

ОТЧЕТ

ПО ЛАБОРАТОРНОЙ РАБОТЕ №7

дисциплина: *Операционные системы*

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Цель работы

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

Выполнение лабораторной работы

1. Включаем компьютер, и заходим в учетную запись.
2. Запишем в файл file.txt названия файлов, содержащихся в каталоге /etc. Допишем в этот же файл названия файлов, содержащихся в нашем домашнем каталоге.

```
nasir@haidary: ~  
nasir@haidary:~$ ls /etc/ > file.txt  
nasir@haidary:~$ ls >> file.txt  
nasir@haidary:~$ cat file.txt  
acpi  
adduser.conf  
alsa  
alternatives  
anacrontab  
apache2  
apg.conf  
apm  
apparmor  
apparmor.d  
appport  
appstream.conf  
apt  
avahi  
bash.bashrc  
bash_completion  
bash_completion.d  
bindresvport.blacklist  
binfmt.d  
bluetooth  
brlapi.key
```

3. Выведем имена всех файлов из file.txt, имеющих расширение .conf, после чего запишем их в новый текстовый файл conf.txt.

```
nasir@haidary: ~  
nasir@haidary:~$ grep .conf file.txt > conf.txt  
nasir@haidary:~$ 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  
hdparm.conf  
host.conf  
insserv.conf.d  
kernel-img.conf  
kerneloops.conf  
ld.so.conf  
ld.so.conf.d  
libao.conf  
libaudit.conf
```

```

nasir@haidary:~$ ls -R | grep c*
conf.txt
nasir@haidary:~$ find ~ -name "c*" -print
/home/nasir/.sage/temp/haidary/cleaner.log
/home/nasir/.sage/temp/haidary/cleaner.pid
/home/nasir/.sage/cache
/home/nasir/.mume/config.json
/home/nasir/.config/pulse/cookie
/home/nasir/.config/Code/Cache/c5193c9d74250af4_0
/home/nasir/.config/Code/Cache/cabddf3fb0e27601_0
/home/nasir/.config/Code/Cache/c21ad0931df6b4f5_0
/home/nasir/.config/Code/Cache/c85687354a0e770a_0
/home/nasir/.config/Code/Cache/c0425205061a9be2_0
/home/nasir/.config/Code/Cache/c4b95e671eebf12c_0
/home/nasir/.config/Code/Cache/cbc42e4c979f69f0_0
/home/nasir/.config/Code/Cache/ca9110d507ad0f7c_0
/home/nasir/.config/Code/Cache/c0b12c1294159832_0
/home/nasir/.config/Code/Cache/ccdd2260266de8d3_0
/home/nasir/.config/Code/Cache/c629aadb2f2364533_0
/home/nasir/.config/Code/Cache/ce4bf238b1c1aded_0
/home/nasir/.config/Code/Cache/c18d60aed157cfc9_0
/home/nasir/.config/Code/Cache/c55cd6c75680e245_0

```

4. Определили, какие файлы в нашем домашнем каталоге имеют имена, начинавшиеся с символа c?

5. Выведем на экран (постранично) имена файлов из каталога /etc, начинающиеся с символа h.

```
find /etc -name "h*" -print | less
```

```

: Permission denied
find: '/etc/ssl/private': Permission denied
/etc/ubuntu-advantage/help_data.yaml
/etc/hostid
/etc/udev/hwdb.d
/etc/sane.d/hp4200.conf
/etc/sane.d/hp3900.conf
/etc/sane.d/hs2p.conf
/etc/sane.d/hp5400.conf
/etc/sane.d/hp.conf
/etc/sane.d/dll.d/hplip
/etc/sane.d/hpsj5s.conf
/etc/init.d/hwclock.sh
/etc/host.conf
find: '/etc/cups/ssl': Permission denied
/etc/hostname
/etc/X11/cursors/handhelds.theme
/etc/hosts.allow
/etc/hosts
/etc/apparmor.d/tunables/home
/etc/apparmor.d/tunables/home.d
/etc/brltty/Input/hw
/etc/brltty/Input/hm
:

```

6. Запустили в фоновом режиме процесс, который будет записывать в файл ~/logfile файлы, имена которых начинаются с log. Процесс выполнен

6. Удалили файл ~/logfile. Но сначала убили процесс в нем.

```

nasir@haidary:~$ find ~ -name "log*" > logfile &
[1] 4773
nasir@haidary:~$ rm logfile
[1]+  Done                  find ~ -name "log*" > logfile
nasir@haidary:~$

```

8. Запустили из консоли в фоновом режиме редактор gedit.

