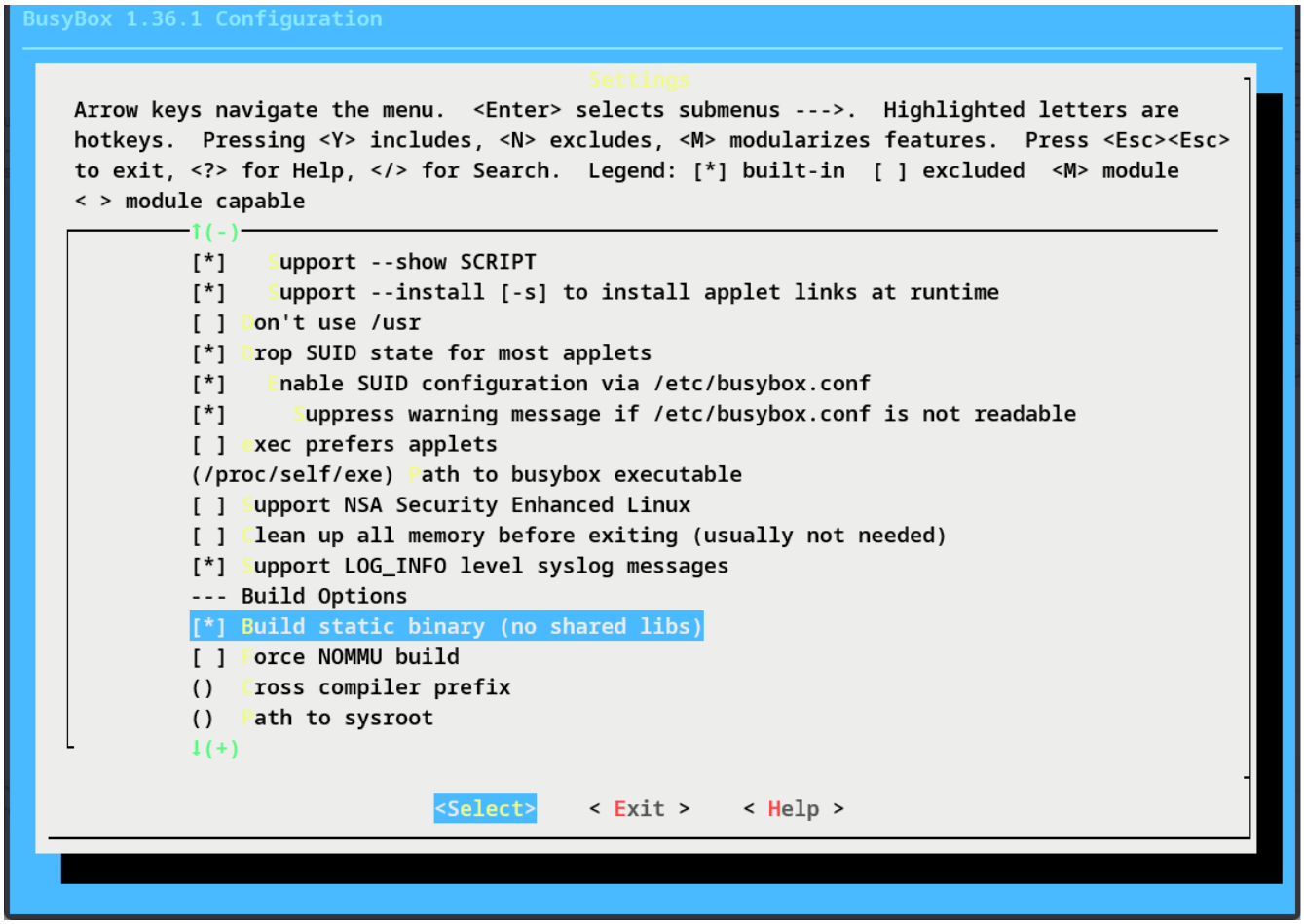
Task1

Step1 - 配置 Busybox

Bash

```
1 cd busybox-1.36.1
2 make menuconfig
```



```
→ make menuconfig
scripts/kconfig/mconf Config.in
#
# using defaults found in .config
#


*** End of configuration.
*** Execute 'make' to build the project or try 'make help'.
```

Bash

```
1 make install -j$(nproc)
```

```
-------------------------------------------------
You will probably need to make your busybox binary
setuid root to ensure all configured applets will
work properly.
-------------------------------------------------
```

