

Linux-like build environment on Windows

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Contents

- > Installation
- > Before compile
- > Compile

Installation

1. Open 'BuildEnvironment_for_arm_v0.3.pdf'
2. Follow 'Page 7-15'

Before compile

> Copy files

1. Rename 'alsa.zi' -> 'alsa.zip', 'curl.zi' -> 'curl.zip', 'lib.zi' -> 'lib.zip' and 'includes.zi' -> 'includes.zip'
2. Unzip the 'alsa.zip' to 'C:/CrossGcc_4.9.x/libc/usr/include'
3. Make 'Directory' (Use the D:/hypnos)
4. Unzip the 'curl.zip', 'includes.zip' and 'lib.zip' to 'D:/hypnos'
5. Copy file to 'D:/hypnos' (Filename : main_process.c, hpc_process.c, server_process.c, alarm_process.c, ipc_func.c, radar_process.c, Makefile)


이름	수정한 날짜	유형	크기
curl	2015-09-21 오후 6:22	파일 폴더	
includes	2015-09-21 오후 9:03	파일 폴더	
lib	2015-09-21 오후 9:08	파일 폴더	
ipc_func.c	2015-08-26 오후 11:56	C 파일	3KB
radar_process.c	2015-09-10 오후 10:44	C 파일	15KB
hpc_process.c	2015-09-10 오후 11:15	C 파일	25KB
alarm_process.c	2015-09-11 오전 11:19	C 파일	22KB
main_process.c	2015-09-21 오후 5:47	C 파일	142KB
server_process.c	2015-09-21 오후 6:23	C 파일	70KB
Makefile	2015-09-21 오후 9:29	파일	2KB

Before compile

> Modify 'Makefile'

1. Change IP Address of yours

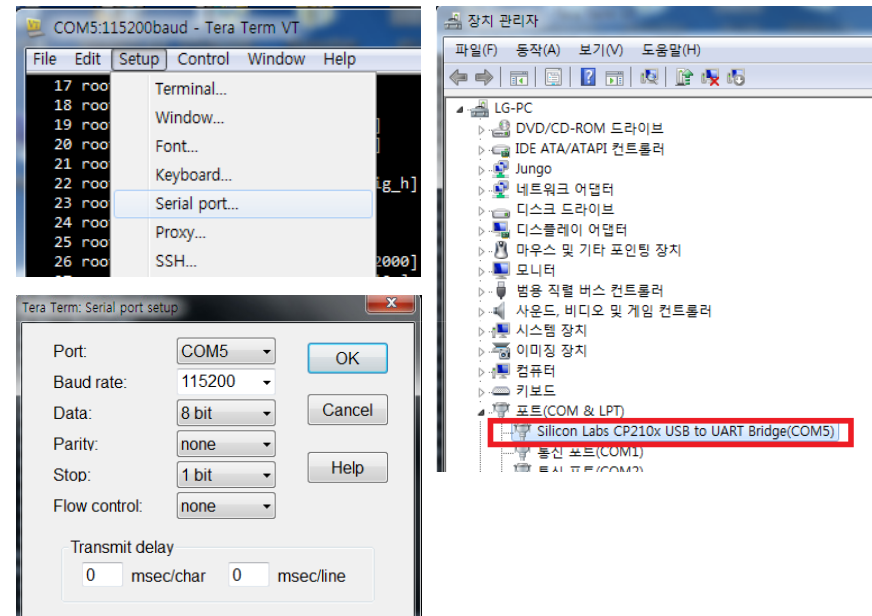
```
cp :  
    scp main_process hpc_process alarm_process server_process root@192.168.1.210:/usr/data/hypnos  
clean :  
    rm -rf *.o main_process alarm_process hpc_process server_process
```



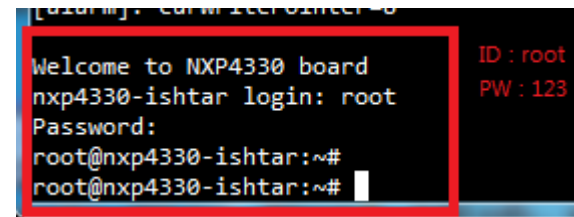
Before compile

> Use Tera Term (or use PuTTY, next page)

