

LVM Commands

1. `lvcreate`:

```
``bash
lvcreate -n my_lv -L 1G my_vg
``
```

This creates a logical volume named `my_lv` with a size of 1GB in the volume group `my_vg`.

2. `lvremove`:

```
``bash
lvremove /dev/my_vg/my_lv
``
```

Removes the logical volume `my_lv` from the volume group `my_vg`.

3. `lvextend`:

```
``bash
lvextend -L +500M /dev/my_vg/my_lv
``
```

Extends the size of `my_lv` by 500MB.

4. `lvreduce`:

```
``bash
lvreduce -L 800M /dev/my_vg/my_lv
``
```

Reduces the size of `my_lv` to 800MB.

5. `lvdisplay`:

```
```bash
lvdisplay /dev/my_vg/my_lv
```
```

Displays detailed information about the logical volume `my_lv`.

6. `vgcreate`:

```
```bash
vgcreate my_vg /dev/sdb1 /dev/sdc1
```
```

Creates a new volume group named `my_vg` using physical volumes `/dev/sdb1` and `/dev/sdc1`.

7. `vgextend`:

```
```bash
vgextend my_vg /dev/sdd1
```
```

Adds the physical volume `/dev/sdd1` to the existing volume group `my_vg`.

8. `vgreduce`:

```
```bash
vgreduce my_vg /dev/sdc1
```
```

Removes the physical volume `/dev/sdc1` from the volume group `my_vg`.

9. `pvcreate`:

```
```bash
pvcreate /dev/sde1
```
```

'''

Initializes the partition `/dev/sde1` for use as a physical volume.

10. `pvdisplay`:

```
```bash
pvdisplay /dev/sde1
'''
```

Displays information about the physical volume `/dev/sde1`.

#### 11. lvrename:

```
lvrename my_vg/old_lv my_vg/new_lv
```

Renames a logical volume from old\_lv to new\_lv within the volume group my\_vg.

#### 12. lvresize:

```
lvresize -L +200M /dev/my_vg/my_lv
```

Resizes the logical volume my\_lv by adding 200MB to its size.

#### 13. lvconvert:

```
lvconvert --type mirror my_vg/my_lv /dev/sdf1
```

Converts a linear logical volume into a mirrored one.

#### 14. vgchange:

```
vgchange -a n my_vg
```

Deactivates (set to “n”) all logical volumes in the volume group my\_vg.

#### 15. lvscan:

```
lvscan
```

Scans all disks for existing logical volumes.

#### 16. vgscan:

```
vgscan
```

Scans for all existing volume groups and updates the cache.

#### 17. pvscan:

```
pvscan
```

Scans all disks for physical volumes.

#### 18. lvcreate (thin pool):

```
lvcreate --type thin-pool -n thin_pool_name my_vg -L 1G
```

Creates a thin pool logical volume named `thin_pool_name` with a size of 1GB.

#### 19. `lvcreate` (thin volume):

```
lvcreate --type thin -n thin_volume_name --size 500M --
thinpool thin_pool_name my_vg
```

Creates a thin logical volume named `thin_volume_name` with a size of 500MB in the thin pool `thin_pool_name`.

#### 20. `lvconvert` (thin to thick):

```
lvconvert --type thin-pool --poolmetadata
my_vg/thin_pool_metadata my_vg/thin_pool_name
```

#### 21. `lvchange`:

```
lvchange -ay /dev/my_vg/my_lv
```

Activates (set to “ay”) a logical volume, making it accessible.

#### 22. `lvscan` (displaying details):

```
lvscan --verbose
```

Scans and displays detailed information about logical volumes.

### 23. vgextend (multiple physical volumes):

```
vgextend my_vg /dev/sdf1 /dev/sdg1
```

Adds multiple physical volumes to the existing volume group my\_vg.

### 24. vgdisplay:

```
vgdisplay my_vg
```

Displays detailed information about the volume group my\_vg.

### 25. lvresize (exact size):

