

Выведем все жесткие диски:

```
Disk /dev/sda: 10 GiB, 10737418240 bytes, 20971520 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: C68DFB50-AF7A-404A-8C69-701D668D215B

Device      Start      End  Sectors  Size Type
/dev/sda1    2048      4095     2048    1M BIOS boot
/dev/sda2    4096 20969471 20965376   10G Linux filesystem

Disk /dev/sdb: 10 GiB, 10737418240 bytes, 20971520 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
root@vm01:~# _
```

Добавленный диск - /dev/sdb.

Размечаем добавленный диск на два раздела с помощью команды fdisk /dev/sdb.

- Размечаем в формате GPT, создаем пустую таблицу ключом g;
- Создаем новую партицию ключом n;
- 1 - номер раздела, 2048 - начальный сектор раздела, 8390656 - размер раздела, что равняется 4G.
- Аналогично второй раздел, на каждом шаге нажимая enter для выбора по умолчанию. Размер второго раздела, соответственно, 6G.

```
I/O size (minimum/optimal): 512 bytes / 512 bytes
root@vm01:~# fdisk /dev/sdb

Welcome to fdisk (util-linux 2.37.2).
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 disklabel with disk identifier 0xa2d35241.

Command (m for help): g
Created a new GPT disklabel (GUID: 118F966A-DF49-3741-B882-1252A5C1349B).
```

```
Command (m for help): n
Partition number (1-128, default 1):
First sector (2048-20971486, default 2048):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-20971486, default 20971486): 8390656

Created a new partition 1 of type 'Linux filesystem' and of size 4 GiB.

Command (m for help): n
Partition number (2-128, default 2):
First sector (8390657-20971486, default 8392704):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (8392704-20971486, default 20971486):

Created a new partition 2 of type 'Linux filesystem' and of size 6 GiB.

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

Проверяем созданные разделы:

```
root@vm01:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0       7:0      0 103M  1 loop /snap/lxd/23541
loop1       7:1      0  63,2M 1 loop /snap/core20/1738
loop2       7:2      0  49,6M 1 loop /snap/snapd/17883
loop3       7:3      0  63,2M 1 loop /snap/core20/1623
loop4       7:4      0  79,9M 1 loop /snap/lxd/22923
sda          8:0      0   10G  0 disk
├─sda1       8:1      0    1M  0 part
└─sda2       8:2      0   10G  0 part /
sdb          8:16     0   10G  0 disk
├─sdb1       8:17     0    4G  0 part
└─sdb2       8:18     0    6G  0 part
sr0         11:0     1 1024M  0 rom
root@vm01:~#
```

Добавляем разделы в файловые системы:

```
root@vm01:~# mkfs.ext4 /dev/sdb1
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 1048576 4k blocks and 262144 inodes
Filesystem UUID: 25101dad-8619-4872-8370-39cf3b1c5ad3
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done

root@vm01:~# mkfs.ext2 /dev/sdb2
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 1572347 4k blocks and 393216 inodes
Filesystem UUID: 9df849eb-3160-4520-b07b-40c28586e535
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736

Allocating group tables: done
Writing inode tables: done
Writing superblocks and filesystem accounting information: done
```

Резервируем 5% и 0% для 1-го и 2-го раздела:

```
root@vm01:~# tune2fs -m 5 /dev/sdb1
tune2fs 1.46.5 (30-Dec-2021)
Setting reserved blocks percentage to 5% (52428 blocks)
root@vm01:~# tune2fs -m 0 /dev/sdb2
tune2fs 1.46.5 (30-Dec-2021)
Setting reserved blocks percentage to 0% (0 blocks)
root@vm01:~#
```

Создаем группы и пользователей:

```

root@vm01:~# groupadd developers
root@vm01:~# groupadd managers
root@vm01:~# groupadd writers
root@vm01:~#
root@vm01:~# useradd woody
root@vm01:~# useradd buzz
root@vm01:~# usermod -a -G developers woody
root@vm01:~# usermod -a -G developers buzz
root@vm01:~#
root@vm01:~# useradd potato
root@vm01:~# useradd slinky
root@vm01:~# usermod -a -G managers potato
root@vm01:~# usermod -a -G managers slinky
root@vm01:~#
root@vm01:~# useradd rex
root@vm01:~# useradd sid
root@vm01:~# usermod -a -G writers rex
root@vm01:~# usermod -a -G writers sid
root@vm01:~#

```

Создаем поддиректории и назначаем владельца, группу владельца и права доступа:

