

Поиск файлов. Перенаправление ввода-вывода. Просмотр запущенных процессов

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Цели и задачи работы

Цель лабораторной работы

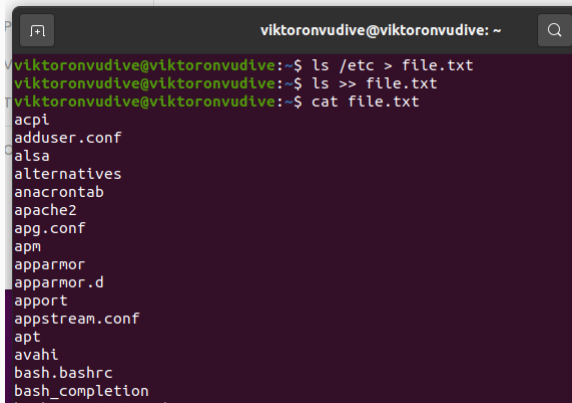
Ознакомление с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобретение практических навыков по применению команд для работы с файлами и каталогами, по управлению процессами, по проверке использования диска и обслуживанию файловой системы.

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

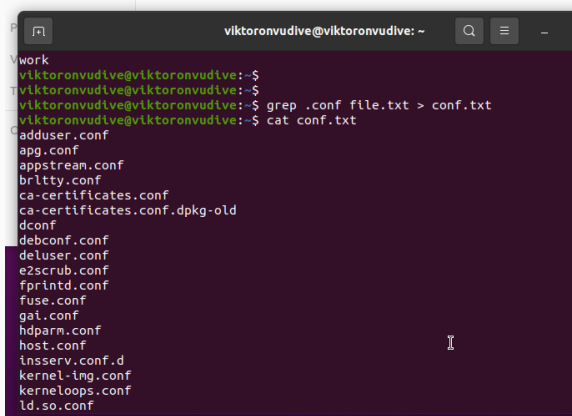
Перенаправление ввода-вывода



```
viktoronvudive@viktoronvudive: ~  
viktoronvudive@viktoronvudive:~$ ls /etc > file.txt  
viktoronvudive@viktoronvudive:~$ ls >> file.txt  
viktoronvudive@viktoronvudive:~$ cat file.txt  
acpi  
adduser.conf  
alsa  
alternatives  
anacrontab  
apache2  
apg.conf  
apm  
apparmor  
apparmor.d  
apport  
appstream.conf  
apt  
avahi  
bash.bashrc  
bash_completion
```

Рис. 1: Запись в файл

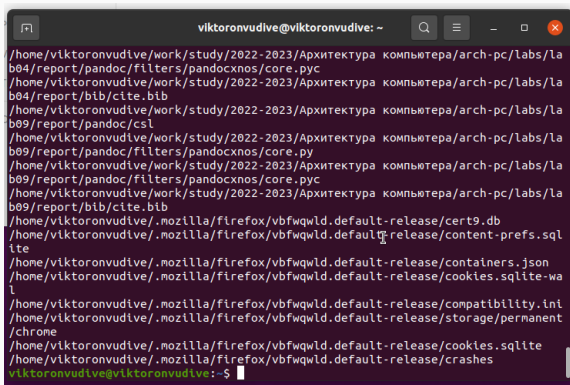
Работа фильтра

A terminal window with a dark purple background and white text. The window title is 'viktoronvudive@viktoronvudive: ~'. The terminal shows a series of commands and their outputs. The first command is 'work', followed by the prompt 'viktoronvudive@viktoronvudive:~\$'. Then, the command 'grep .conf file.txt > conf.txt' is entered, followed by 'cat conf.txt'. The output is a list of files with '.conf' extensions: adduser.conf, apg.conf, appstream.conf, brltty.conf, ca-certificates.conf, ca-certificates.conf.dpkg-old, dconf, debconf.conf, deluser.conf, e2scrub.conf, fprintd.conf, fuse.conf, gai.conf, hdparm.conf, host.conf, insserv.conf.d, kernel-img.conf, kerneloops.conf, and ld.so.conf.

```
P
viktoronvudive@viktoronvudive: ~
work
viktoronvudive@viktoronvudive:~$
T viktoronvudive@viktoronvudive:~$ grep .conf file.txt > conf.txt
C viktoronvudive@viktoronvudive:~$ cat conf.txt
adduser.conf
apg.conf
appstream.conf
brltty.conf
ca-certificates.conf
ca-certificates.conf.dpkg-old
dconf
debconf.conf
deluser.conf
e2scrub.conf
fprintd.conf
fuse.conf
gai.conf
hdparm.conf
host.conf
insserv.conf.d
kernel-img.conf
kerneloops.conf
ld.so.conf
```

