1. Is it possible to increase the logical volume on fly?

Answer: Yes. We can increase the logical volume without umount it.

1. How to reduce the logical volume ? Is it possible to reduce on fly ?

Answer: No. You can’t reduce the logical volume on fly. Here are the steps to reduce the logical volume on redhat Linux.

  Un-mount the filesystem

    Run e2fsck on the volume device

    Reduce the Filesystem.(resize2fs)

    Reduce the logical Volume(lvreduce)

    Mount the filesystem back for production.

1. How to do you scan the new LUN or disk for LVM  physical volume ?

Answer: Use “pvscan” to scan existing physical volume from newly connected SAN or DISKS.

1. How to scan disks for existing volume group ?

Answer: Use “vgscan” to scan existing volume group from newly connected SAN or DISKS. But you should use “pvscan” prior to executing this command.

1. How to scan a logical volume from exising volume group?

Answer: lvscan

6.How to stop the logical volume ? or deactivate the logical volume ?

Answer: “lvchange -an /dev/vg\_name/lv\_name”

7.How to activated the logical volume which in deactivated state ?  
Answer: “lvchange -ay /dev/vg\_name/lv\_name” .

8.How to disable the volume group ? or Deactivate the volume group ?

Answer:”vgchange -an volume\_group\_name” .

9.How to enable the volume group ? or Activate the volume group ?

Answer:”vgchange -ay volume\_group\_name”

10.How do you find that what are the disks are used for  logical volume mirroring ?   
Answer: use “lvs -a -o +devices”

11. What are steps to perform in order to increase the logical volume on fly ?

Answer:

      Extend the logical volume

      Increase the Filesystem size

      Verify the status using df command or lvs command.

12.How to list the imported volume groups ?  
Answer: Use “vgs” command to display the imported volume group.

13.How to list the available logical volumes on the system?  
Answer: Use “lvs” command to list the available logical volumes on the system.

14.How to list the available physical volumes in LVM?  
Answer: Use “pvs” command to list the available physical volumes.  
15.How to see the detailed volume group information ?  
Answer: Use “vgdisplay  vg\_name”

16.How to see the detailed logical volume information ?  
Answer: Use “lvdisplay  /dev/vg\_name/lv\_name”

17.How to see the detailed physical volume information ?  
Answer: Use “pvdisplay /dev/disk\_name”    Ex: pvdisplay /dev/sde

18.How to rename volume Group ? can we rename the VG on fly ?   
Answer:Yes.Its possible to rename the volume group on fly.But the mounted volumes will not reflect the same unless you re-mount the volume with new VG name. Need to update the /etc/fstab with new VG name to mount the volumes across the system reboot.

19.How to take a LVM configuration backup ?  
Answer:Use “vgcfgbackup vg\_name” to take the latest configuration backup of volume group.The default volume group backup location is “/etc/lvm/backup” .

20.How to re-create the device files for LVM volumes ?  
Answer:Run “vgmknodes” to recreate the LVM devices files.  
  
21.What is lvmdump ?   
Answer: “lvmdump” is tool for LVM2 to collect the various information for diagnostic purposes.By default, it creates a tarball suitable for submission along with a problem report

22.How to replace the failed hard disk in LVM ? 

23.How to create a mirrored logical volume ? 

24.How to create a striped Logical volume ? 

25.How to convert the linear volume to mirror volume ?

26.How are snapshots in LVM2 different from LVM1 in Redhat Linux?  
Answer:LVM1 snapshots are  readonly by default where LVM2 snapshots were read/write.

27.What are the steps involved to create the logical volume from scratch ?  
Answer:   
     i.Create a physical volume using pvcreate command.  
       #pvcreate /dev/sdc  
    ii.Create a volume group using “vgcreate” command   
       #vgcreate vg02 /dev/sdc  
   iii.Create a logical volume using “lvcreate” command  
       #lvcreate -L 100M -n vol1 vg02   
    iv.Create a filesystem on logical volume using mkfs command.  
        #mkfs -t ext4 /dev/vg02/vol1  
     v.Mount the filesystem using mount command for use.  
        #mount -t ext4 /dev/vg02/vol1 /vol1

28.How to extent the volume group ?   
Answer:Using “vgextend” we can increase the volume group.

29.Assume Volume group “vg02” is already exists.How do you extend the volume group with 50GB ? Provide all the steps with commands.  
Answer:  
      1.Get the 50GB lun from SAN team.(/dev/sdd)  
      2.Create physcical volume ( # pvcreate /dev/sdd )  
      2.Extend the volume group (# vgextend vg02 /dev/sdd)

30.If the vg02 has two physical volumes called /dev/sdc/ & /dev/sdd. How do you remove /dev/sdd from vg02.   
Answer: “vgreduce vg02 /dev/sdd/”

31.How to decommission/remove  LVM completely from the host ?  
Answer:  
          1.Un-mount all the logical filesystems  
          2.Remove the logical volumes using “lvremove” command.  
          3.Destroy the volume group using “vgremove”  command.  
          4.Use “pvremove” command remove the physical volumes from the system.

