Red Hat Enterprise Linux Release 9.2 Manual Pages on 'vgcreate.8' command

$ man vgcreate.8

```
VGCREATE(8)              System Manager's Manual              VGCREATE(8)

NAME

       vgcreate ? Create a volume group

SYNOPSIS

       vgcreate position_args

           [ option_args ]

DESCRIPTION

       vgcreate  creates  a  new  VG on block devices. If the devices were not

       previously initialized as PVs with pvcreate(8),  vgcreate  will  initi?

       tialize  them,  making  them PVs. The pvcreate options for initializing

       devices are also available with vgcreate.

       When vgcreate uses an existing PV, that PV's existing values for  meta?

       data size, PE start, etc, are used, even if different values are speci?

       fied in the vgcreate command.  To change these values, first use  pvre?

       move on the device.

USAGE

       vgcreate VG_new PV ...

           [ -A|--autobackup y|n ]

           [ -c|--clustered y|n ]

           [ -l|--maxlogicalvolumes Number ]

           [ -p|--maxphysicalvolumes Number ]

           [ -M|--metadatatype lvm2 ]

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

```
    [ -f|--force ]
    [ -Z|--zero y|n ]
    [    --addtag Tag ]
    [    --alloc contiguous|cling|cling_by_tags|normal|anywhere|inherit
    ]
    [    --metadataprofile String ]
    [    --labelsector Number ]
    [    --metadatasize Size[m|UNIT] ]
    [    --pvmetadatacopies 0|1|2 ]
    [    --[vg]metadatacopies all|unmanaged|Number ]
    [    --reportformat basic|json|json_std ]
    [    --dataalignment Size[k|UNIT] ]
    [    --dataalignmentoffset Size[k|UNIT] ]
    [    --shared ]
    [    --systemid String ]
    [    --locktype sanlock|dlm|none ]
    [    --setautoactivation y|n ]
    [ 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

--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 allo?cate 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. in?herit 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 infor?mation about allocation.

-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.

-c|--clustered y|n

This option was specific to clvm and is now replaced by the --shared option with lvmlockd(8).

--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) set?
tings.   The String arg uses the same format as lvm.conf(5), or
may use section/field syntax. See lvm.conf(5) for more informa?
tion about config.

--dataalignment Size[k|UNIT]

Align the start of a PV data area with a multiple of this num?
ber. To see the location of the first Physical Extent (PE) of
an existing PV, use pvs -o +pe_start. In addition, it may be
shifted by an alignment offset, see --dataalignmentoffset. Also
specify an appropriate PE size when creating a VG.

--dataalignmentoffset Size[k|UNIT]

Shift the start of the PV data area by this additional offset.

-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 op?
tion can be repeated, or accepts a comma separated list of de?
vices. 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) com?
mand.   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.

--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. output: record the default command output. debug: record full command debugging.

--labelsector Number

By default the PV is labelled with an LVM2 identifier in its second sector (sector 1). This lets you use a different sector near the start of the disk (between 0 and 3 inclusive - see LABEL_SCAN_SECTORS in the source). Use with care.

--lockopt String

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

--locktype sanlock|dlm|none

Specify the VG lock type directly in place of using --shared. See lvmlockd(8) for more information.

--longhelp

Display long help text.

-l|--maxlogicalvolumes Number

Sets the maximum number of LVs allowed in a VG.

-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.

--metadatasize Size[m|UNIT]

The approximate amount of space used for each VG metadata area. The size may be rounded.

-M|--metadatatype lvm2

Specifies the type of on-disk metadata to use. lvm2 (or just 2) is the current, standard format. lvm1 (or just 1) is no longer used.

--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 pro? duce incorrect results.

-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.

--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 limi? tations on the ability to use vgsplit later.)

-q|--quiet ...

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

--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.

--setautoactivation y|n

Set the autoactivation property on a VG or LV. Display the property with vgs or lvs "-o autoactivation". When the autoac? tivation property is disabled, the VG or LV will not be activat? ed 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.

--shared

Create a shared VG using lvmlockd if LVM is compiled with lockd support. lvmlockd will select lock type sanlock or dlm depend? ing on which lock manager is running. This allows multiple hosts to share a VG on shared devices. lvmlockd and a lock manager must be configured and running. See lvmlockd(8) for more infor? mation about shared VGs.

--systemid String

Specifies the system ID that will be given to the new VG, over? riding the system ID of the host running the command. A VG is normally created without this option, in which case the new VG is given the system ID of the host creating it. Using this op? tion requires caution because the system ID of the new VG may not match the system ID of the host running the command, leaving the VG inaccessible to the host. 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 un? usual error messages in multi-stage operations if a tool relies on reading back metadata it believes has changed but hasn't.

-v|--verbose ...

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

--version

Display version information.

--[vg]metadatacopies 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 meta? data, using the metadataignore flags on PVs to achieve the spec? ified 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.)

-Z|--zero y|n

Controls if the first 4 sectors (2048 bytes) of the device are wiped. The default is to wipe these sectors unless either or both of --restorefile or --uuid are specified.

VARIABLES

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

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 ex? tents (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 con? tent.

Size[UNIT]

Size is an input number that accepts an optional unit. Input units are always treated as base two values, regardless of capi? talization, e.g. 'k' and 'K' both refer to 1024. The default input unit is specified by letter, followed by |UNIT. UNIT rep? resents 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.

EXAMPLES

Create a VG with two PVs, using the default physical extent size.

```
vgcreate myvg /dev/sdk1 /dev/sdl1
```

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), 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)