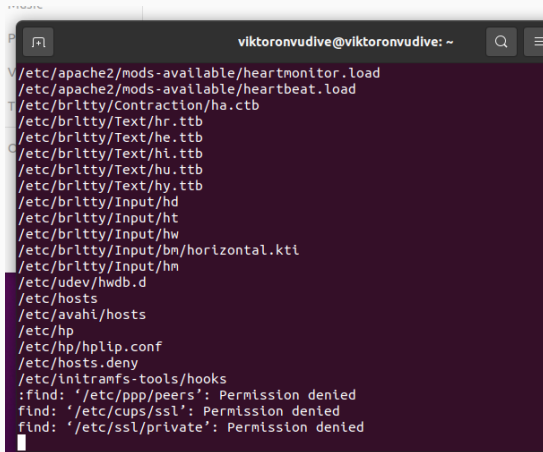
Рис. 2: Поиск расширения .conf

Команда поиска

A terminal window with a dark purple background and white text. The title bar at the top reads 'viktoronvudive@viktoronvudive: ~'. The terminal displays a list of file paths found by a search command. The paths are listed one per line, with some lines wrapped. The paths include directories like /home/viktoronvudive/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/ and files like pandocxnos/core.py, bib/cite.bib, pandoc/csl, and various files in the .mozilla/firefox/vbfbwqld.default-release/ directory. The prompt at the bottom is 'viktoronvudive@viktoronvudive:~\$' followed by a cursor.

```
viktoronvudive@viktoronvudive: ~  
/home/viktoronvudive/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/la  
b04/report/pandoc/filters/pandocxnos/core.py  
/home/viktoronvudive/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/la  
b04/report/bib/cite.bib  
/home/viktoronvudive/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/la  
b09/report/pandoc/csl  
/home/viktoronvudive/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/la  
b09/report/pandoc/filters/pandocxnos/core.py  
/home/viktoronvudive/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/la  
b09/report/pandoc/filters/pandocxnos/core.py  
/home/viktoronvudive/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/la  
b09/report/bib/cite.bib  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/cert9.db  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/content-prefs.sql  
ite  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/containers.json  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/cookies.sqlite-wa  
l  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/compatibility.ini  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/cookies.sqlite  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/crashes  
viktoronvudive@viktoronvudive:~$
```

Рис. 3: Поиск файлов

A terminal window with a dark background and light text. The window title is 'viktoronvudive@viktoronvudive: ~'. It shows the output of a file search command, listing various system files and directories. At the bottom, there are three lines of error messages indicating 'Permission denied' for specific paths.

```
viktoronvudive@viktoronvudive: ~  
/etc/apache2/mods-available/heartmonitor.load  
/etc/apache2/mods-available/heartbeat.load  
/etc/brltty/Contraction/ha.ctb  
/etc/brltty/Text/hr.ttb  
/etc/brltty/Text/he.ttb  
/etc/brltty/Text/hi.ttb  
/etc/brltty/Text/hu.ttb  
/etc/brltty/Text/hy.ttb  
/etc/brltty/Input/hd  
/etc/brltty/Input/ht  
/etc/brltty/Input/hw  
/etc/brltty/Input/bm/horizontal.kti  
/etc/brltty/Input/hn  
/etc/udev/hwdb.d  
/etc/hosts  
/etc/avahi/hosts  
/etc/hp  
/etc/hp/hplip.conf  
/etc/hosts.deny  
/etc/initramfs-tools/hooks  
:find: '/etc/ppp/peers': Permission denied  
find: '/etc/cups/ssl': Permission denied  
find: '/etc/ssl/private': Permission denied
```

Рис. 4: Поиск файлов

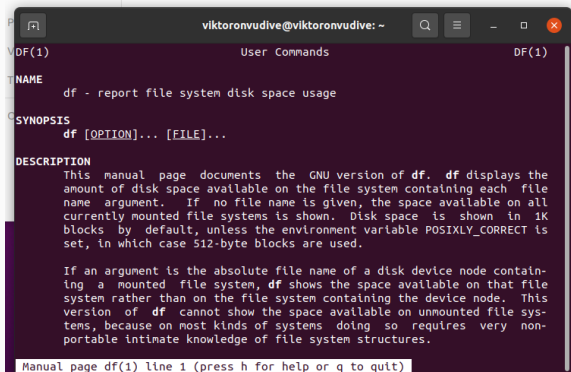
```
viktoronvudive@viktoronvudive:~$  
viktoronvudive@viktoronvudive:~$ find /etc -name "h*" -print | less  
viktoronvudive@viktoronvudive:~$  
viktoronvudive@viktoronvudive:~$ find ~ -name "log*" > logfile &  
[1] 3385  
viktoronvudive@viktoronvudive:~$  
[1]+  Done                  find ~ -name "log*" > logfile  
viktoronvudive@viktoronvudive:~$ rm logfile  
viktoronvudive@viktoronvudive:~$
```

