

GDB Over ADB 使用指南

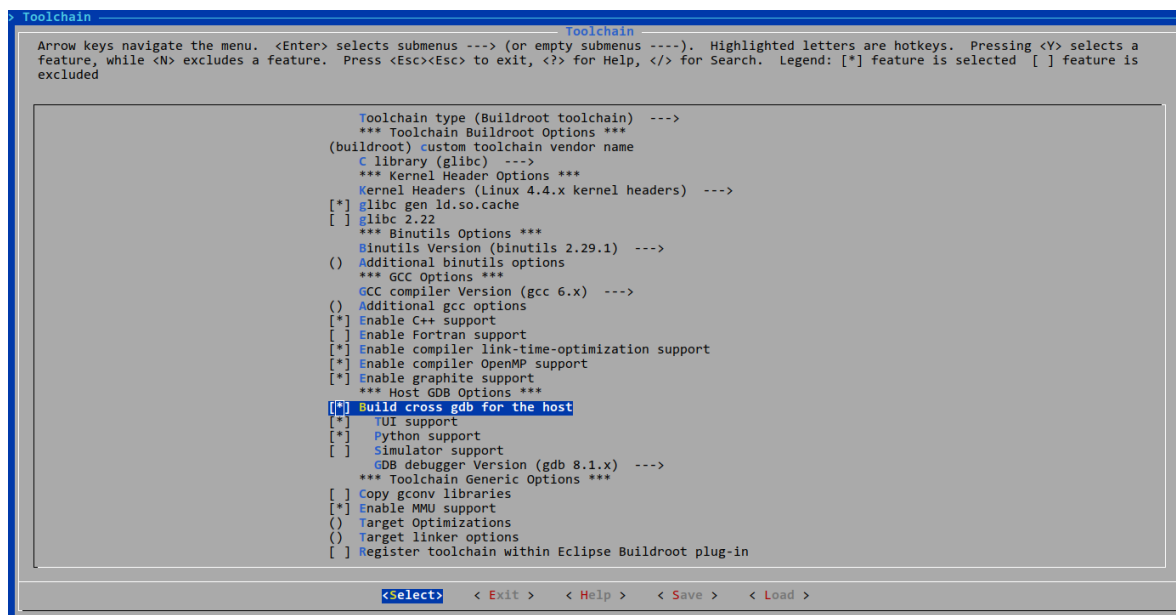
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Buildroot 配置

