

Лабораторная работа №16

Управление логическими томами

Гурылев А.А

21 декабря 2024

Российский университет дружбы народов, Москва, Россия

Лабораторная работа №16

Работа с массивами RAID 1

```
root@aaagurihlev:~  
Disk /dev/sdd: 512 MiB, 536870912 bytes, 1048576 sectors  
Disk model: VBOX HARDDISK  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disklabel type: dos  
Disk identifier: 0xe3383498  
  
Device      Boot Start      End Sectors  Size Id Type  
/dev/sdd1    2048 1048575 1046528   511M fd Linux raid autodetect  
[root@aaagurihlev ~]# sfdisk -l /dev/sde  
Disk /dev/sde: 512 MiB, 536870912 bytes, 1048576 sectors  
Disk model: VBOX HARDDISK  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disklabel type: dos  
Disk identifier: 0x8fe713f6  
  
Device      Boot Start      End Sectors  Size Id Type  
/dev/sde1    2048 1048575 1046528   511M fd Linux raid autodetect  
[root@aaagurihlev ~]# sfdisk -l /dev/sdf  
Disk /dev/sdf: 512 MiB, 536870912 bytes, 1048576 sectors  
Disk model: VBOX HARDDISK  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disklabel type: dos  
Disk identifier: 0xb13c7734  
  
Device      Boot Start      End Sectors  Size Id Type  
/dev/sdf1    2048 1048575 1046528   511M fd Linux raid autodetect  
[root@aaagurihlev ~]# mdadm  
Usage: mdadm --help  
       for help  
[root@aaagurihlev ~]# mdadm --create --verbose /dev/md0 --level=1 --raid-devices=2  
/dev/sdd1 /dev/sde1  
mdadm: You haven't given enough devices (real or missing) to create this array  
-bash: /dev/sdd1: Permission denied  
[root@aaagurihlev ~]# mdadm --create --verbose /dev/md0 --level=1 --raid-devices=2 /dev/sdd1 /dev/sde1  
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 522240K  
Continue creating array? y  
mdadm: Defaulting to version 1.2 metadata  
mdadm: array /dev/md0 started.  
[root@aaagurihlev ~]#
```

Работа с массивами и их запасками

```
root@aagurihlev:~  
Update Time : Sat Dec 21 17:38:51 2024  
State : clean  
Active Devices : 2  
Working Devices : 3  
Failed Devices : 0  
Spare Devices : 1  
Consistency Policy : resync  
Name : aagurihlev.localdomain:0 (local to host aagurihlev.localdomain)  
UUID : 6a530731:0a9c83fb:53a7df0a:7d3e4b56  
Events : 18  


| Number | Major | Minor | RaidDevice | State       |           |
|--------|-------|-------|------------|-------------|-----------|
| 0      | 8     | 49    | 0          | active sync | /dev/sdd1 |
| 1      | 8     | 65    | 1          | active sync | /dev/sde1 |
| 2      | 8     | 81    | -          | spare       | /dev/sdf1 |

  
[root@aagurihlev ~]# mdadm /dev/md0 --fail /dev/sde1  
mdadm: set /dev/sde1 faulty in /dev/md0  
[root@aagurihlev ~]# mdadm --detail /dev/md0  
/dev/md0:  
Version : 1.2  
Creation Time : Sat Dec 21 17:38:21 2024  
Raid Level : raid1  
Array Size : 522240 (510.00 MiB 534.77 MB)  
Used Dev Size : 522240 (510.00 MiB 534.77 MB)  
Raid Devices : 2  
Total Devices : 3  
Persistence : Superblock is persistent  
  
Update Time : Sat Dec 21 17:41:02 2024  
State : clean  
Active Devices : 2  
Working Devices : 2  
Failed Devices : 1  
Spare Devices : 0  
Consistency Policy : resync  
Name : aagurihlev.localdomain:0 (local to host aagurihlev.localdomain)  
UUID : 6a530731:0a9c83fb:53a7df0a:7d3e4b56  
Events : 37  


| Number | Major | Minor | RaidDevice | State       |           |
|--------|-------|-------|------------|-------------|-----------|
| 0      | 8     | 49    | 0          | active sync | /dev/sdd1 |
| 2      | 8     | 81    | 1          | active sync | /dev/sdf1 |
| 1      | 8     | 65    | -          | faulty      | /dev/sde1 |

  
[root@aagurihlev ~]#
```

Работа с изменением массива, RAID 1 в RAID 5

```
root@aagurihlev:~  
Working Devices : 3  
Failed Devices : 0  
Spare Devices : 1  
Consistency Policy : resync  
Name : aagurihlev.localdomain:0 (local to host aagurihlev.localdomain)  
UUID : bf498fb7:ce2c0f2c:54d3a0bb:108cd507  
Events : 18  
Number Major Minor RaidDevice State  
0 8 49 0 active sync /dev/sdd1  
1 8 65 1 active sync /dev/sde1  
2 8 81 - spare /dev/sdf1  
[root@aagurihlev ~]# mdadm --grow /dev/md0 --level=5  
mdadm: level of /dev/md0 changed to raid5  
[root@aagurihlev ~]# mdadm --detail /dev/md0  
/dev/md0:  
Version : 1.2  
Creation Time : Sat Dec 21 17:43:32 2024  
Raid Level : raid5  
Array Size : 522240 (510.00 MiB 534.77 MB)  
Used Dev Size : 522240 (510.00 MiB 534.77 MB)  
Raid Devices : 2  
Total Devices : 3  
Persistence : Superblock is persistent  
Update Time : Sat Dec 21 17:45:28 2024  
State : clean  
Active Devices : 2  
Working Devices : 3  
Failed Devices : 0  
Spare Devices : 1  
Layout : left-symmetric  
Chunk Size : 64K  
Consistency Policy : resync  
Name : aagurihlev.localdomain:0 (local to host aagurihlev.localdomain)  
UUID : bf498fb7:ce2c0f2c:54d3a0bb:108cd507  
Events : 19  
Number Major Minor RaidDevice State  
0 8 49 0 active sync /dev/sdd1  
1 8 65 1 active sync /dev/sde1  
2 8 81 - spare /dev/sdf1  
[root@aagurihlev ~]#
```