

Поиск файлов. Перенаправление ввода-вывода. Просмотр запущенных процессов

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Цели и задачи работы

Цель лабораторной работы

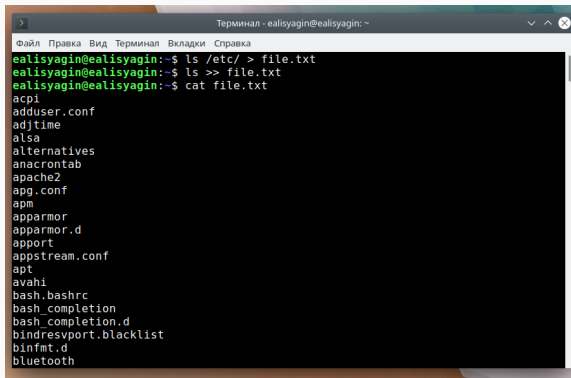
Ознакомление с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобретение практических навыков по применению команд для работы с файлами и каталогами, по управлению процессами, по проверке использования диска и обслуживанию файловой системы.

Задачи лабораторной работы

- 1 Изучить перенаправление ввода-вывода
- 2 Изучить работу фильтров
- 3 Изучить команду поиска
- 4 Ознакомиться с управлением процессами
- 5 Ознакомиться с командами `df` `du`

Процесс выполнения лабораторной работы

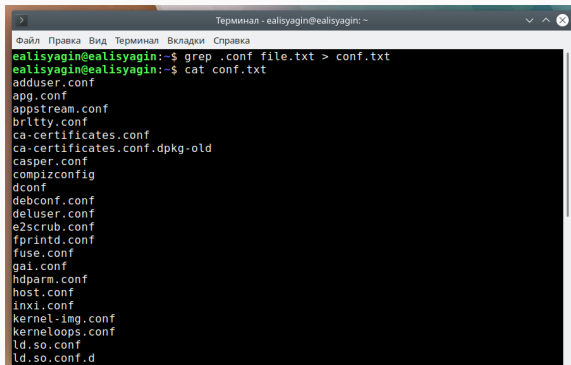
Перенаправление ввода-вывода



```
Терминал - ealisyagin@ealisyagin: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка
ealisyagin@ealisyagin:~$ ls /etc/ > file.txt
ealisyagin@ealisyagin:~$ ls >> file.txt
ealisyagin@ealisyagin:~$ cat file.txt
acpi
adduser.conf
adjtime
alsa
alternatives
anacrontab
apache2
apg.conf
apm
apparmor
apparmor.d
appport
appstream.conf
apt
avahi
bash.bashrc
bash_completion
bash_completion.d
bindresvport.blacklist
binfmt.d
bluetooth
```

Figure 1: Запись в файл

Работа фильтра

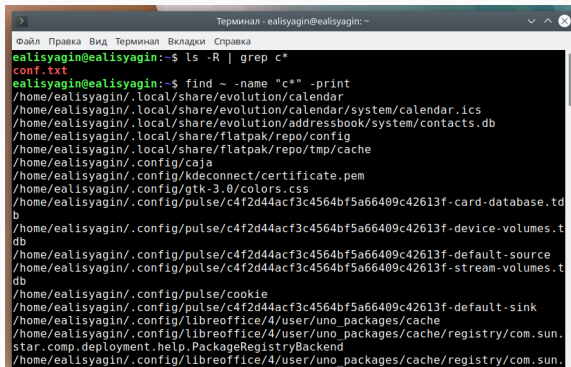


The image shows a terminal window titled "Терминал - ealisyagin@ealisyagin: ~". The window has a menu bar with "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal content shows the following commands and output:

```
ealisyagin@ealisyagin:~$ grep .conf file.txt > conf.txt
ealisyagin@ealisyagin:~$ cat conf.txt
adduser.conf
apg.conf
appstream.conf
brltty.conf
ca-certificates.conf
ca-certificates.conf.dpkg-old
casper.conf
compizconfig
dconf
debconf.conf
deluser.conf
e2scrub.conf
fprintd.conf
fuse.conf
gai.conf
hdparm.conf
host.conf
inxi.conf
kernel-img.conf
kerneloops.conf
ld.so.conf
ld.so.conf.d
```