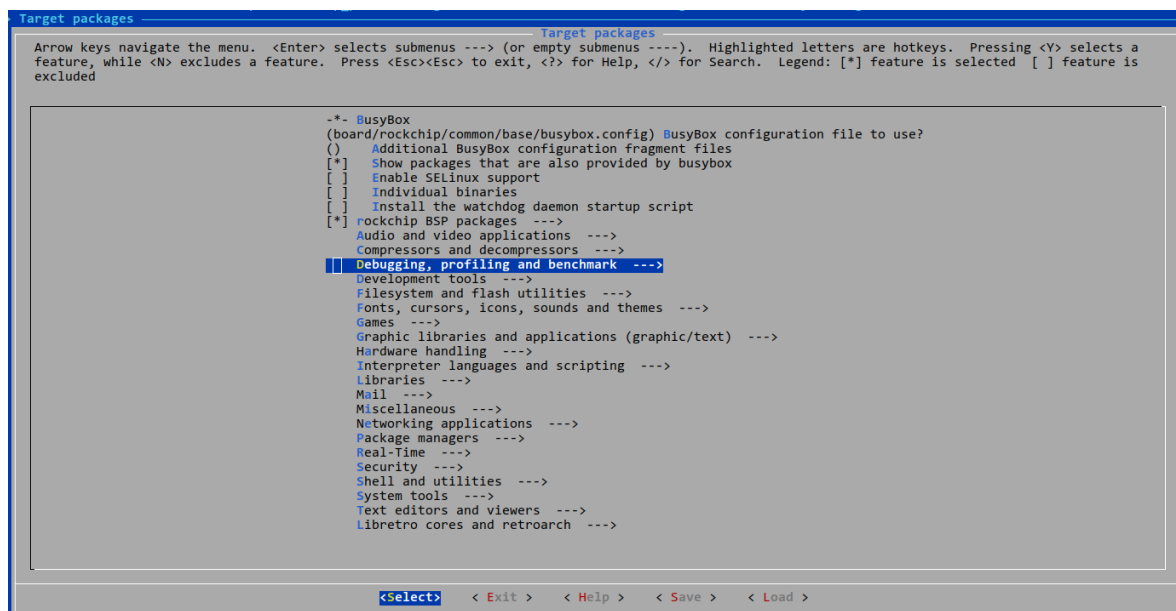
启动 GDB over ADB

Buildroot 配置

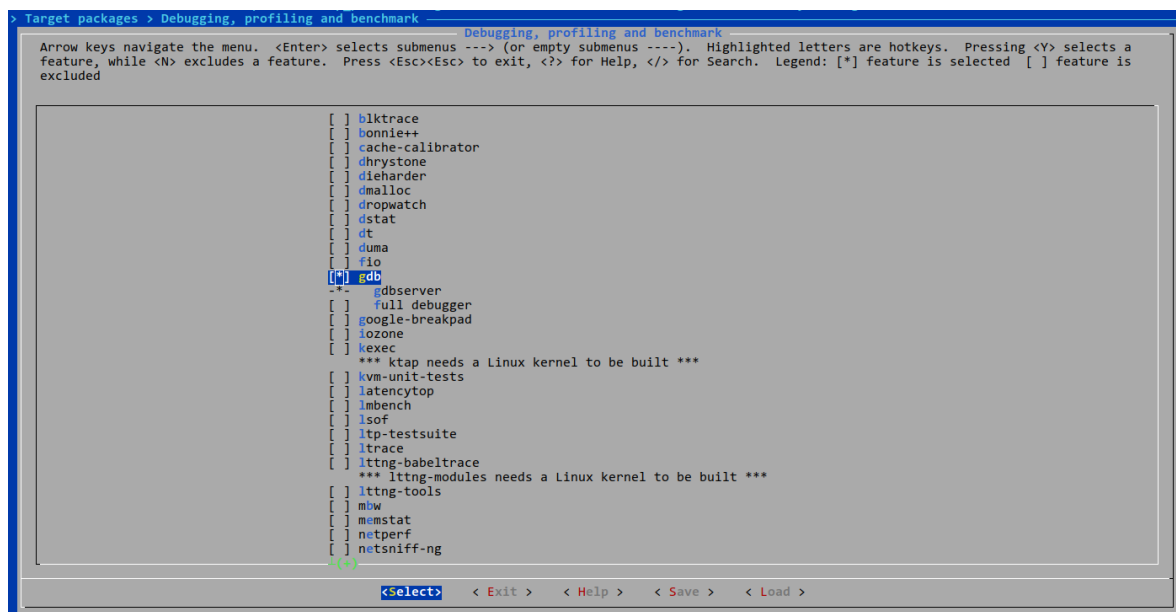
配置使能 gdb 主机程序



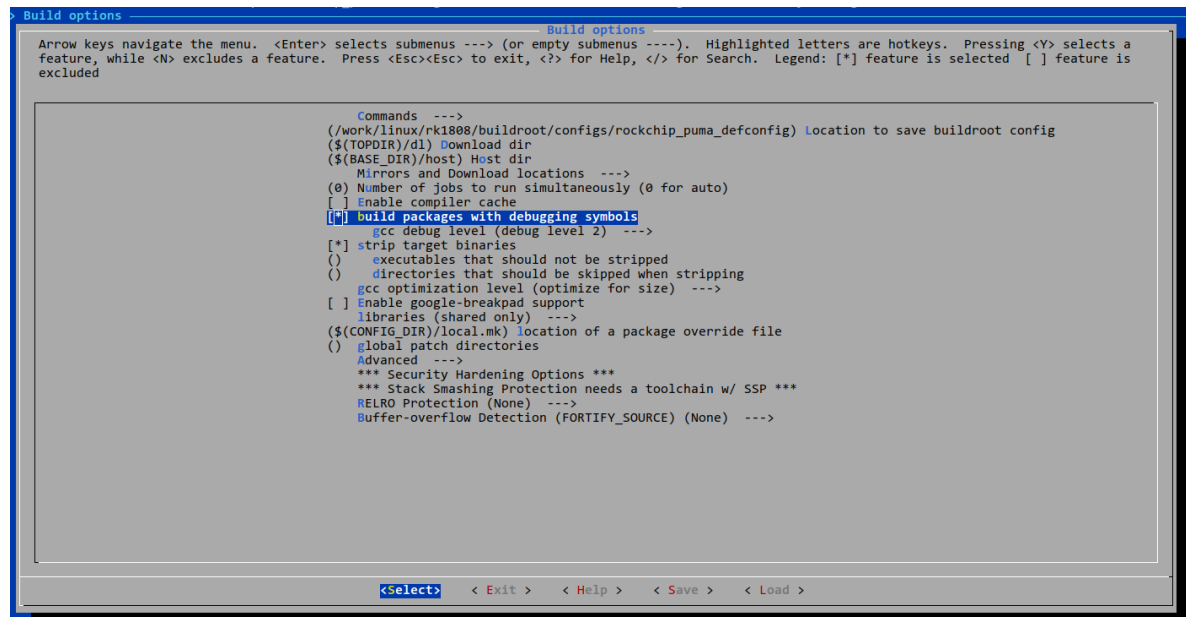
配置 gdbserver 程序



这里选择 gdbserver 够用即可



配置编译 buildroot 包带调试信息，如果 buildroot 有配置"strip target binaries"，那么不影响最终打包到 target 的包，仅影响 staging 目录，相当于 android 的 symbol 目录和最终目录。



启动 GDB over ADB

1. 配置 ADB 端口转发

```
adb forward tcp:1337 tcp:1337
```

2. 启动 GDB Server 程序

在 adb shell 或者串口控制台执行

```
gdbserver :1337 --attach COM PID # COM是要执行的程序完整目录和参数，PID是进程ID
# 或者
gdbserver :1337 COM
# 例如
gdbserver :1337 /bin/busybox ls
Process /bin/busybox created; pid = 633
Listening on port 1337
Remote debugging from host 127.0.0.1
Remote side has terminated connection.  GDBserver will reopen the
connection.
Listening on port 1337
Remote debugging from host 127.0.0.1
bin                lib32              proc              tmp
busybox.config     linuxrc           root             udisk
config            lost+found        run              userdata
data              media             sbin            usr
dev               misc             sdcard          var
etc               mnt              sys
init              oem              system
lib               opt              timestamp

Child exited with status 0
```

3. GDB 客户端调试

```
$ ./buildroot/output/rockchip_puma/host/bin/arm-buildroot-linux-gnueabi-hf-gdb
GNU gdb (GDB) 8.1.1