```
lvresize -L 2G /dev/my_vg/my_lv
```

Resizes the logical volume my\_lv to exactly 2GB.

### 26. lvcreate (striped):

```
lvcreate --type striped -n striped_lv -L 1G my_vg
/dev/sdh1 /dev/sdi1
```

Creates a striped logical volume named striped\_lv using two physical volumes.

### 27. lvcreate (snapshot):

```
lvcreate --size 500M --snapshot --name snap_lv
/dev/my_vg/my_lv
```

Creates a snapshot logical volume named snap\_lv for the existing logical volume my\_lv.

28. lvs (list logical volumes):

```
lvs
```

Lists information about all logical volumes.

29. pvmove (move data between physical volumes):

```
pvmove /dev/sdh1 /dev/sdi1
```

Moves data from one physical volume to another within the same volume group.

30. lvchange (read-only):

```
lvchange -pr /dev/my_vg/my_lv
```

31. lvconvert (merge snapshot into original LV):

```
lvconvert --merge /dev/my_vg/snap_lv
```

31. Merges the snapshot logical volume snap\_lv into its original logical volume.

32. `lvremove` (remove snapshot):

```
lvremove /dev/my_vg/snap_lv
```

32. Removes the snapshot logical volume `snap_lv` from the volume group `my_vg`.

33. `vgexport`:

```
vgexport my_vg
```

33. Unmounts and exports the volume group `my_vg`.

34. `vgimport`:

```
vgimport my_vg /dev/sdh1 /dev/sdi1
```

34. Imports the previously exported volume group `my_vg` using the specified physical volumes.

35. `pvmove` (move extents between PVs):

```
pvmove /dev/sdh1:0-255 /dev/sdi1
```

35. Moves specific extents (logical extents 0 to 255) from one physical volume to another.

36. `pvresize`:

```
pvresize /dev/sdh1
```



36. Resizes the physical volume /dev/sdh1 to fill the available space on the disk.

37. lvchange (rename LV):

```
lvchange -L new_name /dev/my_vg/old_name
```

37. Renames a logical volume from old\_name to new\_name.

38. vgchange (change volume group attributes):

```
vgchange --addtag "backup" my_vg
```

38. Adds a tag “backup” to the volume group my\_vg.

39. lvcreate (cache):

```
lvcreate --type writecache -n cache_lv -L 500M my_vg
/dev/sdh1
```

39. Creates a write cache logical volume named cache\_lv using the physical volume /dev/sdh1.

40. lvcreate (thin pool with metadata):

```
lvcreate --type thin-pool --size 2G -n tp_lv my_vg
/dev/sdh1
```

41. lvchange (activate/deactivate snapshot):

`lvchange -an /dev/my_vg/snap_lv`

41. Deactivates the snapshot logical volume `snap_lv`.

42. `lvextend` (with specific size):

`lvextend -L 3G /dev/my_vg/my_lv`

42. Extends the logical volume `my_lv` to a specific size of 3GB.

43. `vgreduce` (remove unused PVs):

`vgreduce my_vg /dev/sdh1 /dev/sdi1`

43. Removes physical volumes `sdh1` and `sdi1` from the volume group `my_vg`.

44. `lvchange` (change read-ahead sector count):

`lvchange --setreadahead 2048 /dev/my_vg/my_lv`

44. Sets the read-ahead sector count to 2048 for the logical volume `my_lv`.

45. `pvremove`:

`pvremove /dev/sdh1`

45. Removes LVM metadata from the physical volume /dev/sdh1.

46. lvcreate (thin volume with specific metadata size):

```
lvcreate --type thin -L 1G --thinpool tp_lv --
poolmetadatasize 100M -n thin_vol my_vg
```

46. Creates a thin logical volume named thin\_vol with a size of 1GB and specified metadata size in the thin pool tp\_lv.

47. vgcreate (with physical extent size):

```
vgcreate -s 16M new_vg /dev/sdh1 /dev/sdi1
```

47. Creates a volume group named new\_vg with a physical extent size of 16MB using the specified physical volumes.

48. lvcreate (raid1):

