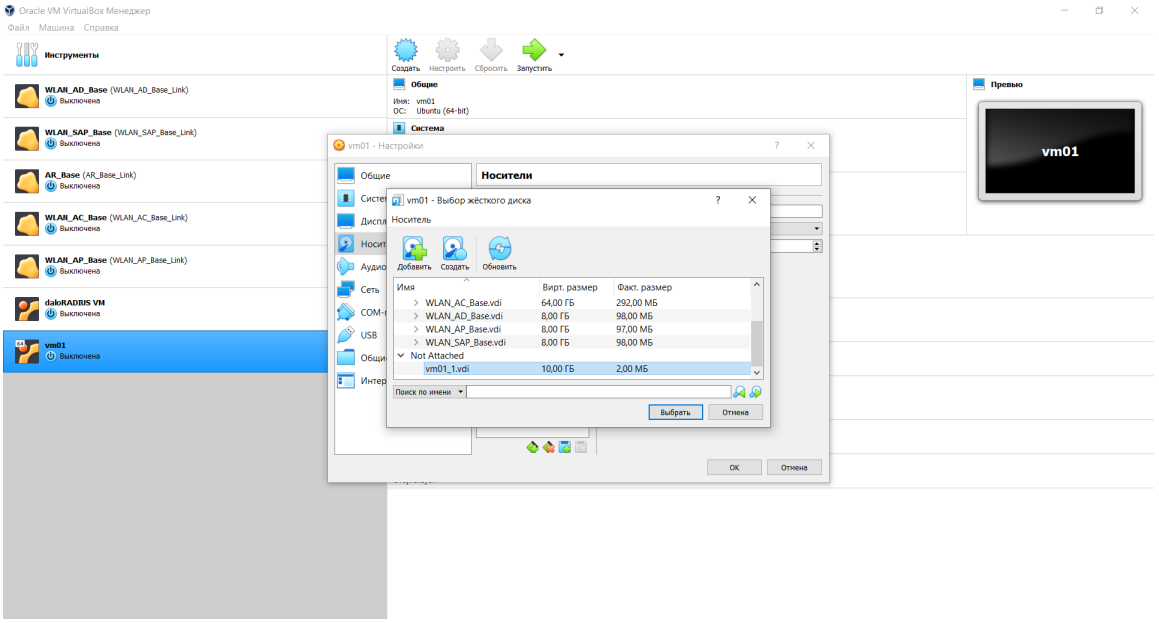
Коротаев Даниил 11-002 Лабораторная 2

Файловые системы

0)выбираем жесткий диск



1)информация о дисках sudo fdisk -l

```
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: FB11AFC7-C964-4803-AA55-517A997ECCCC

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
```

2)выбираем диск без разметки sudo fdisk /dev/sdb

```
osp@vm01:~$ sudo 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 0x9f12f7a9.
```

g

```
Command (m for help): g
Created a new GPT disklabel (GUID: 3FC5862E-1F4F-D746-A389-F6BDBB52D363).
```

выбираем 1 раздел
first sector - дефолтный
last sectro - +4G

```
Command (m for help): n
Partition number (1-128, default 1): 1
First sector (2048-20971486, default 2048):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-20971486, default 20971486): +4G

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

раздел 2
first sector - default
last sector - default

```
Command (m for help): n
Partition number (2-128, default 2): 2
First sector (8390656-20971486, default 8390656):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (8390656-20971486, default 20971486):

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

проверка

```
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
Disklabel type: gpt
Disk identifier: 71F55586-004D-B243-9278-7B8D37940CAE

Device       Start      End  Sectors Size Type
/dev/sdb1     2048  8390655  8388608   4G Linux filesystem
/dev/sdb2  8390656 20971486 12580831   6G Linux filesystem
```

3)отформатируем раздел 1 как ext4
sudo mkfs.ext4 -L Docs /dev/sdb1

```
Creating filesystem with 1048576 4k blocks and 262144 inodes
Filesystem UUID: e3f7f594-241b-4c8a-9c88-a5bc3da4a537
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
```

а раздел 2 как ext2

sudo mkfs.ext2 -L Work /dev/sdb2

```
Creating filesystem with 1572603 4k blocks and 393216 inodes
Filesystem UUID: 4814ef0b-2715-4b71-9a70-0d2cd9f398df
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
```

зарезервируем для root 5% и 0% в Docs и в Work
sudo tune2fs -m 5 /dev/sdb1
sudo tune2fs -m 0 /dev/sdb2

```
tune2fs 1.46.5 (30-Dec-2021)
Setting reserved blocks percentage to 5% (52428 blocks)
```

```
tune2fs 1.46.5 (30-Dec-2021)
Setting reserved blocks percentage to 0% (0 blocks)
```

4) директории для них
sudo mkdir -p /media/docs
sudo mkdir -p /mnt/work
sudo mount /dev/sdb1 /media/docs
sudo mount /dev/sdb2 /mnt/work

```
NAME   FSTYPE   FSVER LABEL UUID                                 FSAVAIL FSUSE% MOUNTPOINTS
loop0  squashfs 4.0                                                    0   100% /snap/core20/1738
loop1  squashfs 4.0                                                    0   100% /snap/core20/1623
loop2  squashfs 4.0                                                    0   100% /snap/lxd/23541
loop3  squashfs 4.0                                                    0   100% /snap/snapd/17883
loop4  squashfs 4.0                                                    0   100% /snap/lxd/22923
sda
├─sda1
└─sda2 ext4     1.0         3b9cb00d-e60d-4cd8-b627-d98b5337d161    3,6G    57% /
sdb
├─sdb1 ext4     1.0   Docs  e3f7f594-241b-4c8a-9c88-a5bc3da4a537    3,6G     0% /media/docs
└─sdb2 ext2     1.0   Work  4814ef0b-2715-4b71-9a70-0d2cd9f398df    5,9G     0% /mnt/work
sr0
```