Рис. 5: Фоновый запуск процесса

```
viktoronvudive@viktoronvudive:~$  
viktoronvudive@viktoronvudive:~$ gedit &  
[1] 3422  
viktoronvudive@viktoronvudive:~$ ps | grep gedit  
3422 pts/0    00:00:00 gedit  
viktoronvudive@viktoronvudive:~$ kill 3422  
viktoronvudive@viktoronvudive:~$  
[1]+  Terminated          gedit  
viktoronvudive@viktoronvudive:~$ █
```

Рис. 6: Фоновый запуск и завершение процесса

Команды df и du



The screenshot shows a terminal window titled "viktoronvudive@viktoronvudive: ~". The terminal displays the manual page for the 'df' command. The window has a dark background with light-colored text. The terminal output is as follows:

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

NAME
    df - report file system disk space usage

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

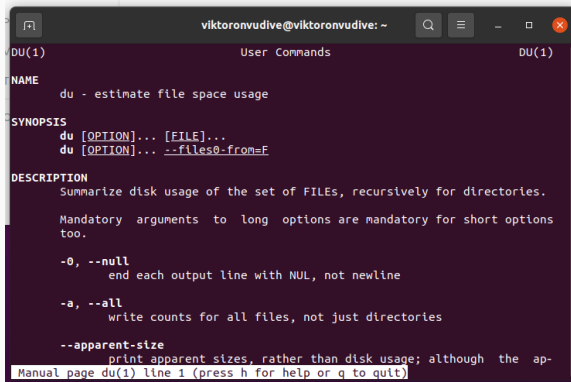
DESCRIPTION
    This manual page documents the GNU version of df. df displays the
    amount of disk space available on the file system containing each file
    name argument. If no file name is given, the space available on all
    currently mounted file systems is shown. Disk space is shown in 1K
    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)
```

Рис. 7: Справка по команде df

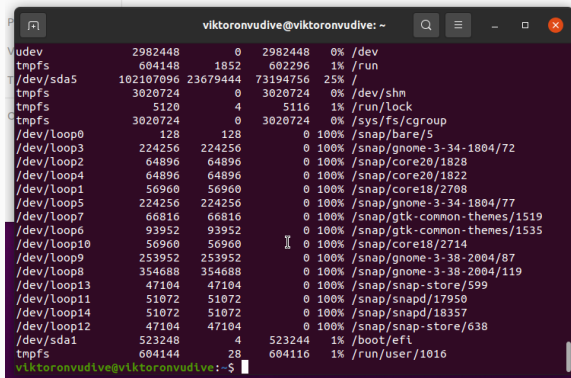
Команды df и du



```
viktoronvudive@viktoronvudive: ~  
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)
```

Рис. 8: Запуск команды df

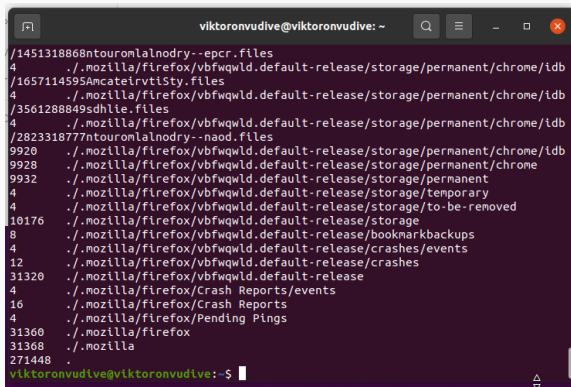
Команды df и du