Figure 2: Поиск расширения .conf

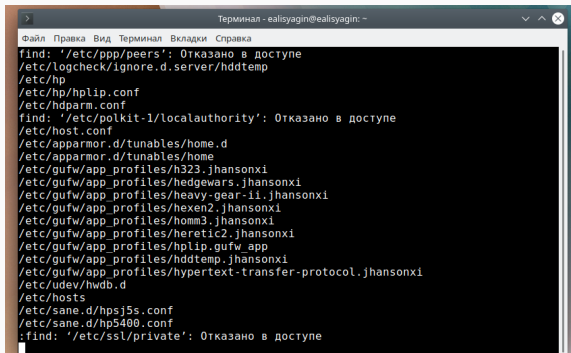
Команда поиска

A screenshot of a terminal window titled "Терминал - ealisyagin@ealisyagin: ~". The window has a menu bar with "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal shows a sequence of commands and their outputs. First, the user runs "ls -R | grep c*", which lists files containing the letter 'c'. Then, the user runs "find ~ -name 'c*' -print", which lists all files in the home directory starting with 'c'. The output shows various system and user files, including calendar files, addressbook, flatpak repo, KDE connect certificate, GTK colors, and PulseAudio database files.

```
Терминал - ealisyagin@ealisyagin: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка
ealisyagin@ealisyagin:~$ ls -R | grep c*
conf.txt
ealisyagin@ealisyagin:~$ find ~ -name "c*" -print
/home/ealisyagin/.local/share/evolution/calendar
/home/ealisyagin/.local/share/evolution/calendar/system/calendar.ics
/home/ealisyagin/.local/share/evolution/addressbook/system/contacts.db
/home/ealisyagin/.local/share/flatpak/repo/config
/home/ealisyagin/.local/share/flatpak/repo/tmp/cache
/home/ealisyagin/.config/caja
/home/ealisyagin/.config/kdeconnect/certificate.pem
/home/ealisyagin/.config/gtk-3.0/colors.css
/home/ealisyagin/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-card-database.td
b
/home/ealisyagin/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-device-volumes.t
db
/home/ealisyagin/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-default-source
/home/ealisyagin/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-stream-volumes.t
db
/home/ealisyagin/.config/pulse/cookie
/home/ealisyagin/.config/pulse/c4f2d44acf3c4564bf5a66409c42613f-default-sink
/home/ealisyagin/.config/libreoffice/4/user/uno_packages/cache
/home/ealisyagin/.config/libreoffice/4/user/uno_packages/cache/registry/com.sun.
star.comp.deployment.help.PackageRegistryBackend
/home/ealisyagin/.config/libreoffice/4/user/uno_packages/cache/registry/com.sun.
```

Figure 3: Поиск файлов

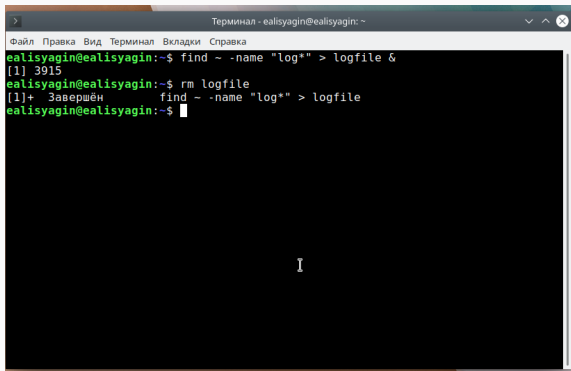
Команда поиска



```
Терминал - ealisyagin@ealisyagin: ~
Файл Правка Вид Терминал Вкладки Справка
find: '/etc/ppp/peers': Отказано в доступе
/etc/logcheck/ignore.d.server/hddtemp
/etc/hp
/etc/hp/hplip.conf
/etc/hdparm.conf
find: '/etc/polkit-1/localauthority': Отказано в доступе
/etc/host.conf
/etc/apparmor.d/tunables/home.d
/etc/apparmor.d/tunables/home
/etc/gufw/app_profiles/h323.jhansonxi
/etc/gufw/app_profiles/hedgewars.jhansonxi
/etc/gufw/app_profiles/heavy-gear-ii.jhansonxi
/etc/gufw/app_profiles/hexen2.jhansonxi
/etc/gufw/app_profiles/homm3.jhansonxi
/etc/gufw/app_profiles/heretic2.jhansonxi
/etc/gufw/app_profiles/hplip.gufw_app
/etc/gufw/app_profiles/hddtemp.jhansonxi
/etc/gufw/app_profiles/hypertext-transfer-protocol.jhansonxi
/etc/udev/hwdb.d
/etc/hosts
/etc/sane.d/hpsj5s.conf
/etc/sane.d/hp5400.conf
:find: '/etc/ssl/private': Отказано в доступе
```

