

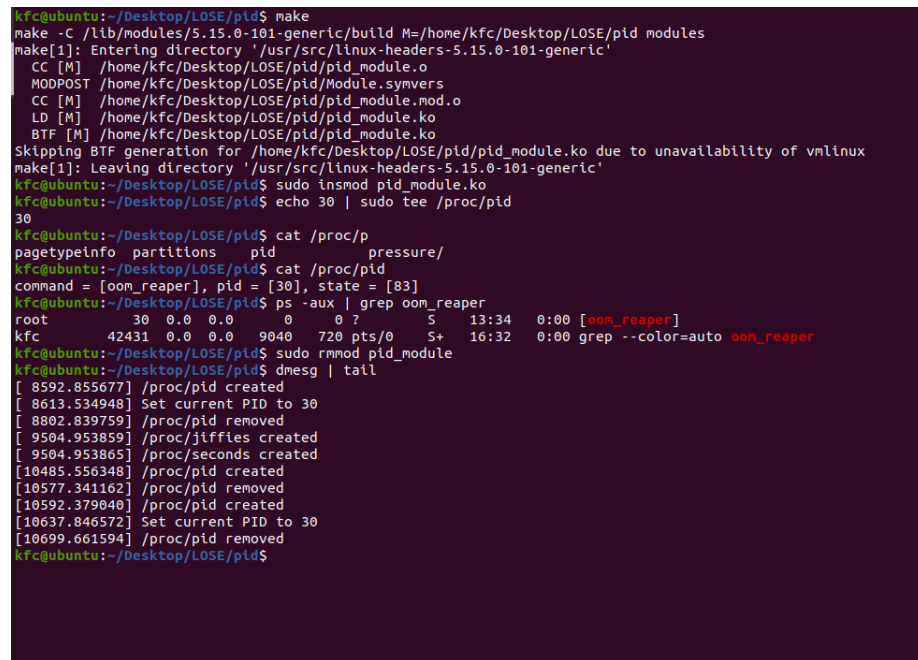
How to use

1. Run `make` to compile the kernel module.
2. Run `sudo insmod pid_module.ko` to insert the module.
3. Run `lsmod | grep pid` to see if the module is loaded.
4. Run `dmesg` to see the output.
5. Run `sudo rmmod pid_module` to remove the module.
6. Run `dmesg` to see the output.

Description

As the screenshot shows, the kernel module prints the process information of pid 30. `ps` command is used to verify the information.

Screenshot



```
kfc@ubuntu:~/Desktop/LOSE/pid$ make
make -C /lib/modules/5.15.0-101-generic/build M=/home/kfc/Desktop/LOSE/pid modules
make[1]: Entering directory '/usr/src/linux-headers-5.15.0-101-generic'
  CC [M] /home/kfc/Desktop/LOSE/pid/pid_module.o
  MODPOST /home/kfc/Desktop/LOSE/pid/Module.symvers
  CC [M] /home/kfc/Desktop/LOSE/pid/pid_module.mod.o
  LD [M] /home/kfc/Desktop/LOSE/pid/pid_module.ko
  BTF [M] /home/kfc/Desktop/LOSE/pid/pid_module.ko
Skipping BTF generation for /home/kfc/Desktop/LOSE/pid/pid_module.ko due to unavailability of vmlinux
make[1]: Leaving directory '/usr/src/linux-headers-5.15.0-101-generic'
kfc@ubuntu:~/Desktop/LOSE/pid$ sudo insmod pid_module.ko
kfc@ubuntu:~/Desktop/LOSE/pid$ echo 30 | sudo tee /proc/pid
30
kfc@ubuntu:~/Desktop/LOSE/pid$ cat /proc/p
pagetypeinfo partitions pid pressure/
kfc@ubuntu:~/Desktop/LOSE/pid$ cat /proc/pid
command = [oom_reaper], pid = [30], state = [83]
kfc@ubuntu:~/Desktop/LOSE/pid$ ps -aux | grep oom_reaper
root      30  0.0  0.0      0  0 ?        S   13:34   0:00 [oom_reaper]
kfc      42431  0.0  0.0   9040  720 pts/0    S+  16:32   0:00 grep --color=auto oom_reaper
kfc@ubuntu:~/Desktop/LOSE/pid$ sudo rmmod pid_module
kfc@ubuntu:~/Desktop/LOSE/pid$ dmesg | tail
[ 8592.855677] /proc/pid created
[ 8613.534948] Set current PID to 30
[ 8802.839759] /proc/pid removed
[ 9504.953859] /proc/jiffies created
[ 9504.953865] /proc/seconds created
[10485.556348] /proc/pid created
[10577.341162] /proc/pid removed
[10592.379040] /proc/pid created
[10637.846572] Set current PID to 30
[10699.661594] /proc/pid removed
kfc@ubuntu:~/Desktop/LOSE/pid$
```

Figure 1: Screenshot