File dummy_module.c

```c
#include <linux/init.h>
#include <linux/module.h>

MODULE_LICENSE("GPL");
MODULE_AUTHOR("Your Name");
MODULE_DESCRIPTION("Dummy Kernel Module");

static int __init dummy_module_init(void) {
      printk(KERN_INFO "Dummy module loaded\n");
      return 0;
}

static void __exit dummy_module_exit(void) {
      printk(KERN_INFO "Dummy module unloaded\n");
}

module_init(dummy_module_init);
module_exit(dummy_module_exit);
```
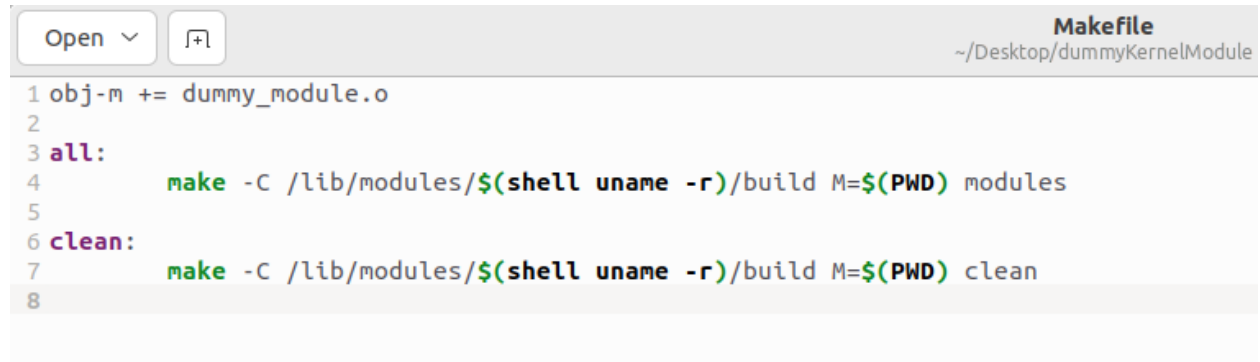
This is in ~/Desktop/dummyKernelModule

Makefile

```
obj-m += dummy_module.o

all:
    make -C /lib/modules/$(shell uname -r)/build M=$(PWD) modules

clean:
    make -C /lib/modules/$(shell uname -r)/build M=$(PWD) clean
```

upgautam@upgautam-desktop:~/Desktop/dummyKe rnelModule$ make

```
make -C /lib/modules/6.2.0-39-generic/build
M=/home/upgautam/Desktop/dummyKernelModule modules
make[1]: Entering directory '/usr/src/linux-headers-6.2.0-39-generic'
warning: the compiler differs from the one used to build the kernel
  The kernel was built by: x86_64-linux-gnu-gcc-11 (Ubuntu
11.4.0-1ubuntu1~22.04) 11.4.0
  You are using:           gcc-11 (Ubuntu 11.4.0-1ubuntu1~22.04) 11.4.0
  CC [M]  /home/upgautam/Desktop/dummyKernelModule/dummy_module.o
  MODPOST /home/upgautam/Desktop/dummyKernelModule/Module.symvers
  CC [M]  /home/upgautam/Desktop/dummyKernelModule/dummy_module.mod.o
  LD [M]  /home/upgautam/Desktop/dummyKernelModule/dummy_module.ko
  BTF [M] /home/upgautam/Desktop/dummyKernelModule/dummy_module.ko
Skipping BTF generation for
/home/upgautam/Desktop/dummyKernelModule/dummy_module.ko due to unavailability
of vmlinux
make[1]: Leaving directory '/usr/src/linux-headers-6.2.0-39-generic'
```

upgautam@upgautam-desktop:~/Desktop/dummyKernelModule$ ls
```
dummy_module.c    dummy_module.mod     dummy_module.mod.o  Makefile
Module.symvers
dummy_module.ko   dummy_module.mod.c   dummy_module.o   modules.order
```

upgautam@upgautam-desktop:~/Desktop/dummyKernelModule$ sudo dmesg | tail
```
[81373.420305] virbr0: port 1(vnet22) entered disabled state
[81373.420745] device vnet22 left promiscuous mode
[81373.420747] virbr0: port 1(vnet22) entered disabled state
[81374.233238] audit: type=1400 audit(1704164104.852:653): apparmor="STATUS"
operation="profile_remove" profile="unconfined"
name="libvirt-623184ad-f182-4993-8835-d408a55c526a" pid=41818
comm="apparmor_parser"
[81411.190013] audit: type=1107 audit(1704164141.806:654): pid=801 uid=102
auid=4294967295 ses=4294967295 subj=unconfined msg='apparmor="DENIED"
operation="dbus_method_call"  bus="system" path="/org/freedesktop/hostname1"
interface="org.freedesktop.DBus.Properties" member="GetAll" mask="send"
name=":1.936" pid=32062 label="snap.firefox.firefox" peer_pid=41835
peer_label="unconfined"
              exe="/usr/bin/dbus-daemon" sauid=102 hostname=? addr=? terminal=?'
[81651.217152] tracker-miner-f[2077]: segfault at 28 ip 00007f53a8fc4573 sp
00007ffc613e9910 error 4 in libtracker-miner-3.0.so[7f53a8fb5000+1c000] likely
on CPU 1 (core 1, socket 0)
[81651.217163] Code: 48 01 fd 85 f6 0f 84 3c 01 00 00 48 8d 7d 38 e8 d3 35 ff
ff 48 8b 7d 30 e8 aa 35 ff ff 48 8b 45 78 8b 35 d4 ba 01 00 4c 89 e7 <8b> 50 28
44 8b 48 20 44 8b 40 1c 52 8b 50 24 52 48 8b 08 31 d2 31
[81921.710217] dummy_module: module verification failed: signature and/or
required key missing - tainting kernel
[81921.710785] Dummy module loaded
```