

# Структура научной презентации

Простейший шаблон

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Бунин А.В.

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Российский университет дружбы народов, Москва, Россия

## Информация

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- Бунин Арсений Викторович
- Студент направления Математика и Механика
- Российский университет дружбы народов
- barsvic@yandex.ru
- <https://github.com/BuninAV>

## Вводная часть

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- Работа в файловой системе важна для любого пользователя Linux и помогает понять как устроена работа с файлами в любой ОС

- Файловая система Linux

- Создать шаблон презентации в Markdown
- Описать алгоритм создания выходных форматов презентаций

- Терминал Linux



## Выполнение лабораторной работы

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## Создание, копирование и чтение папок и файлов

```
[arsenii@fedora ~]$ cd
[arsenii@fedora ~]$ touch abc
[arsenii@fedora ~]$ mkdir monthly
[arsenii@fedora ~]$ touch april
[arsenii@fedora ~]$ touch may
[arsenii@fedora ~]$ cp abc april
[arsenii@fedora ~]$ cp abc may
[arsenii@fedora ~]$ cp abc monthly
[arsenii@fedora ~]$ mkdir monthly
mkdir: невозможно создать каталог «monthly»: Файл существует
[arsenii@fedora ~]$ cp april may monthly
[arsenii@fedora ~]$ cd monthly
[arsenii@fedora monthly]$ touch june
[arsenii@fedora monthly]$ cd
[arsenii@fedora ~]$ cp monthly/may monthly/june
[arsenii@fedora ~]$ ls monthly
abc  april  june  may
[arsenii@fedora ~]$ mkdir monthly.00
[arsenii@fedora ~]$ cp -r monthly monthly.00
[arsenii@fedora ~]$ cp -r monthly.00 /tmp
[arsenii@fedora ~]$
```

```
[arsenii@fedora ~]$ cd
[arsenii@fedora ~]$ mv april july
[arsenii@fedora ~]$ mv july monthly.00
[arsenii@fedora ~]$ ls monthly.00
july  monthly
[arsenii@fedora ~]$ mv monthly.00 monthly.01
[arsenii@fedora ~]$ mkdir reports
[arsenii@fedora ~]$ mv monthly.01 reports
[arsenii@fedora ~]$ mv reports/monthly.01 reports/monthly
[arsenii@fedora ~]$ ls reports
monthly
[arsenii@fedora ~]$
```

Рис. 2: Перемещение объектов файловой системы

## Управление правами доступа в файловой системе

```
[arsenii@fedora ~]$ cd
[arsenii@fedora ~]$ touch may
[arsenii@fedora ~]$ ls -l may
-rw-r--r--. 1 arsenii arsenii 0 map 20 13:06 may
[arsenii@fedora ~]$ chmod u+x may
[arsenii@fedora ~]$ ls -l may
-rwxr--r--. 1 arsenii arsenii 0 map 20 13:06 may
[arsenii@fedora ~]$ chmod u-x may
[arsenii@fedora ~]$ ls -l may
-rw-r--r--. 1 arsenii arsenii 0 map 20 13:06 may
[arsenii@fedora ~]$ cd
[arsenii@fedora ~]$ mkdir monthly
mkdir: невозможно создать каталог «monthly»: Файл существует
[arsenii@fedora ~]$ chmod g-r monthly
[arsenii@fedora ~]$ chmod o-r monthly
[arsenii@fedora ~]$ ls -l monthly
итого 0
-rw-r--r--. 1 arsenii arsenii 0 map 20 12:45 abc
-rw-r--r--. 1 arsenii arsenii 0 map 20 12:46 april
-rw-r--r--. 1 arsenii arsenii 0 map 20 12:48 june
-rw-r--r--. 1 arsenii arsenii 0 map 20 12:46 may
[arsenii@fedora ~]$ cd
[arsenii@fedora ~]$ touch abc1
[arsenii@fedora ~]$ chmod g+w abc1
[arsenii@fedora ~]$ ls -l abc1
-rw-rw-r--. 1 arsenii arsenii 0 map 20 13:12 abc1
[arsenii@fedora ~]$
```