32. What Is Lvm?

Answer :

LVM stands for Logical Volume Manager. LVM, is a storage management solution that allows administrators to divide hard drive space into physical volumes (PV), which can then be combined into volume groups (VG), which are then divided into logical volumes (LV) on which the filesystem and mount point are created.

33. What Is The Difference Between Lvm And Raid?

Answer :

A RAID device is a physical grouping of disk devices in order to create a logical presentation of one device whereas LVM is a logical layer that that can be manipulated in order to create and, or expand a logical presentation of a disk device to an OS.

34. Explain Lvm Snapshot?

Answer :

LVM snapshots allow the administrator to create a new block device which presents an exact copy of a logical volume, frozen at some point in time.

35. How You Will Check On Your Server Or System Device-mapper Is Installed Or Not?

Answer :

Check the following file:

#cat /proc/misc

if this file contains “device-mapper” term it means device mapper is installed on your system.

36. How Are Snapshots In Lvm2 Different From Lvm1?

Answer :

In LVM2 snapshots are read/write by default, whereas in LVM1, snapshots were read only.

37. What Is The Maximum Size Of A Single Lv?

Answer :

For 2.4 based kernels, the maximum LV size is 2TB. For 32-bit CPUs on 2.6 kernels, the maximum LV size is 16TB. For 64-bit CPUs on 2.6 kernels, the maximum LV size is 8EB.

38. If A Volume Group Named As Vgname Already Exists But We Need To Extend This Volume Group Up To 4gb. Explain All Steps?

Answer :

Firstly, create Physical volume (/dev/sdaX, where X is the partition number) of size 4GB.  
Now run following command: # vgextend vgname /dev/sdaX

39. If A Volume Group Vgname Have 3 Pv’s (/dev/sda5, /dev/sda6, /dev/sda7) But We Want To Remove /dev/sda7 Pv From This Vgname?

Answer :

# vgreduce vgname /dev/sda7

40. Which Command Is Used To Extend A Logical Volume?

Answer :

# lvextend -size +<addsize> /dev/<vgname>/<lvname>

resize2fs /dev/<vgname>/<lvname>

41. What Is The Partition Type Number For Swap, Raid And Lvm?

Answer :

SWAP (82), RAID (fd) and LVM (8e)

42. How To Add A Disk To A Volume Group?

Answer :

suppose disk is /dev/sdb  
# pvcreate /dev/sdb  
# vgextend <vgname> /dev/sdb

43. How To Remove A Disk From A Volume Group?

Answer :

Syntax:

# vgreduce <vgname> <disk>  
Example:  
# vgreduce vgname /dev/sdb

44. How To Backup New Lvm Data Structures?

Answer :

# vgcfgbackup /dev/vgname

45. Is It Possible To Increase The Logical Volume On Fly?

Answer :

Yes. LVM has the feature to increase the volume without unmount it.

46. How To Reduce The Logical Volume? Is It Possible To Reduce On Fly?

Answer :

No. we can't reduce the logical volume on fly. Here is the steps to reduce the logical volume.

Un-mount the filesystem

Run e2fsck on the volume device

Reduce the Filesystem using resize2fs

Reduce the logical Volume using lvreduce

Mount the filesystem back for production.

47. How Do You Scan The New Lun Or Disk?

Answer :

Use "echo 1 > /sys/class/scsi\_host/hostx/scan" to scan disk from newly connected SAN or DISKS and also replace the "x" with number of host id present under /sys/class/scsi\_host/.

48 How To Scan Disks For Existing Volume Group?

Answer :

Use "vgscan" to scan existing volume group from newly connected SAN or DISKS.  
But we should use "pvscan" prior to executing this command.

Question 18. How To Scan A Logical Volume From Exising Volume Group?

Answer :

lvscan

Question 19. How To Stop The Logical Volume? Or Deactivate The Logical Volume?

Answer :

"lvchange -an /dev/vg\_name/lv\_name"

Question 20. How To Activate The Logical Volume Which Is In Deactivated State?

Answer :

"lvchange -ay /dev/vg\_name/lv\_name".

Question 21. How To Disable The Volume Group? Or Deactivate The Volume Group?

Answer :

"vgchange -an volume\_group\_name".

Question 22. How To Enable The Volume Group? Or Activate The Volume Group?

Answer :

"vgchange -ay volume\_group\_name" .

Question 23. How Do You Find That What Are The Disks Are Used For Logical Volume Mirroring?

Answer :

use "lvs -a -o +devices"

Question 24. What Are Steps To Perform In Order To Increase The Logical Volume On Fly?

Answer :

Extend the logical volume

Increase the Filesystem size

Verify the status using df command or lvs command.

Question 25. How To List The Imported Volume Groups?

Answer :

Use "vgs" command to display the imported volume group.

Question 26. How To Create Partition From The Raw Disk ?

Answer :

Using fdisk utility we can create partitions from the raw disk.Below are the steps to create partition from the raw dsik :

fdisk /dev/hd\* (IDE) or /dev/sd\* (SCSI)

Type n to create a new partition

After creating partition , type w command to write the changes to the partition table.

