Cubietruck android Compile

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内容目录

1.Set up the compilation environment of android

1.1 install JDK

$wget dl.cubieboard.org/software/tools/android/jdk1.6.0_45.tar.gz

Unpack :

$sudo tar -xvf jdk1.6.0_45.tar.gz

$ sudo vim ~/.bashrc

add :

JAVA_HOME=/jdk-path/jdk1.6.0_45
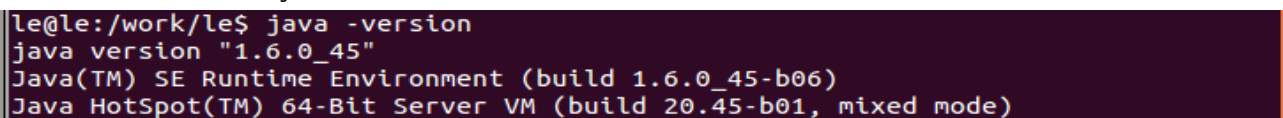
export JRE_HOME=/jdk-path/jdk1.6.0_45/jre

export PATH=$JAVA_HOME/bin:$JRE_HOME/bin:$PATH

jdk-paththe: path of Download unpacked JDK

Which saved enforced and verify success:

 $source ~/.bashrc&&java -version

```
le@le:/work/le$ java -version
java version "1.6.0_45"
Java(TM) SE Runtime Environment (build 1.6.0_45-b06)
Java HotSpot(TM) 64-Bit Server VM (build 20.45-b01, mixed mode)
```

Pictured above prove successful

1.2 Compile the required package of installation（Ubuntu 12.04）:

$sudo apt-get update

$sudo apt-get upgrade

$sudo apt-get install build-essential u-boot-tools uboot-mkimage binutils-arm-linux-gnueabihf

$sudo apt-get install gcc g++ gcc-arm-linux-gnueabi gcc-arm-linux-gnueabihf g++-multilib

$sudo apt-get install cpp-arm-linux-gnueabihf libusb-1.0-0 libusb-1.0-0-dev wget fakeroot

$sudo apt-get install kernel-package zlib1g-dev libncurses5-dev build-essential

$sudo apt-get install texinfo texlive ccache zlib1g-dev gawk bison flex gettext uuid-dev

$sudo apt-get install ia32-libs git gnupg flex bison gperf build-essential zip

$sudo apt-get install curl libc6-dev x11proto-core-dev libx11-dev:i386 lib32ncurses5-dev

$sudo apt-get install libreadline6-dev:i386   mingw32 tofrodos python-markdown

$sudo apt-get install libxml2-utils xsltproc zlib1g-dev:i386 libgl1-mesa-dev

2.Download the package of android source code

1) github

git clone https://bitbucket.org/cubietech/a20-android4.2_lichee.git

git clone https://bitbucket.org/cubietech/a20-android4.2_android.git

2）**To download the source code package in baidu cloud :**

http://dl.cubieboard.org/model/Common/android-source/a20/v2.0/

3.Kernel compilation

It is two directory after extract the source code package, one is the android ,another lichee, kernel compilation run in the lichee. Lichee mainly compile some module of equipment , the drivers, the kernel, and so on, and configuration files. Compiled modules and the kernel will copy when compile the whole android.

The step of compilation as follows:

  Copy the configuration file of kernel

```
le@le:/work/le/a20-android/lichee/linux-3.4$ sudo cp arch/arm/configs/cubieboard
2_config .config
```

 Compile the kernel

```
le@le:/work/le/a20-android/lichee$
le@le:/work/le/a20-android/lichee$
le@le:/work/le/a20-android/lichee$ ./build.sh -p sun7i_android
```

waitting..........

completed:

```
 u-boot
arm-linux-gnueabi-objcopy -O srec u-boot u-boot.srec
arm-linux-gnueabi-objcopy --gap-fill=0xff -O binary u-boot u-boot.bin
make[1]:正在离开目录 `/work/le/a20-android/lichee/u-boot'
INFO: build u-boot OK.
INFO: build rootfs ...
INFO: skip make rootfs for android
INFO: build rootfs OK.
INFO: build lichee OK.
```