## Проверяем целостность файловой системы

```
[arsenii@fedora ~]$ cat /etc/fstab
#
# /etc/fstab
# Created by anaconda on Sat Sep 23 07:05:42 2023
#
# Accessible filesystems, by reference, are maintained under '/dev'
# 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=c2687151-354f-4b6d-9422-2cea07e0a6d3 /
UUID=0abf8be7-75fe-4302-9683-26017a0049c6 /boot
UUID=c2687151-354f-4b6d-9422-2cea07e0a6d3 /home
[arsenii@fedora ~]$ fsck arsenii
fsck из util-linux 2.38.1
Usage: fsck.ext4 [-panyrcdfktvDFV] [-b superblock] [-B blocksize]
               [-l|-L bad_blocks_file] [-C fd] [-j external_journal]
               [-E extended-options] [-z undo_file] device

Emergency help:
-p                Automatic repair (no questions)
-n                Make no changes to the filesystem
-y                Assume "yes" to all questions
-c                Check for bad blocks and add them to the bad blocks list
-f                Force checking even if filesystem is marked clean
-v                Be verbose
-b superblock     Use alternative superblock
-B blocksize      Force blocksize when looking for superblock
-j external_journal Set location of the external journal
-l bad_blocks_file Add to badblocks list
-L bad_blocks_file Set badblocks list
-z undo_file      Create an undo file
```

## Самостоятельная работа по созданию, копированию и чтению папок

```
[arsenii@fedora home]$ cd
[arsenii@fedora ~]$ cp /usr/include/gnumake.h ~
[arsenii@fedora ~]$ mv gnumake.h equipment
[arsenii@fedora ~]$ mkdir ski.places
[arsenii@fedora ~]$ mv gnumake.h ski.places
mv: не удалось выполнить stat для 'gnumake.h': Нет такого файла или каталога
[arsenii@fedora ~]$ mv equipment ski.places
[arsenii@fedora ~]$ mv /ski.places/equipment /ski.places/equiplist
mv: не удалось выполнить stat для '/ski.places/equipment': Нет такого файла или каталога
[arsenii@fedora ~]$ mv ~/ski.places/equipment ~/ski.places/equiplist
[arsenii@fedora ~]$ touch abc1
[arsenii@fedora ~]$ cp abc1 ski.places
[arsenii@fedora ~]$ mv ~/ski.places/abc1 ~/ski.places/equiplist2
[arsenii@fedora ~]$ mkdir ~/ski.places/equipment
[arsenii@fedora ~]$ mv ~/ski.places/equiplist2 ~/ski.places/equipment
[arsenii@fedora ~]$ mv ~/ski.places/equiplist1 ~/ski.places/equipment
mv: не удалось выполнить stat для '/home/arsenii/ski.places/equiplist1': Нет такого файла или каталога
[arsenii@fedora ~]$ mv ~/ski.places/equiplist ~/ski.places/equipment
[arsenii@fedora ~]$ mkdir newdir
[arsenii@fedora ~]$ mv ~/newdir ~/ski.places
[arsenii@fedora ~]$ mv ~/ski.places/newdir ~/ski.places/plans
[arsenii@fedora ~]$
```

## Самостоятельная работа по редактированию прав доступа

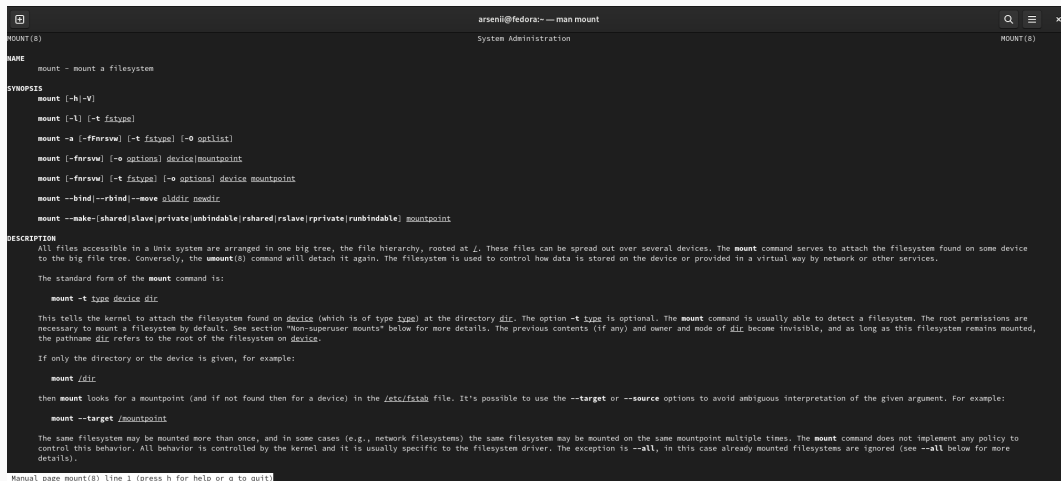
```
[arsenii@fedora ~]$ chmod u=rwx australia
[arsenii@fedora ~]$ chmod g=r-- australia
[arsenii@fedora ~]$ chmod o=r-- australia
[arsenii@fedora ~]$ mkdir play
[arsenii@fedora ~]$ chmod u=rwx play
[arsenii@fedora ~]$ chmod g=--x play
[arsenii@fedora ~]$ chmod o=--x play
[arsenii@fedora ~]$ touch my_os
[arsenii@fedora ~]$ chmod u=-r- my_os
[arsenii@fedora ~]$ chmod u=r_x my_os
chmod: неверный режим: «u=r_x»
По команде «chmod --help» можно получить дополнительную информацию.
[arsenii@fedora ~]$ chmod u=r-x my_os
[arsenii@fedora ~]$ chmod g=r-- my_os
[arsenii@fedora ~]$ chmod o=r-- my_os
[arsenii@fedora ~]$ touch feathers
[arsenii@fedora ~]$ chmod u=rw- feathers
[arsenii@fedora ~]$ chmod g=rw- feathers
[arsenii@fedora ~]$ chmod o=r-- feathers
[arsenii@fedora ~]$
```

