

Лабораторная работа №14

Партиции, файловые системы, монтирование

Щемелев Илья Владимирович

Российский университет дружбы народов, Москва, Россия

Цель работы

Формулировка цели

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

Ход выполнения работы

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@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.

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.
```

Сравнение fdisk и /proc/partitions

```
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#
```

Логические разделы 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
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.
```

Проверка созданных разделов MBR

```
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 swap 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@ivschemelev:/home/ivschemelev# 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@ivschemelev:/home/ivschemelev#
```

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{KMGTP}:
```

```
Last sector (2048-3145694, default = 3143679) or {+-}size{KMGTP}: +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@ivschemelev:/home/ivschemelev#
```

Проверка GPT-разметки

```
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#
```

Форматирование XFS и метка

```
root@ivschemelev:/home/ivschemelev# 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@ivschemelev:/home/ivschemelev# xfs_admin -L xfsdisk /dev/sdb1
writing all SBs
new label = "xfsdisk"
root@ivschemelev:/home/ivschemelev#
```

Рис. 12: Создание XFS и установка метки xfsdisk

Форматирование EXT4 и параметры

```
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

Ручное монтирование и отмонтирование

```
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: Монтируем /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/rl_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/rl_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-be72-7d716c57
5708"
/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@ivschemelev:/home/ivschemelev# mount -a
mount: (hint) your fstab has been modified, but systemd still uses
      the old version; use 'systemctl daemon-reload' to reload.
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   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@ivschemelev:/home/ivschemelev#
```

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@ivschemelev:/home/ivschemelev# partprobe /dev/sdc
```

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

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

```
root@ivschemelev:/home/ivschemelev#  
root@ivschemelev:/home/ivschemelev# 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@ivschemelev:/home/ivschemelev# tune2fs -L ext4disk2 /dev/sdc2  
tune2fs 1.47.1 (20-May-2024)  
root@ivschemelev:/home/ivschemelev# tune2fs -o acl,user_xattr /dev/sdc2  
tune2fs 1.47.1 (20-May-2024)  
root@ivschemelev:/home/ivschemelev# mkswap /dev/sdc3  
Setting up swapspace version 1, size = 300 MiB (314568704 bytes)  
no label, UUID=e95c3a0f-a9bf-44f3-811c-cbd748688f8d  
root@ivschemelev:/home/ivschemelev#
```

UUID для новых разделов

```
root@ivschemelev:/home/ivschemelev# blkid
/dev/mapper/r1_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/r1_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-be72-7d716c57
5708"
/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 files
ystem" PARTUUID="51e80c64-4eba-4e93-8859-9d1c8233f82c"
/dev/sdc3: UUID="e95c3a0f-a9bf-44f3-811c-cbd748688f8d" TYPE="swap" PARTLABEL="Linux swap" PARTUUID="5d1b941a-8eac-4e16-88d4-e
d1d784fa9a0"
/dev/sdc1: PARTLABEL="Linux filesystem" PARTUUID="5fd4157b-6183-495f-91ff-241c2ae2d836"
/dev/sda1: PARTUUID="b583279d-362a-4e42-aba3-7e56082570b7"
root@ivschemelev:/home/ivschemelev#
```

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

Заключение

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.