автоматическое форматирование при запуске системы:
/etc/fstab

```
/dev/sdb1       /media/docs     ext4    defaults        0       0
/dev/stb2       /mnt/work       ext2    defaults        0       0
```

Пользователи и группы

1) создаем нужные группы
   sudo addgroup developers
   sudo addgroup managers
   sudo addgroup writers

```
Adding group `developers' (GID 1001) ...
Done.
osp@vm01:~$ sudo addgroup managers
Adding group `managers' (GID 1002) ...
Done.
osp@vm01:~$ sudo addgroup writers
Adding group `writers' (GID 1003) ...
Done.
```

2) пользователей

sudo adduser woody --disabled-password
sudo adduser buzz --disabled-password
sudo adduser potato --disabled-password
sudo adduser slinky --disabled-password
sudo adduser rex --disabled-password
sudo adduser sid --disabled-password

```
osp@vm01:~$ sudo adduser woody --disabled-password
Adding user `woody' ...
Adding new group `woody' (1004) ...
Adding new user `woody' (1001) with group `woody' ...
Creating home directory `/home/woody' ...
Copying files from `/etc/skel' ...
Changing the user information for woody
Enter the new value, or press ENTER for the default
        Full Name []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
```

добавляем пользователей в нужные группы и проверяем

sudo usermod -aG developers woody
sudo usermod -aG developers buzz
sudo usermod -aG managers potato
sudo usermod -aG managers slinky
sudo usermod -aG writers rex
sudo usermod -aG writers sid

```
osp@vm01:~$ id woody
uid=1001(woody) gid=1004(woody) groups=1004(woody),1001(developers)
osp@vm01:~$ id buzz
uid=1002(buzz) gid=1005(buzz) groups=1005(buzz),1001(developers)
osp@vm01:~$ id potato
uid=1003(potato) gid=1006(potato) groups=1006(potato),1002(managers)
osp@vm01:~$ id slinky
uid=1004(slinky) gid=1007(slinky) groups=1007(slinky),1002(managers)
osp@vm01:~$ id rex
uid=1005(rex) gid=1008(rex) groups=1008(rex),1003(writers)
osp@vm01:~$ id sid
uid=1006(sid) gid=1009(sid) groups=1009(sid),1003(writers)
```

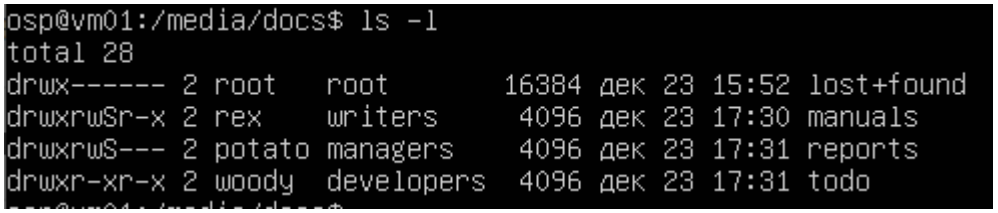
Директории и файлы

1) создаем нужные директории docs, добавляем им владельцев, группы и права доступа
   sudo mkdir /media/docs/manuals
   sudo mkdir /media/docs/reports
   sudo mkdir /media/docs/todo

   sudo chown rex /media/docs/manuals
   sudo chown potato /media/docs/reports
   sudo chown woody /media/docs/todo

   sudo chgrp writers /media/docs/manuals
   sudo chgrp managers /media/docs/reports
   sudo chgrp developers /media/docs/todo

   sudo chmod u=rwx,g=rws,o=rx /media/docs/manuals
   sudo chmod u=rwx,g=rws,o= /media/docs/reports
   sudo chmod u=rwx,g=rx,o=rx /media/docs/todo



2) теперь для work

   sudo mkdir /mnt/work/writers
   sudo mkdir /mnt/work/managers
   sudo mkdir /mnt/work/developers

   sudo chown rex /mnt/work/writers
   sudo chown potato /mnt/work/managers
   sudo chown woody /mnt/work/developers

   sudo chgrp writers /mnt/work/writers
   sudo chgrp managers /mnt/work/managers
   sudo chgrp developers /mnt/work/developers

   sudo chmod u=rwx,g=rws,o= /mnt/work/writers
   sudo chmod u=rwx,g=rws,o= /mnt/work/managers
   sudo chmod u=rwx,g=rws,o= /mnt/work/developers

```
osp@vm01:/mnt/work$ ls -l
total 28
drwxrwS--- 2 woody  developers  4096 дек 23 18:01 developers
drwx------ 2 root   root       16384 дек 23 15:53 lost+found
drwxrwS--- 2 potato managers    4096 дек 23 18:01 managers
drwxrwS--- 2 rex    writers     4096 дек 23 18:00 writers
```

3) создаем ссылки

sudo ln -s /media/docs/manuals /mnt/work/developers/docs
sudo ln -s /media/docs/todo /mnt/work/developers/todo

```
osp@vm01:~$ sudo ls -l /mnt/work/developers/docs
lrwxrwxrwx 1 root developers 19 дек 23 18:09 /mnt/work/developers/docs -> /media/docs/manuals
osp@vm01:~$ sudo ls -l /mnt/work/developers/todo
lrwxrwxrwx 1 root developers 16 дек 23 18:09 /mnt/work/developers/todo -> /media/docs/todo
```