

Ubuntu14.04 下编译 linux 内核文件

- 1、将 linux-3.5.tar.gz 源码文件拷贝到 linux 下，并解压
- 2、进入 linux-3.5，先执行 cp tiny4412_ubuntu_defconfig .config
- 3、然后执行 make menuconfig 命令

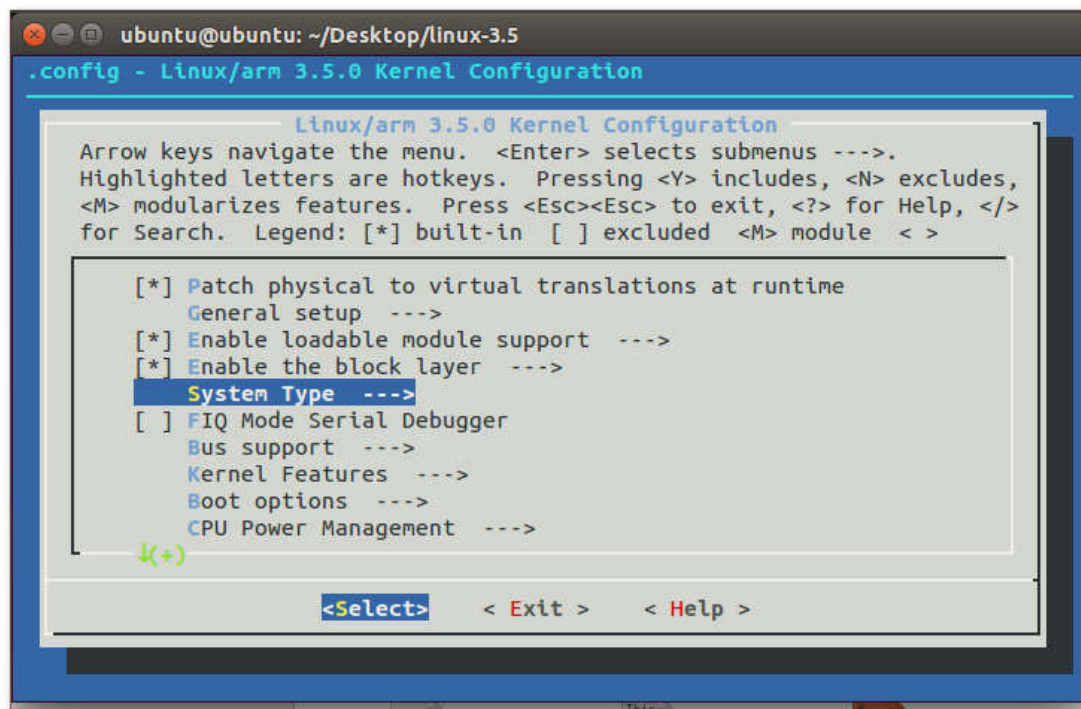
```
ubuntu@ubuntu:~/Desktop/linux-3.5$ make menuconfig
*** Unable to find the ncurses libraries or the
*** required header files.
*** 'make menuconfig' requires the ncurses libraries.
***
*** Install ncurses (ncurses-devel) and try again.
***
make[1]: *** [scripts/kconfig/dochecklxdialog] Error 1
make: *** [menuconfig] Error 2
ubuntu@ubuntu:~/Desktop/linux-3.5$
```