Figure 4: Поиск файлов

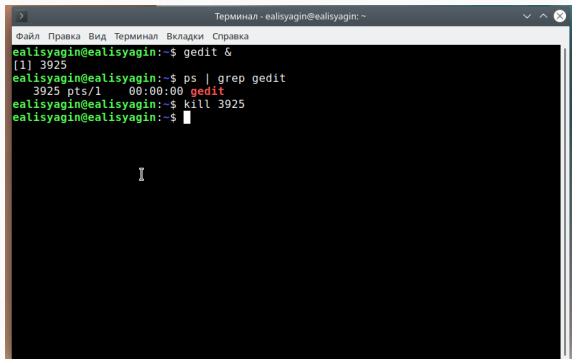
Управление процессами

A terminal window titled "Терминал - ealisyagin@ealisyagin: ~" with a menu bar containing "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal shows a sequence of commands: `find ~ -name "log*" > logfile &`, which returns `[1] 3915`; `rm logfile`; and `find ~ -name "log*" > logfile`, which returns `[1]+ Завершён`. The prompt `ealisyagin@ealisyagin:~$` is visible at the end of the last command line.

```
Терминал - ealisyagin@ealisyagin: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка
ealisyagin@ealisyagin:~$ find ~ -name "log*" > logfile &
[1] 3915
ealisyagin@ealisyagin:~$ rm logfile
[1]+  Завершён      find ~ -name "log*" > logfile
ealisyagin@ealisyagin:~$
```

Figure 5: Фоновый запуск процесса

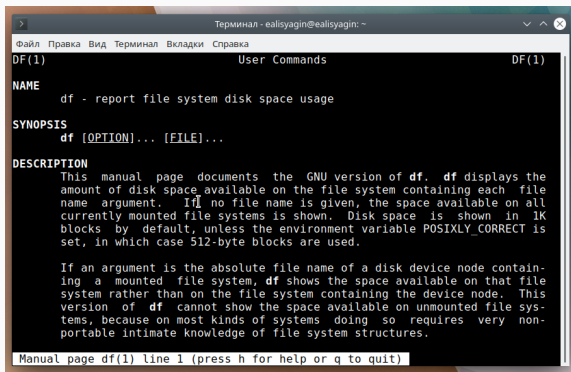
Управление процессами



```
Терминал - ealisyagin@ealisyagin: ~
Файл  Правка  Вид  Терминал  Вкладки  Справка
ealisyagin@ealisyagin:~$ gedit &
[1] 3925
ealisyagin@ealisyagin:~$ ps | grep gedit
3925 pts/1    00:00:00 gedit
ealisyagin@ealisyagin:~$ kill 3925
ealisyagin@ealisyagin:~$
```