1. Connect 'USB to Serial Cable' to PC
2. Execute 'Tera Term'
3. Set 'Serial port'



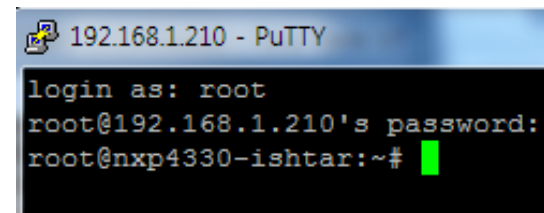
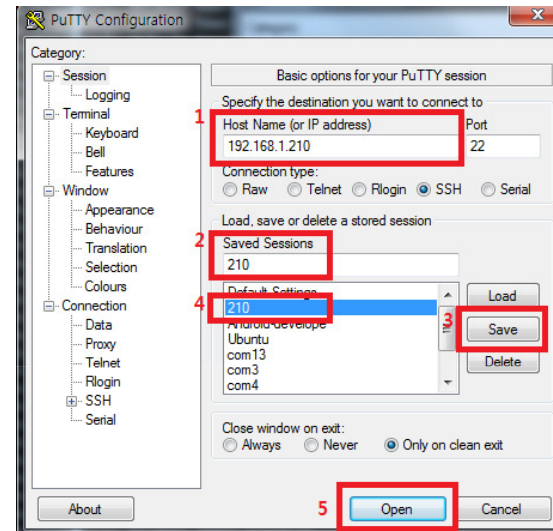
4. Power on 'Main board'



Before compile

> Use PuTTY (or use SSH command , next page)

1. Power on 'Main board'
2. Execute 'PuTTY'
3. Follow 'Step 1-5'
4. Login password : 123



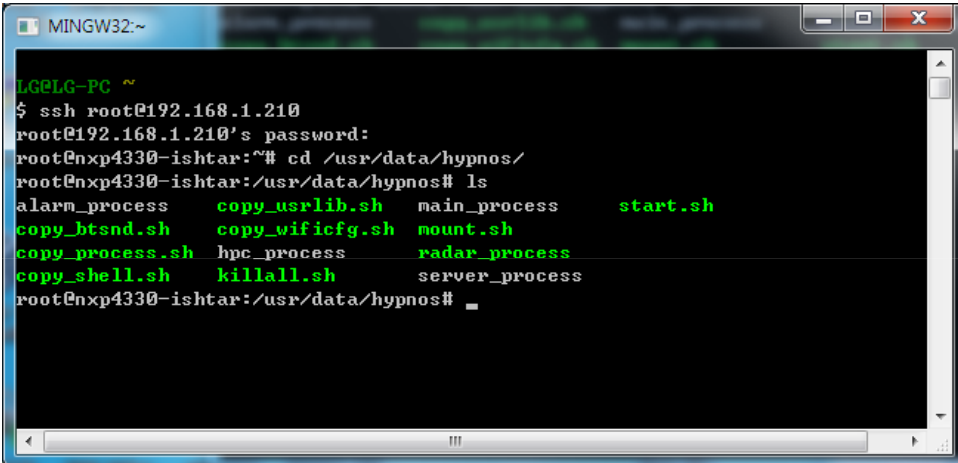
Before compile

> Use SSH command

1. Power on 'Main board'
2. Open 'C:\MinGW32\msys\1.0'
3. Excute 'msys.bat'
4. Run the following commands

ssh root@192.168.1.210

=>password : 123



```
MINGW32:~
LG@LG-PC ~
$ ssh root@192.168.1.210
root@192.168.1.210's password:
root@enxp4330-ishtar:~# cd /usr/data/hypnos/
root@enxp4330-ishtar:/usr/data/hypnos# ls
alarm_process  copy_usrlib.sh  main_process  start.sh
copy_btsnd.sh  copy_wificfg.sh  mount.sh
copy_process.sh  hpc_process     radar_process
copy_shell.sh   killall.sh       server_process
root@enxp4330-ishtar:/usr/data/hypnos#
```