You can enter the lichee/out after Compile and can see the product of the compilation.

```
le@le: /work/le/a20-android/lichee
le@le:/work/le/a20-android/lichee$ ls out/android/common/
bImage      buildroot/  lib/        u-boot.bin  uImage       zImage
le@le:/work/le/a20-android/lichee$ ls out/android/common/
bImage  buildroot  lib  u-boot.bin  uImage  zImage
le@le:/work/le/a20-android/lichee$
```

4.The overall compilation

After the kernel compiled, into the android directory. Here to perform the firmware compile, generating system. Img, userdata. Img image, finally they are packaged to firmware as we need.

Steps are as follows:

　le@le:/work/le/a20-android$ cd android

　le@le:/work/le/a20-android/android$ source build/envsetup.sh

　le@le:/work/le/a20-android/android$ lunch

```
le@le: /work/le/a20-android/android
Lunch menu... pick a combo:
     1. full-eng
     2. full_x86-eng
     3. vbox_x86-eng
     4. full_mips-eng
     5. full_grouper-userdebug
     6. full_tilapia-userdebug
     7. mini_armv7a_neon-userdebug
     8. mini_armv7a-userdebug
     9. mini_mips-userdebug
    10. mini_x86-userdebug
    11. full_maguro-userdebug
    12. full_manta-userdebug
    13. full_toroplus-userdebug
    14. full_toro-userdebug
    15. sugar_cubieboard2-eng
    16. sugar_cubietruck-eng
    17. sugar_evb-eng
    18. sugar_ref001-eng
    19. sugar_standard-eng
    20. wing_evb_v10-eng
    21. full_panda-userdebug

Which would you like? [full-eng]
```
input 16(choose sugar_cubietruck-eng)

Copy the kernel and modules:

le@le:/work/le/a20-android/android$ extract-bsp

Compile:

le@le:/work/le/a20-android/android$ make -j8

waitting...........

completed:

```
le@le: /work/le/a20-android/android
    Label:
    Blocks: 131072
    Block groups: 4
    Reserved block group size: 31
Created filesystem with 1488/32768 inodes and 99678/131072 blocks
+ '[' 0 -ne 0 ']'
Running:  simg2img out/target/product/sugar-cubieboard2/obj/PACKAGING/systemimag
e_intermediates/system.img out/target/product/sugar-cubieboard2/obj/PACKAGING/sy
stemimage_intermediates/unsparse_system.img
Running:  e2fsck -f -n out/target/product/sugar-cubieboard2/obj/PACKAGING/system
image_intermediates/unsparse_system.img
e2fsck 1.41.14 (22-Dec-2010)
Pass 1: Checking inodes, blocks, and sizes
Pass 2: Checking directory structure
Pass 3: Checking directory connectivity
Pass 4: Checking reference counts
Pass 5: Checking group summary information
out/target/product/sugar-cubieboard2/obj/PACKAGING/systemimage_intermediates/uns
parse_system.img: 1488/32768 files (0.0% non-contiguous), 99678/131072 blocks
Install system fs image: out/target/product/sugar-cubieboard2/system.img
out/target/product/sugar-cubieboard2/system.img+out/target/product/sugar-cubiebo
ard2/obj/PACKAGING/recovery_patch_intermediates/recovery_from_boot.p maxsize=548
110464 blocksize=4224 total=402252512  reserve=5537664
le@le:/work/le/a20-android/android$
```

pack after completed :

le@le:/work/le/a20-android/android$ pack

The firmware will be generated in the lichee/tools/pack .

```
le@le: /work/le/a20-android/android
le@le:/work/le/a20-android/android$ ls ../lichee/tools/pack/
chips   out   pack   pctools   sun7i_android_sugar-cubietruck.img
le@le:/work/le/a20-android/android$
```