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**]
[**––rows**]
[**––separator** *String*]
[**––shared**]
[**––unbuffered**]
[**––units 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*]
[**––driverloaded y|n**]
[**––lockopt** *String*]
[**––longhelp**]
[**––nolocking**]
[**––profile** *String*]
[**––version**]

OPTIONS

−−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 settings. The String arg uses the same format as lvm.conf, 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).

−−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 LVs were removed while lvm.conf metadata/record_lvs_history was enabled.

−−ignorelockingfailure
Allows a command to continue with read-only metadata operations after locking failures.

−−lockopt *String*
Used to pass options for special cases to lvmlockd. See **lvmlockd**(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.

−−nolocking
Disable locking.

−−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 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
Overrides current output format for reports which is defined globally by the report/output_format setting in lvm.conf. **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. 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 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: **bBsSkKmMgGtTpPeE**. b|B is bytes, s|S is sectors of 512 bytes, k|K is kilobytes, m|M is megabytes, g|G is gigabytes, t|T is terabytes, p|P is petabytes, e|E is exabytes. (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)rigin, (O)rigin 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 (I)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, (I)nvalid snapshot, invalid (S)uspended snapshot, snapshot (m)erge failed, suspended snapshot (M)erge failed, mapped (d)evice present without tables, mapped device present with (i)nactive table, thin−pool (c)heck needed, suspended 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 signifies the status is unknown.

Related to RAID Logical Volumes: (r)efresh needed, (m)ismatches exist, (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 algorithm 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.

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

SEE ALSO

lvm(8) **lvm.conf**(5) **lvmconfig**(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) **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) **lvm2−activation−generator**(8) **blkdeactivate**(8) **lvmdump**(8)

dmeventd(8) **lvmpolld**(8) **lvmlockd**(8) **lvmlockctl**(8) **cmirrord**(8) **lvmdbusd**(8)

lvmsystemid(7) **lvmreport**(7) **lvmraid**(7) **lvmthin**(7) **lvmcache**(7)