

# 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

```
[keisaev@fedora ~]$ ls /etc/ > file.txt
[keisaev@fedora ~]$ ls >> file.txt
[keisaev@fedora ~]$ cat file.txt
abrt
adjtime
aliases
alsa
alternatives
anaconda
anacrontab
asound.conf
at.deny
audit
authselect
avahi
bash_completion.d
bashrc
bindresvport.blacklist
binfmt.d
bluetooth
chrony.conf
cifs-utils
credstore
credstore.encrypted
cron.d
cron.daily
cron.deny
cron.hourly
cron.monthly
crontab
cron.weekly
crypto-policies
crypttab
csh.cshrc
csh.login
cups
cupshelpers
dbus-1
dconf
debuginfod
```

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## Работа фильтра

```
find: '/etc/audit': Отказано в доступе
find: '/etc/credstore.encrypted': Отказано в доступе
find: '/etc/credstore': Отказано в доступе
find: '/etc/cups/ssl': Отказано в доступе
find: '/etc/dhcp': Отказано в доступе
find: '/etc/firewalld': Отказано в доступе
find: '/etc/grub.d': Отказано в доступе
find: '/etc/ipsec.d': Отказано в доступе
find: '/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/pki/rsyslog': 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
find: '/etc/ssh/sshd_config.d': Отказано в доступе
find: '/etc/sss': Отказано в доступе
find: '/etc/sudoers.d': Отказано в доступе
find: '/etc/liboath': Отказано в доступе
```

(END)



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## Команда поиска

```
[keisaev@fedora ~]$ find /etc -name "h+" -print | less
[keisaev@fedora ~]$
[keisaev@fedora ~]$
[keisaev@fedora ~]$ finf - -name "log+" > logfile &
[1] 7512
[keisaev@fedora ~]$ bash: finf: команда не найдена

[1]+  Выход 127          finf - -name "log+" > logfile
[keisaev@fedora ~]$ find - -name "log+" > logfile &
[1] 7595
[keisaev@fedora ~]$ rm logfile
[1]+  Завершён          find - -name "log+" > logfile
[keisaev@fedora ~]$
[keisaev@fedora ~]$ rm logfile
```

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## Команда поиска

```
[keisaev@fedora ~]$ find /etc -name "h+" -print | less
[keisaev@fedora ~]$
[keisaev@fedora ~]$
[keisaev@fedora ~]$ finf - -name "log+" > logfile &
[1] 7512
[keisaev@fedora ~]$ bash: finf: команда не найдена

[1]+  Выход 127          finf - -name "log+" > logfile
[keisaev@fedora ~]$ find - -name "log+" > logfile &
[1] 7595
[keisaev@fedora ~]$ rm logfile
[1]+  Завершён          find - -name "log+" > logfile
[keisaev@fedora ~]$
[keisaev@fedora ~]$ rm logfile
rm: невозможно удалить 'logfile': Нет такого файла или каталога
[keisaev@fedora ~]$
[keisaev@fedora ~]$
[keisaev@fedora ~]$ gedit &
[1] 7978
[keisaev@fedora ~]$ ps | grep gedit
  7978 pts/0    00:00:01 gedit
[keisaev@fedora ~]$ kill 4464
bash: kill: (4464) - Нет такого процесса
[keisaev@fedora ~]$ kill 7978
[keisaev@fedora ~]$
[1]+  Завершено        gedit
[keisaev@fedora ~]$
```



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## Управление процессами

```
foot
DE(1)                                User Commands                                DE(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 avail-
    able on unmounted file systems, because on most kinds of systems doing so requires
    non-portable intimate knowledge of file system structures.

OPTIONS
    Show information about the file system on which each FILE resides, or all file sys-
    tems 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
        print sizes in powers of 1024 (e.g., 1023M)

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

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## Управление процессами

```
foot
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, 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
        dereference only symlinks that are listed on the command line

    -d, --max-depth=N
        print the total for a directory (or file, with --all) only if it is N or
        less levels deep

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

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## Команды df и du

```
[keisaev@fedora ~]$ df
Файловая система 1K-блоков  Использовано  Доступно  Использовано%  Смонтировано в
/dev/sda3          30405632      5040772  25226380          17% /
devtmpfs           4096           0    4096           0% /dev
tmpfs              1998684        428   1998256          1% /dev/shm
tmpfs              799476        1172   798304          1% /run
tmpfs              1024           0    1024           0% /run/credentials/systemd-jou
rnsd.service
tmpfs              1998688         4   1998684          1% /tmp
/dev/sda3          30405632      5040772  25226380          17% /home
/dev/sda2          996780        340108   587860          37% /boot
tmpfs              1024           0    1024           0% /run/credentials/systemd-res
olved.service
tmpfs              399736         80   399656          1% /run/user/1000
[keisaev@fedora ~]$
```

```
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```

## Команды df и du

