Lab 6 Ex 1 - SDP - Davide Gallitelli S241521

In order to install a kernel module, it is necessary to compile the desired program in a way that the compiler, in our case GCC, generates a *kernel object* file, which can be installed as module. This is done by the *Makefile*, which only needs the command *make all* to create the object file.

The module is then installed by means of the *insmod* command, which also allows for specifying parameters. The results obtained below are obtained after launching the following command:

```
root@VMdebian6:/home/laface/SDP/lab6# insmod hello-5.ko mystring="ThisIsATest" m
yshort=29 myintArray=15,15
```

Once a module has been installed, the results can be seen in three different locations:

- the */var/log/kern.log* file

```
root@VMdebian6:/home/laface/SDP/lab6# tail /var/log/kern.log
Apr 26 14:01:19 VMdebian6 kernel: [ 1497.196591] Goodbye, world 5
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612159] Hello, world 5
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612161] =============
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612164] myshort is a short integer: 29
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612166] myint is an integer: 420
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612168] mylong is a long integer: 9999
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612169] mystring is a string: ThisIsATe
st
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612171] myintArray[0] = 15
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612173] myintArray[1] = 15
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612175] got 2 arguments for myintArray.
root@VMdebian6:/home/laface/SDP/lab6# █
```

- the */var/log/messages* file

```
root@VMdebian6:/home/laface/SDP/lab6# tail /var/log/messages
Apr 26 14:01:19 VMdebian6 kernel: [ 1497.196591] Goodbye, world 5
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612159] Hello, world 5
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612161] =============
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612164] myshort is a short integer: 29
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612166] myint is an integer: 420
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612168] mylong is a long integer: 9999
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612169] mystring is a string: ThisIsATe
st
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612171] myintArray[0] = 15
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612173] myintArray[1] = 15
Apr 26 14:02:03 VMdebian6 kernel: [ 1541.612175] got 2 arguments for myintArray.
root@VMdebian6:/home/laface/SDP/lab6#
```

- by means of the *!dm* command

```
[ 1541.612159] Hello, world 5
[ 1541.612161] ==============
[ 1541.612164] myshort is a short integer: 29
[ 1541.612166] myint is an integer: 420
[ 1541.612168] mylong is a long integer: 9999
[ 1541.612169] mystring is a string: ThisIsATest
[ 1541.612171] myintArray[0] = 15
[ 1541.612173] myintArray[1] = 15
[ 1541.612175] got 2 arguments for myintArray.
root@VMdebian6:/home/laface/SDP/lab6# █
```