Copyright (C) 2018 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later
<http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "--host=x86_64-pc-linux-gnu --target=arm-
buildroot-linux-gnueabi-hf".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
<http://www.gnu.org/software/gdb/documentation/>.
For help, type "help".
Type "apropos word" to search for commands related to "word".
(gdb) set sysroot /work/linux/rk1808/buildroot/output/rockchip_puma/staging/
warning: .dynamic section for
"/work/linux/rk1808/buildroot/output/rockchip_puma/staging/lib/ld-linux-
armhf.so.3" is not at the expected address (wrong library or version
mismatch?)
Reading symbols from
/work/linux/rk1808/buildroot/output/rockchip_puma/staging/lib/ld-linux-
armhf.so.3...done.
Reading symbols from
/work/linux/rk1808/buildroot/output/rockchip_puma/staging/lib/libc.so.6...do
ne.
(gdb) target remote :1337
Remote debugging using :1337
Reading /bin/busybox from remote target...
warning: File transfers from remote targets can be slow. Use "set sysroot"
to access files locally instead.
Reading /bin/busybox from remote target...
Reading symbols from target:/bin/busybox...(no debugging symbols
found)...done.
Reading /lib/ld-linux-armhf.so.3 from remote target...
Reading /lib/ld-linux-armhf.so.3 from remote target...
Reading symbols from target:/lib/ld-linux-armhf.so.3...(no debugging symbols
found)...done.
0xf72fcbc0 in _start () from target:/lib/ld-linux-armhf.so.3
```