```
viktoronvudive@viktoronvudive: ~  
df  
Filesystem      2982448    0 2982448    0% /dev  
tmpfs           604148    1852 602296    1% /run  
/dev/sda5       102107096 23679444 73194756 25% /  
tmpfs           3020724    0 3020724    0% /dev/shm  
tmpfs           5120      4    5116     1% /run/lock  
tmpfs           3020724    0 3020724    0% /sys/fs/cgroup  
/dev/loop0      128       128      0 100% /snap/bare/5  
/dev/loop3      224256    224256      0 100% /snap/gnome-3-34-1804/72  
/dev/loop2      64896     64896      0 100% /snap/core20/1828  
/dev/loop4      64896     64896      0 100% /snap/core20/1822  
/dev/loop1      56960     56960      0 100% /snap/core18/2708  
/dev/loop5      224256    224256      0 100% /snap/gnome-3-34-1804/77  
/dev/loop7      66816     66816      0 100% /snap/gtk-common-themes/1519  
/dev/loop6      93952     93952      0 100% /snap/gtk-common-themes/1535  
/dev/loop10     56960     56960      0 100% /snap/core18/2714  
/dev/loop9      253952    253952      0 100% /snap/gnome-3-38-2004/87  
/dev/loop8      354688    354688      0 100% /snap/gnome-3-38-2004/119  
/dev/loop13     47104     47104      0 100% /snap/snap-store/599  
/dev/loop11     51072     51072      0 100% /snap/snapd/17950  
/dev/loop14     51072     51072      0 100% /snap/snapd/18357  
/dev/loop12     47104     47104      0 100% /snap/snap-store/638  
/dev/sda1       523248    4    523244    1% /boot/efi  
tmpfs           604144    28    604116    1% /run/user/1016  
viktoronvudive@viktoronvudive:~$
```

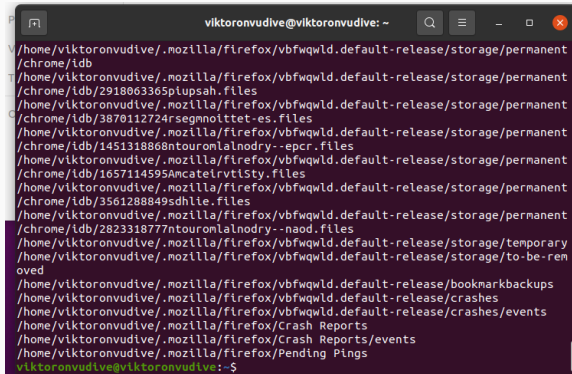
Рис. 9: Справка по команде du

Команды df и du



```
viktoronvudive@viktoronvudive: ~  
/1451318868ntouromlalnodyr--epcr.files  
4      ./mozilla/firefox/vbfbwqld.default-release/storage/permanent/chrome/ldb  
/1657114595AmcateirvtiSty.files  
4      ./mozilla/firefox/vbfbwqld.default-release/storage/permanent/chrome/ldb  
/3561288849sdhlie.files  
4      ./mozilla/firefox/vbfbwqld.default-release/storage/permanent/chrome/ldb  
/2823318777ntouromlalnodyr--naod.files  
9920   ./mozilla/firefox/vbfbwqld.default-release/storage/permanent/chrome/ldb  
9928   ./mozilla/firefox/vbfbwqld.default-release/storage/permanent/chrome  
9932   ./mozilla/firefox/vbfbwqld.default-release/storage/permanent  
4      ./mozilla/firefox/vbfbwqld.default-release/storage/temporary  
4      ./mozilla/firefox/vbfbwqld.default-release/storage/to-be-removed  
10176  ./mozilla/firefox/vbfbwqld.default-release/storage  
8      ./mozilla/firefox/vbfbwqld.default-release/bookmarkbackups  
4      ./mozilla/firefox/vbfbwqld.default-release/crashes/events  
12     ./mozilla/firefox/vbfbwqld.default-release/crashes  
31320  ./mozilla/firefox/vbfbwqld.default-release  
4      ./mozilla/firefox/Crash Reports/events  
16     ./mozilla/firefox/Crash Reports  
4      ./mozilla/firefox/Pending Pings  
31360  ./mozilla/firefox  
31368  ./mozilla  
271448 .  
viktoronvudive@viktoronvudive:~$
```

Рис. 10: Запуск команды du



```
viktoronvudive@viktoronvudive: ~  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome/ldb  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome/ldb/2918063365piupsah.files  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome/ldb/3870112724rsegnnoittet-es.files  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome/ldb/1451318868ntouromlalnody--epcr.files  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome/ldb/1657114595AmcateIrvtISty.files  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome/ldb/3561288849sdhlie.files  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/permanent  
/chrome/ldb/2823318777ntouromlalnody--naod.files  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/temporary  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/storage/to-be-rem  
oved  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/bookmarkbackups  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/crashes  
/home/viktoronvudive/.mozilla/firefox/vbfbwqld.default-release/crashes/events  
/home/viktoronvudive/.mozilla/firefox/Crash Reports  
/home/viktoronvudive/.mozilla/firefox/Crash Reports/events  
/home/viktoronvudive/.mozilla/firefox/Pending Pings  
viktoronvudive@viktoronvudive:~$
```

Рис. 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.