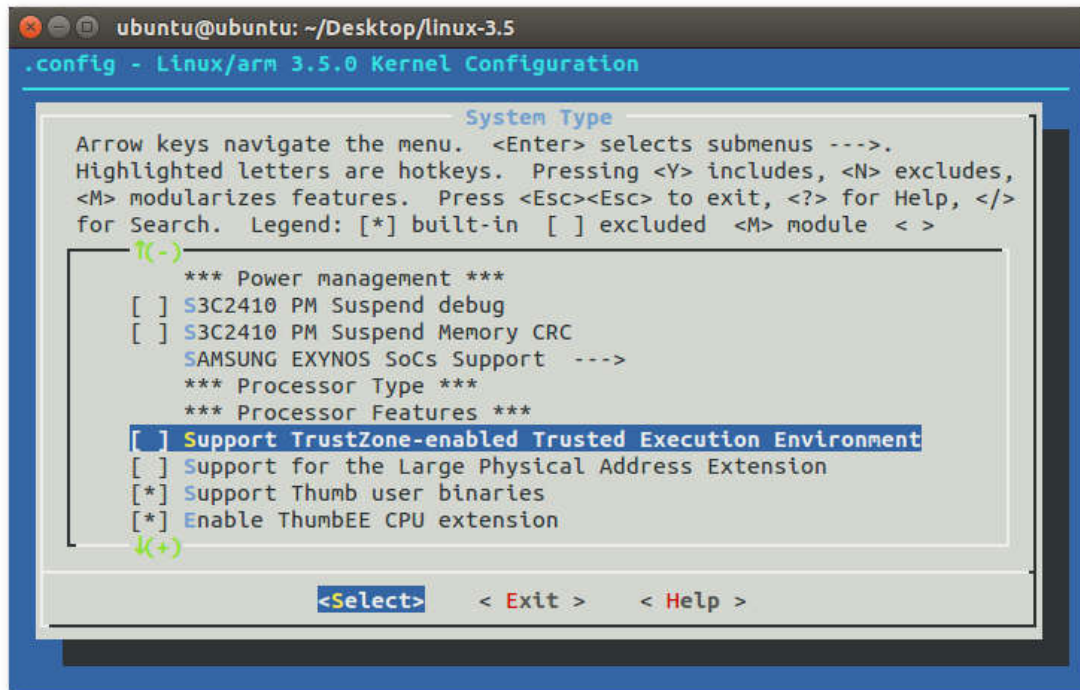
会发生上述的错误，解决方法如下：安装依赖库文件

```
sudo apt-get install libncurses*
```

完成后，继续执行 make menuconfig 配置内核菜单：

进入 system Type --->Support Trustzone-enabled Trusted Execution Environment





4、完成后在顶层根目录下，执行 make 编译命令：make

```
LD      arch/arm/boot/compressed/vmlinux
OBJCOPY arch/arm/boot/zImage
Kernel: arch/arm/boot/zImage is ready
ubuntu@ubuntu:~/Desktop/linux-3.5$
```

等待时间有点长，生成 Kernel : arch/arm/boot/zImage is ready

5、进入到 arch/arm/boot/，使用 dd 命令把 zImage 命令下载到 SD 卡中

把 zImage 写入 SD 卡的第 1057 个扇区：

写入命令格式为：

```
dd iflag=dsync oflag=dsync if=./zImage of=/dev/sdb seek=1057
```

```
ubuntu@ubuntu:~/Desktop/linux-3.5/arch/arm/boot$ dd iflag=dsync oflag=dsync if=
./zImage of=/dev/sdb seek=1057
dd: failed to open '/dev/sdb': Permission denied
ubuntu@ubuntu:~/Desktop/linux-3.5/arch/arm/boot$ sudo su
[sudo] password for ubuntu:
root@ubuntu:/home/ubuntu/Desktop/linux-3.5/arch/arm/boot# dd iflag=dsync oflag=
sync if=./zImage of=/dev/sdc seek=1057
9343+1 records in
9343+1 records out
4784024 bytes (4.8 MB) copied, 0.0241614 s, 198 MB/s
root@ubuntu:/home/ubuntu/Desktop/linux-3.5/arch/arm/boot# dd iflag=dsync oflag=
sync if=./zImage of=/dev/sdb seek=1057
9343+1 records in
9343+1 records out
4784024 bytes (4.8 MB) copied, 51.3378 s, 93.2 kB/s
root@ubuntu:/home/ubuntu/Desktop/linux-3.5/arch/arm/boot#
```

写入成功，如上图所示。

6、拔下 sd 卡，插入开发板中，从 sd 卡启动。

7、设置环境变量：

TINY4412#print

```
TINY4412 # print
baudrate=115200
bootargs=noinitrd root=/dev/nfs nfsroot=192.168.10.106:/root/work/root nfs ip=192.168.10.123:192.168.10.106;192.168.10.1:255.255.255.0::eth0:off init=/linuxrc console=
tty=acm 128-6787
bootcmd=movi read kernel 0 40008000;movi read rootfs 0 41000000 400000;bootm 40008000 41000000
bootdelay=3
ethaddr=00:40:5c:26:0a:5b
gatewayip=192.168.0.1
ipaddr=192.168.0.20
netmask=255.255.255.0
serverip=192.168.0.10
Environment size: 438/16380 bytes
TINY4412 #
```

TINY4412#setenv bootcmd 'movi read kernel 0 40008000 bootm 40008000 41000000'

TINY4412#saveenv

TINY4412#boot

7、重启在开发板上看到 linux 企鹅头像，即成功。