

# Лабораторная работа №14

Партиции, файловые системы, монтирование

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## Цель работы

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Получить навыки создания разделов на диске и файловых систем, а также навыки монтирования файловых систем в Linux.

## Ход выполнения работы

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## Исходное состояние дисков

```
root@ivschemelev:/home/ivschemelev# fdisk --list
```

```
Disk /dev/sdc: 1.5 GiB, 1610612736 bytes, 3145728 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
```

```
Disk /dev/sdb: 1.5 GiB, 1610612736 bytes, 3145728 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
```

```
Disk /dev/sda: 50 GiB, 53687091200 bytes, 104857600 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: gpt
```

```
Disk identifier: 9651E147-F6A3-46EF-A2D8-2F968F50B10B
```

## Запуск fdisk и просмотр справки

```
root@ivschemelov: /home/ivschemelov# fdisk /dev/sdb

Welcome to fdisk (util-linux 2.40.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table.
Created a new DOS (MBR) disklabel with disk identifier 0xd4870e8b.

Command (m for help): m

Help:

DOS (MBR)
a  toggle a bootable flag
b  edit nested BSD disklabel
c  toggle the dos compatibility flag

Generic
d  delete a partition
F  list free unpartitioned space
l  list known partition types
n  add a new partition
p  print the partition table
t  change a partition type
v  verify the partition table
i  print information about a partition
e  resize a partition

Misc
m  print this menu
u  change display/entry units
x  extra functionality (experts only)
```

## Создание основного MBR-раздела

```
Command (m for help): p
Disk /dev/sdb: 1.5 GiB, 1610612736 bytes, 3145728 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: 0xd4870e8b

Command (m for help): n
Partition type
   p   primary (0 primary, 0 extended, 4 free)
   e   extended (container for logical partitions)
Select (default p): p
Partition number (1-4, default 1): 1
First sector (2048-3145727, default 2048):
Last sector, +/-sectors or +/-size[K,M,G,T,P] (2048-3145727, default 3145727): +300M

Created a new partition 1 of type 'Linux' and of size 300 MiB.

Command (m for help): t
Selected partition 1
Hex code or alias (type L to list all): 83
Changed type of partition 'Linux' to 'Linux'.

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.
```

```
root@ivschemelev:/home/ivschemelev#
```

## Сравнение fdisk и /proc/partitions

```
root@ivschemelev: /home/ivschemelev#  
root@ivschemelev:/home/ivschemelev# fdisk -l /dev/sdb  
Disk /dev/sdb: 1.5 GiB, 1610612736 bytes, 3145728 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: 0xd4870e8b
```

Device	Boot	Start	End	Sectors	Size	Id	Type
/dev/sdb1	2048	616447	614400	300M	83	Linux	

```
root@ivschemelev:/home/ivschemelev# cat /proc/partitions  
major minor #blocks name
```

8	32	1572864	sdc
8	16	1572864	sdb
8	17	307200	sdb1
8	0	52428800	sda
8	1	1024	sda1
8	2	1048576	sda2
8	3	51377152	sda3
11	0	1048575	sr0
253	0	47239168	dm-0
253	1	4136960	dm-1

```
root@ivschemelev:/home/ivschemelev# partprobe /dev/sdb
```

```
root@ivschemelev:/home/ivschemelev#
```



```
root@ivschemelev:/home/ivschemelev# fdisk /dev/sdb

Welcome to fdisk (util-linux 2.40.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.


Command (m for help): n
Partition type
   p   primary (1 primary, 0 extended, 3 free)
   e   extended (container for logical partitions)
Select (default p): e
Partition number (2-4, default 2): 4
First sector (616448-3145727, default 616448):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (616448-3145727, default 3145727):

Created a new partition 4 of type 'Extended' and of size 1.2 GiB.


Command (m for help): n
All space for primary partitions is in use.
Adding logical partition 5
First sector (618496-3145727, default 618496):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (618496-3145727, default 3145727): +300M

Created a new partition 5 of type 'Linux' and of size 300 MiB.


Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.

root@ivschemelev:/home/ivschemelev#
```