Рис. 6: Редактирование прав доступа

```
[arsenii@fedora ~]$ touch file.old
[arsenii@fedora ~]$ cp feathers file.old
[arsenii@fedora ~]$ mv file.old ~/play
[arsenii@fedora ~]$ mkdir fun
[arsenii@fedora ~]$ cp play ~/fun
cp: не указан -r; пропускается каталог 'play'
[arsenii@fedora ~]$ cp -r play ~/play
cp: невозможно скопировать каталог 'play' в самого себя, '/home/arsenii/play/play'
[arsenii@fedora ~]$ cp -r play ~/fun
[arsenii@fedora ~]$ mv fun ~/play
[arsenii@fedora ~]$ mv ~/play/fun ~/play/games
[arsenii@fedora ~]$ chmod u-r feathers
[arsenii@fedora ~]$ cat feathers
cat: feathers: Отказано в доступе
[arsenii@fedora ~]$ chmod u+r feathers
[arsenii@fedora ~]$ chmod u-x play
[arsenii@fedora ~]$ cd play
bash: cd: play: Отказано в доступе
[arsenii@fedora ~]$ chmod u+x play
[arsenii@fedora ~]$
```



# Получение справочных сведений о командах



```
arsenii@fedora:~ — man mount
NAME
    mount - mount a filesystem

SYNOPSIS
    mount [-h] [-V]

    mount [-l] [-t fstype]

    mount -a [-ffnrsvw] [-t fstype] [-O optlist]

    mount [-fnrsvw] [-o options] device mountpoint

    mount [-fnrsvw] [-t fstype] [-o options] device mountpoint

    mount --bind|--rbind|--move olddir newdir

    mount --make-[shared|slave|private|unbindable|rshared|rslave|rprivate|runbindable] mountpoint

DESCRIPTION
    All files accessible in a Unix system are arranged in one big tree, the file hierarchy, rooted at /. These files can be spread out over several devices. The mount command serves to attach the filesystem found on some device to the big file tree. Conversely, the umount(8) command will detach it again. The filesystem is used to control how data is stored on the device or provided in a virtual way by network or other services.

    The standard form of the mount command is:

        mount -t type device dir

    This tells the kernel to attach the filesystem found on device (which is of type type) at the directory dir. The option -t type is optional. The mount command is usually able to detect a filesystem. The root permissions are necessary to mount a filesystem by default. See section "Non-superuser mounts" below for more details. The previous contents (if any) and owner and mode of dir become invisible, and as long as this filesystem remains mounted, the pathname dir refers to the root of the filesystem on device.

    If only the directory or the device is given, for example:

        mount /dir

    then mount looks for a mountpoint (and if not found then for a device) in the /etc/fstab file. It's possible to use the --target or --source options to avoid ambiguous interpretation of the given argument. For example:

        mount --target /mountpoint

    The same filesystem may be mounted more than once, and in some cases (e.g., network filesystems) the same filesystem may be mounted on the same mountpoint multiple times. The mount command does not implement any policy to control this behavior. All behavior is controlled by the kernel and it is usually specific to the filesystem driver. The exception is --all, in this case already mounted filesystems are ignored (see --all below for more details).
```

Manual page mount(8) line 1 (press h for help or q to quit)

Рис. 8: Получение справочных сведений о команде mount

Научились работать в файловой системе Linux

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