

**NAME**

mem, kmem, port - system memory, kernel memory and system ports

**DESCRIPTION**

*/dev/mem* is a character device file that is an image of the main memory of the computer. It may be used, for example, to examine (and even patch) the system.

Byte addresses in */dev/mem* are interpreted as physical memory addresses. References to nonexistent locations cause errors to be returned.

Examining and patching is likely to lead to unexpected results when read-only or write-only bits are present.

Since Linux 2.6.26, and depending on the architecture, the **CONFIG\_STRICT\_DEVMEM** kernel configuration option limits the areas which can be accessed through this file. For example: on x86, RAM access is not allowed but accessing memory-mapped PCI regions is.

It is typically created by:

```
mknod -m 660 /dev/mem c 1 1
chown root:kmem /dev/mem
```

The file */dev/kmem* is the same as */dev/mem*, except that the kernel virtual memory rather than physical memory is accessed. Since Linux 2.6.26, this file is available only if the **CONFIG\_DEVKMEM** kernel configuration option is enabled.

It is typically created by:

```
mknod -m 640 /dev/kmem c 1 2
chown root:kmem /dev/kmem
```

*/dev/port* is similar to */dev/mem*, but the I/O ports are accessed.

It is typically created by:

```
mknod -m 660 /dev/port c 1 4
chown root:kmem /dev/port
```

**FILES**

*/dev/mem*  
*/dev/kmem*  
*/dev/port*

**SEE ALSO**

[chown\(1\)](#), [mknod\(1\)](#), [ioperm\(2\)](#)

**COLOPHON**

This page is part of release 4.10 of the Linux *man-pages* project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.