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Rocky Enterprise Linux 9.2 Manual Pages on command 'slabinfo.5'

\$ man slabinfo.5

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

NAME

slabinfo - kernel slab allocator statistics

SYNOPSIS

cat /proc/slabinfo

DESCRIPTION

Frequently used objects in the Linux kernel (buffer heads, inodes, den? tries, etc.) have their own cache. The file /proc/slabinfo gives sta? tistics on these caches. The following (edited) output shows an exam? ple of the contents of this file:

```
$ sudo cat /proc/slabinfo
```

```
slabinfo - version: 2.1
```

```
# name <active_objs> <num_objs> <objsize> <objperslab> <pagesperslab> ...
```

```
sigqueue 100 100 160 25 1 : tunables 0 0 0 : slabdata 4 4 0
```

```
sigband_cache 355 405 2112 15 8 : tunables 0 0 0 : slabdata 27 27 0
```

```
kmalloc-8192 96 96 8192 4 8 : tunables 0 0 0 : slabdata 24 24 0
```

```
...
```

The first line of output includes a version number, which allows an ap?

plication that is reading the file to handle changes in the file for?
mat. (See VERSIONS, below.) The next line lists the names of the col?
umns in the remaining lines.

Each of the remaining lines displays information about a specified
cache. Following the cache name, the output shown in each line shows
three components for each cache:

- * statistics
- * tunables
- * slabdata

The statistics are as follows:

active_objs

The number of objects that are currently active (i.e., in use).

num_objs

The total number of allocated objects (i.e., objects that are
both in use and not in use).

objsize

The size of objects in this slab, in bytes.

objperslab

The number of objects stored in each slab.

pagesperslab

The number of pages allocated for each slab.

The tunables entries in each line show tunable parameters for the cor?
responding cache. When using the default SLUB allocator, there are no
tunables, the /proc/slabinfo file is not writable, and the value 0 is
shown in these fields. When using the older SLAB allocator, the tun?
ables for a particular cache can be set by writing lines of the follow?
ing form to /proc/slabinfo:

```
# echo 'name limit batchcount sharedfactor' > /proc/slabinfo
```

Here, name is the cache name, and limit, batchcount, and sharedfactor
are integers defining new values for the corresponding tunables. The
limit value should be a positive value, batchcount should be a positive
value that is less than or equal to limit, and sharedfactor should be
nonnegative. If any of the specified values is invalid, the cache set?

tings are left unchanged.

The tunables entries in each line contain the following fields:

limit The maximum number of objects that will be cached.

batchcount

On SMP systems, this specifies the number of objects to transfer at one time when refilling the available object list.

sharedfactor

[To be documented]

The slabdata entries in each line contain the following fields:

active_slabs

The number of active slabs.

nums_slabs

The total number of slabs.

sharedavail

[To be documented]

Note that because of object alignment and slab cache overhead, objects are not normally packed tightly into pages. Pages with even one in-use object are considered in-use and cannot be freed.

Kernels configured with `CONFIG_DEBUG_SLAB` will also have additional statistics fields in each line, and the first line of the file will contain the string "(statistics)". The statistics field include : the high water mark of active objects; the number of times objects have been allocated; the number of times the cache has grown (new pages added to this cache); the number of times the cache has been reaped (unused pages removed from this cache); and the number of times there was an error allocating new pages to this cache.

VERSIONS

The `/proc/slabinfo` file first appeared in Linux 2.1.23. The file is versioned, and over time there have been a number of versions with different layouts:

1.0 Present throughout the Linux 2.2.x kernel series.

1.1 Present in the Linux 2.4.x kernel series.

1.2 A format that was briefly present in the Linux 2.5 development

series.

2.0 Present in Linux 2.6.x kernels up to and including Linux 2.6.9.

2.1 The current format, which first appeared in Linux 2.6.10.

NOTES

Only root can read and (if the kernel was configured with CONFIG_SLAB) write the /proc/slabinfo file.

The total amount of memory allocated to the SLAB/SLUB cache is shown in the Slab field of /proc/meminfo.

SEE ALSO

slabtop(1)

The kernel source file Documentation/vm/slub.txt and tools/vm/slabinfo.c.

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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