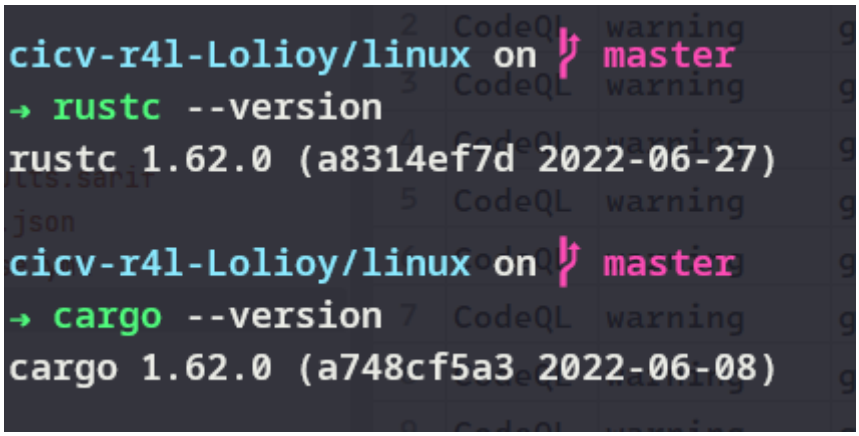
Step2 - 安装 Qemu

Bash

```
1 sudo apt install qemu-system-x86
2 qemu-system-x86_64 --version
```

```
→ qemu-system-x86_64 --version
QEMU emulator version 4.2.1 (Debian 1:4.2-3ubuntu6.27)
Copyright (c) 2003-2019 Fabrice Bellard and the QEMU Project developers
```

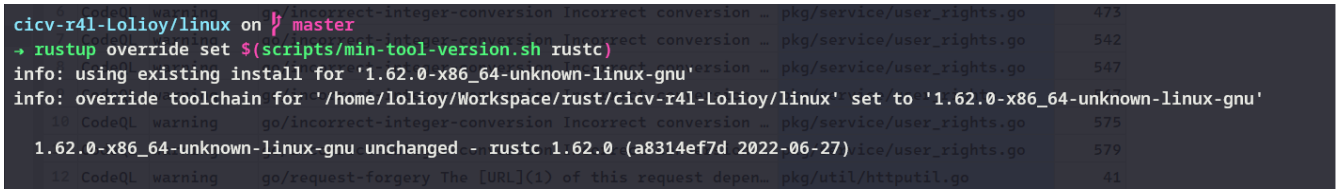
Step3 - 安装 Rust



Step4 - 配置 Linux 文件夹

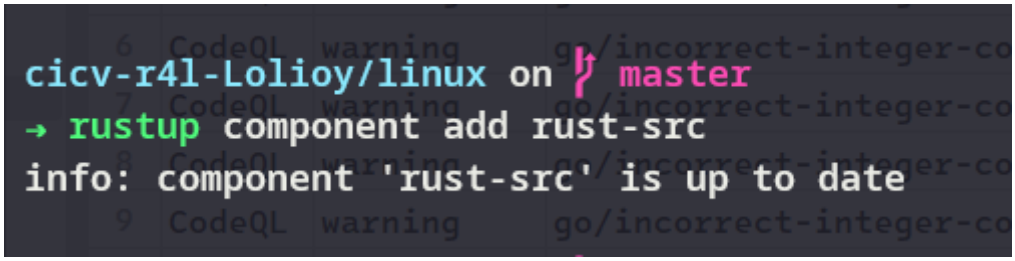
Bash

```
1 rustup override set $(scripts/min-tool-version.sh rustc)
```