## Проверка созданных разделов MBR

```
root@ivschemelev:/home/ivschemelev#  
root@ivschemelev:/home/ivschemelev# partprobe /dev/sdb  
root@ivschemelev:/home/ivschemelev# cat /proc/partitions  
major minor #blocks name  
  
8 32 1572864 sdc  
8 16 1572864 sdb  
8 17 307200 sdb1  
8 20 1 sdb4  
8 21 307200 sdb5  
8 0 52428800 sda  
8 1 1024 sda1  
8 2 1048576 sda2  
8 3 51377152 sda3  
11 0 1048575 sr0  
253 0 47239168 dm-0  
253 1 4136960 dm-1  
  
root@ivschemelev:/home/ivschemelev# fdisk -l /dev/sdb  
Disk /dev/sdb: 1.5 GiB, 1610612736 bytes, 3145728 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: 0xd4870e8b  
  


| Device    | Boot | Start  | End Sectors | Size    | Id      | Type     |
|-----------|------|--------|-------------|---------|---------|----------|
| /dev/sdb1 |      | 2048   | 616447      | 614400  | 300M 83 | Linux    |
| /dev/sdb4 |      | 616448 | 3145727     | 2529280 | 1.2G 5  | Extended |
| /dev/sdb5 |      | 618496 | 1232895     | 614400  | 300M 83 | Linux    |

  
root@ivschemelev:/home/ivschemelev#
```

## Создание swap в MBR

```
root@ivschemelev:/home/ivschemelev# fdisk /dev/sdb
```

```
Welcome to fdisk (util-linux 2.40.2).
```

```
Changes will remain in memory only, until you decide to write them.
```

```
Be careful before using the write command.
```

```
Command (m for help): n
```

```
All space for primary partitions is in use.
```

```
Adding logical partition 6
```

```
First sector (1234944-3145727, default 1234944):
```

```
Last sector, +/-sectors or +/-size{K,M,G,T,P} (1234944-3145727, default 3145727): +300M
```

```
Created a new partition 6 of type 'Linux' and of size 300 MiB.
```

```
Command (m for help): t
```

```
Partition number (1,4-6, default 6): 6
```

```
Hex code or alias (type L to list all): 82
```

```
Changed type of partition 'Linux' to 'Linux swap / Solaris'.
```

```
Command (m for help): w
```

```
The partition table has been altered.
```

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

```
Syncing disks.
```

```
root@ivschemelev:/home/ivschemelev#
```

## Активация swar и проверка

```
root@ivschemelev:/home/ivschemelev# fdisk -l /dev/sdb
Disk /dev/sdb: 1.5 GiB, 1610612736 bytes, 3145728 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: 0xd4870e8b
```

Device	Boot	Start	End	Sectors	Size	Id	Type
/dev/sdb1		2048	616447	614400	300M	83	Linux
/dev/sdb4		616448	3145727	2529280	1.2G	5	Extended
/dev/sdb5		618496	1232895	614400	300M	83	Linux
/dev/sdb6		1234944	1849343	614400	300M	82	Linux swap / Solaris

```
root@ivschemelev:/home/ivschemelev# mkswap /dev/sdb6
Setting up swapspace version 1, size = 300 MiB (314568704 bytes)
no label, UUID=19c34079-0576-4c39-af66-b6d915301748
root@ivschemelev:/home/ivschemelev# swapon /dev/sdb6
root@ivschemelev:/home/ivschemelev# free -m
```

	total	used	free	shared	buff/cache	available
Mem:	3652	1275	1916	17	691	2377
Swap:	4339	0	4339			

```
root@ivschemelev:/home/ivschemelev#
```

## Проверка диска под GPT

```
root@ivschemelov:/home/ivschemelov#  
root@ivschemelov:/home/ivschemelov# gdisk -l /dev/sdc  
GPT fdisk (gdisk) version 1.0.10
```

Partition table scan:

MBR: not present  
BSD: not present  
APM: not present  
GPT: not present

Creating new GPT entries in memory.

Disk /dev/sdc: 3145728 sectors, 1.5 GiB

Model: VBOX HARDDISK

Sector size (logical/physical): 512/512 bytes

Disk identifier (GUID): 4520F638-CB3D-46C9-9023-961A0C58E421

Partition table holds up to 128 entries

Main partition table begins at sector 2 and ends at sector 33

First usable sector is 34, last usable sector is 3145694

Partitions will be aligned on 2048-sector boundaries

Total free space is 3145661 sectors (1.5 GiB)

Number	Start (sector)	End (sector)	Size	Code	Name
--------	----------------	--------------	------	------	------

```
root@ivschemelov:/home/ivschemelov#
```

# Создание GPT-раздела через gdisk

Creating new GPT entries in memory.

