**Android Package Kit** (**APK**) is the [package](https://en.wikipedia.org/wiki/Package_format) [file format](https://en.wikipedia.org/wiki/File_format) used by the [Android](https://en.wikipedia.org/wiki/Android_(operating_system)) operating system for distribution and installation of [mobile apps](https://en.wikipedia.org/wiki/Mobile_app) and [middleware](https://en.wikipedia.org/wiki/Middleware).

APK files are analogous to other [software packages](https://en.wikipedia.org/wiki/Software_package_(disambiguation)) such as [APPX](https://en.wikipedia.org/wiki/APPX) in [Microsoft Windows](https://en.wikipedia.org/wiki/Microsoft_Windows) or [Deb packages](https://en.wikipedia.org/wiki/Deb_(file_format)) in [Debian](https://en.wikipedia.org/wiki/Debian)-based operating systems like Ubuntu. To make an APK file, a program for Android is first compiled, and then all of its parts are packaged into one file. An APK file contains all of that program's code (such as [.dex](https://en.wikipedia.org/wiki/.dex) files), resources, assets, certificates, and [manifest file](https://en.wikipedia.org/wiki/Manifest_file). As is the case with many file formats, APK files can have any name needed, provided that the file name ends in ".apk"

APK files are a type of [archive file](https://en.wikipedia.org/wiki/Archive_file), specifically in [zip format](https://en.wikipedia.org/wiki/Zip_(file_format)) packages based on the [JAR file format](https://en.wikipedia.org/wiki/JAR_(file_format)), with .apk as the [filename extension](https://en.wikipedia.org/wiki/Filename_extension). The [MIME type](https://en.wikipedia.org/wiki/Internet_media_type) associated with APK files is application/vnd.android.package-archive.[[5]](https://en.wikipedia.org/wiki/Android_application_package#cite_note-5)

APK files can be installed on [Android](https://en.wikipedia.org/wiki/Android_(operating_system)) powered devices just like installing software on [PC](https://en.wikipedia.org/wiki/Personal_computer). When a user downloads and installs an Android application from either an official source (such as [Google Play](https://en.wikipedia.org/wiki/Google_Play)), or from some other (unofficial) site, they are installing an APK file on their device. A user or developer can also install an APK file directly to a device (that is, not via download from the network) from a desktop computer, using a communication program such as [adb](https://en.wikipedia.org/wiki/Android_software_development" \l "Android_Debug_Bridge" \o "Android software development), or from within a file manager app in a process known as [sideloading](https://en.wikipedia.org/wiki/Sideloading" \o "Sideloading). By default, the ability to install from unofficial sites or directly from a desktop or file manager is disabled for security reasons on most Android devices. Users can enable it by changing the setting "Unknown sources" in the Settings menu.[[6]](https://en.wikipedia.org/wiki/Android_application_package#cite_note-6)

Package contents

An APK file is an [archive](https://en.wikipedia.org/wiki/Archive_file) that usually contains the following files and directories:

* META-INF directory:
  + MANIFEST.MF: the [Manifest file](https://en.wikipedia.org/wiki/Manifest_file)
  + CERT.RSA: The certificate of the application.
  + CERT.SF: The list of resources and [SHA-1](https://en.wikipedia.org/wiki/SHA-1) digest of the corresponding lines in the MANIFEST.MF file; for example:

Signature-Version: 1.0

Created-By: 1.0 (Android)

SHA1-Digest-Manifest: wxqnEAI0UA5nO5QJ8CGMwjkGGWE=

...

Name: res/layout/exchange\_component\_back\_bottom.xml

SHA1-Digest: eACjMjESj7Zkf0cBFTZ0nqWrt7w=

Name: res/drawable-hdpi/icon.png

SHA1-Digest: DGEqylP8W0n0iV/ZzBx3MW0WGCA=

* lib: the directory containing the compiled code that is specific to a software layer of a processor, the directory is split into more directories within it:
  + armeabi: compiled code for all [ARM](https://en.wikipedia.org/wiki/ARM_architecture) based processors only
  + armeabi-v7a: compiled code for all ARMv7 and above based processors only
  + arm64-v8a: compiled code for all ARMv8 arm64 and above based processors only[[7]](https://en.wikipedia.org/wiki/Android_application_package#cite_note-7)[[8]](https://en.wikipedia.org/wiki/Android_application_package#cite_note-8)
  + x86: compiled code for [x86](https://en.wikipedia.org/wiki/X86) processors only
  + x86\_64: compiled code for [x86 64](https://en.wikipedia.org/wiki/X86_64) processors only
  + mips: compiled code for [MIPS](https://en.wikipedia.org/wiki/MIPS_architecture) processors only
* res: the directory containing resources not compiled into resources.arsc (see below).
* assets: a directory containing applications assets, which can be retrieved by AssetManager.
* AndroidManifest.xml: An additional Android manifest file, describing the name, version, access rights, referenced library files for the application. This file may be in Android [binary XML](https://en.wikipedia.org/wiki/Binary_XML) that can be converted into human-readable plaintext XML with tools such as [AXMLPrinter2](https://code.google.com/p/android4me/downloads/list), [apktool](https://ibotpeaches.github.io/Apktool/), or [Androguard](https://code.google.com/p/androguard/wiki/Usage" \l "Androaxml).
* classes.dex: The classes compiled in the [dex file format](https://en.wikipedia.org/wiki/DEX_(file_format)" \o "DEX (file format)) understandable by the [Dalvik virtual machine](https://en.wikipedia.org/wiki/Dalvik_(software)" \o "Dalvik (software)) and by the [Android Runtime](https://en.wikipedia.org/wiki/Android_Runtime).
* resources.arsc: a file containing precompiled resources, such as binary XML for example.