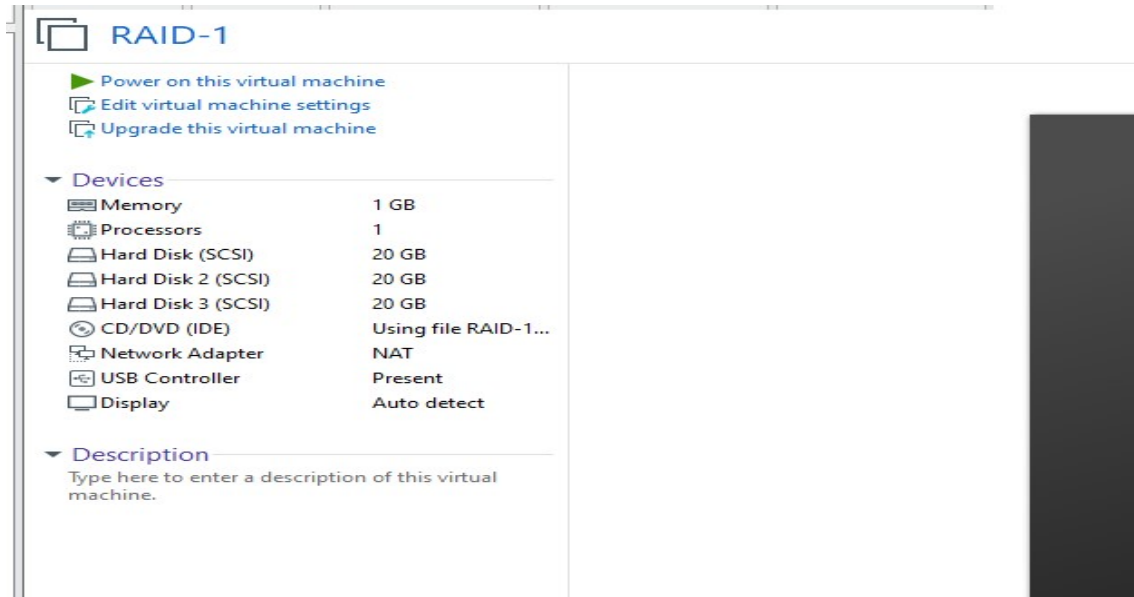


RAID 1 CONFIGURATION COMMAND: Add 2 extra disks of 20 GB other than boot disk



[root@localhost ~]# lsblk

```
[root@localhost ~]# script raid1.txt
Script started, file is raid1.txt
[root@localhost ~]# lsblk
NAME                MAJ:MIN RM   SIZE RO TYPE MOUNTPOINT
sda                   8:0    0   20G  0 disk
├─sda1                 8:1    0    1G  0 part /boot
└─sda2                 8:2    0   19G  0 part
   ├─centos-root       253:0    0   17G  0 lvm  /
   └─centos-swap       253:1    0    2G  0 lvm  [SWAP]
sdb                   8:16    0   20G  0 disk
sdc                   8:32    0   20G  0 disk
sr0                   11:0    1  973M  0 rom
[root@localhost ~]#
```

[root@localhost ~]# yum install mdadm -y

```

Finger print: 6341 ab27 53d7 8a78 a7c2 7bb1 24c0 a0a7 14a0 0eb9
Package      : centos-release-7-9.2009.0.el7.centos.x86_64 (@anaconda)
From         : /etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : libreport-filessystem-2.1.11-53.el7.centos.x86_64
  Installing : mdadm-4.1-9.el7_9.x86_64
  Verifying  : mdadm-4.1-9.el7_9.x86_64
  Verifying  : libreport-filessystem-2.1.11-53.el7.centos.x86_64

Installed:
  mdadm.x86_64 0:4.1-9.el7_9

Dependency Installed:
  libreport-filessystem.x86_64 0:2.1.11-53.el7.centos

Complete!
[root@localhost ~]# █

```

`[root@localhost ~]# mdadm --create --verbose /dev/md1 --level=1 --raid-`
`devices=2 /dev/sdb /dev/sdc`

```

[root@localhost ~]# mdadm --create --verbose /dev/md1 --level=1 --raid-devices=2 /dev/sdb
v/sdc
mdadm: Note: this array has metadata at the start and
may not be suitable as a boot device.  If you plan to
store '/boot' on this device please ensure that
your boot-loader understands md/v1.x metadata, or use
--metadata=0.90
mdadm: size set to 20954112K
Continue creating array? yes
mdadm: Defaulting to version 1.2 metadata
mdadm: array /dev/md1 started.
[root@localhost ~]# █

