

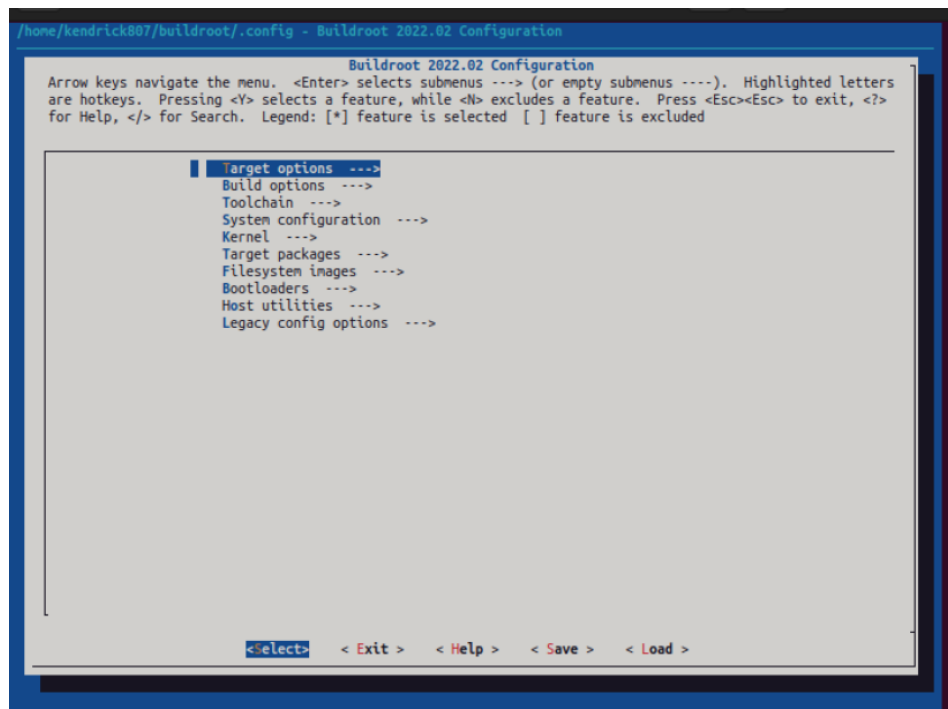
Buildroot lab 1

Kendrick Kwong

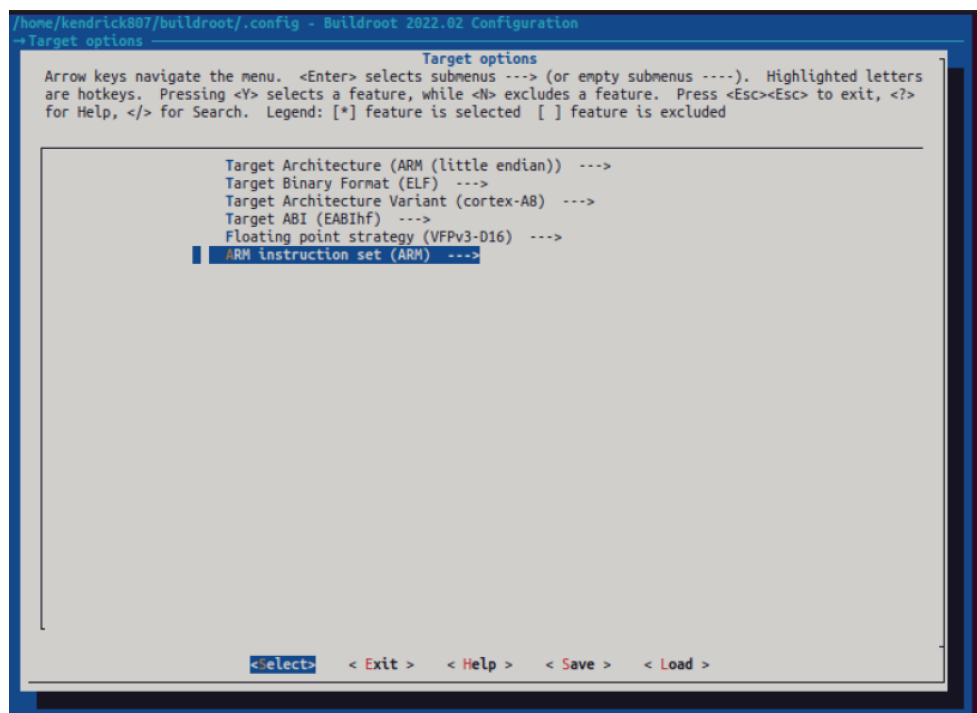
Command to install all the package in order to make buildroot work, and some of the packages are already installed.

```
Package python has no installation candidate
kendrick807@kendrick807-virtual-machine
▶ sudo apt install sed make binutils gcc g++ bash patch \
gzip bzip2 perl tar cpio python3 unzip rsync wget libncurses-dev
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
bash is already the newest version (5.1-6ubuntu1).
bash set to manually installed.
bzip2 is already the newest version (1.0.8-5build1).
bzip2 set to manually installed.
cpio is already the newest version (2.13+dfsg-7).
cpio set to manually installed.
g++ is already the newest version (4:11.2.0-1ubuntu1).
gcc is already the newest version (4:11.2.0-1ubuntu1).
gcc set to manually installed.
libncurses-dev is already the newest version (6.3-2).
libncurses-dev set to manually installed.
make is already the newest version (4.3-4.1build1).
patch is already the newest version (2.7.6-7build2).
patch set to manually installed.
sed is already the newest version (4.8-1ubuntu2).
