Лабораторная работа №5

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Информация

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- https://github.com/sweetliiikk/study_2022-2023_os-intro.git

Цели и задачи

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.

Выполнение лабораторной работы

Вход в систему

```
[nazirovamt@nazirovamt ~]$ sudo su
[sudo] пароль для nazirovamt:
[root@nazirovamt nazirovamt]#
```

Создаём файл и записываем туда названия файлов из каталога /etc и из домашнего каталога

```
[root@nazirovamt nazirovamt]# touch file.txt
[root@nazirovamt nazirovamt]# ls /etc > file.txt
[root@nazirovamt nazirovamt]# ls /home >> file.txt
[root@nazirovamt nazirovamt]# 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
brltty.conf
ceph
chkconfig.d
chromium
```

Записываем в файл conf.txt имена всех файлов с расширением .conf из file.txt

```
[root@nazirovamt nazirovamt]# grep .conf file.txt > conf.txt
[root@nazirovamt nazirovamt]# cat conf
cat: conf: Нет такого файла или каталога
[root@nazirovamt nazirovamt]# cat conf.
cat: conf.: Нет такого файла или каталога
[root@nazirovamt nazirovamt]# cat conf.txt
anthy-unicode.conf
appstream.conf
asound.conf
brltty.conf
chkconfig.d
chrony.conf
dconf
dleyna-renderer-service.conf
dleyna-server-service.conf
dnsmasq.conf
dracut.conf
dracut.conf.d
extlinux.conf
fprintd.conf
fuse.conf
host.conf
idmapd.conf
jwhois.conf
kdump.conf
krb5.conf
krb5.conf.d
ld.so.conf
```

Используя команду find определяем имена, начинавшиеся с символа c

```
[root@nazirovamt nazirovamt]# find ~ -name "c*" -print
/root/.cache/pip/http/4/c
/root/.cache/pip/http/1/2/8/c
/root/.cache/pip/http/c
/root/.cache/pip/http/c/1/4/2/c
/root/.cache/pip/http/c/1/4/2/c/c142c005888845cbebed2978119a034310bc68a893cf35461eb22589
/root/.cache/pip/http/c/b/c
/root/.cache/pip/http/c/b/c/9/4/cbc9492d2a4616aad83530ad74970874936540fe00b6ed22d96d3e13
/root/.cache/pip/http/2/0/a/e/c
/root/.cache/keyring-KD1811/control
/root/.local/lib/python3.10/site-packages/pandocxnos/core.py
/root/.local/lib/python3.10/site-packages/pandocxnos/__pycache__/core.cpython-310.pyc
/root/.texlive2021/texmf-var/luatex-cache/context
/root/.config/gh/config.yml
/root/work/study/2022-2023/Операционные системы/os-intro/.git/hooks/commit-msg.sample
/root/work/study/2022-2023/Операционные системы/os-intro/.git/config
/root/work/study/2022-2023/Операционные системы/os-intro/.git/modules/template/presentation/hooks/commit-m
sg.sample
/root/work/study/2022-2023/Операционные системы/os-intro/.git/modules/template/presentation/config
/root/work/study/2022-2023/Операционные системы/os-intro/.git/modules/template/report/hooks/commit-msg.sam
ple
/root/work/study/2022-2023/Операционные системы/os-intro/.git/modules/template/report/config
/root/work/study/2022-2023/Операционные системы/os-intro/config
/root/work/study/2022-2023/Операционные системы/os-intro/config/course
/root/work/study/2022-2023/Операционные системы/os-intro/labs/lab01/report/bib/cite.bib
/root/work/study/2022-2023/Операционные системы/os-intro/labs/lab01/report/pandoc/csl
/root/work/study/2022-2023/Операционные системы/os-intro/labs/lab01/report/pandoc/filters/pandocxnos/core.
py
/root/work/study/2022-2023/Операционные системы/os-intro/labs/lab02/report/bib/cite.bib
/root/work/study/2022-2023/Операционные системы/os-intro/labs/lab02/report/pandoc/csl
/root/work/study/2022-2023/Операционные системы/os-intro/labs/lab02/report/pandoc/filters/pandocxnos/core.
py
/root/work/study/2022-2023/Операционные системы/os-intro/labs/lab03/report/bib/cite.bib
```

Используя команду find выводим на экран файлы, начинающееся с символа h, из каталога /etc

```
[root@nazirovamt nazirovamt]# find /etc -name "h*" -print
/etc/avahi/hosts
/etc/brltty/Contraction/ha.ctb
/etc/brltty/Input/bm/horizontal.kti
/etc/brltty/Input/hd
/etc/brltty/Input/hm
/etc/brltty/Input/ht
/etc/brltty/Input/hw
/etc/brltty/Text/he.ttb
/etc/brltty/Text/hi.ttb
/etc/brltty/Text/hr.ttb
/etc/brltty/Text/hu.ttb
/etc/brltty/Text/hy.ttb
/etc/containers/oci/hooks.d
/etc/firewalld/helpers
/etc/hp
/etc/hp/hplip.conf
/etc/httpd
/etc/httpd/conf/httpd.conf
/etc/libibverbs.d/hfi1verbs.driver
/etc/libibverbs.d/hns.driver
/etc/logrotate.d/httpd
/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
```

