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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'lvs.8' command**

**\$ man lvs.8**

**LVS(8)**      System Manager's Manual      **LVS(8)**

### **NAME**

**lvs** ? Display information about logical volumes

### **SYNOPSIS**

**lvs**

[ option\_args ]

[ position\_args ]

### **DESCRIPTION**

**lvs** produces formatted output about LVs.

### **USAGE**

**lvs**

[ -H|--history ]

[ -a|--all ]

[ -o|--options String ]

[ -S|--select String ]

[ -O|--sort String ]

[ --segments ]

[ --aligned ]

[ --binary ]

[ --configreport log|vg|lv|pv|pvseg|seg ]

[ --foreign ]

[ --ignorelockingfailure ]

[ --logonly ]

```
[ --nameprefixes ]
[ --noheadings ]
[ --nosuffix ]
[ --readonly ]
[ --reportformat basic|json|json_std ]
[ --rows ]
[ --separator String ]
[ --shared ]
[ --unbuffered ]
[ --units [Number]r|R|h|H|b|B|s|S|k|K|m|M|g|G|t|T|p|P|e|E ]
[ --unquoted ]
[ COMMON_OPTIONS ]
[ VG|LV|Tag ... ]
```

Common options for lvm:

```
[ -d|--debug ]
[ -h|--help ]
[ -q|--quiet ]
[ -t|--test ]
[ -v|--verbose ]
[ -y|--yes ]
[ --commandprofile String ]
[ --config String ]
[ --devices PV ]
[ --devicesfile String ]
[ --driverloaded y|n ]
[ --journal String ]
[ --lockopt String ]
[ --longhelp ]
[ --nohints ]
[ --nolocking ]
[ --profile String ]
[ --version ]
```

--aligned

Use with --separator to align the output columns

-a|--all

Show information about internal LVs. These are components of normal LVs, such as mirrors, which are not independently accessible, e.g. not mountable.

--binary

Use binary values "0" or "1" instead of descriptive literal values for columns that have exactly two valid values to report (not counting the "unknown" value which denotes that the value could not be determined).

--commandprofile String

The command profile to use for command configuration. See lvm.conf(5) for more information about profiles.

--config String

Config settings for the command. These override lvm.conf(5) settings. The String arg uses the same format as lvm.conf(5), or may use section/field syntax. See lvm.conf(5) for more information about config.

--configreport log|vg|lv|pv|pvseg|seg

See lvmreport(7).

-d|--debug ...

Set debug level. Repeat from 1 to 6 times to increase the detail of messages sent to the log file and/or syslog (if configured).

--devices PV

Restricts the devices that are visible and accessible to the command. Devices not listed will appear to be missing. This option can be repeated, or accepts a comma separated list of devices. This overrides the devices file.

--devicesfile String

A file listing devices that LVM should use. The file must exist in /etc/lvm/devices/ and is managed with the lvmdevices(8) command. This overrides the lvm.conf(5) devices/devicesfile and

devices/use\_devicesfile settings.

--driverloaded y|n

If set to no, the command will not attempt to use device-mapper.

For testing and debugging.

--foreign

Report/display foreign VGs that would otherwise be skipped. See

lvmsystemid(7) for more information about foreign VGs.

-h|--help

Display help text.

-H|--history

Include historical LVs in the output. (This has no effect unless

less LVs were removed while lvm.conf(5) metadata/record\_lvs\_his?

tory was enabled.

--ignorelockingfailure

Allows a command to continue with read-only metadata operations

after locking failures.

--journal String

Record information in the systemd journal. This information is

in addition to information enabled by the lvm.conf log/journal

setting. command: record information about the command. out?

put: record the default command output. debug: record full command

debugging.

--lockopt String

Used to pass options for special cases to lvmlockd. See lvm?

lockd(8) for more information.

--logonly

Suppress command report and display only log report.

--longhelp

Display long help text.

--nameprefixes

Add an "LVM2\_" prefix plus the field name to the output. Useful

with --noheadings to produce a list of field=value pairs that

can be used to set environment variables (for example, in udev

rules).

#### --noheadings

Suppress the headings line that is normally the first line of output. Useful if grepping the output.

#### --nohints

Do not use the hints file to locate devices for PVs. A command may read more devices to find PVs when hints are not used. The command will still perform standard hint file invalidation where appropriate.

#### --nolocking

Disable locking. Use with caution, concurrent commands may produce incorrect results.

#### --nosuffix

Suppress the suffix on output sizes. Use with --units (except h and H) if processing the output.

#### -o|--options String

Comma-separated, ordered list of fields to display in columns.

String arg syntax is: [+|-#]Field1[,Field2 ...] The prefix + will append the specified fields to the default fields, - will remove the specified fields from the default fields, and # will compact specified fields (removing them when empty for all rows.) Use -o help to view the list of all available fields.

