

# Periféricos y Dispositivos de Interfaz Humana

Seminario LKM



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Empleando el mismo código que aparece en el seminario y con su makefile primero compilamos el módulo con make:

```
luismilpz@luismilpz-VirtualBox:~/pdih$ make
make -C /lib/modules/5.19.0-35-generic/build/ M=/home/luismilpz/pdih modules
make[1]: Entering directory '/usr/src/linux-headers-5.19.0-35-generic'
warning: the compiler differs from the one used to build the kernel
The kernel was built by: x86_64-linux-gnu-gcc (Ubuntu 11.3.0-1ubuntu1~22.04) 11.3.0
You are using: gcc (Ubuntu 11.3.0-1ubuntu1~22.04) 11.3.0
CC [M] /home/luismilpz/pdih/hello.o
MODPOST /home/luismilpz/pdih/Module.symvers
CC [M] /home/luismilpz/pdih/hello.mod.o
LD [M] /home/luismilpz/pdih/hello.ko
BTF [M] /home/luismilpz/pdih/hello.ko
Skipping BTF generation for /home/luismilpz/pdih/hello.ko due to unavailability of vmlinux
make[1]: Leaving directory '/usr/src/linux-headers-5.19.0-35-generic'
luismilpz@luismilpz-VirtualBox:~/pdih$
```

Cargamos el módulo con insmod:

```
luismilpz@luismilpz-VirtualBox:~/pdih$ sudo insmod hello.ko
luismilpz@luismilpz-VirtualBox:~/pdih$ lsmod
Module                  Size  Used by
hello                   16384  0
isofs                   53248  1
```

Información del módulo con modinfo:

```
luismilpz@luismilpz-VirtualBox:~/pdih$ modinfo hello.ko
filename:                /home/luismilpz/pdih/hello.ko
version:                  0.1
description:              A simple Linux driver.
author:                   Derek Molloy
license:                  GPL
srcversion:               00114ACDAB3C27B061C4F97
depends:
retpoline:               Y
name:                     hello
vermagic:                 5.19.0-35-generic SMP preempt mod_unload modversions
parm:                     name:The name to display in log (charp)
luismilpz@luismilpz-VirtualBox:~/pdih$
```

Eliminación del módulo:

```
luismilpz@luismilpz-VirtualBox:~/pdih$ sudo rmmod hello
luismilpz@luismilpz-VirtualBox:~/pdih$ lsmod
Module                  Size  Used by
isofs                   53248  1
rfcomm                  86016  4
cmac                    16384  3
```

Log del kernel en /var/log/kern.log:

```
fox/2667/usr/lib/firefox/firefox" sig=0 arch=c000003e syscall=314 compat=0 ip=0x7f519579973d code=0x50000
May 23 15:56:56 luismilpz-VirtualBox kernel: [ 1251.326823] EBB: Hello world from the BBB LKM!
May 23 15:59:25 luismilpz-VirtualBox kernel: [ 1400.359930] EBB: Goodbye world from BBB LKM!
```