

# Поиск файлов. Перенаправление ввода-вывода. Просмотр запущенных процессов

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# Цели и задачи работы

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# Цель лабораторной работы

Ознакомление с инструментами поиска файлов и фильтрации текстовых данных.  
Приобретение практических навыков: по управлению процессами (и заданиями), по проверке использования диска и обслуживанию файловых систем.

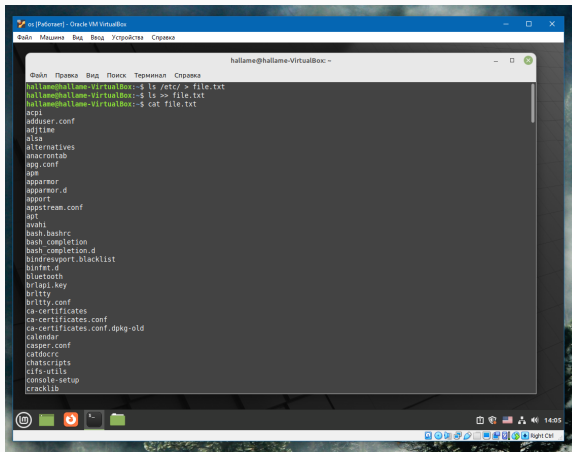
# Задачи лабораторной работы

- 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**

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# Перенаправление ввода-вывода



The screenshot shows a terminal window titled "hallame@hallame-VirtualBox -". The terminal displays the following commands and output:

```
hallame@hallame-VirtualBox:~$ ls /etc/ > file.txt
hallame@hallame-VirtualBox:~$ ls >> file.txt
hallame@hallame-VirtualBox:~$ cat file.txt
acpi
adduser.conf
adjtime
alsa
alternatives
anacrontab
app.conf
apparmor
apparmor.d
appport
appstream.conf
apt
avahi
bash.bashrc
bash_completion
bash_completion.d
bindresvport.blacklist
binfmt.d
bluetooth
brltty
brltty.conf
ca-certificates
ca-certificates.conf
ca-certificates.conf.dpkg-old
calendar
casper.conf
catdocrc
chatscripts
cifs-utils
console-setup
cracklib
```

Figure 1: Запись в файл

# Работа фильтра

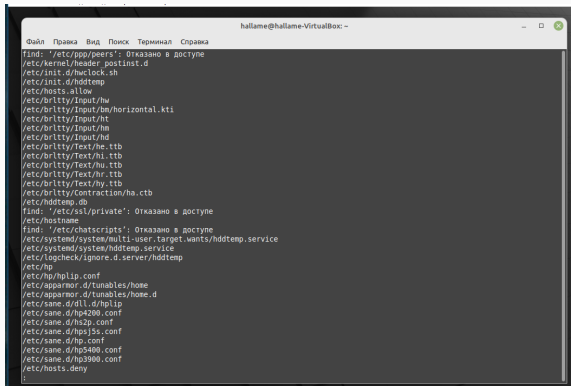
```
hallane@hallane-VirtualBox:~$  
hallane@hallane-VirtualBox:~$  
hallane@hallane-VirtualBox:~$ grep .conf file.txt > conf.txt  
hallane@hallane-VirtualBox:~$ cat conf.txt  
adduser.conf  
apg.conf  
appstream.conf  
brltty.conf  
ca-certificates.conf  
ca-certificates.conf.dpkg-old  
casper.conf  
dconf  
debconf.conf  
deluser.conf  
e2scrub.conf  
fprintd.conf  
fuse.conf  
gai.conf  
hdparm.conf  
host.conf  
lxi.conf  
kernel-iaq.conf  
kerneloops.conf  
ld.so.conf  
ld.so.conf.d  
libao.conf  
libaudit.conf  
logrotate.conf  
ltrace.conf  
manpath.config  
mke2fs.conf  
mtools.conf  
nsswitch.conf
```

Figure 2: Поиск расширения .conf

```
hallame@hallame-VirtualBox:~$  
hallame@hallame-VirtualBox:~$ ls -R | grep c*  
conf.txt  
hallame@hallame-VirtualBox:~$ find - -name "c*" -print  
/home/hallame/conf.txt  
/home/hallame/.cache/evolution/calendar  
/home/hallame/.cache/mesa_shader_cache/c0  
/home/hallame/.cache/mesa_shader_cache/c0/cab810f81c92d409def7b9ea439da2018db1ac  
/home/hallame/.cache/mesa_shader_cache/a1/cfff11239e370300e22ff15e58ba76b2b37065  
/home/hallame/.cache/mesa_shader_cache/c4  
/home/hallame/.cache/mesa_shader_cache/cc  
/home/hallame/.cache/mesa_shader_cache/89/c17cbdf112bcd52dd72885192ee34e6d9ee734  
/home/hallame/.config/caja  
/home/hallame/.config/cinnamon-session  
/home/hallame/.config/menus/cinnamon-applications-merged  
/home/hallame/.config/pulse/cookie  
/home/hallame/.local/share/evolution/addressbook/system/contacts.db  
/home/hallame/.local/share/evolution/calendar  
/home/hallame/.local/share/evolution/calendar/system/calendar.ics  
/home/hallame/.local/share/cinnamon  
/home/hallame/.cinnamon/configs  
/home/hallame/.cinnamon/configs/calendar@cinnamon.org  
/home/hallame/.cinnamon/spices.cache/desklet/commandOfTheDay@logg.png  
/home/hallame/.cinnamon/spices.cache/desklet/cryptocoins@pbojan.png  
/home/hallame/.cinnamon/spices.cache/desklet/covid-19-india@sujitagarwal.png
```

