Rocky Enterprise Linux 9.2 Manual Pages on command 'lvextend.8'

C:\>man lvextend.8

LVEXTEND(8) System Manager's Manual LVEXTEND(8)

NAME

lvextend - Add space to a logical volume

SYNOPSIS

lvextend option_args position_args

[option_args]

[position_args]

--alloc contiguous|cling|cling_by_tags|normal|anywhere|inherit

-A|--autobackup y|n

--commandprofile String

--config String

-d|--debug

--driverloaded y|n

-l|--extents [+]Number[PERCENT]

-f|--force

-h|--help

--lockopt String

--longhelp

-m|--mirrors Number

-n|--nofsck

--nolocking

--nosync

--noudevsync

--poolmetadatasize [+]Size[m|UNIT]

--profile String

-q|--quiet

--reportformat basic|json

-r|--resizefs

-L|--size [+]Size[m|UNIT]

-i|--stripes Number

-I|--stripesize Size[k|UNIT]

-t|--test

--type linear|striped|snapshot|mir?

ror|raid|thin|cache|vdo|thin-pool|cache-pool|vdo-pool

--usepolicies

-v|--verbose

--version

-y|--yes

DESCRIPTION

lvextend extends the size of an LV. This requires allocating logical extents from the VG's free physical extents. If the extension adds a new LV segment, the new segment will use the existing segment type of the LV.

Extending a copy-on-write snapshot LV adds space for COW blocks.

Use lvconvert(8) to change the number of data images in a RAID or mirrored LV.

In the usage section below, --size Size can be replaced with --extents Number. See both descriptions the options section.

USAGE

Extend an LV by a specified size.

lvextend -L|--size [+]Size[m|UNIT] LV

[-l|--extents [+]Number[PERCENT]]

[-r|--resizefs]

[-i|--stripes Number]

[-I|--stripesize Size[k|UNIT]]

[--poolmetadatasize [+]Size[m|UNIT]]

[COMMON_OPTIONS]

[PV ...]

-

Extend an LV by specified PV extents.

lvextend LV PV ...

[-r|--resizefs]

[-i|--stripes Number]

[-I|--stripesize Size[k|UNIT]]

[COMMON_OPTIONS]

-

Extend a pool metadata SubLV by a specified size.

lvextend --poolmetadatasize [+]Size[m|UNIT] LV_thinpool

[-i|--stripes Number]

[-I|--stripesize Size[k|UNIT]]

[COMMON_OPTIONS]

[PV ...]

-

Extend an LV according to a predefined policy.

lvextend --usepolicies LV_snapshot_thinpool

[-r|--resizefs]

[COMMON_OPTIONS]

[PV ...]

-

Common options for command:

[-A|--autobackup y|n]

[-f|--force]

[-m|--mirrors Number]

[-n|--nofsck]

[--alloc contiguous|cling|cling_by_tags|normal|anywhere|inherit]

[--nosync]

[--noudevsync]

[--reportformat basic|json]

[--type linear|striped|snapshot|mir?

ror|raid|thin|cache|vdo|thin-pool|cache-pool|vdo-pool]

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

--alloc contiguous|cling|cling_by_tags|normal|anywhere|inherit

Determines the allocation policy when a command needs to allocate Physical Extents (PEs) from the VG. Each VG and LV has an allocation policy which can be changed with vgchange/lvchange, or overriden on the command line. normal applies common sense rules such as not placing parallel stripes on the same PV. inherit applies the VG policy to an LV. contiguous requires new PEs be placed adjacent to existing PEs. cling places new PEs on the same PV as ex? isting PEs in the same stripe of the LV. If there are sufficient PEs for an allocation, but normal does not use them, anywhere will use them even if it reduces performance, e.g. by placing two stripes on the same PV. Optional positional PV args on the command line can also be used to limit which PVs the command will use for allocation. See lvm(8) for more information about allocation.

-A|--autobackup y|n

Specifies if metadata should be backed up automatically after a change. En? abling this is strongly advised! See vgcfgbackup(8) for more information.

--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 syn? tax. See lvm.conf(5) for more information about config.

-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 test? ing and debugging.

-l|--extents [+]Number[PERCENT]

Specifies the new size of the LV in logical extents. The --size and --ex? tents options are alternate methods of specifying size. The total number of physical extents used will be greater when redundant data is needed for RAID levels. An alternate syntax allows the size to be determined indirectly as a percentage of the size of a related VG, LV, or set of PVs. The suffix %VG denotes the total size of the VG, the suffix %FREE the remaining free space in the VG, and the suffix %PVS the free space in the specified PVs. For a snapshot, the size can be expressed as a percentage of the total size of the origin LV with the suffix %ORIGIN (100%ORIGIN provides space for the whole origin). When expressed as a percentage, the size defines an upper limit for the number of logical extents in the new LV. The precise number of logi? cal extents in the new LV is not determined until the command has completed. When the plus + or minus - prefix is used, the value is not an absolute size, but is relative and added or subtracted from the current size.

-f|--force ...

Override various checks, confirmations and protections. Use with extreme caution.

-h|--help

Display help text.

--lockopt String

Used to pass options for special cases to lvmlockd. See lvmlockd(8) for more information.

--longhelp

Display long help text.

