Red Hat Enterprise Linux Release 9.2 Manual Pages on 'sysfs.5' command

$ man sysfs.5

SYSFS(5)   Linux Programmer's Manual   SYSFS(5)

NAME

   sysfs - a filesystem for exporting kernel objects

DESCRIPTION

   The sysfs filesystem is a pseudo-filesystem which provides an interface

   to kernel data structures. (More precisely, the files and directories

   in sysfs provide a view of the kobject structures defined internally

   within the kernel.) The files under sysfs provide information about

   devices, kernel modules, filesystems, and other kernel components.

   The sysfs filesystem is commonly mounted at /sys. Typically, it is

   mounted automatically by the system, but it can also be mounted manu?

   ally using a command such as:

      mount -t sysfs sysfs /sys

   Many of the files in the sysfs filesystem are read-only, but some files

   are writable, allowing kernel variables to be changed. To avoid redun?

   dancy, symbolic links are heavily used to connect entries across the

   filesystem tree.

 Files and directories

   The following list describes some of the files and directories under

   the /sys hierarchy.

   /sys/block

        This subdirectory contains one symbolic link for each block de?

        vice that has been discovered on the system. The symbolic links

point to corresponding directories under /sys/devices.

/sys/bus

This directory contains one subdirectory for each of the bus types in the kernel. Inside each of these directories are two subdirectories:

devices

This subdirectory contains symbolic links to entries in /sys/devices that correspond to the devices discovered on this bus.

drivers

This subdirectory contains one subdirectory for each de‐ vice driver that is loaded on this bus.

/sys/class

This subdirectory contains a single layer of further subdirecto‐ ries for each of the device classes that have been registered on the system (e.g., terminals, network devices, block devices, graphics devices, sound devices, and so on). Inside each of these subdirectories are symbolic links for each of the devices in this class. These symbolic links refer to entries in the /sys/devices directory.

/sys/class/net

Each of the entries in this directory is a symbolic link repre‐ senting one of the real or virtual networking devices that are visible in the network namespace of the process that is access‐ ing the directory. Each of these symbolic links refers to en‐ tries in the /sys/devices directory.

/sys/dev

This directory contains two subdirectories block/ and char/, corresponding, respectively, to the block and character devices on the system. Inside each of these subdirectories are symbolic links with names of the form major-ID:minor-ID, where the ID values correspond to the major and minor ID of a specific de‐ vice. Each symbolic link points to the sysfs directory for a

device. The symbolic links inside /sys/dev thus provide an easy way to look up the sysfs interface using the device IDs returned by a call to stat(2) (or similar).

The following shell session shows an example from /sys/dev:

```
$ stat -c "%t %T" /dev/null
1 3
$ readlink /sys/dev/char/1\:3
../../devices/virtual/mem/null
$ ls -Fd /sys/devices/virtual/mem/null
/sys/devices/virtual/mem/null/
$ ls -d1 /sys/devices/virtual/mem/null/*
/sys/devices/virtual/mem/null/dev
/sys/devices/virtual/mem/null/power/
/sys/devices/virtual/mem/null/subsystem@
/sys/devices/virtual/mem/null/uevent
```

/sys/devices

This is a directory that contains a filesystem representation of the kernel device tree, which is a hierarchy of device struc‐ tures within the kernel.

/sys/firmware

This subdirectory contains interfaces for viewing and manipulat‐ ing firmware-specific objects and attributes.

/sys/fs

This directory contains subdirectories for some filesystems. A filesystem will have a subdirectory here only if it chose to ex‐ plicitly create the subdirectory.

/sys/fs/cgroup

This directory conventionally is used as a mount point for a tmpfs(5) filesystem containing mount points for cgroups(7) filesystems.

/sys/fs/smackfs

The directory contains configuration files for the SMACK LSM. See   the   kernel   source   file   Documentation/admin-

guide/LSM/Smack.rst.

/sys/hypervisor

    [To be documented]

/sys/kernel

    This subdirectory contains various files and subdirectories that

    provide information about the running kernel.

/sys/kernel/cgroup/

    For information about the files in this directory, see

    cgroups(7).

/sys/kernel/debug/tracing

    Mount point for the tracefs filesystem used by the kernel's

    ftrace facility. (For information on ftrace, see the kernel

    source file Documentation/trace/ftrace.txt.)

/sys/kernel/mm

    This subdirectory contains various files and subdirectories that

    provide information about the kernel's memory management subsys?

    tem.

/sys/kernel/mm/hugepages

    This subdirectory contains one subdirectory for each of the huge

    page sizes that the system supports. The subdirectory name in?

    dicates the huge page size (e.g., hugepages-2048kB). Within

    each of these subdirectories is a set of files that can be used

    to view and (in some cases) change settings associated with that

    huge page size. For further information, see the kernel source

    file Documentation/admin-guide/mm/hugetlbpage.rst.

/sys/module

    This subdirectory contains one subdirectory for each module that

    is loaded into the kernel. The name of each directory is the

    name of the module. In each of the subdirectories, there may be

    following files:

    coresize

        [to be documented]

    initsize

[to be documented]

initstate

[to be documented]

refcnt [to be documented]

srcversion

[to be documented]

taint [to be documented]

uevent [to be documented]

version

[to be documented]

In each of the subdirectories, there may be following subdirec?

tories:

drivers

[To be documented]

holders

[To be documented]

notes [To be documented]

parameters

This directory contains one file for each module parame?

ter, with each file containing the value of the corre?

sponding parameter.   Some of these files are writable,

allowing the

sections

This subdirectories contains files with information about

module sections. This information is mainly used for de?

bugging.

[To be documented]

/sys/power

[To be documented]

VERSIONS

The sysfs filesystem first appeared in Linux 2.6.0.

CONFORMING TO

The sysfs filesystem is Linux-specific.

NOTES

This manual page is incomplete, possibly inaccurate, and is the kind of
thing that needs to be updated very often.

SEE ALSO

proc(5), udev(7)

P. Mochel. (2005). The sysfs filesystem. Proceedings of the 2005 Ot?
tawa Linux Symposium.

The kernel source file Documentation/filesystems/sysfs.txt and various
other files in Documentation/ABI and Documentation/*/sysfs.txt

COLOPHON

This page is part of release 5.10 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/.

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