```
lvcreate --type raid1 -m1 -L 2G -n mirrored_lv my_vg
/dev/sdh1 /dev/sdi1
```

48. Creates a mirrored logical volume named mirrored\_lv with a size of 2GB using two physical volumes.

49. lvconvert (from linear to raid1):

```
lvconvert --type raid1 -m1 my_vg/my_lv /dev/sdh1
/dev/sdi1
```

49. Converts a linear logical volume to a mirrored one.

50. vgmerge:

```
vgmerge new_vg my_vg
```

50. Merges the volume group my\_vg into new\_vg

51. lvm (config display):

```
lvm config
```

51. Displays the LVM configuration information.

52. lvcreate (thin volume with specific metadata redundancy):

```
lvcreate --type thin -L 1G --thinpool tp_lv --metadatasize
100M --metadatacopies 2 -n thin_vol my_vg
```

52. Creates a thin logical volume named thin\_vol with a size of 1GB, specific metadata size, and redundancy in the thin pool tp\_lv.

53. lvchange (change chunk size for striped LV):

```
lvchange --stripesize 64K /dev/my_vg/striped_lv
```

53. Sets the chunk size to 64KB for the striped logical volume striped\_lv.

54. vgchange (activate all LVs in a VG):

```
vgchange -ay my_vg
```

54. Activates all logical volumes in the volume group my\_vg.

55. pvmove (move all extents from one PV to another):

```
pvmove /dev/sdh1 /dev/sdi1
```

55. Moves all extents from /dev/sdh1 to /dev/sdi1.

56. lvconvert (to mirror with specific devices):

```
lvconvert --type mirror -m1 my_vg/my_lv /dev/sdh1 /dev/sdi1
```

56. Converts the logical volume my\_lv to a mirrored one with specific devices.

57. lvs (display LV attributes):

```
lvs -o+devices,segtype /dev/my_vg/my_lv
```

57. Displays detailed attributes of the logical volume my\_lv including devices and segment type.

58. lvcreate (thin pool with specific metadata chunk size):

```
lvcreate --type thin-pool -L 2G --metadatasize 100M --
metadatachunksize 32K -n tp_lv my_vg /dev/sdh1
```

58. Creates a thin pool logical volume named tp\_lv with specific metadata chunk size.

59. vgchange (change VG attributes):

```
vgchange --addtag "production" my_vg
```

59. Adds a tag “production” to the volume group my\_vg.

60. lvcreate (mirrored stripe):

```
lvcreate --type mirror-stripe -m1 -L 4G -n mirror_stripe_lv
my_vg /dev/sdh1 /dev/sdi1 /dev/sdj1
```

60. Creates a mirrored stripe logical volume named mirror\_stripe\_lv with a size of 4GB using three physical volumes.

61. lvcreate (thin pool with specific chunk size and data percentage):

```
lvcreate --type thin-pool -L 5G --poolmetadatasize 500M --
chunksize 64K --thinpool tp_lv --percent 70% -n thin_vol
my_vg
```

61. Creates a thin pool logical volume named tp\_lv with a size of 5GB, specific metadata size, chunk size, and allocates 70% for thin volumes.

62. `lvresize` (reduce size to a specific value):

```
lvresize -L 3G /dev/my_vg/my_lv
```

62. Reduces the size of the logical volume `my_lv` to 3GB.

63. `lvconvert` (merge snapshot into original LV with specific percentage):

```
lvconvert --merge --percent 80 /dev/my_vg/snap_lv
```

63. Merges 80% of the snapshot logical volume `snap_lv` into its original logical volume.

64. `lvcreate` (thin pool with specific profile):

```
lvcreate --type thin-pool -L 5G --poolmetadatasize 500M --
profile thin_pool_profile -n thin_vol my_vg
```

64. Creates a thin pool logical volume named `thin_vol` with specific size, metadata size, and a predefined thin pool profile.

65. `vgcfgrestore` (restore VG configuration from backup):

```
vgcfgrestore my_vg
```

65. Restores the volume group `my_vg` configuration from a backup.

66. `lvcreate` (thin volume with specific chunk size and data percentage):