Command (? for help): n

Partition number (1-128, default 1): 1

First sector (34-3145694, default = 2048) or {+-}size{KMGT}:

Last sector (2048-3145694, default = 3143679) or {+-}size{KMGT}: +300M

Current type is 8300 (Linux filesystem)

Hex code or GUID (L to show codes, Enter = 8300): 8300

Changed type of partition to 'Linux filesystem'

Command (? for help): p

Disk /dev/sdc: 3145728 sectors, 1.5 GiB

Model: VBOX HARDDISK

Sector size (logical/physical): 512/512 bytes

Disk identifier (GUID): 0A277B88-CFEB-4A6F-9B6E-F431D6502EA5

Partition table holds up to 128 entries

Main partition table begins at sector 2 and ends at sector 33

First usable sector is 34, last usable sector is 3145694

Partitions will be aligned on 2048-sector boundaries

Total free space is 2531261 sectors (1.2 GiB)

Number	Start (sector)	End (sector)	Size	Code	Name
1	2048	616447	300.0 MiB	8300	Linux filesystem

Command (? for help): w

Final checks complete. About to write GPT data. THIS WILL OVERWRITE EXISTING PARTITIONS!!

Do you want to proceed? (Y/N): Y

OK; writing new GUID partition table (GPT) to /dev/sdc.

The operation has completed successfully.

root@ivschemelelev:/home/ivschemelelev#

```
253          1      4136960 dm-1
root@ivschemelev:/home/ivschemelev# gdisk -l /dev/sdc
GPT fdisk (gdisk) version 1.0.10
```

Partition table scan:

- MBR: protective
- BSD: not present
- APM: not present
- GPT: present

Found valid GPT with protective MBR; using GPT.

Disk /dev/sdc: 3145728 sectors, 1.5 GiB

Model: VBOX HARDDISK

Sector size (logical/physical): 512/512 bytes

Disk identifier (GUID): 0A277B88-CFEB-4A6F-9B6E-F431D6502EA5

Partition table holds up to 128 entries

Main partition table begins at sector 2 and ends at sector 33

First usable sector is 34, last usable sector is 3145694

Partitions will be aligned on 2048-sector boundaries

Total free space is 2531261 sectors (1.2 GiB)

Number	Start (sector)	End (sector)	Size	Code	Name
1	2048	616447	300.0 MiB	8300	Linux filesystem

```
root@ivschemelev:/home/ivschemelev# █
```

```
root@ivschemelov:/home/ivschemelov#  
root@ivschemelov:/home/ivschemelov# mkfs.xfs /dev/sdb1  
meta-data=/dev/sdb1             isize=512    agcount=4, agsize=19200 blks  
                =               sectsz=512    attr=2, projid32bit=1  
                =               crc=1        finobt=1, sparse=1, rmapbt=1  
                =               reflink=1     bigtime=1 inobtcount=1 nrext64=1  
                =               exchange=0  
data        =                   bsize=4096    blocks=76800, imaxpct=25  
                =                   sunit=0     swidth=0 blks  
naming      =version 2          bsize=4096    ascii-ci=0, ftype=1, parent=0  
log         =internal log      bsize=4096    blocks=16384, version=2  
                =               sectsz=512    sunit=0 blks, lazy-count=1  
realtime    =none              extsz=4096    blocks=0, rtextents=0  
root@ivschemelov:/home/ivschemelov# xfs_admin -L xfsdisk /dev/sdb1  
writing all SBs  
new label = "xfsdisk"  
root@ivschemelov:/home/ivschemelov#
```

Рис. 12: Создание XFS и установка метки xfsdisk



## Форматирование EXT4 и параметры

```
root@ivschemelev:/home/ivschemelev#  
root@ivschemelev:/home/ivschemelev# mkfs.ext4 /dev/sdb5  
mke2fs 1.47.1 (20-May-2024)  
Creating filesystem with 307200 1k blocks and 76912 inodes  
Filesystem UUID: 7a73cd01-6896-4a17-b6cd-d76d02542bbf  
Superblock backups stored on blocks:  
        8193, 24577, 40961, 57345, 73729, 204801, 221185  
  
Allocating group tables: done  
Writing inode tables: done  
Creating journal (8192 blocks): done  
Writing superblocks and filesystem accounting information: done  
  
root@ivschemelev:/home/ivschemelev# tune2fs -L ext4disk /dev/sdb5  
tune2fs 1.47.1 (20-May-2024)  
root@ivschemelev:/home/ivschemelev# tune2fs -o acl,user_xattr /dev/sdb5  
tune2fs 1.47.1 (20-May-2024)  
root@ivschemelev:/home/ivschemelev#
```

