.

adb uninstall package.name – Uninstalls the package with package.name
from your device. For example, you’d use the name com.rovio.angrybirds
to uninstall the Angry Birds app.

adb push C:\file /sdcard/file – Pushes a file from your computer to
your device. For example, the command here pushes the file located at
C:\file on your computer to /sdcard/file on your device

adb pull /sdcard/file C:\file – Pulls a file from your device to your
computer – works like adb push, but in reverse.
```

```
adb logcat – View your Android device’s log. Can be useful for
debugging apps.
```

```
adb shell – Gives you an interactive Linux command-line shell on your
device.

adb shell command – Runs the specified shell command on your device.
```

For a full guide to ADB, consult the Android Debug Bridge page on Google’s Android Developers site.

Image Credit: LAI Ryanne on Flickr