

Поиск файлов. Перенаправление ввода-вывода. Просмотр запущенных процессов

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Цели и задачи работы

Цель лабораторной работы

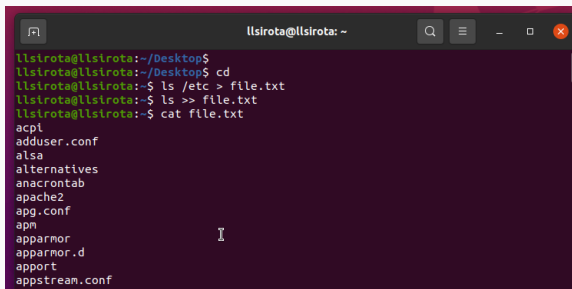
Ознакомление с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобретение практических навыков по применению команд для работы с файлами и каталогами, по управлению процессами, по проверке использования диска и обслуживанию файловой системы.

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

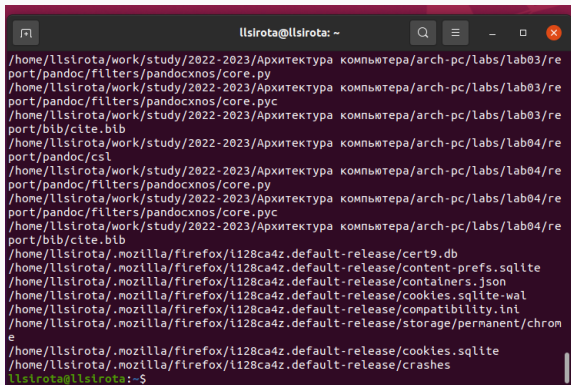


```
llsirota@llsirota: ~  
llsirota@llsirota: ~/Desktop$  
llsirota@llsirota: ~/Desktop$ cd  
llsirota@llsirota:~$ ls /etc > file.txt  
llsirota@llsirota:~$ ls >> file.txt  
llsirota@llsirota:~$ cat file.txt  
acpi  
adduser.conf  
alsa  
alternatives  
anacrontab  
apache2  
apg.conf  
apm  
apparmor  
apparmor.d  
apport  
appstream.conf
```

Рис. 1: Запись в файл

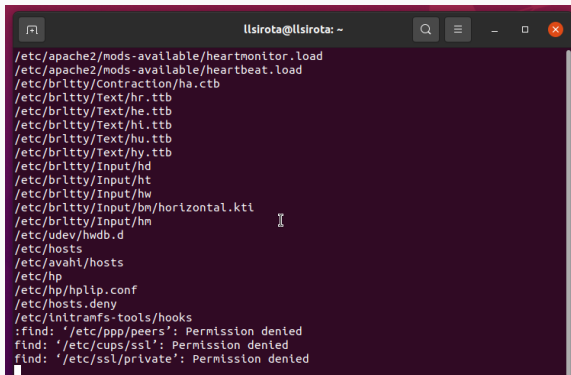
```
llsirota@llsirota:~$  
llsirota@llsirota:~$ grep .conf file.txt > conf.txt  
llsirota@llsirota:~$ cat conf.txt  
adduser.conf  
apg.conf  
appstream.conf  
brltty.conf  
ca-certificates.conf  
ca-certificates.conf.dpkg-old  
dconf  
debconf.conf  
deluser.conf  
e2scrub.conf  
fprintd.conf  
fuse.conf  
gai.conf
```

Рис. 2: Поиск расширения .conf



```
llsirota@llsirota: ~  
/home/llsirota/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/lab03/re  
port/pandoc/filters/pandocxnos/core.py  
/home/llsirota/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/lab03/re  
port/pandoc/filters/pandocxnos/core.pyс  
/home/llsirota/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/lab03/re  
port/bib/cite.bib  
/home/llsirota/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/lab04/re  
port/pandoc/csl  
/home/llsirota/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/lab04/re  
port/pandoc/filters/pandocxnos/core.py  
/home/llsirota/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/lab04/re  
port/pandoc/filters/pandocxnos/core.pyс  
/home/llsirota/work/study/2022-2023/Архитектура компьютера/arch-pc/labs/lab04/re  
port/bib/cite.bib  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/cert9.db  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/content-prefs.sqlite  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/containers.json  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/cookies.sqlite-wal  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/compatibility.ini  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom  
e  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/cookies.sqlite  
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/crashes  
llsirota@llsirota:~$
```