Figure 6: Фоновый запуск и завершение процесса

Команды df и du



The screenshot shows a terminal window titled "Терминал - ealisyagin@ealisyagin: ~". The window contains the manual page for the 'df' command. The text is as follows:

```
DF(1)                                User Commands                                DF(1)

NAME
    df - report file system disk space usage

SYNOPSIS
    df [OPTION]... [FILE]...

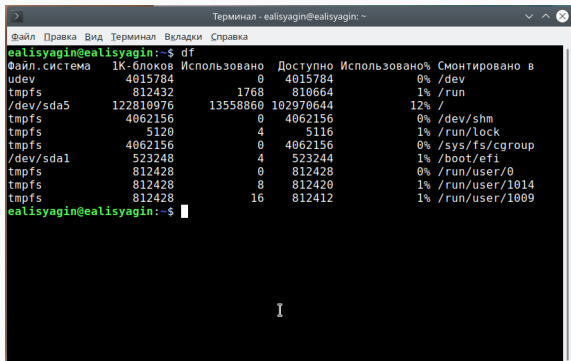
DESCRIPTION
    This manual page documents the GNU version of df. df displays the
    amount of disk space available on the file system containing each file
    name argument. If no file name is given, the space available on all
    currently mounted file systems is shown. Disk space is shown in 1K
    blocks by default, unless the environment variable POSIXLY_CORRECT is
    set, in which case 512-byte blocks are used.

    If an argument is the absolute file name of a disk device node contain-
    ing a mounted file system, df shows the space available on that file
    system rather than on the file system containing the device node. This
    version of df cannot show the space available on unmounted file sys-
    tems, because on most kinds of systems doing so requires very non-
    portable intimate knowledge of file system structures.

Manual page df(1) line 1 (press h for help or q to quit)
```

Figure 7: Справка по команде df

Команды df и du



Терминал - ealisyagin@ealisyagin: ~

Файл Правка Вид Терминал Вкладки Справка

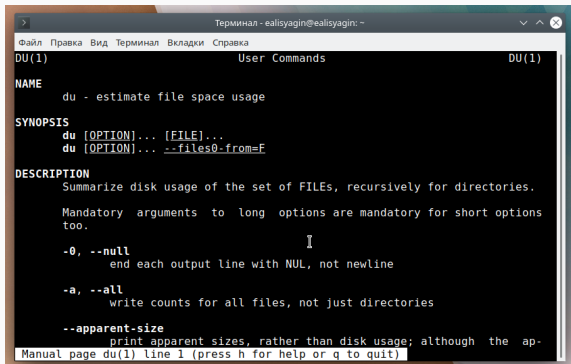
```
ealisyagin@ealisyagin:~$ df
```

Файл.система	1K-блоков	Использовано	Доступно	Использовано%	Смонтировано в
udev	4015784	0	4015784	0%	/dev
tmpfs	812432	1768	810664	1%	/run
/dev/sda5	122810976	13558860	102970644	12%	/
tmpfs	4062156	0	4062156	0%	/dev/shm
tmpfs	5120	4	5116	1%	/run/lock
tmpfs	4062156	0	4062156	0%	/sys/fs/cgroup
/dev/sda1	523248	4	523244	1%	/boot/efi
tmpfs	812428	0	812428	0%	/run/user/0
tmpfs	812428	8	812420	1%	/run/user/1014
tmpfs	812428	16	812412	1%	/run/user/1009

```
ealisyagin@ealisyagin:~$
```

Figure 8: Запуск команды df

Команды df и du



```
Терминал - ealisyyagin@ealisyyagin: ~
Файл Правка Вид Терминал Вкладки Справка
DU(1) User Commands DU(1)

NAME
    du - estimate file space usage

SYNOPSIS
    du [OPTION]... [FILE]...
    du [OPTION]... --files0-from=F

DESCRIPTION
    Summarize disk usage of the set of FILES, recursively for directories.

    Mandatory arguments to long options are mandatory for short options
    too.

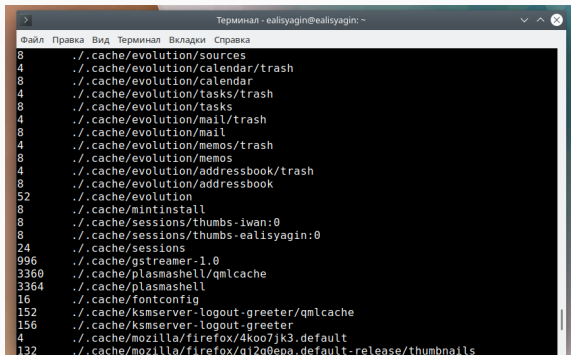
    -0, --null
        end each output line with NUL, not newline

    -a, --all
        write counts for all files, not just directories

    --apparent-size
        print apparent sizes, rather than disk usage; although the ap-
Manual page du(1) line 1 (press h for help or q to quit)
```