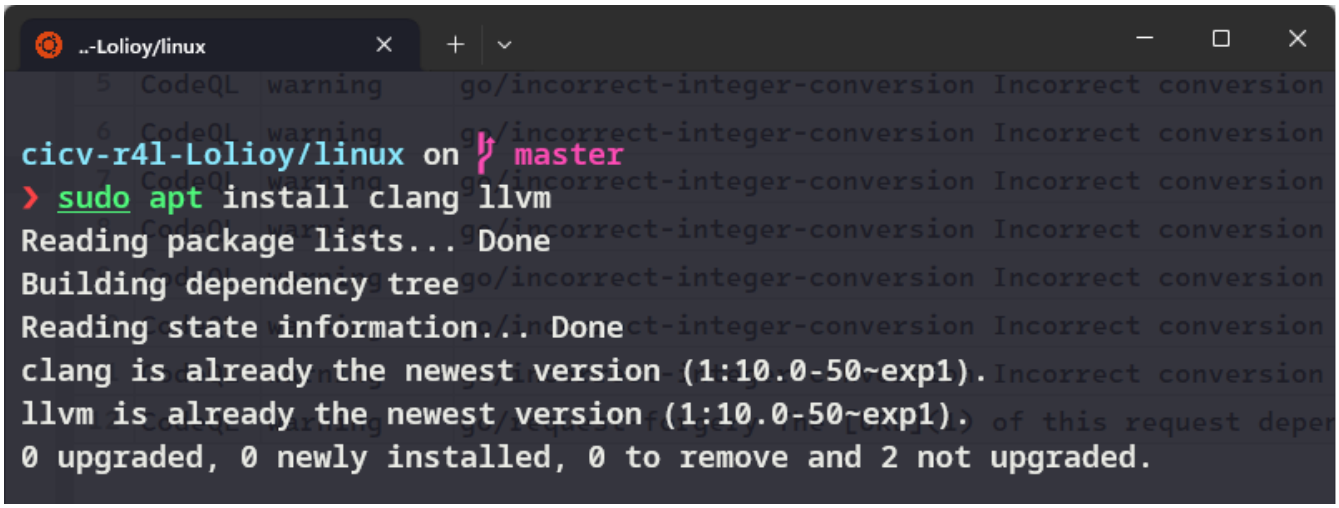
Bash

```
1 rustup component add rust-src
```



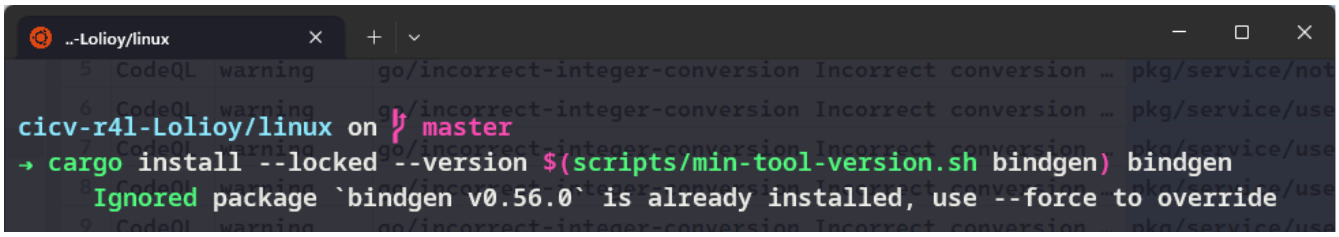
Bash

```
1 sudo apt install clang llvm
```



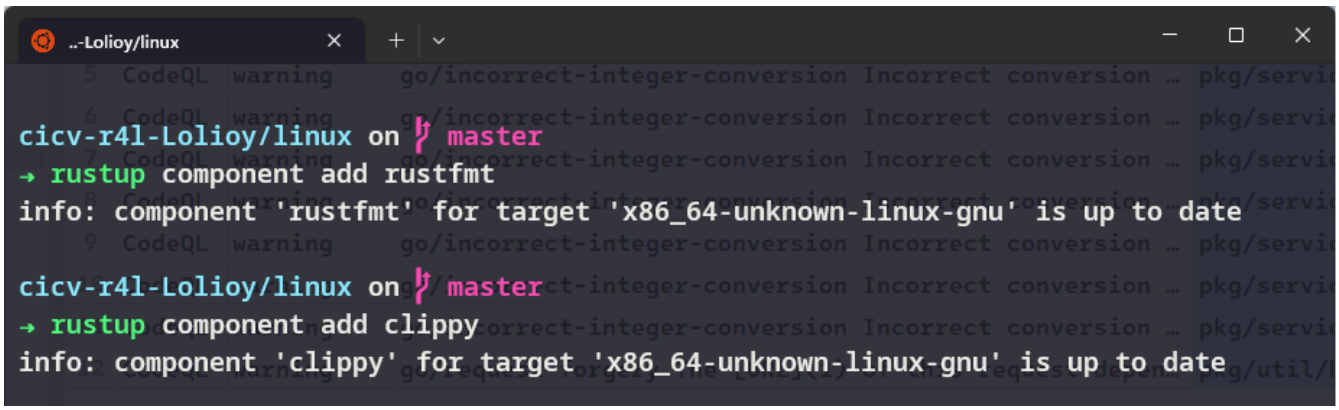
Bash

```
cargo install --locked --version $(scripts/min-tool-version.sh bindgen) bindgen
```