Use separate lists of fields to add, remove or compact by repeating the -o option: -o+field1,field2 -o-field3,field4

-o#field5. These lists are evaluated from left to right. Use field name lv\_all to view all LV fields, vg\_all all VG fields, pv\_all all PV fields, pvseg\_all all PV segment fields, seg\_all all LV segment fields, and pvseg\_all all PV segment columns.

See the lvm.conf(5) report section for more config options. See lvmreport(7) for more information about reporting.

#### --profile String

An alias for --commandprofile or --metadataprofile, depending on the command.

**-q|--quiet ...**

Suppress output and log messages. Overrides --debug and --verbose. Repeat once to also suppress any prompts with answer 'no'.

**--readonly**

Run the command in a special read-only mode which will read on-disk metadata without needing to take any locks. This can be used to peek inside metadata used by a virtual machine image while the virtual machine is running. No attempt will be made to communicate with the device-mapper kernel driver, so this option is unable to report whether or not LVs are actually in use.

**--reportformat basic|json|json\_std**

Overrides current output format for reports which is defined globally by the report/output\_format setting in lvm.conf(5). basic is the original format with columns and rows. If there is more than one report per command, each report is prefixed with the report name for identification. json produces report output in JSON format. json\_std produces report output in JSON format which is more compliant with JSON standard. See lvmreport(7) for more information.

**--rows**

Output columns as rows.

**--segments**

Use default columns that emphasize segment information.

**-S|--select String**

Select objects for processing and reporting based on specified criteria. The criteria syntax is described by --select help and lvmreport(7). For reporting commands, one row is displayed for each object matching the criteria. See --options help for selectable object fields. Rows can be displayed with an additional "selected" field (-o selected) showing 1 if the row matches the selection and 0 otherwise. For non-reporting commands which process LVM entities, the selection is used to choose items to

process.

#### --separator String

String to use to separate each column. Useful if grepping the output.

#### --shared

Report/display shared VGs that would otherwise be skipped when lvmlockd is not being used on the host. See lvmlockd(8) for more information about shared VGs.

#### -O|--sort String

Comma-separated ordered list of columns to sort by. Replaces the default selection. Precede any column with - for a reverse sort on that column.

#### -t|--test

Run in test mode. Commands will not update metadata. This is implemented by disabling all metadata writing but nevertheless returning success to the calling function. This may lead to unusual error messages in multi-stage operations if a tool relies on reading back metadata it believes has changed but hasn't.

#### --unbuffered

Produce output immediately without sorting or aligning the columns properly.

#### --units [Number]r|R|h|H|b|B|s|S|k|K|m|M|g|G|t|T|p|P|e|E

All sizes are output in these units: human-(r)eadable with '<' rounding indicator, (h)uman-readable, (b)ytes, (s)ectors, (k)ilobytes, (m)egabytes, (g)igabytes, (t)erabytes, (p)etabytes, (e)xabytes. Capitalise to use multiples of 1000 (S.I.) instead of 1024. Custom units can be specified, e.g. --units 3M.

#### --unquoted

When used with --nameprefixes, output values in the field=value pairs are not quoted.

#### -v|--verbose ...

Set verbose level. Repeat from 1 to 4 times to increase the detail of messages sent to stdout and stderr.

--version

Display version information.

-y|--yes

Do not prompt for confirmation interactively but always assume the answer yes. Use with extreme caution. (For automatic no, see -qq.)

## VARIABLES

VG Volume Group name. See lvm(8) for valid names.

LV Logical Volume name. See lvm(8) for valid names. An LV positional arg generally includes the VG name and LV name, e.g. VG/LV.

Tag Tag name. See lvm(8) for information about tag names and using tags in place of a VG, LV or PV.

String See the option description for information about the string content.

Size[UNIT]

Size is an input number that accepts an optional unit. Input units are always treated as base two values, regardless of capitalization, e.g. 'k' and 'K' both refer to 1024. The default input unit is specified by letter, followed by |UNIT. UNIT represents other possible input units: b|B is bytes, s|S is sectors of 512 bytes, k|K is KiB, m|M is MiB, g|G is GiB, t|T is TiB, p|P is PiB, e|E is EiB. (This should not be confused with the output control --units, where capital letters mean multiple of 1000.)

## ENVIRONMENT VARIABLES

See lvm(8) for information about environment variables used by lvm.

For example, LVM\_VG\_NAME can generally be substituted for a required VG parameter.