sed set to manually installed.
tar is already the newest version (1.34+dfsg-1build3).
tar set to manually installed.
wget is already the newest version (1.21.2-2ubuntu1).
wget set to manually installed.
binutils is already the newest version (2.38-4ubuntu2).
binutils set to manually installed.
gzip is already the newest version (1.10-4ubuntu4.1).
perl is already the newest version (5.34.0-3ubuntu1.1).
perl set to manually installed.
python3 is already the newest version (3.10.6-1~22.04).
python3 set to manually installed.
rsync is already the newest version (3.2.3-8ubuntu3.1).
rsync set to manually installed.
unzip is already the newest version (6.0-26ubuntu3.1).
unzip set to manually installed.
The following packages were automatically installed and are no longer required:
  libflashrom1 libftdi1-2 linux-headers-5.15.0-52
  linux-headers-5.15.0-52-generic linux-image-5.15.0-52-generic
  linux-modules-5.15.0-52-generic linux-modules-extra-5.15.0-52-generic
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
```

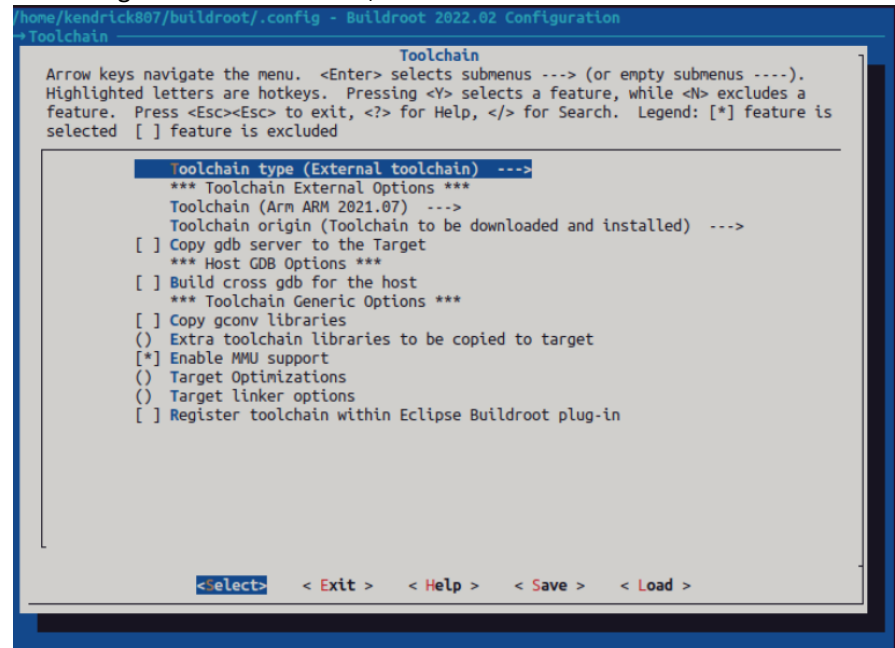
Picture of my menuconfig after buildroot is installed.