```

`[root@localhost ~]# mdadm --examine /dev/sdb`

```
[root@localhost ~]# mdadm --examine /dev/sdb
/dev/sdb:
    Magic : a92b4efc
    Version : 1.2
    Feature Map : 0x0
    Array UUID : 7dc1b3fd:6ddc9526:b39ae556:52efe46e
    Name : localhost.localdomain:1 (local to host localhost.localdomain)
    Creation Time : Mon Jul 31 17:40:41 2023
    Raid Level : raid1
    Raid Devices : 2

    Avail Dev Size : 41908224 sectors (19.98 GiB 21.46 GB)
    Array Size : 20954112 KiB (19.98 GiB 21.46 GB)
    Data Offset : 34816 sectors
    Super Offset : 8 sectors
    Unused Space : before=34664 sectors, after=0 sectors
    State : active
    Device UUID : 3fd6aedf:c4b161e5:9eb6819b:04ead062

    Update Time : Mon Jul 31 17:41:26 2023
    Bad Block Log : 512 entries available at offset 136 sectors
    Checksum : 389039ee - correct
    Events : 7

    Device Role : Active device 0
    Array State : AA ('A' = active, '.' = missing, 'R' = replacing)
```

```
[root@localhost ~]# mdadm --examine /dev/sdc
```

```
[root@localhost ~]# mdadm --examine /dev/sdc
/dev/sdc:
    Magic : a92b4efc
    Version : 1.2
    Feature Map : 0x0
    Array UUID : 7dc1b3fd:6ddc9526:b39ae556:52efe46e
    Name : localhost.localdomain:1 (local to host localhost.localdomain)
    Creation Time : Mon Jul 31 17:40:41 2023
    Raid Level : raid1
    Raid Devices : 2

    Avail Dev Size : 41908224 sectors (19.98 GiB 21.46 GB)
    Array Size : 20954112 KiB (19.98 GiB 21.46 GB)
    Data Offset : 34816 sectors
    Super Offset : 8 sectors
    Unused Space : before=34664 sectors, after=0 sectors
    State : active
    Device UUID : a12437e2:c208b3dd:add27359:946f6f1c

    Update Time : Mon Jul 31 17:41:33 2023
    Bad Block Log : 512 entries available at offset 136 sectors
    Checksum : ab2278f5 - correct
    Events : 8

    Device Role : Active device 1
    Array State : AA ('A' = active, '.' = missing, 'R' = replacing)
[root@localhost ~]#
```

```
[root@localhost ~]# mdadm --detail /dev/md1
```



```
[root@localhost ~]# mdadm --detail /dev/md1
/dev/md1:
    Version : 1.2
    Creation Time : Mon Jul 31 17:40:41 2023
    Raid Level : raid1
    Array Size : 20954112 (19.98 GiB 21.46 GB)
    Used Dev Size : 20954112 (19.98 GiB 21.46 GB)
    Raid Devices : 2
    Total Devices : 2
    Persistence : Superblock is persistent

    Update Time : Mon Jul 31 17:42:26 2023
    State : clean
    Active Devices : 2
    Working Devices : 2
    Failed Devices : 0
    Spare Devices : 0

Consistency Policy : resync

    Name : localhost.localdomain:1 (local to host localhost.localdomain)
    UUID : 7dc1b3fd:6ddc9526:b39ae556:52efe46e
    Events : 17

   Number   Major   Minor   RaidDevice State   /dev/sdb
     0         8       16         0   active sync
     1         8       32         1   active sync
/dev/sdc
[root@localhost ~]#
```