Рис. 13: Создание EXT4, метка ext4disk и опции монтирования

```
root@ivschemelev:/home/ivschemelev#  
root@ivschemelev:/home/ivschemelev# mkdir -p /mnt/tmp  
root@ivschemelev:/home/ivschemelev# mount /dev/sdb5 /mnt/tmp  
root@ivschemelev:/home/ivschemelev# mount | grep mnt  
/dev/sdb5 on /mnt/tmp type ext4 (rw,relatime,seclabel)  
root@ivschemelev:/home/ivschemelev# umount /dev/sdb5  
root@ivschemelev:/home/ivschemelev# mount | grep mnt  
root@ivschemelev:/home/ivschemelev#
```

Рис. 14: Монтирование /dev/sdb5 в /mnt/tmp и проверка

# Определение UUID устройств

```
root@ivschemelev:/home/ivschemelev#  
root@ivschemelev:/home/ivschemelev# mkdir -p /mnt/data  
root@ivschemelev:/home/ivschemelev# blkid  
/dev/mapper/r1_vbox-swap: UUID="033ba33a-9b4a-4407-81fd-3c8462b17b78" TYPE="swap"  
/dev/sdb4: PTTYPE="dos" PARTUUID="d4870e8b-04"  
/dev/sdb5: LABEL="ext4disk" UUID="7a73cd01-6896-4a17-b6cd-d76d02542bbf" BLOCK_SIZE="1024" TYPE="ext4" PARTUUID="d4870e8b-05"  
/dev/sdb1: LABEL="xfsdisk" UUID="dbdd84e0-a5ff-48a5-b476-9ba5eb00e66d" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="d4870e8b-01"  
/dev/sdb6: UUID="19c34079-0576-4c39-af66-b6d915301748" TYPE="swap" PARTUUID="d4870e8b-06"  
/dev/mapper/r1_vbox-root: UUID="b552a213-cc13-43ac-b518-a1c5c52c8d5e" BLOCK_SIZE="512" TYPE="xfs"  
/dev/sdc1: PARTLABEL="Linux filesystem" PARTUUID="5fd4157b-6183-495f-91ff-241c2ae2d836"  
/dev/sda2: UUID="7ac262fa-85bd-4a83-808b-8111bf61c34d" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="b885eb92-76b6-4139-be72-7d716c575708"  
/dev/sda3: UUID="vqZd30-wy3X-WUaZ-yxAz-RCYC-3xZF-0JT7Ki" TYPE="LVM2_member" PARTUUID="053c58b0-3ae1-4c59-8e31-199e3d31b169"  
/dev/sda1: PARTUUID="b583279d-362a-4e42-aba3-7e56082570b7"  
root@ivschemelev:/home/ivschemelev#
```

Рис. 15: Получение UUID и параметров через blkid

## Настройка /etc/fstab для XFS

```
GNU nano 8.1 /etc/fstab

#
# /etc/fstab
# Created by anaconda on Fri Jan 16 11:32:16 2026
#
# 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.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
UUID=b552a213-cc13-43ac-b518-a1c5c52c8d5e / xfs defaults 0 0
UUID=7ac262fa-85bd-4a83-808b-8111bf61c34d /boot xfs defaults 0 0
UUID=033ba33a-9b4a-4407-81fd-3c8462b17b78 none swap defaults 0 0
UUID=dbdd84e0-a5ff-48a5-b476-9ba5eb00e66d /mnt/data xfs defaults 1 2
█
```

