

How to use

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

Description

The kernel module creates a `/proc/jiffies` file and a `/proc/seconds` file. The `/proc/jiffies` file contains the number of jiffies since the system booted. The `/proc/seconds` file contains the number of seconds since the module was loaded.

Screenshot

```
kfc@ubuntu:~/Desktop/LOSE/jiffies$ make
make -C /lib/modules/5.15.0-101-generic/build M=/home/kfc/Desktop/LOSE/jiffies modules
make[1]: Entering directory '/usr/src/linux-headers-5.15.0-101-generic'
  CC [M] /home/kfc/Desktop/LOSE/jiffies/jiffies_module.o
  MODPOST /home/kfc/Desktop/LOSE/jiffies/Module.symvers
  CC [M] /home/kfc/Desktop/LOSE/jiffies/jiffies_module.mod.o
  LD [M] /home/kfc/Desktop/LOSE/jiffies/jiffies_module.ko
  BTF [M] /home/kfc/Desktop/LOSE/jiffies/jiffies_module.ko
Skipping BTF generation for /home/kfc/Desktop/LOSE/jiffies/jiffies_module.ko due to unavailability of vmlinux
make[1]: Leaving directory '/usr/src/linux-headers-5.15.0-101-generic'
kfc@ubuntu:~/Desktop/LOSE/jiffies$ sudo insmod jiffies_module.ko
kfc@ubuntu:~/Desktop/LOSE/jiffies$ dmesg | tail
[ 4433.691805] audit: type=1400 audit(1711176516.397:54): apparmor="DENIED" operation="mkdir" profile="snap.brave"
00 oud=1000
[ 4433.700384] audit: type=1326 audit(1711176516.405:55): auid=1000 uid=1000 gid=1000 ses=3 subj=snap.brave.brave
l=330 compat=0 lp=0x7f665495bf6b code=0x50000
[ 4433.758737] audit: type=1400 audit(1711176516.465:56): apparmor="DENIED" operation="mkdir" profile="snap.brave"
00 oud=1000
[ 4433.759377] audit: type=1326 audit(1711176516.465:57): auid=1000 uid=1000 gid=1000 ses=3 subj=snap.brave.brave
l=330 compat=0 lp=0x7fe5771fcf6b code=0x50000
[ 4467.500951] /proc/jiffies created
[ 4467.500956] /proc/seconds created
[ 4669.209154] /proc/jiffies removed
[ 4669.209160] /proc/seconds removed
[ 4713.832477] /proc/jiffies created
[ 4713.832482] /proc/seconds created
kfc@ubuntu:~/Desktop/LOSE/jiffies$ cat /proc/jiffies
current value of jiffies = 4296078433
kfc@ubuntu:~/Desktop/LOSE/jiffies$ cat /proc/seconds
current value of seconds since the module was loaded = 38
kfc@ubuntu:~/Desktop/LOSE/jiffies$ sudo rmmod jiffies_module
kfc@ubuntu:~/Desktop/LOSE/jiffies$ dmesg | tail
[ 4433.758737] audit: type=1400 audit(1711176516.465:56): apparmor="DENIED" operation="mkdir" profile="snap.brave"
00 oud=1000
[ 4433.759377] audit: type=1326 audit(1711176516.465:57): auid=1000 uid=1000 gid=1000 ses=3 subj=snap.brave.brave
l=330 compat=0 lp=0x7fe5771fcf6b code=0x50000
[ 4467.500951] /proc/jiffies created
[ 4467.500956] /proc/seconds created
[ 4669.209154] /proc/jiffies removed
[ 4669.209160] /proc/seconds removed
[ 4713.832477] /proc/jiffies created
[ 4713.832482] /proc/seconds created
[ 4762.224447] /proc/jiffies removed
[ 4762.224453] /proc/seconds removed
kfc@ubuntu:~/Desktop/LOSE/jiffies$
```

Figure 1: Screenshot