`[root@localhost ~]# mkfs.ext4 /dev/md1`

```
[root@localhost ~]# mkfs.ext4 /dev/md1
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
1310720 inodes, 5238528 blocks
261926 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=2153775104
160 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
    4096000

Allocating group tables: done
Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done
```

```
[root@localhost ~]# mkdir /mnt/raid1
[root@localhost ~]# mount /dev/md1 /mnt/raid1/
[root@localhost ~]# df-h
bash: df-h: command not found
[root@localhost ~]# df -h
```

```
[root@localhost ~]# mkdir /mnt/raid1
[root@localhost ~]# mount /dev/md1 /mnt/raid1/
[root@localhost ~]# df-h
bash: df-h: command not found
[root@localhost ~]# df -h
Filesystem                Size      Used Avail Use% Mounted on
devtmpfs                   475M          0   475M   0% /dev
tmpfs                      487M          0   487M   0% /dev/shm
tmpfs                      487M       7.7M   479M   2% /run
tmpfs                      487M          0   487M   0% /sys/fs/cgroup
/dev/mapper/centos-root    17G       1.5G    16G   9% /
/dev/sda1                  1014M      138M    877M  14% /boot
tmpfs                      98M          0    98M   0% /run/user/0
/dev/md1                   20G        45M    19G   1% /mnt/raid1
[root@localhost ~]# █
```

```
[root@localhost ~]# blkid /dev/md1
```

```
[root@localhost ~]# blkid /dev/md1
/dev/md1: UUID="291013ba-220f-4841-9ac0-ef87198316b3" TYPE="ext4"
[root@localhost ~]# █
```

```
[root@localhost ~]# vi /etc/fstab
```

```
[root@localhost ~]# cat /etc/fstab
```

```
[root@localhost ~]# vi /etc/fstab
[root@localhost ~]# cat /etc/fstab
#
# /etc/fstab
# Created by anaconda on Sun Nov 27 00:26:18 2022
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
/dev/mapper/centos-root / xfs defaults 0 0
UUID=fbf76286-7b82-442d-abd8-5369f4f56909 /boot xfs defaults 0 0
/dev/mapper/centos-swap swap swap defaults 0 0
UUID=291013ba-220f-4841-9ac0-ef87198316b3 /mnt/raid1 ext4 defaults 0 0
[root@localhost ~]# █
```

```
[root@localhost ~]# mdadm --detail /dev/md1
```

```

[root@localhost ~]# mdadm --detail /dev/md1
/dev/md1:
    Version : 1.2
    Creation Time : Mon Jul 31 17:40:41 2023
    Raid Level : raid1
    Array Size : 20954112 (19.98 GiB 21.46 GB)
    Used Dev Size : 20954112 (19.98 GiB 21.46 GB)
    Raid Devices : 2
    Total Devices : 2
    Persistence : Superblock is persistent

    Update Time : Mon Jul 31 17:45:38 2023
    State : clean
    Active Devices : 2
    Working Devices : 2
    Failed Devices : 0
    Spare Devices : 0

Consistency Policy : resync

    Name : localhost.localdomain:1 (local to host localhost.localdomain)
    UUID : 7dc1b3fd:6ddc9526:b39ae556:52efe46e
    Events : 17

   Number   Major   Minor   RaidDevice State
     0         8       16         0   active sync   /dev/sdb
     1         8       32         1   active sync   /dev/sdc

```

[root@localhost ~]# cd /mnt/raid1/

[root@localhost raid1]# echo test > raid1.txt

```

1         8       32         1   active sync
[root@localhost ~]# cd /mnt/raid1/
[root@localhost raid1]# echo test > raid1.txt
[root@localhost raid1]# ls
lost+found  raid1.txt

```

[root@localhost raid1]# fdisk -l


```
[root@localhost raid1]# fdisk -l
```

```
Disk /dev/sda: 21.5 GB, 21474836480 bytes, 41943040 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x000cd7d9
```

Device	Boot	Start	End	Blocks	Id	System
/dev/sda1	*	2048	2099199	1048576	83	Linux
/dev/sda2		2099200	41943039	19921920	8e	Linux LVM

```
Disk /dev/sdb: 21.5 GB, 21474836480 bytes, 41943040 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
Disk /dev/sdc: 21.5 GB, 21474836480 bytes, 41943040 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
Disk /dev/mapper/centos-root: 18.2 GB, 18249416704 bytes, 35643392 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
Disk /dev/mapper/centos-swap: 2147 MB, 2147483648 bytes, 4194304 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
Disk /dev/md1: 21.5 GB, 21457010688 bytes, 41908224 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
[root@localhost raid1]# dd if=/dev/zero of=lol.file bs=1024 count=502400
```

```
[root@localhost raid1]# dd if=/dev/zero of=lol.file bs=1024 count=502400
502400+0 records in
502400+0 records out
514457600 bytes (514 MB) copied, 2.62673 s, 196 MB/s
```

```
[root@localhost raid1]# lsblk
```



```
[root@localhost raid1]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE  MOUNTPOINT
sda                                8:0    0   20G  0 disk
├─sda1                            8:1    0    1G  0 part  /boot
└─sda2                            8:2    0   19G  0 part
   ├─centos-root                 253:0    0   17G  0 lvm    /
   └─centos-swap                 253:1    0    2G  0 lvm    [SWAP]
sdb                                8:16    0   20G  0 disk
├─md1                            9:1    0   20G  0 raid1 /mnt/raid1
sdc                                8:32    0   20G  0 disk
├─md1                            9:1    0   20G  0 raid1 /mnt/raid1
sr0                               11:0    1   973M  0 rom
[root@localhost raid1]#
```