Рис. 16: Добавление записи в /etc/fstab для /mnt/data

## Проверка mount -a и df -h

```
root@ivschemelov:/home/ivschemelov#  
root@ivschemelov:/home/ivschemelov# mount -a  
mount: (hint) your fstab has been modified, but systemd still uses  
the old version; use 'systemctl daemon-reload' to reload.  
root@ivschemelov:/home/ivschemelov# df -h  
Filesystem      Size  Used Avail Use% Mounted on  
/dev/mapper/rl_vbox-root 45G  5.8G   40G  13% /  
devtmpfs        1.8G    0  1.8G   0% /dev  
tmpfs           1.8G   84K  1.8G   1% /dev/shm  
tmpfs           731M   13M  719M   2% /run  
tmpfs           1.0M    0  1.0M   0% /run/credentials/systemd-journald.service  
/dev/sda2       960M  412M  549M  43% /boot  
tmpfs           366M  140K  366M   1% /run/user/1000  
tmpfs           366M   60K  366M   1% /run/user/0  
/dev/sdb1       236M   20M  217M   9% /mnt/data  
root@ivschemelov:/home/ivschemelov#
```

Рис. 17: Проверка автоматического монтирования

## Самостоятельная работа

---

## Добавление разделов на GPT-диске

```
Command (? for help): p
Disk /dev/sdc: 3145728 sectors, 1.5 GiB
Model: VBOX HARDDISK
Sector size (logical/physical): 512/512 bytes
Disk identifier (GUID): 0A277B88-CFEB-4A6F-9B6E-F431D6502EA5
Partition table holds up to 128 entries
Main partition table begins at sector 2 and ends at sector 33
First usable sector is 34, last usable sector is 3145694
Partitions will be aligned on 2048-sector boundaries
Total free space is 1302461 sectors (636.0 MiB)
```

Number	Start (sector)	End (sector)	Size	Code	Name
1	2048	616447	300.0 MiB	8300	Linux filesystem
2	616448	1230847	300.0 MiB	8300	Linux filesystem
3	1230848	1845247	300.0 MiB	8200	Linux swap

```
Command (? for help): w
```

```
Final checks complete. About to write GPT data. THIS WILL OVERWRITE EXISTING
PARTITIONS!!
```

```
Do you want to proceed? (Y/N): Y
OK; writing new GUID partition table (GPT) to /dev/sdc.
The operation has completed successfully.
root@ivschemellev:/home/ivschemellev# partprobe /dev/sdc
root@ivschemellev:/home/ivschemellev#
```

## EXT4 для /dev/sdc2 и swap для /dev/sdc3

```
root@ivschemellev:/home/ivschemellev#  
root@ivschemellev:/home/ivschemellev# mkfs.ext4 /dev/sdc2  
mke2fs 1.47.1 (20-May-2024)  
Creating filesystem with 307200 1k blocks and 76912 inodes  
Filesystem UUID: 397e2311-797e-4490-b3a9-f703326e0342  
Superblock backups stored on blocks:  
    8193, 24577, 40961, 57345, 73729, 204801, 221185  
  
Allocating group tables: done  
Writing inode tables: done  
Creating journal (8192 blocks): done  
Writing superblocks and filesystem accounting information: done  
  
root@ivschemellev:/home/ivschemellev# tune2fs -L ext4disk2 /dev/sdc2  
tune2fs 1.47.1 (20-May-2024)  
root@ivschemellev:/home/ivschemellev# tune2fs -o acl,user_xattr /dev/sdc2  
tune2fs 1.47.1 (20-May-2024)  
root@ivschemellev:/home/ivschemellev# mkswap /dev/sdc3  
Setting up swapspace version 1, size = 300 MiB (314568704 bytes)  
no label, UUID=e95c3a0f-a9bf-44f3-811c-cbd748688f8d  
root@ivschemellev:/home/ivschemellev#
```