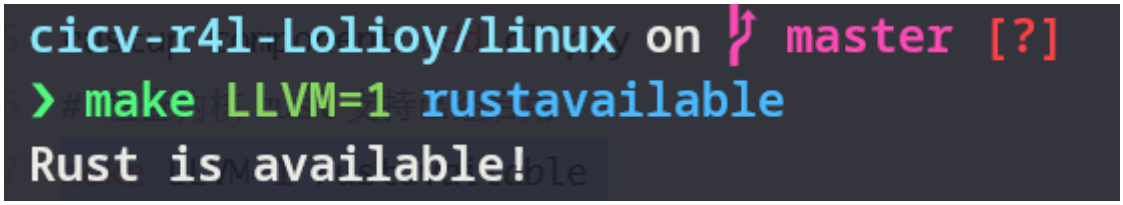
Bash

```
rustup component add rustfmt
rustup component add clippy
```



Bash

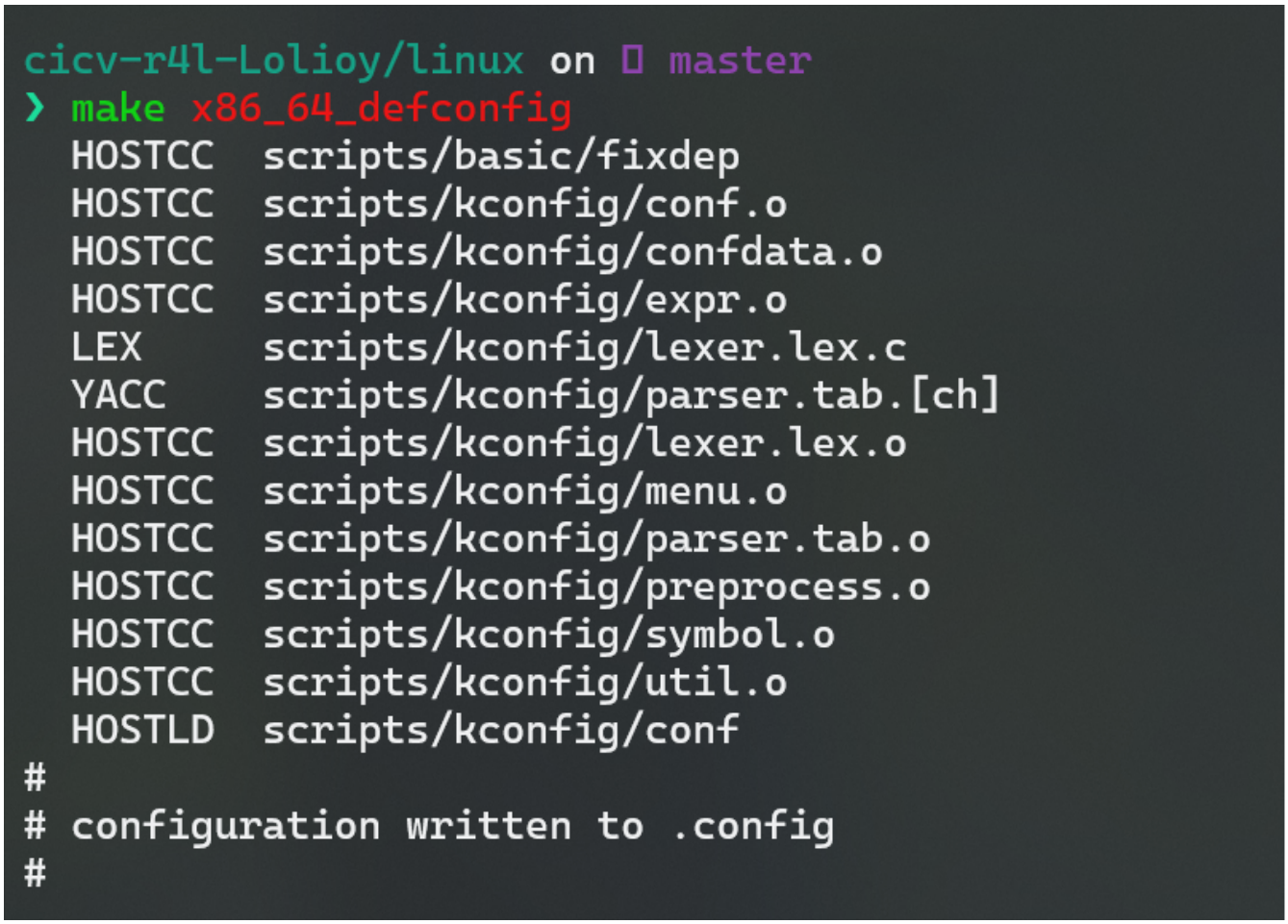
```
1 make LLVM=1 rustavailable
```



Step5 - 配置内核

Bash

```
1 make x86_64_defconfig
```



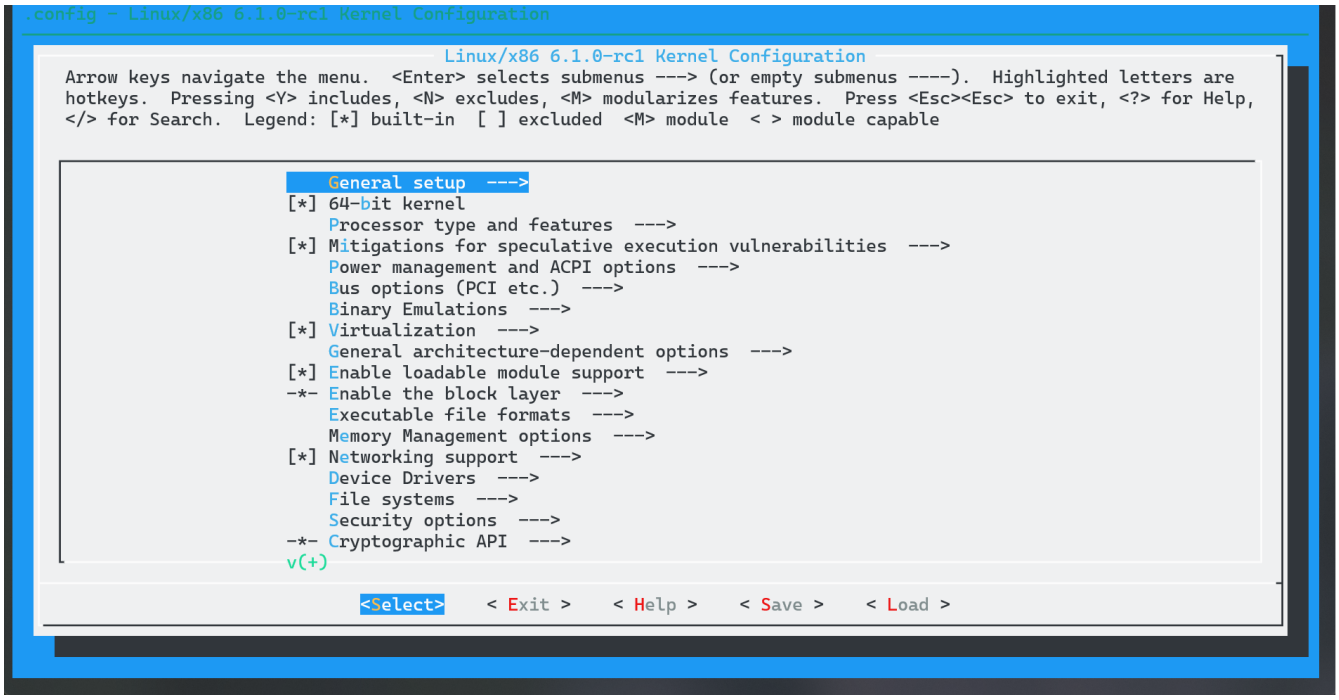
Step6 - 自定义配置

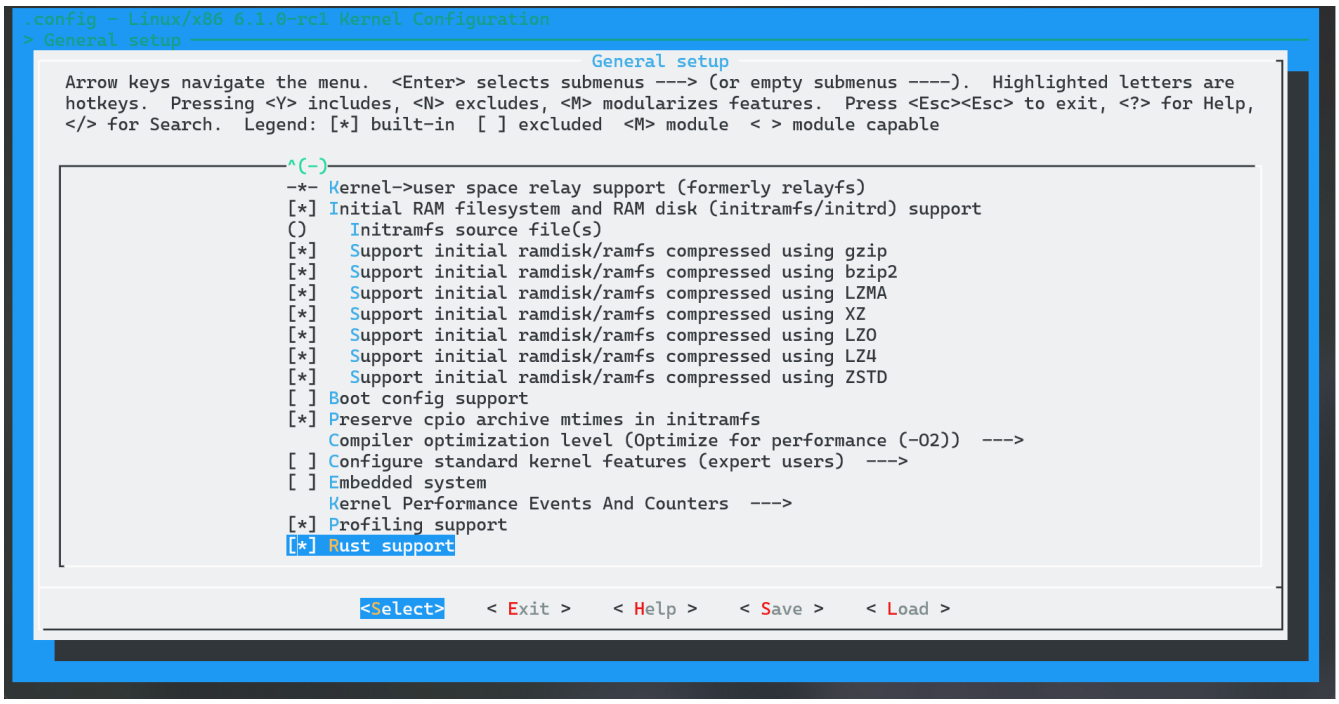
Bash

```
1 make LLVM=1 menuconfig
```

```
cicv-r4l-Lolioy/linux on  master
❯ make LLVM=1 menuconfig
  HOSTCC  scripts/basic/fixdep
  HOSTCC  scripts/kconfig/confdata.o