Same IP Address, Page 4

Before compile

> Setting up Wi-Fi

1. Execute 'cd /usr/etc'
2. Execute 'vi wpa_supplicants2.conf'
3. Push 'Page Down' key on keyboards until end of file
4. Change 'ssid, psk'
5. Push 'wq' key on keyboards
6. Execute 'reboot'
7. After login
8. Execute 'wpa_cli status'
9. Check 'Complete'

```
root@nxp4330-ishtar:~# cd /usr/etc
root@nxp4330-ishtar:/usr/etc# ls
dhcpd.conf      hostapd_nxp.conf  wpa_supplicant2.conf
dropbear        rc.local
root@nxp4330-ishtar:/usr/etc# less wpa_supplicant2.conf
```

```
# Example blocks:
network={
    ssid="HYPNOS"
    proto=WPA2
    key_mgmt=WPA-PSK
    psk="lghypnos"
}
```

~
(END)

Before compile

> Create symbolic link

1. Execute 'cd /usr/bin'
2. In -s /usr/sbin/dropbearmulti scp

Compile

1. Open 'C:\MinGW32\msys\1.0
2. Excute 'msys.bat'
3. Run the following commands

make clean (Erase file)

make (Create 'Linux executable file')

make cp (Copy 'Linux executable file' to 'Main board')

=> password : 123

```
LGGLQ-PC /d/project_test/hypnos/hypnos_test
$ make clean
rm -rf *.o main_process alarm_process hpc_process server_process

LGGLQ-PC /d/project_test/hypnos/hypnos_test
$ make
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -c -o main_process.o main_process.c
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -c -o ipc_func.o ipc_func.c
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -c -o radar_process.o radar_process.c
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -o main_process main_process.o ipc_func.o radar_process.o -laso
und -lm
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -c -o alarm_process.o alarm_process.c
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -o alarm_process alarm_process.o ipc_func.o
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -c -o hpc_process.o hpc_process.c
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -o hpc_process hpc_process.o ipc_func.o -lpthread
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -c -o server_process.o server_process.c
arm-linux-gnueabi-gcc -I./includes -I/C/CrossGcc_4.9.x/libc/usr/include -L./lib
-Wl,-rpath=../lib -o server_process server_process.o ipc_func.o -ljson -lcurl

LGGLQ-PC /d/project_test/hypnos/hypnos_test
$ make cp
scp main_process alarm_process hpc_process server_process root@192.168.1.210:/us
r/data/hypnos
root@192.168.1.210's password:
main_process          100% 74KB 74.0KB/s 00:00
hpc_process           100% 24KB 23.5KB/s 00:00
alarm_process         100% 22KB 22.3KB/s 00:00
server_process        100% 43KB 43.0KB/s 00:00
```

Compile

> Compile

4. If you see error, you execute kill process in main board

```
LG@LG-PC /d/project_test/hypnos/hypnos_test
$ make cp
scp main_process hpc_process alarm_process server_process root@192.168.1.210:/u
r/data/hypnos
root@192.168.1.210's password:
scp: /usr/data/hypnos/main_process: Text file busy
scp: /usr/data/hypnos/hpc_process: Text file busy
scp: /usr/data/hypnos/alarm_process: Text file busy
scp: /usr/data/hypnos/server_process: Text file busy
make: *** [cp] Error 1
```

5. Execute 'ps' in main board

6. Execute 'kill PID'

```
100 root      0 SW   [kworker/0:2]
172 root      0 SW   [flush-31:4]
189 root      20004 S    ./main_process
193 root      1668 S    ./hpc_process
195 root      6780 S    ./server_process
197 root      1668 S    ./alarm_process
198 root      2996 R    ps
root@nxp4330-ishtar:/usr/data/hypnos# kill 189 193 195 197
```