

# Android

This page introduce how you can download and compile the Android kernel for **ODROID-U3/X2**. To build the Android Kernel, we strongly recommend the **gcc version 4.4.1** .

## Toolchain

Click one of the site to download toolchain to build Linux kernel.

- [Download Linux Kernel Toolchain\(arm-2010q1\)](#)
- [Download Linux Kernel Toolchain\(arm-2010q1\)](#)

Once the download is done, extract the tarball to **/opt/toolchains/**.

```
$ sudo mkdir -p /opt/toolchains
$ unxz arm-2010q1.tar.xz
$ tar xvf arm-2010q1.tar
$ sudo mkdir /opt/toolchains
$ sudo mv arm-2010q1 /opt/toolchains/
```

In order to add the toolchain path to PATH, paste below lines to **\$HOME/.bashrc**.

```
export PATH=$PATH:/home/odroid/adt-bundle-linux-
x86_64-20140702/sdk/platform-tools:/opt/toolchains/arm-2010q1/bin
export ARCH=arm
export CROSS_COMPILE=arm-none-linux-gnueabi-
```

You can apply the change if you login again or import to apply this change, login again or evaluate **\$HOME/.bashrc** with source command.

```
$ source ~/.bashrc
```

You can check if the toolchain installed above works properly while checking the version of toolchain. If you can find **(Sourcery G++ Lite 2010q1-202) 4.4.1** at the end of the line, the toolchain is well installed.

```
$ source ~/.bashrc
$ arm-none-linux-gnueabi-gcc --version
arm-none-linux-gnueabi-gcc (Sourcery G++ Lite 2010q1-202) 4.4.1
Copyright (C) 2009 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

## Checkout

You can checkout **Kernel** source tree from [Hardkernel's Github](#), **Android platform** source tree from [Hardkernel's Github](#). Please note that we distribute the Linux kernel in different branches for Android and other Linux distributions.

### Android Kernel

```
$ git clone --depth 1 https://github.com/hardkernel/linux.git -b  
odroid-3.0.y-android  
$ cd linux
```

### Android Platform

#### android-4.1.2

```
$ mkdir <Android Platform Folder Name>  
$ cd <Android Platform Folder Name>  
$ repo init -u https://github.com/hardkernel/android.git -b  
4412_4.1.2_master  
$ repo sync  
$ repo start 4412_4.1.2_master --all
```

#### android-4.4.4

```
$ mkdir <Android Platform Folder Name>  
$ cd <Android Platform Folder Name>  
$ repo init -u https://github.com/hardkernel/android.git -b  
4412_4.4.4_master  
$ repo sync  
$ repo start 4412_4.4.4_master --all
```

- Visit this link to install the repo.

<http://source.android.com/source/downloading.html>

## Compile

Before compiling, you must configure for **ODROID-U3** with following command.

## Android Kernel

### Android-4.1.2

#### ODROID-U2/U3

```
$ make odroidu_android_422_defconfig  
$ make
```

#### ODROID-X2

```
$ make odroidx2_android_422_defconfig  
$ make
```

### Android-4.4.4

We've merged the Kernel source into the Android repo. Android build-script also includes the Kernel compile.

If you still want to compile only the kernel,

```
$ make odroidXX_android_442_defconfig  
$ make
```

## Android Platform

### ODROID-U2/U3

```
$ ./build_android.sh odroidu
```

### ODROID-X2

```
$ ./build_android.sh odroidx2
```

## Installation

There are different instructions to install Linux kernel image for Android and Linux. Since Android loads both from a kernel partition, we have to use **fastboot** to install into the dedicated partition. Please refer the partition table from [here](#). In contrast, Linux boots by the instructions described in **boot.ini** the 1st FAT partition.

This is the instruction to install kernel image, **zImage**, to the boot card.

```
$ sudo fastboot flash kernel <path/of/your/zImage>
```

This is to install android platform files, **system.img**, **userdata.img**, **cache.img**.

```
$ sudo fastboot flash system <path/of/your/system.img>
$ sudo fastboot flash userdata <path/of/your/userdata.img>
$ sudo fastboot flash cache <path/of/your/cache.img>
```

If you want to initialize the FAT partition, run this command.

```
$ sudo fatboot erase fat
```

[http://codewalkerster.blogspot.kr/search?q=cross\\_compile](http://codewalkerster.blogspot.kr/search?q=cross_compile)

From:

<http://wiki.odroid.com/> - **ODROID Wiki**

Permanent link:

[http://wiki.odroid.com/old\\_product/odroid-x\\_u\\_q/odroid\\_u3/u3\\_building\\_android](http://wiki.odroid.com/old_product/odroid-x_u_q/odroid_u3/u3_building_android)

Last update: **2017/05/31 03:36**