  HOSTCC  scripts/kconfig/expr.o
  HOSTCC  scripts/kconfig/lexer.lex.o
  HOSTCC  scripts/kconfig/menu.o
  HOSTCC  scripts/kconfig/parser.tab.o
  HOSTCC  scripts/kconfig/preprocess.o
  HOSTCC  scripts/kconfig/symbol.o
  HOSTCC  scripts/kconfig/util.o
  UPD     scripts/kconfig/mconf-cfg
  HOSTCC  scripts/kconfig/mconf.o
  HOSTCC  scripts/kconfig/lxdialog/checklist.o
  HOSTCC  scripts/kconfig/lxdialog/inputbox.o
  HOSTCC  scripts/kconfig/lxdialog/menubox.o
  HOSTCC  scripts/kconfig/lxdialog/textbox.o
  HOSTCC  scripts/kconfig/lxdialog/util.o
  HOSTCC  scripts/kconfig/lxdialog/yesno.o
  HOSTLD  scripts/kconfig/mconf


*** End of the configuration.
*** Execute 'make' to start the build or try 'make help'.
```





Step7 - 编译 Linux 内核

Bash

```
1 make LLVM=1 -j$(nproc)
```

```
cicv-r4l-Lolioy/linux on  master [?] took 6m
❯ file vmlinux
vmlinux: ELF 64-bit LSB executable, x86-64, version 1 (SYSV), statically linked, BuildID[sha1]=ec3
4cbd2f15e4b3743d08f36b15099fb720aff8b, not stripped
```