9. Определили идентификатор процесса gedit, используя команду ps, конвейер и фильтр grep

10. Прочитали справку (man) команды kill, после чего используйте её для завершения процесса gedit.

```

nasir@haidary:~$ gedit &
[1] 4863
nasir@haidary:~$ ps | grep gedit
 4863 pts/0    00:00:00 gedit
nasir@haidary:~$ kill 4863

```

11. Выполним команды df и du, предварительно получив более подробную информацию об этих командах, с помощью команды man.

```
nasir@haidary: ~
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
    print sizes in powers of 1000 (e.g., 1.1G)

-l, --lnodes
    list inode information instead of block usage

-k
    like --block-size=1K

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

```
nasir@haidary:~$ df
Filesystem      1K-blocks      Used Available Use% Mounted on
udev            1729740         0   1729740    0% /dev
tmpfs           351876       1444    350432    1% /run
/dev/sda5       102168536 17848804  79086836   19% /
tmpfs           1759360         0   1759360    0% /dev/shm
tmpfs           5120          4      5116    1% /run/lock
tmpfs           1759360         0   1759360    0% /sys/fs/cgroup
/dev/loop0       101888      101888         0 100% /snap/core/11420
/dev/loop2       63360       63360         0 100% /snap/core20/1081
/dev/loop1       56832       56832         0 100% /snap/core18/2128
/dev/loop3       56832       56832         0 100% /snap/core18/2074
/dev/loop4        6400        6400         0 100% /snap/curl/333
/dev/loop5       166784      166784         0 100% /snap/gnome-3-28-1804/145
/dev/loop6       224256      224256         0 100% /snap/gnome-3-34-1804/66
/dev/loop7       101760      101760         0 100% /snap/core/11606
/dev/loop8       66432       66432         0 100% /snap/gtk-common-themes/1514
/dev/loop10      33152       33152         0 100% /snap/snapd/12704
/dev/loop9       168832      168832         0 100% /snap/gnome-3-28-1804/161
/dev/loop11      52224       52224         0 100% /snap/snap-store/542
/dev/loop12      66688       66688         0 100% /snap/gtk-common-themes/1515
/dev/loop14      33152       33152         0 100% /snap/snapd/12883
/dev/loop13      52224       52224         0 100% /snap/snap-store/547
/dev/loop15        6400        6400         0 100% /snap/curl/233
/dev/loop16      72576       72576         0 100% /snap/teams-for-linux/172
/dev/loop17      224256      224256         0 100% /snap/gnome-3-34-1804/72
/dev/loop18      72576       72576         0 100% /snap/teams-for-linux/182
/dev/sda1        523248         4    523244    1% /boot/efi
tmpfs           351872         36    351836    1% /run/user/1000
/dev/sr0         59590       59590         0 100% /media/nasir/VBox_GAs_6.1.221
```

```
nasir@haidary: ~  
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 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 fewer lev-  
    els below the command line argument; --max-depth=0 is the same as --summarize  
  
--files0-from=F  
    summarize disk usage of the NUL-terminated file names specified in file F; if F is  
    -, then read names from standard input  
  
Manual page du(1) line 1 (press h for help or q to quit)
```

12. Воспользовавшись справкой команды find, вывести имена всех директорий, имеющих в нашем домашнем каталоге.



nasir@haidary: ~

```
/home/nasir/.cache/evolution/calendar/trash
/home/nasir/.cache/evolution/addressbook
/home/nasir/.cache/evolution/addressbook/trash
/home/nasir/.cache/evolution/sources
/home/nasir/.cache/evolution/sources/trash
/home/nasir/.cache/evolution/mail
/home/nasir/.cache/evolution/mail/trash
/home/nasir/.cache/evolution/memos
/home/nasir/.cache/evolution/memos/trash
/home/nasir/.cache/matplotlib
/home/nasir/.cache/matplotlib/tex.cache
/home/nasir/.cache/mozilla
/home/nasir/.cache/mozilla/firefox
/home/nasir/.cache/mozilla/firefox/yb6zo5vi.default
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/safebrowsing
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/safebrowsing/google4
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/cache2
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/cache2/doomed
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/cache2/entries
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/startupCache
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/thumbnails
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/personality-provider
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/settings
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/settings/main
/home/nasir/.cache/mozilla/firefox/2gwl9ndm.default-release/settings/main/ms-language-packs
/home/nasir/.cache/vscode-cpptools
/home/nasir/.cache/vscode-cpptools/ipch
/home/nasir/.cache/vscode-cpptools/ipch/11af1e44658ef897
/home/nasir/.cache/vscode-cpptools/ipch/36084b82ee6e72a5
/home/nasir/.cache/vscode-cpptools/ipch/cff8a974f255d01f
/home/nasir/.cache/ibus-table
/home/nasir/.cache/gnome-screenshot
/home/nasir/.ssh
/home/nasir/.ipython
/home/nasir/.ipython/nbextensions
/home/nasir/.ipython/profile_default
/home/nasir/.ipython/profile_default/log
/home/nasir/.ipython/profile_default/startup
/home/nasir/.ipython/profile_default/security
/home/nasir/.ipython/profile_default/db
/home/nasir/.ipython/profile_default/pid
/home/nasir/.ipython/extensions
/home/nasir/.pki
/home/nasir/.pki/nssdb
nasir@haidary:~$
```

Вывод

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