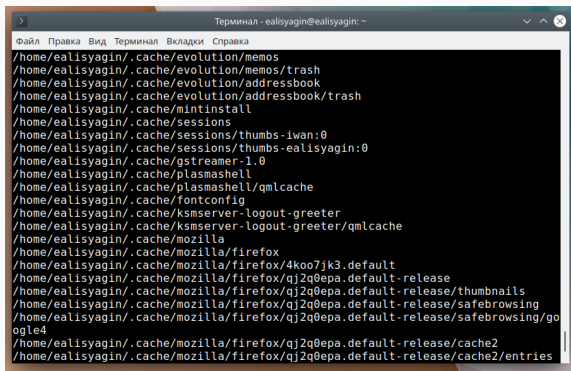
Figure 9: Справка по команде du

Команды df и du

A terminal window titled "Терминал - ealisyagin@ealisyagin: ~" with a menu bar containing "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal displays the output of the 'du' command, listing various directories and their sizes in a columnar format. The output is as follows:

```
8      8  ./cache/evolution/sources
4      4  ./cache/evolution/calendar/trash
8      8  ./cache/evolution/calendar
4      4  ./cache/evolution/tasks/trash
8      8  ./cache/evolution/tasks
4      4  ./cache/evolution/mail/trash
8      8  ./cache/evolution/mail
4      4  ./cache/evolution/memos/trash
8      8  ./cache/evolution/memos
4      4  ./cache/evolution/addressbook/trash
8      8  ./cache/evolution/addressbook
52     52  ./cache/evolution
8      8  ./cache/mintinstall
8      8  ./cache/sessions/thumbs-iwan:0
8      8  ./cache/sessions/thumbs-ealisyagin:0
24     24  ./cache/sessions
996    996  ./cache/gstreamer-1.0
3360   3360  ./cache/plasmashell/qlcache
3364   3364  ./cache/plasmashell
16     16  ./cache/fontconfig
152    152  ./cache/kmsserver-logout-greeter/qlcache
156    156  ./cache/kmsserver-logout-greeter
4      4  ./cache/mozilla/firefox/4koo7jk3.default
132    132  ./cache/mozilla/firefox/qj2q0epa.default-release/thumbnails
```

Figure 10: Запуск команды du



The image shows a terminal window titled "Терминал - ealisyagin@ealisyagin: ~". The window has a menu bar with "Файл", "Правка", "Вид", "Терминал", "Вкладки", and "Справка". The terminal output displays a list of directory paths found by a search command, including various cache directories and Firefox profiles. The paths are listed as follows:

```
/home/ealisyagin/.cache/evolution/memos
/home/ealisyagin/.cache/evolution/memos/trash
/home/ealisyagin/.cache/evolution/addressbook
/home/ealisyagin/.cache/evolution/addressbook/trash
/home/ealisyagin/.cache/mintinstall
/home/ealisyagin/.cache/sessions
/home/ealisyagin/.cache/sessions/thumbs-iwan:0
/home/ealisyagin/.cache/sessions/thumbs-ealisyagin:0
/home/ealisyagin/.cache/gstreamer-1.0
/home/ealisyagin/.cache/plasmashell
/home/ealisyagin/.cache/plasmashell/qmlcache
/home/ealisyagin/.cache/fontconfig
/home/ealisyagin/.cache/ksmservice-logout-greeter
/home/ealisyagin/.cache/ksmservice-logout-greeter/qmlcache
/home/ealisyagin/.cache/mozilla
/home/ealisyagin/.cache/mozilla/firefox
/home/ealisyagin/.cache/mozilla/firefox/4koo7jk3.default
/home/ealisyagin/.cache/mozilla/firefox/qj2q0epa.default-release
/home/ealisyagin/.cache/mozilla/firefox/qj2q0epa.default-release/thumbnails
/home/ealisyagin/.cache/mozilla/firefox/qj2q0epa.default-release/safebrowsing
/home/ealisyagin/.cache/mozilla/firefox/qj2q0epa.default-release/safebrowsing/google4
/home/ealisyagin/.cache/mozilla/firefox/qj2q0epa.default-release/cache2
/home/ealisyagin/.cache/mozilla/firefox/qj2q0epa.default-release/cache2/entries
```

Figure 11: Поиск директорий

Выводы по проделанной работе

В данной работе мы ознакомились с инструментами поиска файлов и фильтрации текстовых данных. А также приобрели практические навыки по управлению процессами.