

## Part 1

Создал массив RAID 5 из 5 дисков (каждый диск по 10G):

```
/dev/md0:
  Version : 1.2
  Creation Time : Fri May 28 13:05:36 2021
    Raid Level : raid5
    Array Size : 41906176 (39.96 GiB 42.91 GB)
  Used Dev Size : 10476544 (9.99 GiB 10.73 GB)
    Raid Devices : 5
    Total Devices : 5
 Persistence : Superblock is persistent

 Update Time : Sat May 29 01:59:43 2021
   State : clean
 Active Devices : 5
 Working Devices : 5
 Failed Devices : 0
 Spare Devices : 0


 Layout : left-symmetric
 Chunk Size : 512K

Consistency Policy : resync

        Name : localhost.localdomain:0 (local to host localhost.localdomain)
        UUID : 3bd6fddf:ef74956d:a8627590:ccc0b1e4
        Events : 18

   Number   Major   Minor   RaidDevice State
     0         8       16         0     active sync   /dev/sdb
     1         8       32         1     active sync   /dev/sdc
     2         8       48         2     active sync   /dev/sdd
     3         8       64         3     active sync   /dev/sde
     5         8      80         4     active sync   /dev/sdf
```

Создал раздел /data, смонтировал массив /dev/md0. Общий объем такой:

```
[acme@localhost ~]$ df -h
Filesystem                Size      Used Avail Use% Mounted on
/dev/mapper/centos-root    17G       1.2G   16G    7% /
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/sda1                  1014M     133M   882M   14% /boot
/dev/md0                   40G       49M   38G    1% /data
tmpfs                      98M          0   98M    0% /run/user/1000
```

Подключил автомонтирование изменив конфигурационный файл /etc/fstab:

```
/dev/md0 /data ext4 defaults 1 2
```

Наполнил некоторыми данными раздел /data:

```
[acme@localhost ~]$ ls /data/
Important.txt  lost+found  test.txt
[acme@localhost ~]$
```

## Part 2

Пометил диск /sdb как сбойный, после чего отключил от массива:

```
/dev/md0:
  Version : 1.2
  Creation Time : Fri May 28 13:05:36 2021
  Raid Level : raid5
  Array Size : 41906176 (39.96 GiB 42.91 GB)
  Used Dev Size : 10476544 (9.99 GiB 10.73 GB)
  Raid Devices : 5
  Total Devices : 4
  Persistence : Superblock is persistent

  Update Time : Sat May 29 02:28:21 2021
  State : clean, degraded
  Active Devices : 4
  Working Devices : 4
  Failed Devices : 0
  Spare Devices : 0

  Layout : left-symmetric
  Chunk Size : 512K

Consistency Policy : resync

        Name : localhost.localdomain:0 (local to host localhost.localdomain)
        UUID : 3bd6fddf:ef74956d:a8627590:ccc0b1e4
        Events : 21

   Number   Major   Minor   RaidDevice State
    ---
     -         0         0         0    removed
     1         8        32         1    active sync  /dev/sdc
     2         8        48         2    active sync  /dev/sdd
     3         8        64         3    active sync  /dev/sde
     5         8       80         4    active sync  /dev/sdf
```

Добавил новый диск /sdg в массив:

```
/dev/md0:
  Version : 1.2
  Creation Time : Fri May 28 13:05:36 2021
  Raid Level : raid5
  Array Size : 41906176 (39.96 GiB 42.91 GB)
  Used Dev Size : 10476544 (9.99 GiB 10.73 GB)
  Raid Devices : 5
  Total Devices : 5
  Persistence : Superblock is persistent

  Update Time : Sat May 29 02:38:43 2021
  State : clean, degraded, recovering
  Active Devices : 4
  Working Devices : 5
  Failed Devices : 0
  Spare Devices : 1

  Layout : left-symmetric
  Chunk Size : 512K

Consistency Policy : resync

  Rebuild Status : 19% complete

        Name : localhost.localdomain:0 (local to host localhost.localdomain)
        UUID : 3bd6fddf:ef74956d:a8627590:ccc0b1e4
        Events : 36

   Number   Major   Minor   RaidDevice State
    ---
     6         8        96         0    spare rebuilding  /dev/sdg
     1         8        32         1    active sync  /dev/sdc
     2         8        48         2    active sync  /dev/sdd
     3         8        64         3    active sync  /dev/sde
     5         8       80         4    active sync  /dev/sdf
```

Расширил массив до 6 дисков:

```
/dev/md0:
  Version : 1.2
  Creation Time : Fri May 28 13:05:36 2021
  Raid Level : raid5
  Array Size : 52382720 (49.96 GiB 53.64 GB)
  Used Dev Size : 10476544 (9.99 GiB 10.73 GB)
  Raid Devices : 6
  Total Devices : 6
  Persistence : Superblock is persistent

  Update Time : Sat May 29 03:02:08 2021
  State : clean
  Active Devices : 6
  Working Devices : 6
  Failed Devices : 0
  Spare Devices : 0


  Layout : left-symmetric
  Chunk Size : 512K

Consistency Policy : resync

        Name : localhost.localdomain:0 (local to host localhost.localdomain)
        UUID : 3bd6fddf:ef74956d:a8627590:ccc0b1e4
        Events : 197

   Number   Major   Minor   RaidDevice State
     6         8       96         0   active sync  /dev/sdg
     1         8       32         1   active sync  /dev/sdc
     2         8       48         2   active sync  /dev/sdd
     3         8       64         3   active sync  /dev/sde
     5         8       80         4   active sync  /dev/sdf
     7         8       16         5   active sync  /dev/sdb
```

Увеличил размер раздела /data:

```
[root@localhost ~]# df -h
Filesystem                Size      Used Avail Use% Mounted on
/dev/mapper/centos-root    17G       1.2G    16G   7% /
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/sda1                  1014M     133M    882M  14% /boot
/dev/md0                    50G        52M    47G   1% /data
tmpfs                      98M         0    98M   0% /run/user/1000
```