```
foot
/home/keisaev/.password-store
/home/keisaev/.password-store/.git
/home/keisaev/.password-store/.git/hooks
/home/keisaev/.password-store/.git/info
/home/keisaev/.password-store/.git/refs
/home/keisaev/.password-store/.git/refs/heads
/home/keisaev/.password-store/.git/refs/tags
/home/keisaev/.password-store/.git/objects
/home/keisaev/.password-store/.git/objects/pack
/home/keisaev/.password-store/.git/objects/info
/home/keisaev/.password-store/.git/objects/56
/home/keisaev/.password-store/.git/objects/59
/home/keisaev/.password-store/.git/objects/5b
/home/keisaev/.password-store/.git/objects/f9
/home/keisaev/.password-store/.git/objects/a4
/home/keisaev/.password-store/.git/objects/76
/home/keisaev/.password-store/.git/objects/a9
/home/keisaev/.password-store/.git/objects/c6
/home/keisaev/.password-store/.git/objects/ee
/home/keisaev/.password-store/.git/objects/f0
/home/keisaev/.password-store/.git/objects/cf
/home/keisaev/.password-store/.git/objects/3e
/home/keisaev/.password-store/.git/logs
/home/keisaev/.password-store/.git/logs/refs
/home/keisaev/.password-store/.git/logs/refs/heads
/home/keisaev/bin
/home/keisaev/.bashrc.d
/home/keisaev/Downloads
/home/keisaev/reports
/home/keisaev/reports/monthly
/home/keisaev/reports/monthly/monthly
/home/keisaev/monthly
/home/keisaev/Documents
/home/keisaev/ski.places
/home/keisaev/ski.places/equipment
/home/keisaev/ski.places/plans
/home/keisaev/australia
/home/keisaev/play
/home/keisaev/play/games
/home/keisaev/play/games/play
[keisaev@fedora ~]$
```



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## Команды df и du



```
[keisaev@fedora ~]$ ls /etc/ > file.txt
[keisaev@fedora ~]$ ls >> file.txt
[keisaev@fedora ~]$ cat file.txt
abrt
adjtime
aliases
alsa
alternatives
anaconda
anacrontab
asound.conf
at.deny
audit
authselect
avahi
bash_completion.d
bashrc
bindresvport.blacklist
binfmt.d
bluetooth
chrony.conf
cifs-utils
credstore
credstore.encrypted
cron.d
cron.daily
cron.deny
cron.hourly
cron.monthly
crontab
cron.weekly
crypto-policies
crypttab
csh.cshrc
csh.login
cups
cupshelpers
dbus-1
dconf
debuginfod
```

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## Команды df и du

```
4      ./git-extended/.git/objects/0d
4      ./git-extended/.git/objects/0b
4      ./git-extended/.git/objects/00
4      ./git-extended/.git/objects/66
4      ./git-extended/.git/objects/da
4      ./git-extended/.git/objects/bd
4      ./git-extended/.git/objects/9c
4      ./git-extended/.git/objects/c3
4      ./git-extended/.git/objects/63
4      ./git-extended/.git/objects/33
4      ./git-extended/.git/objects/d5
4      ./git-extended/.git/objects/7f
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
480452 .
keisaev@keisaev:~$
```

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## Команда поиска

```
/home/keisaev/git-extended/.git/objects/0d
/home/keisaev/git-extended/.git/objects/0b
/home/keisaev/git-extended/.git/objects/00
/home/keisaev/git-extended/.git/objects/66
/home/keisaev/git-extended/.git/objects/da
/home/keisaev/git-extended/.git/objects/bd
/home/keisaev/git-extended/.git/objects/9c
/home/keisaev/git-extended/.git/objects/c3
/home/keisaev/git-extended/.git/objects/63
/home/keisaev/git-extended/.git/objects/33
/home/keisaev/git-extended/.git/objects/d5
/home/keisaev/git-extended/.git/objects/7f
/home/keisaev/git-extended/.git/logs
/home/keisaev/git-extended/.git/logs/refs
/home/keisaev/git-extended/.git/logs/refs/heads
/home/keisaev/git-extended/.git/logs/refs/remotes
/home/keisaev/git-extended/.git/logs/refs/remotes/origin
/home/keisaev/monthly
/home/keisaev/reports
/home/keisaev/reports/monthly
/home/keisaev/reports/monthly/monthly
/home/keisaev/ski.plases
/home/keisaev/ski.plases/equipment
/home/keisaev/ski.plases/plans
/home/keisaev/australia
/home/keisaev/play
/home/keisaev/play/games
/home/keisaev/play/games/play
keisaev@keisaev:~$
```

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## Выводы по проделанной работе

### Вывод

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