

Поиск файлов. Перенаправление ввода-вывода. Просмотр запущенных процессов

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21 июня, 2024, Москва, Россия

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Цели и задачи работы

Цель лабораторной работы

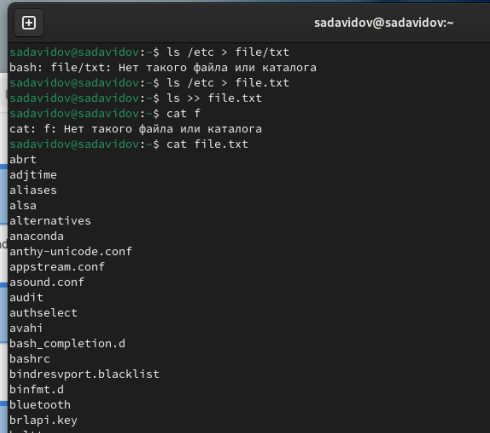
Ознакомление с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобретение практических навыков по применению команд для работы с файлами и каталогами, по управлению процессами, по проверке использования диска и обслуживанию файловой системы.

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



```
sadavidov@sadavidov:~  
sadavidov@sadavidov:~$ ls /etc > file/txt  
bash: file/txt: Нет такого файла или каталога  
sadavidov@sadavidov:~$ ls /etc > file.txt  
sadavidov@sadavidov:~$ ls >> file.txt  
sadavidov@sadavidov:~$ cat f  
cat: f: Нет такого файла или каталога  
sadavidov@sadavidov:~$ cat file.txt  
abrt  
adjtime  
aliases  
alsa  
alternatives  
anaconda  
anthy-unicode.conf  
appstream.conf  
asound.conf  
audit  
authselect  
avahi  
bash_completion.d  
bashrc  
bindresvport.blacklist  
binfmt.d  
bluetooth  
brlapi.key  
brltty
```

Рис. 1: Запись в файл

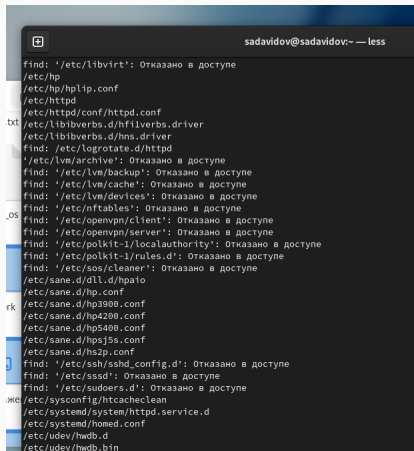
Работа фильтра

```
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$ grep .conf file.txt > conf.txt  
sadavidov@sadavidov:~$ cat conf.txt  
anthy-unicode.conf  
appstream.conf  
asound.conf  
brltty.conf  
chkconfig.d  
chrony.conf  
dconf  
dleyna-server-service.conf  
dnsmasq.conf  
dracut.conf  
dracut.conf.d  
fprintd.conf  
fuse.conf  
host.conf  
idmapd.conf  
kdump.conf  
krb5.conf  
krb5.conf.d  
ld.so.conf  
ld.so.conf.d  
libaudit.conf  
libuser.conf  
locale.conf  
logrotate.conf  
makedumpfile.conf.sample  
man_db.conf  
mke2fs.conf  
mtools.conf  
ndctl.conf.d  
netconfig  
nfs.conf
```

Рис. 2: Поиск расширения .conf

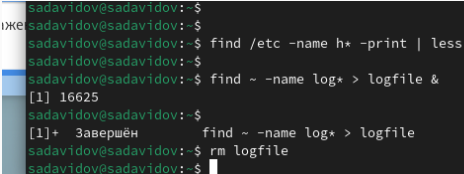
```
usb_modeswitch.conf
vconsole.conf
whois.conf
xattr.conf
sadavidov@sadavidov:~$
sadavidov@sadavidov:~$
sadavidov@sadavidov:~$ ls -R | grep c*
conf.txt
sadavidov@sadavidov:~$ find ~ -name c* -print
/home/sadavidov/conf.txt
sadavidov@sadavidov:~$
sadavidov@sadavidov:~$
```