Figure 3: Поиск файлов





The screenshot shows a terminal window titled 'hallame@hallame-VirtualBox: ~'. The terminal has a menu bar with 'Файл', 'Правка', 'Вид', 'Поиск', 'Терминал', and 'Справка'. The command 'find: /etc/ppp/peers: Отказано в доступе' is shown at the top. Below it, a list of files and directories is displayed, including /etc/kernel/header\_postinst.d, /etc/init.d/hwclock.sh, /etc/init.d/hddtemp, /etc/hosts.allow, /etc/brltty/Input/hw, /etc/brltty/Input/bn/horizontal.kti, /etc/brltty/Input/ht, /etc/brltty/Input/ha, /etc/brltty/Input/hd, /etc/brltty/Text/he.ttb, /etc/brltty/Text/hi.ttb, /etc/brltty/Text/hu.ttb, /etc/brltty/Text/hr.ttb, /etc/brltty/Text/hy.ttb, /etc/brltty/Contraction/ha.ctb, /etc/hddtemp.db, /etc/ssl/private, /etc/hostname, /etc/chatscripts, /etc/systemd/system/multi-user.target.wants/hddtemp.service, /etc/systemd/system/hddtemp.service, /etc/logcheck/ignore.d.server/hddtemp, /etc/hp, /etc/hp/hplip.conf, /etc/apparmor.d/tunables/home, /etc/apparmor.d/tunables/home.d, /etc/sane.d/dll.d/hplip, /etc/sane.d/hp4200.conf, /etc/sane.d/hs2p.conf, /etc/sane.d/hpsjs5.conf, /etc/sane.d/hp.conf, /etc/sane.d/hp5400.conf, /etc/sane.d/hp3900.conf, /etc/hosts.deny, and a final prompt 'i:'.

```
hallame@hallame-VirtualBox: ~
Файл  Правка  Вид   Поиск  Терминал  Справка
find: /etc/ppp/peers: Отказано в доступе
/etc/kernel/header_postinst.d
/etc/init.d/hwclock.sh
/etc/init.d/hddtemp
/etc/hosts.allow
/etc/brltty/Input/hw
/etc/brltty/Input/bn/horizontal.kti
/etc/brltty/Input/ht
/etc/brltty/Input/ha
/etc/brltty/Input/hd
/etc/brltty/Text/he.ttb
/etc/brltty/Text/hi.ttb
/etc/brltty/Text/hu.ttb
/etc/brltty/Text/hr.ttb
/etc/brltty/Text/hy.ttb
/etc/brltty/Contraction/ha.ctb
/etc/hddtemp.db
find: /etc/ssl/private: Отказано в доступе
/etc/hostname
find: /etc/chatscripts: Отказано в доступе
/etc/systemd/system/multi-user.target.wants/hddtemp.service
/etc/systemd/system/hddtemp.service
/etc/logcheck/ignore.d.server/hddtemp
/etc/hp
/etc/hp/hplip.conf
/etc/apparmor.d/tunables/home
/etc/apparmor.d/tunables/home.d
/etc/sane.d/dll.d/hplip
/etc/sane.d/hp4200.conf
/etc/sane.d/hs2p.conf
/etc/sane.d/hpsjs5.conf
/etc/sane.d/hp.conf
/etc/sane.d/hp5400.conf
/etc/sane.d/hp3900.conf
/etc/hosts.deny
i:
```

Figure 4: Поиск файлов

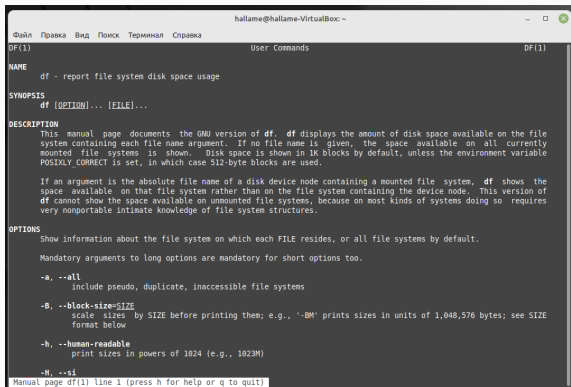
```
hallame@hallame-VirtualBox:~$  
hallame@hallame-VirtualBox:~$ find ~ -name "log*" > logfile &  
[1] 2698  
hallame@hallame-VirtualBox:~$  
[1]+  Завершён      find ~ -name "log*" > logfile  
hallame@hallame-VirtualBox:~$ rm logfile  
hallame@hallame-VirtualBox:~$
```