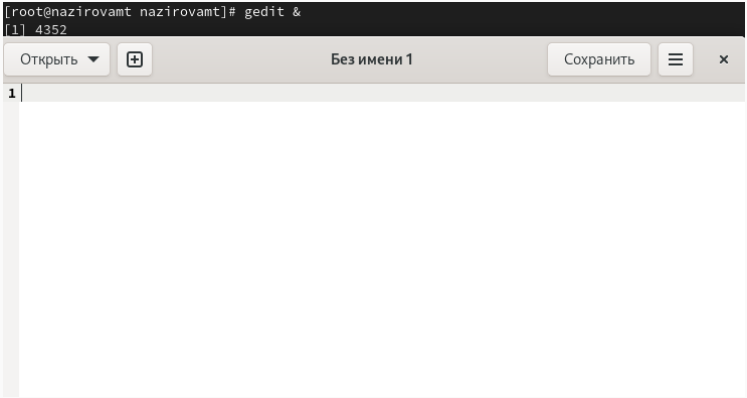
Используя команду find запускаем процесс в фоновом режиме, которые будет записывать имена, начинающееся с log в файл ~/logfile

```
[root@nazirovamt nazirovamt]# find ~ -name "log*" -print > logfile &
[1] 4319
```

Удаляем файл

```
[root@nazirovamt nazirovamt]# rm logfile
rm: удалить обычный файл 'logfile'? y
[1]+  Завершён         find ~ -name "log*" -print > logfile
```

Запускаем gedit в фоновом режиме



Используем команду ps для определения идентификатора процесса

```
[root@nazirovamt nazirovamt]# ps aux | grep gedit
root        4405  0.0  0.0 222192  2320 pts/0    S+   11:26   0:00 grep --color=auto gedit
```

Открываем справку о каманде kill

```
KILL(1)                                 User Commands                                 KILL(1)

NAME
       kill - terminate a process

SYNOPSIS
       kill  [-signal|-s signal|-p]  [-q value] [-a] [--timeout milliseconds signal] [--] pid|name...

       kill -l [number] | -L

DESCRIPTION
       The command kill sends the specified signal to the specified processes or process groups.

       If no signal is specified, the TERM signal is sent. The default action for this signal is to
       terminate the process. This signal should be used in preference to the KILL signal (number 9),
       since a process may install a handler for the TERM signal in order to perform clean-up steps
       before terminating in an orderly fashion. If a process does not terminate after a TERM signal
       has been sent, then the KILL signal may be used; be aware that the latter signal cannot be
       caught, and so does not give the target process the opportunity to perform any clean-up before
       terminating.

       Most modern shells have a builtin kill command, with a usage rather similar to that of the
       command described here. The --all, --pid, and --queue options, and the possibility to specify
       processes by command name, are local extensions.

       If signal is 0, then no actual signal is sent, but error checking is still performed.
```

Используем её для завершения процесса gedit

```
[root@nazirovamt nazirovamt]# kill 4352
bash: kill: (4352) - Нет такого процесса
```

Получаем подробную информацию о команде df

```
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  avail-
       able  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 de-
       vice node.  This version of df cannot show the space available on unmounted  file  systems,  be-
       cause  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  de-
       fault.

       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
```

Выполняем команду df

```
[root@nazirovamt ~]# df -vi
Файловая система  Iнодов IИспользовано ICвободно IИспользовано% Смонтировано в
devtmpfs          1048576           444   1048132             1% /dev
tmpfs              501464             1    501463             1% /dev/shm
tmpfs              819200           873    818327             1% /run
/dev/sda2               0             0         0              - /
tmpfs             1048576            46   1048530             1% /tmp
/dev/sda2               0             0         0              - /home
/dev/sda1           65536           456     65080             1% /boot
tmpfs              100292           169    100123             1% /run/user/1000
```

Получаем подробную информацию о команде du

```
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'
```

Выполняем команду du

```
[nazirovamt@nazirovamt ~]$ du -a ~/file.txt
4       /home/nazirovamt/file.txt
```

Открываем справку о команде find

```
-type c
       File is of type c:

       b      block (buffered) special

       c      character (unbuffered) special

       d      directory

       p      named pipe (FIFO)

       f      regular file
```

Выводим имена всех директорий, которые есть в домашнем каталоге

```
[nazirovamt@nazirovamt ~]$ find -type d
.
./.mozilla
./.mozilla/extensions
./.mozilla/extensions/{ec8030f7-c20a-464f-9b0e-13a3a9e97384}
./.mozilla/plugins
./.mozilla/firefox
./.mozilla/firefox/fsllydgl.default-release
./.mozilla/firefox/fsllydgl.default-release/security_state
./.mozilla/firefox/fsllydgl.default-release/storage
./.mozilla/firefox/fsllydgl.default-release/storage/permanent
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome/idb
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome/idb/3870112724rsegmnoittet-es.fil
es
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome/idb/3561288849sdhlie.files
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome/idb/1451318868ntouromlalnodry--ep
cr.files
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome/idb/1657114595AmcateirvtiSty.file
s
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome/idb/2823318777ntouromlalnodry--na
od.files
./.mozilla/firefox/fsllydgl.default-release/storage/permanent/chrome/idb/2918063365piupsah.files
./.mozilla/firefox/fsllydgl.default-release/storage/temporary
./.mozilla/firefox/fsllydgl.default-release/storage/default
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++github.com
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++github.com/ls
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++www.google.com
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++www.google.com/ls
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++web.telegram.org
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++web.telegram.org/idb
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++web.telegram.org/idb/3318935238tbw
e.files
./.mozilla/firefox/fsllydgl.default-release/storage/default/https+++web.telegram.org/idb/3318935238tbw
e.files/journals
```

Спасибо за внимание