Рис. 3: Поиск файлов



```
sadavidov@sadavidov:~ — less
find: '/etc/libvirt': Отказано в доступе
/etc/hp
/etc/hp/hplip.conf
/etc/httpd
/etc/httpd/conf/httpd.conf
/etc/liblverbs.d/hfi1verbs.driver
/etc/liblverbs.d/hns.driver
find: /etc/logrotate.d/httpd
'/etc/lvm/archive': Отказано в доступе
find: '/etc/lvm/backup': Отказано в доступе
find: '/etc/lvm/cache': Отказано в доступе
find: '/etc/lvm/devices': Отказано в доступе
find: '/etc/nftables': Отказано в доступе
find: '/etc/openvpn/client': Отказано в доступе
find: '/etc/openvpn/server': Отказано в доступе
find: '/etc/polkit-1/localauthority': Отказано в доступе
find: '/etc/polkit-1/rules.d': Отказано в доступе
find: '/etc/sos/cleaner': Отказано в доступе
/etc/sane.d/dll.d/hpaio
/etc/sane.d/hp.conf
/etc/sane.d/hp3900.conf
/etc/sane.d/hp4200.conf
/etc/sane.d/hp5400.conf
/etc/sane.d/hpsj5s.conf
/etc/sane.d/hs2p.conf
find: '/etc/ssh/sshd_config.d': Отказано в доступе
find: '/etc/sss': Отказано в доступе
find: '/etc/sudoers.d': Отказано в доступе
/etc/sysconfig/htcacheclean
/etc/systemd/system/httpd.service.d
/etc/systemd/homed.conf
/etc/udev/hwdb.d
/etc/udev/hwdb.bin
```

Рис. 4: Поиск файлов



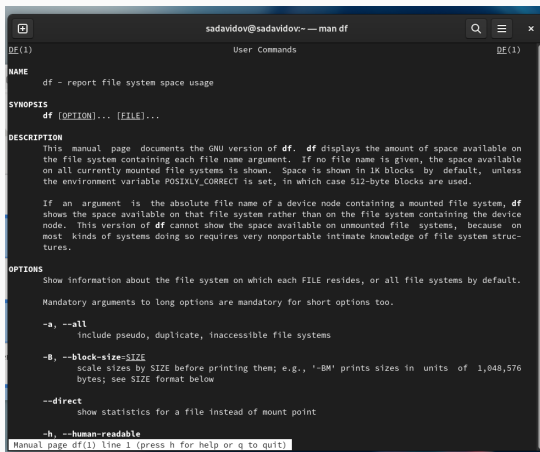
```
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$ find /etc -name h* -print | less  
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$ find ~ -name log* > logfile &  
[1] 16625  
sadavidov@sadavidov:~$  
[1]+  Завершён          find ~ -name log* > logfile  
sadavidov@sadavidov:~$ rm logfile  
sadavidov@sadavidov:~$
```

Рис. 5: Фоновый запуск процесса

```
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$ find /etc -name h* -print | less  
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$ find ~ -name log* > logfile &  
[1] 16625  
sadavidov@sadavidov:~$  
[1]+  Завершён          find ~ -name log* > logfile  
sadavidov@sadavidov:~$ rm logfile  
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$  
sadavidov@sadavidov:~$ gedit &  
[1] 16665  
sadavidov@sadavidov:~$ ps | grep gedit  
16665 pts/0    00:00:00 gedit  
sadavidov@sadavidov:~$ kill 16665  
sadavidov@sadavidov:~$  
[1]+  Завершено      gedit  
sadavidov@sadavidov:~$
```

Рис. 6: Фоновый запуск и завершение процесса

Команды df и du



```
df(1) User Commands df(1)

NAME
  df - report file system space usage

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

DESCRIPTION
  This manual page documents the GNU version of df. df displays the amount of 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. 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 device node containing 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 systems, because on most kinds of systems doing so requires very nonportable intimate knowledge of file system structures.

OPTIONS
  Show information about the file system on which each FILE resides, or all file systems by default.

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

  -a, --all
      include pseudo, duplicate, inaccessible file systems

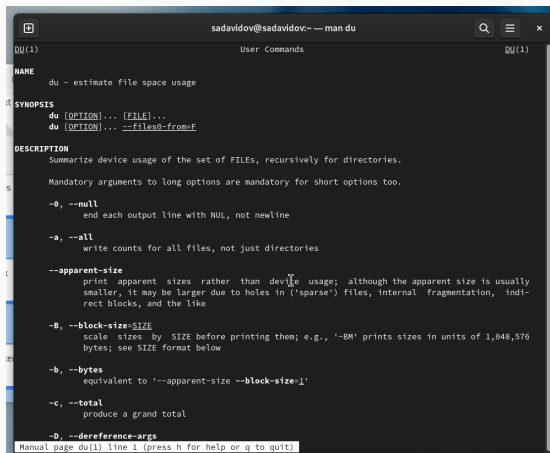
  -B, --block-size=SIZE
      scale sizes by SIZE before printing them; e.g., '-BM' prints sizes in units of 1,048,576 bytes; see SIZE format below

  --direct
      show statistics for a file instead of mount point

  -h, --human-readable
      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 screenshot shows a terminal window titled 'sadavidov@sadavidov:~ -- man du'. The window displays the manual page for the 'du' command. The 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 device 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 device usage; although the apparent size is usually
        smaller, it may be larger due to holes in ('sparse') files, internal fragmentation, indi-
        rect blocks, and the like

    -B, --block-size=SIZE
        scale sizes by SIZE before printing them; e.g., '-BM' prints sizes in units of 1,048,576
        bytes; see SIZE format below

    -b, --bytes
        equivalent to '--apparent-size --block-size=1'

    -c, --total
        produce a grand total

    -D, --dereference-args
    Manual page du(1) line 1 (press h for help or q to quit)
```

