#### Operating system experiment report

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Working target: Adding a system-call into a open source kernel and change it into Ubuntu system. After that, write a program to call the kernel.

Working environment: as basic operating system with virtual machine and running on it. The kernel I use is .

1. Write a system-call function into the file, which is in the folder

**asmlinkage long sys\_hello(void){**

**printk("Hello Ubuntu");**

**return 71117408;**

**}**

1. Add a statement into the system-call registry, which is in the folder. In the kernel I use, the registry number is 548 since there already have 547 entry. Because I use a 64bit machine, so the registry is:
2. Make a adjunction of system-call statement into, which is in the folder

**asmlinkage long sys\_hello(void);**

1. After that, I go into the root folder and begin **sudo make -j64**, I used 64 threads to make the compile faster.
2. After the compiling and new kernel installing, I got a new system which have a system-call interface I had just written. Then I wrote a system-call test program to test it.

**#include<studio>**

**#include<sys/syscall.h>**

**#include<linux/kernel.h>**

**#include<unistd.h>**

**int main(){**

**long use = syscall(548);**

**printf(“System call, ly：%ld\n”,use);**

**return 0;**

**}**

The kernel successfully returned my school number: 71117408.

