

**№4**

Unix

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Linux

- .

shell: /bin/sh;

/bin/csh; /bin/ksh.

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- man
- cd
- pwd
- ls
- mkdir
- rm
- history

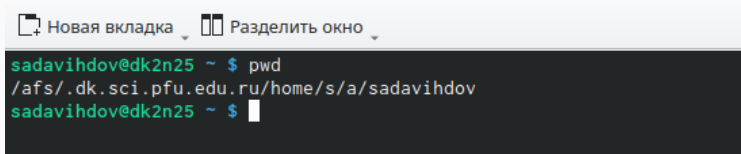












A terminal window with a light gray title bar containing two buttons: "Новая вкладка" (New tab) and "Разделить окно" (Split window). The terminal has a dark background and shows the following text in green: "sadavihdov@dk2n25 ~ \$ pwd". The output of the command is displayed in white: "/afs/.dk.sci.pfu.edu.ru/home/s/a/sadavihdov". Below the output, the prompt "sadavihdov@dk2n25 ~ \$" is shown with a white cursor.

```
sadavihdov@dk2n25 ~ $ pwd
/afs/.dk.sci.pfu.edu.ru/home/s/a/sadavihdov
sadavihdov@dk2n25 ~ $
```

. 1:



/tmp

```
sadavihdov@dk2n25 ~ $ cd /tmp  
sadavihdov@dk2n25 /tmp $
```

. 2:

/tmp

/tmp

ls

```
sadavihdov@dk2n25 /tmp $ ls
aagorbatchev
krb5cc_5437_01eMhc
krb5cc_5439_vs6758
krb5cc_5439_xarydx
portage
pulse-PKdhtXMar18n
root
sadavihdov
screen
sddm:0-ZgKnQB
sddm-auth-0e94c6bb-e0fa-4501-b604-2b4670ea9a96
systemd-private-c99c1f1b1e1c401bb08415009030fb71-colord.service-EgMnA8
systemd-private-c99c1f1b1e1c401bb08415009030fb71-polkit.service-xcpoql
systemd-private-c99c1f1b1e1c401bb08415009030fb71-power-profiles-daemon.service-fr0fca
systemd-private-c99c1f1b1e1c401bb08415009030fb71-systemd-logind.service-5j86gK
systemd-private-c99c1f1b1e1c401bb08415009030fb71-systemd-resolved.service-06eNuv
systemd-private-c99c1f1b1e1c401bb08415009030fb71-systemd-timesyncd.service-fSffky
systemd-private-c99c1f1b1e1c401bb08415009030fb71-upower.service-ujEyGc
Temp-315d7956-27fd-4812-8804-be06c8139326
Temp-e2e918cd-c4c9-4d48-8a76-9b3429719095
tmux-0
sadavihdov@dk2n25 /tmp $
```

. 3: ls

**ls -a   ls -F**

---

ls -a

```
. 4: ls -a
```



ls -F

ls -F

```
sadavihdov@dk2n25 /tmp $ ls -F
aagorbachev/
krb5cc_5437_01eMhc
krb5cc_5439_vs67SB
krb5cc_5439_Xxrydx
portage/
pulse-PKdhtXMar18n/
root/
sadavihdov/
screen/
sdds-:0~ZgKnQB=
sdds-auth-0e94c6bb-e0fa-4501-b604-2b4670ea9a96=
systemd-private-c99c1f1b1e1c401bb08415009030fb71-colord.service-EgMnA8/
systemd-private-c99c1f1b1e1c401bb08415009030fb71-polkit.service-xcpoq1/
systemd-private-c99c1f1b1e1c401bb08415009030fb71-power-profiles-daemon.service-fr0fCA/
systemd-private-c99c1f1b1e1c401bb08415009030fb71-systemd-logind.service-5j86gK/
systemd-private-c99c1f1b1e1c401bb08415009030fb71-systemd-resolved.service-06eNuv/
systemd-private-c99c1f1b1e1c401bb08415009030fb71-systemd-timesyncd.service-fSffky/
systemd-private-c99c1f1b1e1c401bb08415009030fb71-upower.service-ujEyGc/
Temp-315d7956-27fd-4812-8804-be06c8139326/
Temp-e2e918cd-c4c9-4d48-8a76-9b3429719095/
tmux-0/
sadavihdov@dk2n25 /tmp $
```