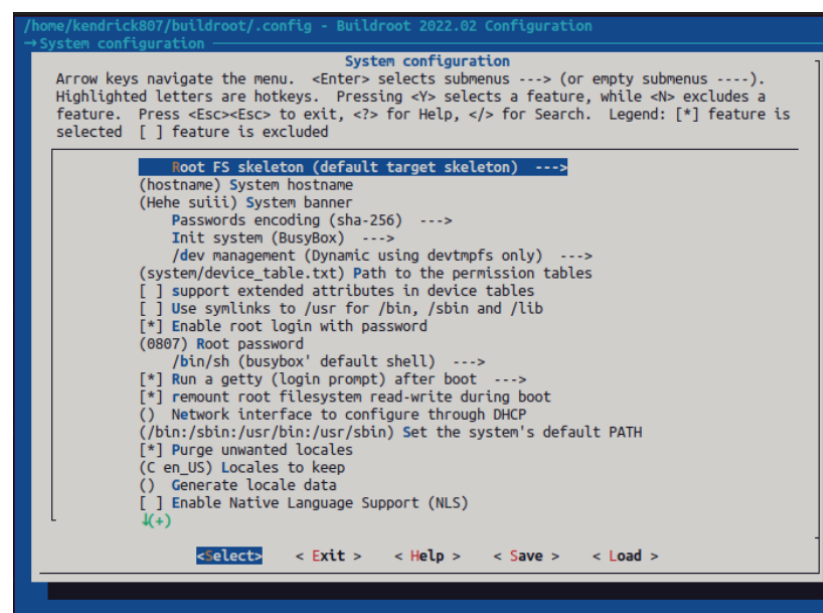
The configured target options menu. As beaglebone black wireless is used as the board, target architecture is changed to ARM with little endian, and the target architecture variant is changed to cortex-A8.



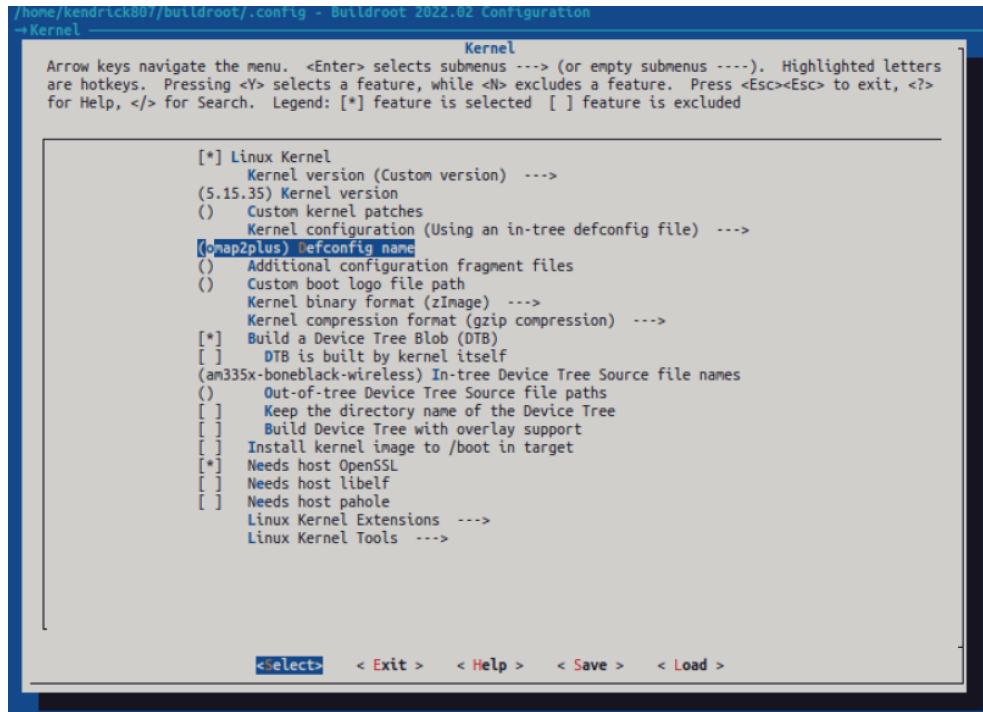
The configured toolchain menu, in which Arm ARM 2021.07 external toolchain is used.



