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

\$ man vgchange.8

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

NAME

vgchange ? Change volume group attributes

SYNOPSIS

vgchange option_args position_args

[option_args]

[position_args]

-a|--activate y|n|ay

--activationmode partial|degraded|complete

--addtag Tag

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

--autoactivation String

-A|--autobackup y|n

--commandprofile String

--config String

-d|--debug

--deltag Tag

--detachprofile

--devices PV
--devicesfile String
--driverloaded y|n
-f|--force
-h|--help
-K|--ignoreactivationskip
--ignorelockingfailure
--ignoremonitoring
--journal String
--lockopt String
--lockstart
--lockstop
--locktype sanlock|dlm|none
-l|--logicalvolume Number
--longhelp
-p|--maxphysicalvolumes Number
--metadataprofile String
--monitor y|n
--nohints
--nolocking
--noudevsync
-P|--partial
-s|--physicalextentsize Size[m|UNIT]
--poll y|n
--profile String
--pvmetadaticopies 0|1|2
-q|--quiet
--readonly
--refresh
--reportformat basic|json|json_std
-x|--resizeable y|n
-S|--select String
--setautoactivation y|n

--sysinit
--systemid String
-t|--test
-u|--uuid
-v|--verbose
--version
--[vg]metadacopies all|unmanaged|Number
-y|--yes

DESCRIPTION

vgchange changes VG attributes, changes LV activation in the kernel, and includes other utilities for VG maintenance.

USAGE

Change a general VG attribute.

For options listed in parentheses, any one is required, after which the others are optional.

vgchange

(-l|--logicalvolume Number
-p|--maxphysicalvolumes Number
-u|--uuid
-s|--physicalextentsize Size[m|UNIT]
-x|--resizeable y|n
--addtag Tag
--deltag Tag
--alloc contiguous|cling|cling_by_tags|normal|anywhere|inherit
--pvmetadatacopies 0|1|2
--[vg]metadacopies all|unmanaged|Number
--profile String
--detachprofile
--metadataprofile String
--setautoactivation y|n)
[-A|--autobackup y|n]
[-S|--select String]
[-f|--force]

[--poll y|n]
[--ignoremonitoring]
[--noudevsync]
[--reportformat basic|json|json_std]
[COMMON_OPTIONS]
[VG|Tag|Select ...]

?

Start or stop monitoring LVs from dmeventd.

vgchange --monitor y|n

[-A|--autobackup y|n]
[-S|--select String]
[-f|--force]
[--sysinit]
[--ignorelockingfailure]
[--poll y|n]
[--ignoremonitoring]
[--noudevsync]
[--reportformat basic|json|json_std]
[COMMON_OPTIONS]
[VG|Tag|Select ...]

?

Start or stop processing LV conversions.

vgchange --poll y|n

[-A|--autobackup y|n]
[-S|--select String]
[-f|--force]
[--ignorelockingfailure]
[--ignoremonitoring]
[--noudevsync]
[--reportformat basic|json|json_std]
[COMMON_OPTIONS]
[VG|Tag|Select ...]

?

Activate or deactivate LVs.

`vgchange -a|--activate y|n|ay`

[`-K|--ignoreactivationskip`]

[`-P|--partial`]

[`-A|--autobackup y|n`]

[`-S|--select String`]

[`-f|--force`]

[`--activationmode partial|degraded|complete`]

[`--sysinit`]

[`--readonly`]

[`--ignorelockingfailure`]

[`--monitor y|n`]

[`--poll y|n`]

[`--autoactivation String`]

[`--ignoremonitoring`]

[`--noudevsync`]

[`--reportformat basic|json|json_std`]

[`COMMON_OPTIONS`]

[`VG|Tag|Select ...`]

?

Reactivate LVs using the latest metadata.

`vgchange --refresh`

[`-A|--autobackup y|n`]

[`-S|--select String`]

[`-f|--force`]

[`--sysinit`]

[`--ignorelockingfailure`]

[`--poll y|n`]

[`--ignoremonitoring`]

[`--noudevsync`]

[`--reportformat basic|json|json_std`]

[`COMMON_OPTIONS`]

[`VG|Tag|Select ...`]

?

Change the system ID of a VG.

`vgchange --systemid String VG|Tag|Select`

[`-S|--select String`]

[`COMMON_OPTIONS`]

?

Start the lockspace of a shared VG in `lvmlckd`.

`vgchange --lockstart`

[`-S|--select String`]

[`COMMON_OPTIONS`]

[`VG|Tag|Select ...`]

?

Stop the lockspace of a shared VG in `lvmlckd`.

`vgchange --lockstop`

[`-S|--select String`]

[`COMMON_OPTIONS`]

[`VG|Tag|Select ...`]

?