Рис. 19: Форматирование ext4 и создание swap



```
root@ivschemelov: /home/ivschemelov#  
root@ivschemelov: /home/ivschemelov# blkid  
/dev/mapper/rl_vbox-swap: UUID="033ba33a-9b4a-4407-81fd-3c8462b17b78" TYPE="swap"  
/dev/sdb5: LABEL="ext4disk" UUID="7a73cd01-6896-4a17-b6cd-d76d02542bbf" BLOCK_SIZE="1024" TYPE="ext4" PARTUUID="d4870e8b-05"  
/dev/sdb1: LABEL="xfsdisk" UUID="dbdd84e0-a5ff-48a5-b476-9ba5eb00e66d" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="d4870e8b-01"  
/dev/sdb6: UUID="19c34079-0576-4c39-af66-b6d915301748" TYPE="swap" PARTUUID="d4870e8b-06"  
/dev/mapper/rl_vbox-root: UUID="b552a213-cc13-43ac-b518-a1c5c52c8d5e" BLOCK_SIZE="512" TYPE="xfs"  
/dev/sda2: UUID="7ac262fa-85bd-4a83-808b-8111bf61c34d" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="b885eb92-76b6-4139-be72-7d716c575708"  
/dev/sda3: UUID="vqZd30-wy3X-WUaZ-yxAz-RCYC-3xZF-0JT7Ki" TYPE="LVM2_member" PARTUUID="053c58b0-3ae1-4c59-8e31-199e3d31b169"  
/dev/sdb4: PTTYPE="dos" PARTUUID="d4870e8b-04"  
/dev/sdc2: LABEL="ext4disk2" UUID="397e2311-797e-4490-b3a9-f703326e0342" BLOCK_SIZE="1024" TYPE="ext4" PARTLABEL="Linux filesystem" PARTUUID="51e80c64-4eba-4e93-8859-9d1c8233f82c"  
/dev/sdc3: UUID="e95c3a0f-a9bf-44f3-811c-cbd748688f8d" TYPE="swap" PARTLABEL="Linux swap" PARTUUID="5d1b941a-8eac-4e16-88d4-e1d784fa9a0"  
/dev/sdc1: PARTLABEL="Linux filesystem" PARTUUID="5fd4157b-6183-495f-91ff-241c2ae2d836"  
/dev/sda1: PARTUUID="b583279d-362a-4e42-aba3-7e56082570b7"  
root@ivschemelov: /home/ivschemelov#
```

Рис. 20: Проверка UUID разделов /dev/sdc2 и /dev/sdc3

## /etc/fstab для /mnt/data-ext и swap

```
GNU nano 8.1 /etc/fstab

#
# /etc/fstab
# Created by anaconda on Fri Jan 16 11:32:16 2026
#
# 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.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
UUID=b552a213-cc13-43ac-b518-a1c5c52c8d5e / xfs defaults 0 0
UUID=7ac262fa-85bd-4a83-808b-8111bf61c34d /boot xfs defaults 0 0
UUID=033ba33a-9b4a-4407-81fd-3c8462b17b78 none swap defaults 0 0
UUID=dbdd84e0-a5ff-48a5-b476-9ba5eb00e66d /mnt/data xfs defaults 1 2
UUID=397e2311-797e-4490-b3a9-f703326e0342 /mnt/data-ext ext4 defaults 1 2
UUID=e95c3a0f-a9bf-44f3-811c-cbd748688f8d none swap defaults 0 0
```

Рис. 21: Добавление записей ext4 и swap в /etc/fstab

## Проверка после перезагрузки

```
ivschemelev@ivschemelev:~$ su
Password:
root@ivschemelev:/home/ivschemelev# mount | grep mnt
/dev/sdb1 on /mnt/data type xfs (rw,relatime,seclabel,attr2,inode64,logbufs=8,logbsize=32k,noquota)
/dev/sdc2 on /mnt/data-ext type ext4 (rw,relatime,seclabel)
root@ivschemelev:/home/ivschemelev# free -m
              total          used          free       shared  buff/cache       available
Mem:           3652           1224           1979            17           683           2428
Swap:           4339              0           4339
root@ivschemelev:/home/ivschemelev# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/mapper/rl_vbox-root  45G  5.8G   40G   13% /
devtmpfs        1.8G     0   1.8G    0% /dev
tmpfs           1.8G   84K   1.8G    1% /dev/shm
tmpfs           731M   9.3M   722M    2% /run
tmpfs           1.0M     0   1.0M    0% /run/credentials/systemd-journald.service
/dev/sda2       960M  412M   549M   43% /boot
/dev/sdb1       236M   20M   217M    9% /mnt/data
/dev/sdc2       272M   14K   253M    1% /mnt/data-ext
tmpfs           366M  140K   366M    1% /run/user/1000
tmpfs           366M   60K   366M    1% /run/user/0
root@ivschemelev:/home/ivschemelev#
```

Рис. 22: Проверка mount, free и df -h после перезагрузки

## Итоги работы

---

Выполнена разметка дисков в схемах MBR и GPT, созданы разделы под Linux и swap, сформированы файловые системы XFS и EXT4 с метками и параметрами. Настроены ручное и автоматическое монтирование через `/etc/fstab`, выполнена проверка работоспособности конфигурации и подтверждена корректность настройки после перезагрузки.