

임베디드소프트웨어2 실습3

start kernel()

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/init/  
vim main.c
```

kernel programming

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/kernel/  
vim hellocall.c
```

```
#include <linux/kernel.h>  
  
asmlinkage long sys_hellocall() {  
    printk("=====\n");  
    printk("Hello System Call\n");  
    printk("=====\n");  
    return 0;  
}
```

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/kernel/  
vim Makefile  
hellocall.o
```

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/  
make zImage
```

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/arch/arm/include/asm/  
vim unistd.h  
nr_setns 밑에  
#define __NR_hellocall                (__NR_SYSCALL_BASE+376) // 삽입
```

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/include/linux/  
vim syscalls.h  
sys_setns 밑에  
asmlinkage long sys_hellocall(int value);
```

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/arch/arm/kernel/  
vim calls.S  
/* 375 */      CALL(sys_setns)  
CALL(sys_hellocall)
```

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/kernel/  
vim hellocall_test.c
```

```
#include </4412_Linux/kernel_4412/arch/arm/include/asm/unistd.h>  
  
int main() {  
    int i;  
    i = syscall(__NR_hellocall);  
    return 0;  
}
```

```
cd /Smart4412Linux/Development/Source/kernel/kernel_4412/kernel/  
arm-linux-gnueabi-gcc hellocall_test.c -o hellocall_test 오류됨  
The program 'arm-linux-gnueabi-gcc' is currently not installed. You can install it by typing: apt-get install gcc-arm-linux-gnueabi  
apt-get install gcc-arm-linux-gnueabi
```

```
cd /opt/gnueabi/opt/ext-toolchain/bin/  
vim ~/.bashrc  
제일 밑에  
PATH=/opt/gnueabi/opt/ext-toolchain/bin:$PATH:$HOME/bin  
source ~/.bashrc
```

```
arm-linux-gnueabi-gcc hellocall_test.c -o hellocall_test  
오류됨  
No such file or directory  
#include </4412_Linux/kernel_4412/arch/arm/include/asm/unistd.h>  
^  
vim hellocall_test.c  
#include </Smart4412Linux/Development/Source/kernel/kernel_4412/arch/arm/include/asm/unistd.h>
```