## NOTES

The lv\_attr bits are:

1 Volume type: (C)ache, (m)irrored, (M)irrored without initial sync, (o)origin, (O)origin with merging snapshot, (r)aid, (R)aid without

initial sync, (s)napshot, merging (S)napshot, (p)vmove, (v)irtual, mirror or raid (i)mage, mirror or raid (l)mage out-of-sync, mirror (l)og device, under (c)onversion, thin (V)olume, (t)hin pool, (T)hin pool data, v(d)o pool, v(D)o pool data, raid or pool m(e)tadata or pool metadata spare.

2 Permissions: (w)riteable, (r)ead-only, (R)ead-only activation of non-read-only volume

3 Allocation policy: (a)nywhere, (c)ontiguous, (i)nherited, c(l)ing, (n)ormal This is capitalised if the volume is currently locked against allocation changes, for example during pvmove(8).

4 fixed (m)inor

5 State: (a)ctive, (h)istorical, (s)uspended, (l)invalid snapshot, in? valid (S)suspended snapshot, snapshot (m)erge failed, suspended snap? shot (M)erge failed, mapped (d)evice present without tables, mapped device present with (i)nactive table, thin-pool (c)heck needed, sus? pended thin-pool (C)heck needed, (X) unknown

6 device (o)pen, (X) unknown

7 Target type: (C)ache, (m)irror, (r)aid, (s)napshot, (t)hin, (u)nknown, (v)irtual. This groups logical volumes related to the same kernel target together. So, for example, mirror images, mirror logs as well as mirrors themselves appear as (m) if they use the original device-mapper mirror kernel driver; whereas the raid equivalents using the md raid kernel driver all appear as (r). Snapshots using the original device-mapper driver appear as (s); whereas snapshots of thin volumes using the new thin provisioning driver appear as (t).

8 Newly-allocated data blocks are overwritten with blocks of (z)eroes before use.

9 Volume Health, where there are currently three groups of attributes identified:

Common ones for all Logical Volumes: (p)artial, (X) unknown. (p)artial signifies that one or more of the Physical Volumes this Logical Volume uses is missing from the system. (X) unknown sign?

fies the status is unknown.

Related to RAID Logical Volumes: (r)efresh needed, (m)ismatches ex? ist, (w)ritemostly.

(r)efresh signifies that one or more of the Physical Volumes this RAID Logical Volume uses had suffered a write error. The write error could be due to a temporary failure of that Physical Volume or an indication that it is failing. The device should be refreshed or replaced. (m)ismatches signifies that the RAID logical volume has portions of the array that are not coherent. Inconsistencies are detected by initiating a "check" on a RAID logical volume. (The scrubbing operations, "check" and "repair", can be performed on a RAID logical volume via the 'lvchange' command.) (w)ritemostly signifies the devices in a RAID 1 logical volume that have been marked write-mostly. Re(s)haping signifies a RAID Logical Volume is either undergoing a stripe addition/removal, a stripe size or RAID algo? rithm change. (R)emove after reshape signifies freed striped raid images to be removed.

Related to Thin pool Logical Volumes: (F)ailed, out of (D)ata space, (M)etadata read only.

(F)ailed is set if thin pool encounters serious failures and hence no further I/O is permitted at all. The out of (D)ata space is set if thin pool has run out of data space. (M)etadata read only signifies that thin pool encounters certain types of failures but it's still possible to do reads at least, but no metadata changes are allowed.

Related to Thin Logical Volumes: (F)ailed.

(F)ailed is set when related thin pool enters Failed state and no further I/O is permitted at all.

Related to writecache logical volumes: (E)rror.

(E)rror is set dm-writecache reports an error.

10 s(k)ip activation: this volume is flagged to be skipped during activation.

lvm(8), lvm.conf(5), lvmconfig(8), lvmdevices(8),  
pvchange(8), pvck(8), pvcreate(8), pvdisplay(8), pvmove(8),  
pvremove(8), pvresize(8), pvs(8), pvscan(8),  
vgcfgbackup(8), vgcfgrestore(8), vgchange(8), vgck(8), vgcreate(8),  
vgconvert(8), vgdisplay(8), vgexport(8), vgextend(8), vgimport(8),  
vgimportclone(8), vgimportdevices(8), vgmerge(8), vgmknodes(8),  
vgreduce(8), vgremove(8), vgrename(8), vgs(8), vgscan(8), vgsplit(8),  
lvcreate(8), lvchange(8), lvconvert(8), lvdisplay(8), lvextend(8),  
lvreduce(8), lvremove(8), lvrename(8), lvresize(8), lvs(8), lvscan(8),  
lvm-fullreport(8), lvm-lvpoll(8), blkdeactivate(8), lvmdump(8),  
dmeventd(8), lvmpolld(8), lvmlockd(8), lvmlockctl(8), cmirrord(8),  
lvmdbusd(8), fsadm(8),  
lvmsystemid(7), lvmreport(7), lvmraid(7), lvmthin(7), lvmcache(7)

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