. 5: ls -F

, /var/spool cron

```
sadavihdov@dk2n25 /tmp $ ls /var/spool  
cups  
sadavihdov@dk2n25 /tmp $ cd  
sadavihdov@dk2n25 ~ $
```

. 6: /var/spool

```
sadavihdov@dk2n25 ~ $ ls -l
итого 29
drwxr-xr-x 2 sadavihdov studsci 2048 сен 13 22:37 dirr
drwxr-xr-x 3 sadavihdov studsci 2048 сен 14 13:14 parent
drwxr-xr-x 3 sadavihdov studsci 2048 сен 14 13:00 parentdir
drwxr-xr-x 2 sadavihdov studsci 2048 сен 13 22:30 parentidr
drwxr-xr-x 3 sadavihdov root 2048 сен 5 2023 public
lrwxr-xr-x 1 sadavihdov root 18 фев 13 18:38 public_html -> public/public_html
drwxr-xr-x 3 sadavihdov studsci 2048 окт 28 13:59 work
drwxr-xr-x 2 sadavihdov studsci 2048 сен 7 12:14 Видео
drwxr-xr-x 2 sadavihdov studsci 2048 сен 7 12:14 Документы
drwxr-xr-x 2 sadavihdov studsci 2048 мар 7 17:30 Загрузки
drwxr-xr-x 3 sadavihdov studsci 2048 сен 14 12:43 Изображения
drwxr-xr-x 2 sadavihdov studsci 2048 сен 7 12:14 Музыка
drwxr-xr-x 2 sadavihdov studsci 2048 сен 7 12:14 Общедоступные
drwxr-xr-x 2 sadavihdov studsci 2048 фев 13 12:05 'Рабочий стол'
drwxr-xr-x 2 sadavihdov studsci 2048 сен 7 12:14 Шаблоны
sadavihdov@dk2n25 ~ $
```

. 7:

ls -l

```
sadavihdov@dk2n25 ~ $ mkdir newdir
sadavihdov@dk2n25 ~ $ ls
dirr      parent      parentidr   public_html  Видео      Загрузки    Музыка      'Рабочий стол'
newdir    parentdir   public      work         Документы  Изображения  Общедоступные  Шаблоны
sadavihdov@dk2n25 ~ $
```

. 8:



newdir.

```
sadavihdov@dk2n25 ~ $ cd newdir
sadavihdov@dk2n25 ~/newdir $ mkdir morefun
sadavihdov@dk2n25 ~/newdir $ ls
morefun
sadavihdov@dk2n25 ~/newdir $
```

. 9:

newdir

~/newdir

morefun.

```
sadavihdov@dk2n25 ~ $ mkdir letters nemos nisk
sadavihdov@dk2n25 ~ $ ls
dirr      nemos    nisk     parentdir  public    work    Документы  Изображения  Общедоступные  Шаблоны
letters   newdir   parent   parentidr  public_html  Видео   Загрузки   Музыка        'Рабочий стол'
```

. 10:

morefun

letters, memos, misk.

```
sadavihdov@dk2n25 ~ $ rm -r newdir
sadavihdov@dk2n25 ~ $ ls
dirr      nemos    parent  parentidr  public_html  Видео    Загрузки    Музыка    'Рабочий стол'
letters   nisk     parentdir  public      work         Документы  Изображения  Общиедоступные  Шаблоны
sadavihdov@dk2n25 ~ $
```

. 11:



~/newdir/morefun

A terminal window with a black background. The prompt 'sadavihdov@dk2n25 ~ \$' is shown in green and blue. The command 'man' is entered in orange. Below the command, the first line of the 'man' command's output is visible, showing 'K' followed by a long string of characters.

```
sadavihdov@dk2n25 ~ $ man
```

. 12: newdir



man

ls

-

Новая вкладка

Разделить окно

Копировать

Вставить

Найти

LS(1)

User Commands

LS(1)

NAME

ls - list directory contents

SYNOPSIS

ls [OPTION]... [FILE]...