Question 27. What Does Sar Provides And At Which Location Sar Logs Are Stored ?

Answer :

Sar Collect, report, or save system activity information. The default version of the sar command (CPU utilization report) might be one of the first facilities the user runs to begin system activity investigation, because it monitors major system resources. If CPU utilization is near 100 percent (user + nice + system), the workload sampled is CPU­bound.

By default log files of Sar command is located at /var/log/sa/sadd file, where the dd parameter indicates the current day.

Question 28. How To Reduce Or Shrink The Size Of Lvm Partition ?

Answer :

Below are the logical Steps to reduce size of LVM partition :

­Umount the filesystem using umount command, ­use resize2fs command ,  
e.g resiz2fs /dev/mapper/myvg­mylv 10G ­Now use the lvreduce command ,  
e.g lvreduce ­L 10G /dev/mapper/myvgmylv

Above Command will shrink the size & will make the filesystem size 10GB.

Question 29. How To Increase The Size Of Lvm Partition ?

Answer :

Below are the Logical Steps :

­ Use the lvextend command (lvextend ­L +100M /dev/<Name of the LVM Partition> , in this example we are extending the size by 100MB.   
­ resize2fs /dev/<Name of the LVM Partition>  
­ check the size of partition using ‘df ­h’ command

Question 30. Why Lvm Is Required?

Answer :

LVM stands for Logical Volume Manager , to resize filesystem's size online we required LVM partition in Linux. Size of LVM partition can be extended and reduced using the lvextend & lvreduce commands respectively.

Question 31. How To Create Partition From The Raw Disk?

Answer :

Using fdisk utility we can create partitions from the raw disk.Below are the steps to create partition from the raw disk :

`fdisk /dev/hd\* (IDE) or /dev/sd\* (SCSI)

Type n to create a new partition

After creating partition , type w command to write the changes to the partition table.

Question 32. How To Decommission/remove Lvm Completely From The Host?

Answer :

Un-mount all the logical filesystems

Remove the logical volumes using "lvremove" command.

Destroy the volume group using "vgremove" command.

Use "pvremove" command remove the physical volumes from the system.

Question 33. If The Vg02 Has Two Physical Volumes Called /dev/sdc/ & /dev/sdd. How Do You Remove /dev/sdd From Vg02?

Answer :

"vgreduce vg02 /dev/sdd/"

Question 34. Assume Volume Group "vg02" Is Already Exists. How Do You Extend The Volume Group With 50gb? Provide All The Steps With Commands?

Answer :

Get the 50GB lun from storage team.(/dev/sdd)

Create physcical volume ( # pvcreate /dev/sdd )

Extend the volume group (# vgextend vg02 /dev/sdd)

Question 35. How To Extent The Volume Group?

Answer :

Using "vgextend" we can increase the volume group.

Question 36. What Are The Steps Involved To Create The Logical Volume From Scratch?

Answer :

Create a physical volume using pvcreate command: #pvcreate /dev/sdc

Create a volume group using "vgcreate" command: #vgcreate vg02 /dev/sdc

Create a logical volume using "lvcreate" command: #lvcreate -L 100M -n vol1 vg02

Create a filesystem on logical volume using mkfs command: #mkfs -t ext4 /dev/vg02/vol1

Mount the filesystem using mount command for use: #mount -t ext4 /dev/vg02/vol1 /vol1

Question 37. How Are Snapshots In Lvm2 Different From Lvm1 In Redhat Linux?

Answer :

LVM1 snapshots are readonly by default where LVM2 snapshots were read/write.

Question 38. What Is Lvmdump?

Answer :

"lvmdump" is tool for LVM2 to collect the various information for diagnostic purposes.By default, it creates a tarball suitable for submission along with a problem report

Question 39. How To Re-create The Device Files For Lvm Volumes?

Answer :

Run "vgmknodes" to recreate the LVM devices files.

Question 40. How To Take A Lvm Configuration Backup?

Answer :

Use "vgcfgbackup vg\_name" to take the latest configuration backup of volume group. The default volume group backup location is "/etc/lvm/backup" .

Question 41. How To Rename Volume Group? Can We Rename The Vg On Fly?

Answer :

Yes. Its possible to rename the volume group on fly. But the mounted volumes will not reflect the same unless you re-mount the volume with new VG name. Need to update the /etc/fstab with new VG name to mount the volumes across the system reboot.

Question 42. How To See The Detailed Physical Volume Information?

Answer :

Use "pvdisplay /dev/disk\_name"  Ex: pvdisplay /dev/sde

Question 43. How To See The Detailed Logical Volume Information?

Answer :

Use "lvdisplay /dev/vg\_name/lv\_name"

Question 44. How To See The Detailed Volume Group Information?

Answer :

Use "vgdisplay vg\_name"

Question 45. How To List The Available Physical Volumes In Lvm?

Answer :

Use "pvs" command to list the available physical volumes.

Question 46. How To List The Available Logical Volumes On The System?

Answer :

Use "lvs" command to list the available logical volumes on the system.