Рис. 3: Поиск файлов

A terminal window with a dark purple background and white text. The window title is 'l1sirota@l1sirota: ~'. It shows a list of files found by a search command, including configuration files for Apache2, Brltty, and various system files. The search results are listed line by line, and the terminal ends with three 'find' error messages indicating permission denied for certain directories.

```
l1sirota@l1sirota: ~  
/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/hm  
/etc/udev/hwdb.d  
/etc/hosts  
/etc/avahi/hosts  
/etc/hp  
/etc/hp/hplip.conf  
/etc/hosts.deny  
/etc/intramsfs-tools/hooks  
:find: '/etc/ppp/peers': Permission denied  
:find: '/etc/cups/ssl': Permission denied  
:find: '/etc/ssl/private': Permission denied
```

Рис. 4: Поиск файлов

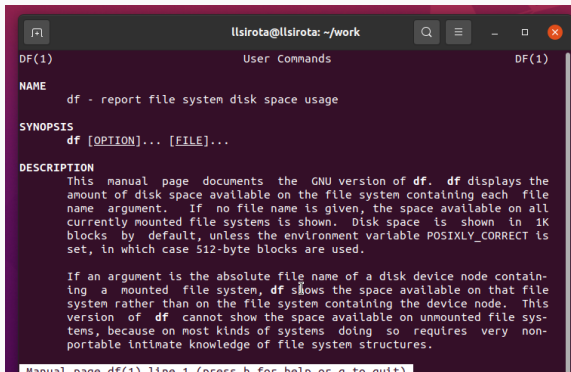
```
llsirota@llsirota:~$  
llsirota@llsirota:~$ find /etc -name "h*" - print | less  
find: paths must precede expression: '-'  
llsirota@llsirota:~$ find /etc -name "h*" -print | less  
llsirota@llsirota:~$  
llsirota@llsirota:~$ find ~ -name "log*" > logfile &  
[1] 2778  
llsirota@llsirota:~$  
[1]+  Done                  find ~ -name "log*" > logfile  
llsirota@llsirota:~$ rm logfile  
llsirota@llsirota:~$
```

Рис. 5: Фоновый запуск процесса

```
llsirota@llsirota:~$  
llsirota@llsirota:~$ gedit  
^C  
llsirota@llsirota:~$ gedit &  
[1] 2828  
llsirota@llsirota:~$  
llsirota@llsirota:~$ ps | grep gedit  
    2828 pts/0    00:00:00 gedit  
llsirota@llsirota:~$ kill 2828  
llsirota@llsirota:~$  
[1]+  Terminated                  gedit  
llsirota@llsirota:~$
```

Рис. 6: Фоновый запуск и завершение процесса

Команды df и du



```
llsirota@llsirota: ~/work
DF(1)                                User Commands                                DF(1)

NAME
    df - report file system disk space usage

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

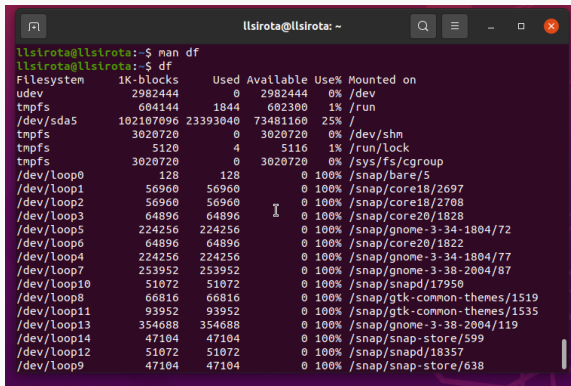
DESCRIPTION
    This manual page documents the GNU version of df. df displays the
    amount of disk space available on the file system containing each file
    name argument. If no file name is given, the space available on all
    currently mounted file systems is shown. Disk space is shown in 1K
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

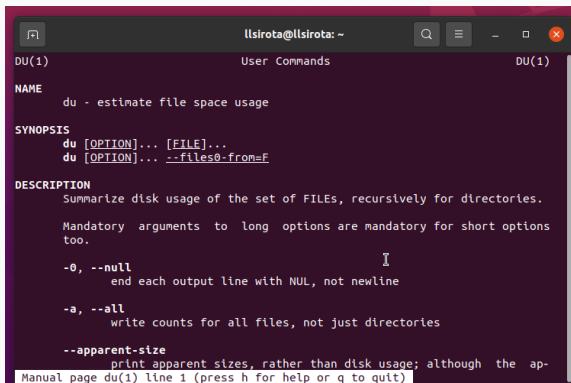


The image shows a terminal window with a dark purple background. The window title is 'llsirota@llsirota: ~'. The user has entered the command 'df'. The output is a table showing disk space usage for various filesystems. The columns are: Filesystem, 1K-blocks, Used, Available, Use%, and Mounted on. The data is as follows:

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	2982444	0	2982444	0%	/dev
tmpfs	604144	1844	602300	1%	/run
/dev/sda5	102107096	23393040	73481160	25%	/
tmpfs	3020720	0	3020720	0%	/dev/shm
tmpfs	5120	4	5116	1%	/run/lock
tmpfs	3020720	0	3020720	0%	/sys/fs/cgroup
/dev/loop0	128	128	0	100%	/snap/bare/5
/dev/loop1	56960	56960	0	100%	/snap/core18/2697
/dev/loop2	56960	56960	0	100%	/snap/core18/2708
/dev/loop3	64896	64896	0	100%	/snap/core20/1828
/dev/loop5	224256	224256	0	100%	/snap/gnome-3-34-1804/72
/dev/loop6	64896	64896	0	100%	/snap/core20/1822
/dev/loop4	224256	224256	0	100%	/snap/gnome-3-34-1804/77
/dev/loop7	253952	253952	0	100%	/snap/gnome-3-38-2004/87
/dev/loop10	51072	51072	0	100%	/snap/snapd/17950
/dev/loop8	66816	66816	0	100%	/snap/gtk-common-themes/1519
/dev/loop11	93952	93952	0	100%	/snap/gtk-common-themes/1535
/dev/loop13	354688	354688	0	100%	/snap/gnome-3-38-2004/119
/dev/loop14	47104	47104	0	100%	/snap/snap-store/599
/dev/loop12	51072	51072	0	100%	/snap/snapd/18357
/dev/loop9	47104	47104	0	100%	/snap/snap-store/638

Рис. 8: Запуск команды df

Команды df и du



The screenshot shows a terminal window titled "llesirota@llesirota: ~". The terminal displays the manual page for the "du" command. The window has a dark purple background with white text. The terminal content is as follows:

```
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.

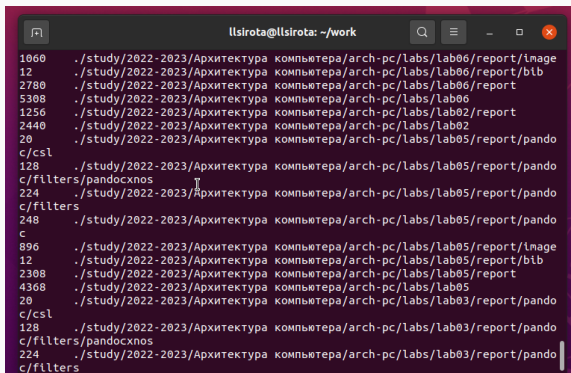
    -0, --null
        end each output line with NUL, not newline

    -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)
```

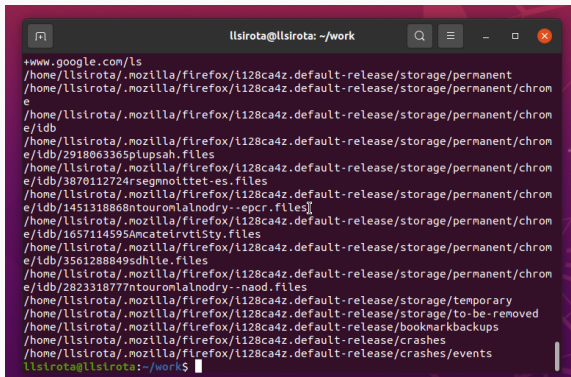
Рис. 9: Справка по команде du

Команды df и du



```
llesirota@llesirota: ~/work
1060 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab06/report/image
12 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab06/report/bib
2780 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab06/report
5308 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab06
1256 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab02/report
2440 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab02
20 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05/report/pando
c/csl
128 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05/report/pando
c/filters/pandocxnos
224 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05/report/pando
c/filters
248 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05/report/pando
c
896 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05/report/image
12 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05/report/bib
2308 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05/report
4368 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab05
20 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab03/report/pando
c/csl
128 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab03/report/pando
c/filters/pandocxnos
224 ./study/2022-2023/Архитектура компьютера/arch-pc/labs/lab03/report/pando
c/filters
```

Рис. 10: Запуск команды du



```
llsirota@llsirota: ~/work
+www.google.com/ls
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e/ldb
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e/ldb/2918063365piupsah.files
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e/ldb/3870112724rsegmnoittet-es.files
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e/ldb/1451318868ntouromlalnody--epcr.files
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e/ldb/1657114595AmcateirvtiSty.files
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e/ldb/3561288849sdhlie.files
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/permanent/chrom
e/ldb/2823318777ntouromlalnody--naod.files
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/temporary
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/storage/to-be-removed
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/bookmarkbackups
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/crashes
/home/llsirota/.mozilla/firefox/i128ca4z.default-release/crashes/events
llsirota@llsirota:~/work$
```

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.