-m|--mirrors Number

Not used.

-n|--nofsck

Do not perform fsck before resizing filesystem when filesystem requires it. You may need to use --force to proceed with this option.

--nolocking

Disable locking.

--nosync

Causes the creation of mirror, raid1, raid4, raid5 and raid10 to skip the initial synchronization. In case of mirror, raid1 and raid10, any data writ? ten afterwards will be mirrored, but the original contents will not be copied. In case of raid4 and raid5, no parity blocks will be written, though any data written afterwards will cause parity blocks to be stored. This is useful for skipping a potentially long and resource intensive initial sync of an empty mirror/raid1/raid4/raid5 and raid10 LV. This option is not valid for raid6, because raid6 relies on proper parity (P and Q Syndromes) being created during initial synchronization in order to reconstruct proper user date in case of device failures. raid0 and raid0_meta do not provide any data copies or parity support and thus do not support initial synchro? nization.

--noudevsync

Disables udev synchronisation. The process will not wait for notification from udev. It will continue irrespective of any possible udev processing in the background. Only use this if udev is not running or has rules that ig? nore the devices LVM creates.

--poolmetadatasize [+]Size[m|UNIT]

Specifies the new size of the pool metadata LV. The plus prefix + can be used, in which case the value is added to the current size.

--profile String

An alias for --commandprofile or --metadataprofile, depending on the com? mand.

-q|--quiet ...

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

--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.

-r|--resizefs

Resize underlying filesystem together with the LV using fsadm(8).

-L|--size [+]Size[m|UNIT]

Specifies the new size of the LV. The --size and --extents options are al? ternate methods of specifying size. The total number of physical extents used will be greater when redundant data is needed for RAID levels. When the plus + or minus - prefix is used, the value is not an absolute size, but is relative and added or subtracted from the current size.

-i|--stripes Number

Specifies the number of stripes in a striped LV. This is the number of PVs (devices) that a striped LV is spread across. Data that appears sequential in the LV is spread across multiple devices in units of the stripe size (see --stripesize). This does not change existing allocated space, but only ap? plies to space being allocated by the command. When creating a RAID 4/5/6 LV, this number does not include the extra devices that are required for parity. The largest number depends on the RAID type (raid0: 64, raid10: 32, raid4/5: 63, raid6: 62), and when unspecified, the default depends on the RAID type (raid0: 2, raid10: 2, raid4/5: 3, raid6: 5.) To stripe a new raid LV across all PVs by default, see lvm.conf allocation/raid_stripe_all_de? vices.

-I|--stripesize Size[k|UNIT]

The amount of data that is written to one device before moving to the next

in a striped LV.

-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 op? erations if a tool relies on reading back metadata it believes has changed but hasn't.

--type linear|striped|snapshot|mir?

ror|raid|thin|cache|vdo|thin-pool|cache-pool|vdo-pool

The LV type, also known as "segment type" or "segtype". See usage descrip? tions for the specific ways to use these types. For more information about redundancy and performance (raid<N>, mirror, striped, linear) see lvm? raid(7). For thin provisioning (thin, thin-pool) see lvmthin(7). For per? formance caching (cache, cache-pool) see lvmcache(7). For copy-on-write snapshots (snapshot) see usage definitions. For VDO (vdo) see lvmvdo(7). Several commands omit an explicit type option because the type is inferred from other options or shortcuts (e.g. --stripes, --mirrors, --snapshot, --virtualsize, --thin, --cache, --vdo). Use inferred types with care be? cause it can lead to unexpected results.

--usepolicies

Perform an operation according to the policy configured in lvm.conf or a profile.

-v|--verbose ...

Set verbose level. Repeat from 1 to 4 times to increase the detail of mes? sages 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

LV

Logical Volume name. See lvm(8) for valid names. An LV positional arg gen?

erally includes the VG name and LV name, e.g. VG/LV. LV followed by _<type> indicates that an LV of the given type is required. (raid represents raid<N> type)

PV

Physical Volume name, a device path under /dev. For commands managing physical extents, a PV positional arg generally accepts a suffix indicating a range (or multiple ranges) of physical extents (PEs). When the first PE is omitted, it defaults to the start of the device, and when the last PE is omitted it defaults to end. Start and end range (inclusive): PV[:PE-PE]... Start and length range (counting from 0): PV[:PE+PE]...

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.

EXAMPLES

Extend the size of an LV by 54MiB, using a specific PV.

lvextend -L +54 vg01/lvol10 /dev/sdk3

Extend the size of an LV by the amount of free space on PV /dev/sdk3. This is equivalent to specifying "-l +100%PVS" on the command line.

lvextend vg01/lvol01 /dev/sdk3

Extend an LV by 16MiB using specific physical extents.

lvextend -L+16m vg01/lvol01 /dev/sda:8-9 /dev/sdb:8-9

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) vgdis?

play(8) vgexport(8) vgextend(8) vgimport(8) vgimportclone(8) vgmerge(8) vgmkn?

odes(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) lvre?

move(8) lvrename(8) lvresize(8) lvs(8) lvscan(8)

lvm-fullreport(8) lvm-lvpoll(8) lvm2-activation-generator(8) blkdeactivate(8) lvm?

dump(8)

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

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

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