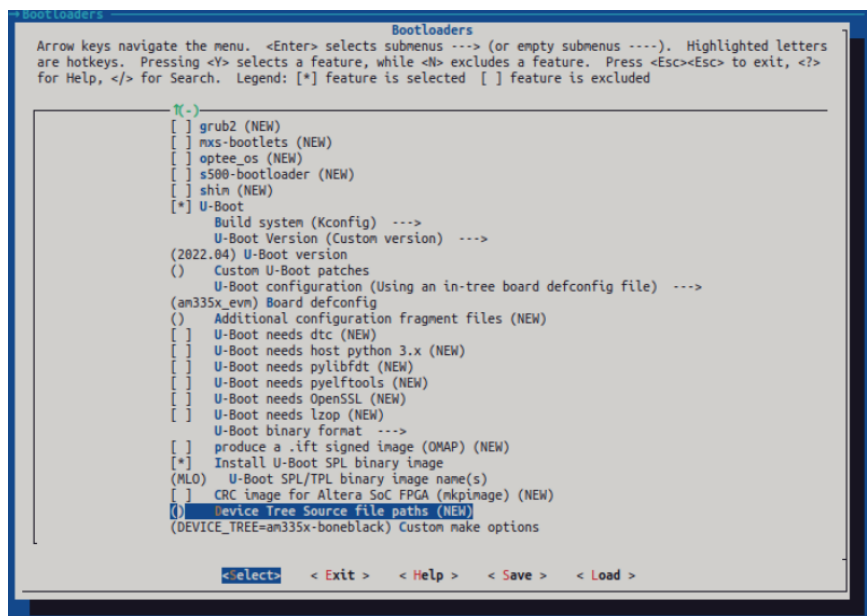
The configured system configuration menu.



The configured kernel menu, in which latest linux kernel is used, and **omap2plus** is used as the defconfig. Also **am335x-boneblack-wireless** is used as the device tree source file as beaglebone black is used.



The configured bootloader page, where **2002.04 U-Boot version is used**, and **U-Boot SPL binary image is installed**.



The terminal of the device ttyUSB0 when command **picocom -b 115200 /dev/ttyUSB0** is issued. Without the programmed SD card inserted in the beaglebone black, the terminal will not pop up anything.

```
kendrick807@kendrick807-virtual-machine
▶ picocom -b 115200 /dev/ttyUSB0
picocom v3.1

port is      : /dev/ttyUSB0
flowcontrol  : none
baudrate is  : 115200
parity is    : none
databits are : 8
stopbits are : 1
escape is    : C-a
local echo is : no
noinit is    : no
noreset is   : no
hangup is    : no
nolock is    : no
send_cmd is  : sz -vv
receive_cmd is : rz -vv -E
imap is      :
omap is      :
emap is      : crclrf,delbs,
logfile is   : none
initstring   : none
exit_after is : not set
exit is      : no

Type [C-a] [C-h] to see available commands
Terminal ready
```

The buildroot login page after the programmed SD card is inserted in the beaglebone black.

```
Welcome to Buildroot
buildroot login: root
# ls /
bin      lib      lost+found  opt      run      tmp
dev      lib32    media      proc     sbin     usr
etc      linuxrc  mnt        root     sys      var
# [  24.470759] mmc0: card 1234 removed
```