Change the lock type for a shared VG.

`vgchange --locktype sanlock|dlm|none VG`

[`COMMON_OPTIONS`]

?

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]

OPTIONS

-a|--activate y|n|ay

Change the active state of LVs. An active LV can be used through a block device, allowing data on the LV to be accessed. y makes LVs active, or available. n makes LVs inactive, or unavailable. The block device for the LV is added or removed from the system using device-mapper in the kernel. A symbolic link /dev/VGName/LVName pointing to the device node is also added/removed. All software and scripts should access the device through the symbolic link and present this as the name of the device. The location and name of the underlying device node may depend on the distribution, configuration (e.g. udev), or release version. ay specifies autoactivation, which is used by system-generated activation commands. By default, LVs are autoactivated. An autoactivation property can be set on a VG or LV to disable autoactivation, see --setautoactivation y|n in vgchange, lvchange, vgcreate, and lvcreate. Display the property with vgs or lvs "-o autoactivation". The lvm.conf(5) auto_activation_volume_list includes names of VGs or LVs that should be autoactivated, and anything not listed is not autoactivated. When auto_activation_volume_list is undefined (the default), it has no effect. If auto_activation_volume_list is defined and empty, no LVs are autoactivated. Items included by auto_activation_volume_list will not be autoactivated if the autoactivation property has been disabled. See lvmlockd(8) for

more information about activation options `ey` and `sy` for shared VGs.

`--activationmode partial|degraded|complete`

Determines if LV activation is allowed when PVs are missing, e.g. because of a device failure. `complete` only allows LVs with no missing PVs to be activated, and is the most restrictive mode. `degraded` allows RAID LVs with missing PVs to be activated. (This does not include the "mirror" type, see "raid1" instead.) `partial` allows any LV with missing PVs to be activated, and should only be used for recovery or repair. For default, see `lvm.conf(5)` `activation_mode`. See `lvraid(7)` for more information.

`--addtag Tag`

Adds a tag to a PV, VG or LV. This option can be repeated to add multiple tags at once. See `lvm(8)` for information about tags.

`--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 overridden 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 existing 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.

`--autoactivation String`

Specify if autoactivation is being used from an event. This allows the command to apply settings that are specific to event

activation, such as device scanning optimizations using `pvs_on?`
line files created by event-based pvscans.

`-A|--autobackup y|n`

Specifies if metadata should be backed up automatically after a change. Enabling 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(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.

`-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).

`--deltag Tag`

Deletes a tag from a PV, VG or LV. This option can be repeated to delete multiple tags at once. See `lvm(8)` for information about tags.

`--detachprofile`

Detaches a metadata profile from a VG or LV. See `lvm.conf(5)` for more information about profiles.

`--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 `devicesfile`.

`--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.

-f|--force ...

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

-h|--help

Display help text.

-K|--ignoreactivationskip

Ignore the "activation skip" LV flag during activation to allow LVs with the flag set to be activated.

--ignorelockingfailure

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

--ignoremonitoring

Do not interact with dmeventd unless --monitor is specified. Do not use this if dmeventd is already monitoring a device.

--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 lvmlockd(8) for more information.

--lockstart

Start the lockspace of a shared VG in lvmlockd. lvmlockd locks becomes available for the VG, allowing LVM to use the VG. See lvmlockd(8) for more information.

--lockstop

Stop the lockspace of a shared VG in lvmlockd. lvmlockd locks

become unavailable for the VG, preventing LVM from using the VG.

See `lvmlockd(8)` for more information.

`--locktype sanlock|dlm|none`

Change the VG lock type to or from a shared lock type used with `lvmlockd`. See `lvmlockd(8)` for more information.

`-l|--logicalvolume Number`

Sets the maximum number of LVs allowed in a VG.

`--longhelp`

Display long help text.

`-p|--maxphysicalvolumes Number`

Sets the maximum number of PVs that can belong to the VG. The value 0 removes any limitation. For large numbers of PVs, also see options `--pvmetadatacopies`, and `--vgmetadatacopies` for improving performance.

`--metadataprofile String`

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

`--monitor y|n`

Start (yes) or stop (no) monitoring an LV with `dmeventd`. `dmeventd` monitors kernel events for an LV, and performs automated maintenance for the LV in response to specific events. See `dmeventd(8)` for more information.

`--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.

`--noudevsync`

Disables udev synchronisation. The process will not wait for notification from udev. It will continue irrespective of any

sible udev processing in the background. Only use this if udev is not running or has rules that ignore the devices LVM creates.