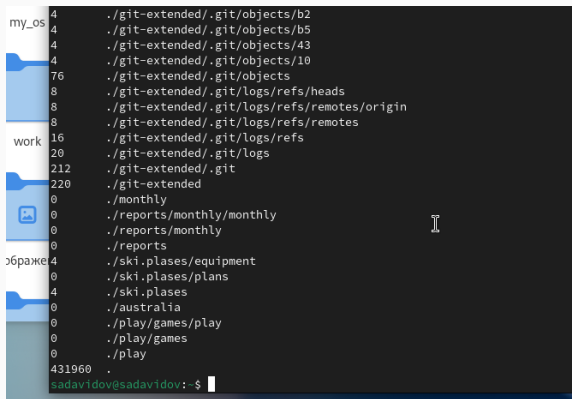
Рис. 8: Запуск команды df

Команды df и du

```
sadavidov@sadavidov:~$ man du
sadavidov@sadavidov:~$ df
Файловая система 1K-блоков  Использовано  Доступно  Использовано%  Смонтировано в
/dev/sda3          103805952    42069904  59193392         42% /
devtmpfs           4096          0      4096          0% /dev
tmpfs              4044840       0    4044840          0% /dev/shm
tmpfs              1617936      1888    1616048          1% /run
/dev/sda3          103805952    42069904  59193392         42% /home
tmpfs              4044840       16    4044824          1% /tmp
/dev/sda2           996780       271404    656564          30% /boot
tmpfs              808968       200     808768          1% /run/user/1078
sadavidov@sadavidov:~$
```

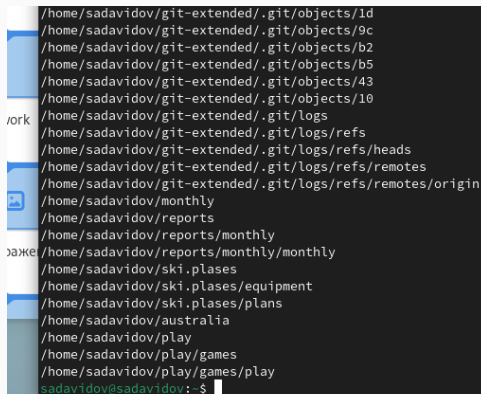
Рис. 9: Справка по команде du

Команды df и du



```
4      ./git-extended/.git/objects/b2
4      ./git-extended/.git/objects/b5
4      ./git-extended/.git/objects/43
4      ./git-extended/.git/objects/10
76     ./git-extended/.git/objects
8      ./git-extended/.git/logs/refs/heads
8      ./git-extended/.git/logs/refs/remotes/origin
8      ./git-extended/.git/logs/refs/remotes
16     ./git-extended/.git/logs/refs
20     ./git-extended/.git/logs
212    ./git-extended/.git
220    ./git-extended
0      ./monthly
0      ./reports/monthly/monthly
0      ./reports/monthly
0      ./reports
4      ./ski.plases/equipment
0      ./ski.plases/plans
4      ./ski.plases
0      ./australia
0      ./play/games/play
0      ./play/games
0      ./play
431960 .
sadavidov@sadavidov: ~$
```

Рис. 10: Запуск команды du



```
/home/sadavidov/git-extended/.git/objects/1d
/home/sadavidov/git-extended/.git/objects/9c
/home/sadavidov/git-extended/.git/objects/b2
/home/sadavidov/git-extended/.git/objects/b5
/home/sadavidov/git-extended/.git/objects/43
/home/sadavidov/git-extended/.git/objects/10
work /home/sadavidov/git-extended/.git/logs
/home/sadavidov/git-extended/.git/logs/refs
/home/sadavidov/git-extended/.git/logs/refs/heads
/home/sadavidov/git-extended/.git/logs/refs/remotes
/home/sadavidov/git-extended/.git/logs/refs/remotes/origin
/home/sadavidov/monthly
/home/sadavidov/reports
/home/sadavidov/reports/monthly
еже /home/sadavidov/reports/monthly/monthly
аже /home/sadavidov/reports/monthly/monthly/monthly
/home/sadavidov/ski.places
/home/sadavidov/ski.places/equipment
/home/sadavidov/ski.places/plans
/home/sadavidov/australia
/home/sadavidov/play
/home/sadavidov/play/games
/home/sadavidov/play/games/play
sadavidov@sadavidov:~$
```

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.