```
lvcreate --type thin -L 1G --thinpool tp_lv --chunksize 32K -
-percent 50% -n thin_vol my_vg
```

66. Creates a thin logical volume named thin\_vol with a size of 1GB, specific chunk size, and allocates 50% for thin data.

67. vgextend (extend VG with specific metadata size):

```
vgextend my_vg /dev/sdf1 --metadatasize 200M
```

67. Extends the volume group my\_vg with a new physical volume /dev/sdf1 and specific metadata size.

68. lvcreate (thin pool with specific region size):

```
lvcreate --type thin-pool -L 10G --poolmetadatasize 1G --
region_size 1M -n thin_vol my_vg
```

68. Creates a thin pool logical volume named thin\_vol with a specific size, metadata size, and region size.

69. lvconvert (from mirror to raid1):

```
lvconvert --type raid1 my_vg/mirror_lv
```

69. Converts the mirrored logical volume mirror\_lv to a raid1 configuration.

70. lvcreate (raid10):



```
lvcreate --type raid10 -m1 -L 6G -n raid10_lv my_vg
/dev/sdf1 /dev/sdg1 /dev/sdh1 /dev/sdi1
```

70. Creates a raid10 logical volume named `raid10_lv` with a size of 6GB using four physical volumes.

71. `lvconvert` (convert thin volume to thick):

```
lvconvert --type thick-pool my_vg/thin_vol
```

71. Converts the thin logical volume `thin_vol` to a thick-pool configuration.

72. `vgcfgbackup` (backup VG configuration):

```
vgcfgbackup my_vg
```

72. Creates a backup of the volume group `my_vg` configuration.

73. `vgchange` (deactivate specific LV):

```
vgchange -an /dev/my_vg/other_lv
```

73. Deactivates the logical volume `other_lv` in the volume group `my_vg`.

74. `lvchange` (suspend/resume LV):

```
lvchange -ps /dev/my_vg/my_lv
```

74. Suspends (pauses) and resumes the logical volume `my_lv`.

75. lvcreate (raid4):

```
lvcreate --type raid4 -m1 -L 8G -n raid4_lv my_vg
/dev/sdf1 /dev/sdg1 /dev/sdh1 /dev/sdi1
```

75. Creates a raid4 logical volume named raid4\_lv with a size of 8GB using four physical volumes.

76. lvresize (resize with specific extents):

```
lvresize --extents +100%FREE /dev/my_vg/my_lv
```

76. Resizes the logical volume my\_lv using 100% of the free space.

77. lvcreate (thin snapshot):

```
lvcreate --type thin -s -n thin_snap my_vg/thin_vol
```

77. Creates a thin snapshot logical volume named thin\_snap for the thin logical volume thin\_vol.

78. lvchange (change LV allocation policy):

```
lvchange --policy alloc_any /dev/my_vg/my_lv
```

78. Changes the allocation policy to alloc\_any for the logical volume my\_lv.

79. vgchange (disable VG):

```
vgchange -an my_vg
```

79. Disables (deactivates) the entire volume group my\_vg.

80. lvcreate (thin pool with specific zero new blocks setting):

```
lvcreate --type thin-pool -L 3G --zero new_blocks --name thin_pool my_vg
```

80. Creates a thin pool logical volume named thin\_pool with specific size and zeroing of new blocks.

81. lvcreate (thin volume with specific data and metadata pool):

```
lvcreate --type thin -L 2G --poolmetadatasize 200M --pooldata thin_data_pool --poolmetadatapool thin_meta_pool -n thin_vol my_vg
```

81. Creates a thin logical volume named thin\_vol with specified size, metadata size, and separate data and metadata pools.

82. lvchange (change LV read-ahead policy):

```
lvchange --setreadahead 4096 /dev/my_vg/my_lv
```

82. Sets the read-ahead policy to 4096 for the logical volume my\_lv.

83. lvcreate (thin pool with specific min and max size):

