**RAID 0**

**Create one virtual machine.**

**Step 1: Set 2 hard-disk of 1 gb.**

Login in putty

**Step 2: lsblk**

**Step 3: yum clean all**

**Step 4: yum update –y**

**Step 5: yum install mdadm –y**

**Step 6: mdadm --create --verbose /dev/md0 --level=0 --raid-devices=2 /dev/sdb /dev/sdc**

**mdadm: chunk size defaults to 512K**

**mdadm: Defaulting to version 1.2 metadata**

**mdadm: array /dev/md0 started.**

**Step 7: cat /proc/mdstat**

**lsblk**

**Step 8: cat /proc/mdstat**

**Personalities : [raid0]**

**md0 : active raid0 sdc[1] sdb[0]**

**2093056 blocks super 1.2 512k chunks**

**Step 9: mdadm --detail /dev/md0**

**fdisk /dev/md0**

**m**

**n**

**p**

**enter**

**enter**

**enter**

**w**

**The partition table has been altered!**

**Calling ioctl() to re-read partition table.**

**Syncing disks.**

**Step 10: fdisk -l**

**Step 11: mdadm --examine /dev/sdb**

**Step 12: mdadm --examine /dev/sdc**

**Step 13: mdadm --detail /dev/md0**

**Step 14: mkfs.ext4 /dev/md0p1**

**Step 15: mkdir /mnt/raid0**

**Step 16: mount /dev/md0p1 /mnt/raid0/**

**Step 17: df -h**

**Step 18: cd /mnt/raid0/**

**touch test**

**ls**

**Step 19: dd if=/dev/zero of=500mb.file bs=1024 count=502400**

**Step 20: df -h**

**RAID 1**

Set 2 hdd of 1 gb

Reboot

lsblk

yum clean all

yum update -y

yum install mdadm -y

mdadm --create --verbose /dev/md1 --level=1 --raid-devices=2 /dev/sdb /dev/sdc

cat /proc/mdstat

mdadm --detail /dev/md1

fdisk /dev/md1

m

n

p

enter

enter

enter

w-detail /dev/md1

fdisk -l

mkfs.ext4 /dev/md0p1

mkdir /mnt/raid1

mount /dev/md1p1 /mnt/raid1/

df -h

blkid (we get uuid that will copied on below file)

vim /etc/fstab

UUID=4e36c3e0-b6bd-4946-83cf-eb2abb10f3ba /mnt/raid1 ext4 defaults 0 0

mount -a

vim test.txt

matter...

Machine halt power off, then remove one hdd from machine

Power on that machine

cd /mnt/raid1

ls

Again power off and add one hdd with 1 GB

see, state = clean, degraded

Power on

lsblk

Check which hdd is blank where sdc or sdb.... in my machine sdb is blank

mdadm --detail /dev/md1

mdadm --add /dev/md1 dev/sdb (here we add raid1)

cat /proc/mdstat

mdadm --detail /dev/md1

**RAID 5**

**Set 4 Hard-disk of 1 GB**

**yum clean all**

**yum update -y**

**yum install mdadm -y**

**[root@localhost ~]# lsblk**

**[root@localhost ~]# mdadm --create --verbose /dev/md0 --level=5 --raid-devices=3 /dev/sdd /dev/sde /dev/sdf --spare-devices=1 /dev/sdg**

**[root@localhost ~]# lsblk**

**[root@localhost ~]# fdisk /dev/md0**

**[root@localhost ~]# fdisk –l**

**[root@localhost ~]# mkdir /mnt/raid5/**

**[root@localhost ~]# mount /dev/md0p1 /mnt/raid5**

**[root@localhost ~]# df –h**

**[root@localhost ~]# blkid**

**[root@localhost ~]# vim /etc/fstab**

**UUID=6977612f-c56c-49b3-bd1f-134f069defec /mnt/raid5 ext4 defaults 0 0**

**[root@localhost ~]# mount -a**

**[root@localhost ~]# cd /mnt/raid5**

**[root@localhost raid5]# touch file.txt**

**[root@localhost raid5]# ls**

**[root@localhost raid5]# dd if=/dev/zero of=1000mb.file bs=1024 count=5002400**

**[root@localhost raid5]# lsblk**

**[root@localhost raid5]# mdadm --fail /dev/md0 /dev/sdg**

**[root@localhost raid5]# mdadm --detail /dev/md0**

**[root@localhost raid5]# mdadm -r /dev/md0 /dev/sdg**

**[root@localhost raid5]# mdadm --detail /dev/md0**

**[root@localhost raid5]# mdadm --add /dev/md0 /dev/sdg**

**[root@localhost raid5]# mdadm --detail /dev/md0**

**RAID 10**

**Set 4 hdd**

**lsblk**

**yum clean all**

**yum update -y**

**yum install mdadm -y**

**mdadm --create --verbose /dev/md1 --level=1 --raid-devices=2 /dev/sdb /dev/sdc**

**mdadm --create --verbose /dev/md2 --level=1 --raid-devices=2 /dev/sdd /dev/sde**

**mdadm --create --verbose /dev/md0 --level=1 --raid-devices=2 /dev/md1 /dev/md2**

**cat /proc/mdstat**

**mdadm --detail /dev/md0**

**fdisk /dev/md0**

**m**

**n**

**p**

**enter**

**enter**

**enter**

**w-detail /dev/md1**

**fdisk -l**

**mkfs.ext4 /dev/md0p1**

**mkdir /mnt/raid10**

**mount /dev/md0p1 /mnt/raid10/**

**df -h**

**blkid (we get uuid that will copied on below file)**

**vim /etc/fstab**

**UUID=4e36c3e0-b6bd-4946-83cf-eb2abb10f3ba /mnt/raid10 ext4 defaults 0 0**

**mount -a**

**cd /mnt/raid10**

**ls**

**mdadm --stop /dev/md0**

**mdadm --remove /dev/md0**

**mdadm --zero-superblock /dev/sd[c-e]**