DESCRIPTION

List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

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

-a, --all  
do not ignore entries starting with .

-A, --almost-all  
do not list implied . and ..

--author  
with -l, print the author of each file

-b, --escape  
print C-style escapes for nongraphic characters

--block-size=SIZE  
with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below

-B, --ignore-backups  
do not list implied entries ending with ~

-c  
with -lt: sort by, and show, ctime (time of last change of file status information); with -l: show ctime and sort by name; otherwise: sort by ctime, newest first

-C  
list entries by columns

--color[=WHEN]  
color the output WHEN; more info below

-d, --directory  
list directories themselves, not their contents

```
Новая вкладка Разделить окно Копировать Вставить Найти
POSIX Programmer's Manual
cd(1P)

PROLOG
This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME
cd - change the working directory

SYNOPSIS
cd [-L|-P] [directory]
cd -

DESCRIPTION
The cd utility shall change the working directory of the current shell execution environment (see Section 2.12, Shell Execution Environment) by executing the following steps in sequence. (In the following steps, the symbol curpath represents an intermediate value used to simplify the description of the algorithm used by cd. There is no requirement that curpath be made visible to the application.)

1. If no directory operand is given and the HOME environment variable is empty or undefined, the default behavior is implementation-defined and no further steps shall be taken.

2. If no directory operand is given and the HOME environment variable is set to a non-empty value, the cd utility shall behave as if the directory named in the HOME environment variable was specified as the directory operand.

3. If the directory operand begins with a <slash> character, set curpath to the operand and proceed to step 7.

4. If the first component of the directory operand is dot or dot-dot, proceed to step 6.

5. Starting with the first pathname in the <colon>-separated pathnames of PATH (see the ENVIRONMENT VARIABLES section) if the pathname is non-null, test if the concatenation of that pathname, a <slash> character if that pathname did not end with a <slash> character, and the directory operand names a directory. If the pathname is null, test if the concatenation of dot, a <slash> character, and the operand names a directory. In either case, if the resulting string names an existing directory, set curpath to that string and proceed to step 7. Otherwise, repeat this step with the next pathname in PATH until all pathnames have been tested.

6. Set curpath to the directory operand.

7. If the -P option is in effect, proceed to step 10. If curpath does not begin with a <slash> character, set curpath to the string formed by the concatenation of the value of PWD, a <slash> character if the value of PWD did not end with a <slash> character, and curpath.

8. The curpath value shall then be converted to canonical form as follows, considering each component from beginning to end, in sequence:

    a. Dot components and any <slash> characters that separate them from the next component shall be deleted.

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

## . 14: man ls

```
Меню(1) User Commands Меню(1)
NAME
  mkdir - make directories

SYNOPSIS
  mkdir [-option]... DIRECTORY...

DESCRIPTION
  Create the DIRECTORY(ies), if they do not already exist.

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

  -m, --mode=MODE
      set file mode (as in chmod), not a+rwx - umask

  -p, --parents
      no error if existing, make parent directories as needed, with their file modes unaffected by any --mode option.

  -v, --verbose
      print a message for each created directory

  -Z
      set SELinux security context of each created directory to the default type

  --context[=CTX]
      like -Z, or if CTX is specified then set the SELinux or SMACK security context to CTX

  --help
      display this help and exit

  --version
      output version information and exit

AUTHOR
  Written by David MacKenzie.

REPORTING BUGS
  GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
  Report any translation bugs to <https://translationproject.org/team/>

SEE ALSO
  mkdir(2)

  Full documentation <https://www.gnu.org/software/coreutils/mkdir>
  or available locally via: info '(coreutils) mkdir invocation'

  Packaged by Gentoo (9.4 (p0))
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  There is NO WARRANTY, to the extent permitted by law.

GNU coreutils 9.4 August 2023 Меню(1)
Manual page mkdir(1) line 1 (press h for help or q to quit)
```

## . 15: -R, --recursive

ls -R



man

ls,

-

.

```
Новая вкладка  Разделить окно  копировать  Вставить  Найти

rmrmdir(1)                                User Commands                                rmrmdir(1)

NAME
  rmrmdir - remove empty directories

SYNOPSIS
  rmrmdir [OPTION]... DIRECTORY...