```

root@vm01:~# mkdir /media/docs/manuals
root@vm01:~# chown rex:writers /media/docs/manual
chown: cannot access '/media/docs/manual': No such file or directory
root@vm01:~# chown rex:writers /media/docs/manuals
root@vm01:~# chmod u=rwx,g=rws,o=rx
chmod: missing operand after 'u=rwx,g=rws,o=rx'
Try 'chmod --help' for more information.
root@vm01:~# chmod u=rwx,g=rws,o=rx /media/docs/manuals
chmod: invalid mode: 'u=rwx,g=rws,o=rx'
Try 'chmod --help' for more information.
root@vm01:~# chmod u=rwx,g=rws,o=rx /media/docs/manuals
root@vm01:~# mkdir /media/docs/reports
root@vm01:~# chown potato:managers /media/docs/reports
root@vm01:~# chmod u=rwx,g=rws,o= /media/docs/reports
root@vm01:~# mkdir /media/docs/todo
root@vm01:~# chown woody:developers /media/docs/todo
root@vm01:~# chmod u=rwx,g=rx,o=rx /media/docs/todo
root@vm01:~# ls -la /media/docs
total 36
drwxr-xr-x 6 root   root      4096 дек 24 20:22 .
drwxr-xr-x 3 root   root      4096 дек 24 20:11 ..
drwx----- 2 root   root     16384 дек 24 20:07 lost+found
drwxrwsr-x 2 rex    writers   4096 дек 24 20:19 manuals
drwxrws--- 2 potato managers  4096 дек 24 20:21 reports
drwxr-xr-x 2 woody  developers 4096 дек 24 20:22 todo

```

```

root@vm01:~# mkdir /mnt/work/writers
root@vm01:~# chown rex:writers /mnt/work/writers
root@vm01:~# chmod u=rwx,g=rws,o= /mnt/work/writers
root@vm01:~# mkdir /mnt/work/
media/ mnt/
root@vm01:~# mkdir /mnt/work/managers
root@vm01:~# chown potato:managers /mnt/work/managers
root@vm01:~# chmod u=rwx,g=rws,o= /mnt/work/managers
root@vm01:~# mkdir /mnt/work/developers
root@vm01:~# chown woody:developers /mnt/work/developers
root@vm01:~# chmod u=rwx,g=rws,o= /mnt/work/developers
root@vm01:~# ls -la /mnt/work
total 36
drwxr-xr-x 6 root root 4096 дек 24 20:26 .
drwxr-xr-x 3 root root 4096 дек 24 20:11 ..
drwxrws--- 2 woody developers 4096 дек 24 20:26 developers
drwx----- 2 root root 16384 дек 24 20:08 lost+found
drwxrws--- 2 potato managers 4096 дек 24 20:25 managers
drwxrws--- 2 rex writers 4096 дек 24 20:24 writers
root@vm01:~#

```

Добавляем следующие символичные ссылки:

```

root@vm01:~# ln -s /media/docs/manuals /mnt/work/developers/docs
root@vm01:~# ln -s /media/docs/todo /mnt/work/developers/todo
root@vm01:~# ls -la
total 32
drwx----- 4 root root 4096 дек 24 20:13 .
drwxr-xr-x 19 root root 4096 сен 17 07:33 ..
-rw----- 1 root root 1689 дек 24 19:47 .bash_history
-rw-r--r-- 1 root root 3106 окт 15 2021 .bashrc
lrwxrwxrwx 1 root root 19 дек 24 17:49 manuals -> /media/docs/manuals
-rw-r--r-- 1 root root 161 июл 9 2019 .profile
drwx----- 3 root root 4096 сен 17 07:54 snap
drwx----- 2 root root 4096 сен 17 07:54 .ssh
-rw----- 1 root root 1502 дек 24 20:13 .viminfo
root@vm01:~# ls -la /mnt/work/developers
total 8
drwxrws--- 2 woody developers 4096 дек 24 20:28 .
drwxr-xr-x 6 root root 4096 дек 24 20:26 ..
lrwxrwxrwx 1 root developers 19 дек 24 20:28 docs -> /media/docs/manuals
lrwxrwxrwx 1 root developers 16 дек 24 20:28 todo -> /media/docs/todo
root@vm01:~#

```