`-P|--partial`

Commands will do their best to activate LVs with missing PV extents. Missing extents may be replaced with error or zero segments according to the `missing_stripe_filler` setting. Metadata may not be changed with this option.

`-s|--physicalextentsize Size[m|UNIT]`

Sets the physical extent size of PVs in the VG. The value must be either a power of 2 of at least 1 sector (where the sector size is the largest sector size of the PVs currently used in the VG), or at least 128 KiB. Once this value has been set, it is difficult to change without recreating the VG, unless no extents need moving. Before increasing the physical extent size, you might need to use `lvresize`, `pvresize` and/or `pvmove` so that everything fits. For example, every contiguous range of extents used in a LV must start and end on an extent boundary.

`--poll y|n`

When `y`, start the background transformation of an LV. An incomplete transformation, e.g. `pvmove` or `lvconvert` interrupted by reboot or crash, can be restarted from the last checkpoint with `--poll y`. When `n`, background transformation of an LV will not occur, and the transformation will not complete. It may not be appropriate to immediately poll an LV after activation, in which case `--poll n` can be used to defer polling until a later `--poll y` command.

`--profile String`

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

`--pvmetadatacopies 0|1|2`

The number of metadata areas to set aside on a PV for storing VG metadata. When 2, one copy of the VG metadata is stored at the front of the PV and a second copy is stored at the end. When 1,

one copy of the VG metadata is stored at the front of the PV.

When 0, no copies of the VG metadata are stored on the given PV.

This may be useful in VGs containing many PVs (this places limitations on the ability to use vgsplit later.)

`-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.

`--refresh`

If the LV is active, reload its metadata. This is not necessary in normal operation, but may be useful if something has gone wrong, or if some form of manual LV sharing is being used.

`--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.

`-x|--resizeable y|n`

Enables or disables the addition or removal of PVs to/from a VG (by `vgextend/vgreduce`).

`-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.

`--setautoactivation y|n`

Set the autoactivation property on a VG or LV. Display the property with `vgs` or `lvs -o autoactivation`. When the autoactivation property is disabled, the VG or LV will not be activated by a command doing autoactivation (`vgchange`, `lvchange`, or `pvscan` using `-aay`.) If autoactivation is disabled on a VG, no LVs will be autoactivated in that VG, and the LV autoactivation property has no effect. If autoactivation is enabled on a VG, autoactivation can be disabled for individual LVs.

`--sysinit`

Indicates that `vgchange/lvchange` is being invoked from early system initialisation scripts (e.g. `rc.sysinit` or `an initrd`), before writable filesystems are available. As such, some functionality needs to be disabled and this option acts as a shortcut which selects an appropriate set of options. Currently, this is equivalent to using `--ignorelockingfailure`, `--ignoremonitoring`, `--poll n`, and setting `env var LVM_SUPPRESS_LOCKING_FAILURE_MESSAGES`. `vgchange/lvchange skip autoactivation`, and `defer to pvscan autoactivation`.

`--systemid String`

Changes the system ID of the VG. Using this option requires caution because the VG may become foreign to the host running the command, leaving the host unable to access it. See `lvmsystemid(7)` for more information.

`-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.

`-u|--uuid`

Generate new random UUID for specified VGs.

`-v|--verbose ...`

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

`--version`

Display version information.

`--[vg]metadatascopies all|unmanaged|Number`

Number of copies of the VG metadata that are kept. VG metadata is kept in VG metadata areas on PVs in the VG, i.e. reserved space at the start and/or end of the PVs. Keeping a copy of the VG metadata on every PV can reduce performance in VGs containing a large number of PVs. When this number is set to a non-zero value, LVM will automatically choose PVs on which to store metadata, using the `metadataignore` flags on PVs to achieve the specified number. The number can also be replaced with special string values: `unmanaged` causes LVM to not automatically manage the PV `metadataignore` flags. `all` causes LVM to first clear the `metadataignore` flags on all PVs, and then to become unmanaged.

`-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.

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

Select Select indicates that a required positional parameter can be

omitted if the --select option is used. No arg appears in this position.

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

If `vgchange` recognizes COW snapshot LVs that were dropped because they ran out of space, it displays a message informing the administrator that the snapshots should be removed.

EXAMPLES

Activate all LVs in all VGs on all existing devices.

```
vgchange -a y
```

Change the maximum number of LVs for an inactive VG.

```
vgchange -l 128 vg00
```

SEE ALSO

[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), 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), cmirror(8),
lvmdbusd(8), fsadm(8),
lvmsystemid(7), lvmreport(7), lvmraid(7), lvmthin(7), lvmcache(7)

Red Hat, Inc. LVM TOOLS 2.03.17(2) (2022-11-10) VGCHANGE(8)