

NAME

lsys – list system devices and attributes

SYNOPSIS

device tree for a single device:

lsys *device*

list and optionally filter devices:

lsys [-t *devicetype*] [-f *fields*]

show help:

lsys -h

OPTIONS

- t** limit the type of device listed by specifying a *devicetype*
- f** specify *fields*. each field may be followed by either a '=' and a regular expression to select, or a '-' and regular expression to filter out.
- v** show lsys version.

Exit status:

- 0 if OK,
- 1 error.
- 2 more serious error.

DESCRIPTION

lsys either shows the device tree for a single device, or lists devices based on a *devicetype* or a variety of filters through *fields*.

In single device mode, when the *device* is not a full sysfs (/sys) path, lsys tries to find *device* in these locations:

/sys/devices

/sys/class/block

/sys/class/net

/sys/bus/pci/devices

/sys/bus/usb/devices

so **lsys** would understand objects such as 'sda', 'sda1', 'eth0', 'usb1' and so on.

In list mode, either all *devicetype* device types are listed, or limited to a specific *devicetype* through -t. The *fields* allow selection of which fields to display, what data to select or negate, for example

lsys -t pci -f driver-^\$

would show all pci devices, including their driver, but skipping (-) pci devices without a driver (regexp ^\$).

devicetype

ata ATA devices with fields speed, sysfs.

bcache bcache devices with field sysfs.

| | |
|-----------|---|
| block | all block devices, including specific block devices such as scsi or mapper, with fields dev_t, driver, model, read, sched, size, svctm, sysfs, written. |
| iscsi | iSCSI block devices with fields dev_t, driver, iqn, model, read, sched, size, svctm, sysfs, target, written, wwn. |
| mapper | devicemapper block devices with fields dev_t, read, size, svctm, sysfs, uuid, written. |
| metadisk | MetaDisk (software RAID) block devices with fields dev_t, read, size, sysfs, written. |
| mmc | MMC block devices with fields dev_t, driver, model, read, sched, size, svctm, sysfs, written. |
| net | network interface devices with fields ip4, ip6, read, speed, sysfs, written. |
| nvme | NVMe block devices with fields dev_t, driver, model, read, sched, size, svctm, sysfs, written. |
| part | partition block devices with fields dev_t, read, size, svctm, sysfs, written. |
| pci | PCI devices with fields class, driver, irq, model, sysfs, vendor. |
| pcibus | PCI bus devices with fields driver, irq. |
| rport | SCSI remote ports with field sysfs. |
| scsi | SCSI block devices with fields dev_t, driver, model, read, sched, size, svctm, sysfs, written, wwn. |
| usb | USB devices with fields class, driver, model, sysfs, vendor. |
| usbbus | USB bus devices with fields class, sysfs. |
| usbiface | USB interface devices with fields class, sysfs. |
| virtioblk | virtio block devices with fields dev_t, driver, model, read, sched, size, svctm, sysfs, written. |
| virtionet | virtio network devices with fields driver, model, read, sched, size, sysfs, written. |
| vport | SCSI vport devices with field sysfs. |

fields

| | |
|--------|--|
| class | the class for devicetype pci, usbbus, usbiface, usb. |
| dev_t | the major:minor pair for devicetype block, iscsi, mapper, mmc, nvme, part, pci, scsi, virtioblk, virtionet. |
| driver | the driver for devicetype block, iscsi, mmc, nvme, pcibus, pci, scsi, usb, virtioblk, virtionet. |
| ip4 | the ip4 addresses assigned for devicetype net. |
| ip6 | the ip6 addresses assigned for devicetype net. |
| iqn | the iqn of a iSCSI, devicetype iscsi. |
| irq | the irq assigned to devicetype pcibus, pci. |
| model | the device model for devicetype block, iscsi, mmc, nvme, pci, scsi, usb, virtioblk, virtionet. |
| read | total number of bytes read for devicetype block, iscsi, mapper, metadisk, mmc, net, nvme, part, pci, scsi, virtioblk, virtionet. |
| sched | the IO scheduler used for the devicetype block, iscsi, mmc, nvme, pci, scsi, virtioblk, virtionet. |
| size | the size of the block devicetype block, iscsi, mapper, metadisk, mmc, nvme, part, pci, scsi, virtioblk, virtionet. |
| speed | the speed in MiB/s for devicetype ata, net. |

svctm the service time in ms for devicetype block, iscsi, mapper, mmc, nvme, part, pci, scsi, virtioblk, virtionet.

sysfs the sysfs path for any devicetype.

target the iSCSI target for devicetype iscsi.

uuid the UUID for devicetype mapper.

vendor the vendor devicetype pci, usb.

written total number of bytes written for devicetype block, iscsi, mapper, metadisk, mmc, net, nvme, part, pci, scsi, virtioblk, virtionet.

wwn the world wide name for devicetype iscsi, scsi.

EXAMPLES

list all network devices.
`lsys -t net -f ip4,speed,read,written`

list all pci devices with a driver.
`lsys -t pci -f driver-^$,vendor,model`

MORE INFORMATION

For more information and examples, see <https://jmspit.github.io/leanux>.

BUGS

Report bugs, documentation errors and suggestions at <https://github.com/jmspit/leanux/issues>.

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SEE ALSO

lard(1), **lblk(1)**, **lmon(1)**, **lrep(1)**