```
lvcreate --type thin-pool -L 5G --poolmetadatasize 500M --
poolmin 2G --poolmax 10G --name thin_pool my_vg
```

83. Creates a thin pool logical volume named thin\_pool with specific size, metadata size, and minimum/maximum sizes for thin volumes.

84. lvchange (change LV permission):

```
lvchange --permission r /dev/my_vg/my_lv
```

84. Sets the permission to read-only for the logical volume my\_lv.

85. lvcreate (thin pool with specific zero pool metadata setting):

```
lvcreate --type thin-pool -L 4G --poolmetadatasize 500M --
zerometadata --name thin_pool my_vg
```

85. Creates a thin pool logical volume named thin\_pool with specific size, metadata size, and zeroing metadata.

86. lvconvert (convert RAID1 to RAID0):

```
lvconvert --type raid0 my_vg/raid1_lv
```

86. Converts the RAID1 logical volume raid1\_lv to a RAID0 configuration.

87. vgchange (enable VG):

```
vgchange -ay my_vg
```

87. Enables (activates) the entire volume group my\_vg.

88. lvchange (change LV write-behind policy):

```
lvchange --setwritebehind 2048 /dev/my_vg/my_lv
```

88. Sets the write-behind policy to 2048 for the logical volume my\_lv.

89. lvcreate (thin volume with specific zero pool data setting):

```
lvcreate --type thin -L 1G --poolmetadatasize 100M --
zerodata --name thin_vol my_vg
```

89. Creates a thin logical volume named thin\_vol with specific size, metadata size, and zeroing data.

90. lvchange (change LV priority):

```
lvchange --priority 100 /dev/my_vg/my_lv
```

90. Sets the priority to 100 for the logical volume my\_lv.

91. lvs (display LVs in specific VG):

```
lvs my_vg
```

91. Displays information about all logical volumes in the volume group my\_vg.

92. lvcreate (thin volume with specific readahead setting):

```
lvcreate --type thin -L 3G --poolmetadatasize 300M --
readahead 2048 -n thin_vol my_vg
```

92. Creates a thin logical volume named thin\_vol with specific size, metadata size, and read-ahead setting.

93. vgmerge (merge two VGs into a new VG):

```
vgmerge new_vg my_vg1 my_vg2
```

93. Merges two volume groups my\_vg1 and my\_vg2 into a new volume group new\_vg.

94. lvchange (change LV region size):

```
lvchange --setregionsize 2M /dev/my_vg/my_lv
```

94. Sets the region size to 2MB for the logical volume my\_lv.

95. lvcreate (snapshot with specific size and permission):

```
lvcreate --snapshot -L 500M --permission r --name snap_lv
my_vg/my_lv
```

95. Creates a read-only snapshot logical volume named `snap_lv` with a size of 500MB for the logical volume `my_lv`.

96. `lvconvert` (convert striped to mirrored):

```
lvconvert --type mirror my_vg/striped_lv
```

96. Converts the striped logical volume `striped_lv` to a mirrored configuration.

97. `vgmerge` (merge VGs, combining physical extents):

```
vgmerge my_vg1 /dev/sdX /dev/sdY
```

97. Merges the physical volumes `/dev/sdX` and `/dev/sdY` into the volume group `my_vg1`.

98. `lvchange` (change LV cache mode):

```
lvchange --cachevol cache_lv --cachemode writethrough /dev/my_vg/my_lv
```

98. Changes the cache mode to `writethrough` for the logical volume `my_lv` using the cache logical volume `cache_lv`.

99. `lvcreate` (thin pool with specific discard setting):

```
lvcreate --type thin-pool -L 6G --poolmetadatasize 600M --discards passdown --name thin_pool my_vg
```

99. Creates a thin pool logical volume named `thin_pool` with specific size, metadata size, and `passdown discards` setting.

100. `lvchange` (change LV cache read-ahead setting):  
`bash lvchange --cachereadahead 8192 /dev/my_vg/my_lv`  
Sets the cache read-ahead setting to 8192 for the logical volume `my_lv`.