Figure 5: Фоновый запуск процесса

```
hallame@hallame-VirtualBox:~$  
hallame@hallame-VirtualBox:~$ gedit &  
[1] 2702  
hallame@hallame-VirtualBox:~$  
hallame@hallame-VirtualBox:~$ ps | grep gedit  
  2702 pts/0    00:00:00 gedit  
hallame@hallame-VirtualBox:~$ kill 2702  
hallame@hallame-VirtualBox:~$  
[1]+  Завершено      gedit  
hallame@hallame-VirtualBox:~$
```

**Figure 6:** Фоновый запуск и завершение процесса

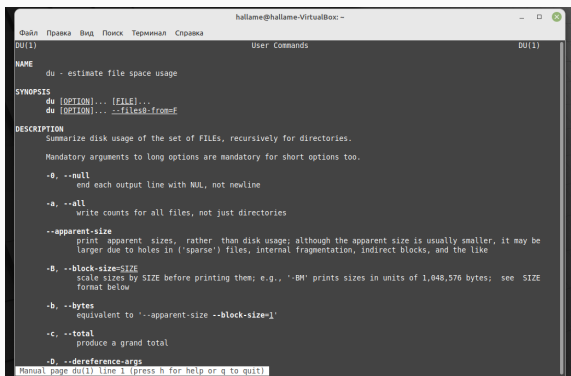
# Команды df и du



```
hallame@hallame-VirtualBox: ~  
Файл Правка Вид Поиск Терминал Справка  
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 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  
  
-h, --human-readable  
print sizes in powers of 1024 (e.g., 1023M)  
  
-H, --si  
Manual page df(1) line 1 (press h for help or q to quit)
```

Figure 7: Справка по команде df

# Команды df и du



```
halame@halame-VirtualBox: -
Файл Правка Вид Поиск Терминал 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.

-b, --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 apparent size is usually smaller, it may be
    larger due to holes in ('sparse') files, internal fragmentation, indirect 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)
```

Figure 8: Запуск команды df

# Команды df и du

```
hallane@hallane-VirtualBox:~$ df
hallane@hallane-VirtualBox:~$ df
Файл. система  1К-блоков  Использовано  Доступно  Использовано%  Смонтировано в
udev            1968136      0  1968136      0% /dev
tmpfs           483020      1148  401872      1% /run
/dev/sda5       40503552    9026068  29390316    24% /
tmpfs           2015084      0  2015084      0% /dev/shm
tmpfs           5120         4    5116      1% /run/lock
tmpfs           2015084      0  2015084      0% /sys/fs/cgroup
/dev/sda1       523248      4    523244      1% /boot/efi
tmpfs           483016      28    402988      1% /run/user/1001
hallane@hallane-VirtualBox:~$
```

Figure 9: Справка по команде du

# Команды df и du

```
hallame@hallame-VirtualBox:~$ du
4      ./Изображения
4      ./Шаблоны
4      ./Музыка
4      ./Видео
4      ./monthly
4      ./themes
4      ./cache/evolution/mail/trash
8      ./cache/evolution/mail
4      ./cache/evolution/addressbook/trash
8      ./cache/evolution/addressbook
4      ./cache/evolution/memos/trash
8      ./cache/evolution/memos
4      ./cache/evolution/calendar/trash
8      ./cache/evolution/calendar
4      ./cache/evolution/tasks/trash
8      ./cache/evolution/tasks
4      ./cache/evolution/sources/trash
8      ./cache/evolution/sources
52     ./cache/evolution
8      ./cache/mesa_shader_cache/54
8      ./cache/mesa_shader_cache/c0
8      ./cache/mesa_shader_cache/59
8      ./cache/mesa_shader_cache/55
8      ./cache/mesa_shader_cache/d7
8      ./cache/mesa_shader_cache/3c
8      ./cache/mesa_shader_cache/2a
```

**Figure 10:** Запуск команды du

```
hallame@hallame-VirtualBox:~$  
hallame@hallame-VirtualBox:~$  
hallame@hallame-VirtualBox:~$ find ~ -type d  
/home/hallame  
/home/hallame/Изображения  
/home/hallame/Шаблоны  
/home/hallame/Музыка  
/home/hallame/Видео  
/home/hallame/monthly  
/home/hallame/.themes  
/home/hallame/.cache  
/home/hallame/.cache/evolution  
/home/hallame/.cache/evolution/mail  
/home/hallame/.cache/evolution/mail/trash  
/home/hallame/.cache/evolution/addressbook  
/home/hallame/.cache/evolution/addressbook/trash  
/home/hallame/.cache/evolution/memos  
/home/hallame/.cache/evolution/memos/trash  
/home/hallame/.cache/evolution/calendar  
/home/hallame/.cache/evolution/calendar/trash  
/home/hallame/.cache/evolution/tasks  
/home/hallame/.cache/evolution/tasks/trash  
/home/hallame/.cache/evolution/sources  
/home/hallame/.cache/evolution/sources/trash  
/home/hallame/.cache/evolution/mesa_shader_cache  
/home/hallame/.cache/evolution/mesa_shader_cache/54
```

**Figure 11:** Поиск директорий



## **Выводы по проделанной работе**

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