DESCRIPTION
  Remove the DIRECTORY(ies), if they are empty.

  --ignore-fail-on-non-empty
    ignore each failure to remove a non-empty directory

  -p, --parents
    remove DIRECTORY and its ancestors; e.g., 'rmrmdir -p a/b' is similar to 'rmrmdir a/b a'

  -v, --verbose
    output a diagnostic for every directory processed

  --help
    display this help and exit

  --version
    output version information and exit

AUTHOR
  Written by David Mackenzie.

REPORTING BUGS
  GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
  Report any translation bugs to <https://translationproject.org/team/>

SEE ALSO
  rmrmdir(2)

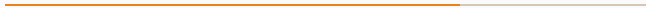
  Full documentation <https://www.gnu.org/software/coreutils/rmrmdir>
  or available locally via: info '(coreutils) rmrmdir invocation'

  Packaged by Gentoo (9.4 (p8))
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  This is free software; you are free to change and redistribute it.
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GNU coreutils 9.4                                August 2023                                rmrmdir(1)
Manual page rmrmdir(1) line 1/45 (END) (press h for help or q to quit)
```

## . 16: -time-style=TIME\_STYLE





man

: cd, pwd, mkdir, rmdir, rm.

.

```

[1] Новая вкладка, [2] Разделить окно
[3] Команды... [4] Вставить [5] Найти
[6] (1) User Commands [7] (1)
NAME
rm - remove files or directories
SYNOPSIS
rm [OPTION]... [FILE]...
DESCRIPTION
This manual page documents the GNU version of rm. rm removes each specified file. By default, it does not
remove directories.
If the -i or --interactive option is given, and there are more than three files or the -f, -d, or
--recursive are given, then rm prompts the user for whether to proceed with the entire operation. If the
response is not affirmative, the entire command is aborted.
Otherwise, if a file is unwritable, standard input is a terminal, and the -f or --force option is not
given, or the -i or --interactive option is given, rm prompts the user for whether to remove the
file. If the response is not affirmative, the file is skipped.
OPTIONS
Remove (unlink) the FILE(s).
-f, --force
ignore nonexistent files and arguments, never prompt
-i
prompt before every removal
-I
prompt once before removing more than three files, or when removing recursively; less intrusive than
-i, while still giving protection against most mistakes
--interactive[=WHEN]
prompt according to WHEN: never, once (-i), or always (-I); without WHEN, prompt always
--one-file-system
when removing a hierarchy recursively, skip any directory that is on a file system different from
that of the corresponding command line argument
--no-preserve-root
do not treat '/' specially
--preserve-root[=all]
do not remove '/' (default); with 'all', reject any command line argument on a separate device from
its parent
-r, -R, --recursive
remove directories and their contents recursively
-d, --dir
remove empty directories
-v, --verbose
explain what is being done
Manual page ref(1) line 1 (press h for help or q to quit)

```

```
. 17:      man cd
```

```
3 tmp
4 cd
5 cd
6 \cd l
7 cd документы
8 /usr/local
9 cd/usr/local
10 cd /usr/local
11 cd
12 cd -
13 cd ..
14 cd -
15 ls
16 ls документы
17 cd документы
18 cd документы
19 cd /документы
20 ls -l
21 cd документы
22 документы
23 cd документы
24 mkdir
25 cd
26 mkdir parentdir
27 ls
28 ls
29 mkdir
30 mkdir
31 mkdir parent
32 ls
33 cd parentdir
34 cd /parentdir
35 clear
36 mkdir parentdir
37 mkdir parentdir
38 ls
39 mkdir parentdir/dirr
40 ls
41 ls parentdir
42 ls ~/PARENTDIR/DIR
43 ls ~/parentdir/dirr
44 mkdir -p dirr
45 mkdir parent/dir1
46 ls parent
47 touch parent/test1.txt
48 ls parent
49 touch parent/dir1/test2.txt
50 ls parent/dir1
51 wcdit
52 cat
53 wcdit parent/test1.txt
54 cat parent/test1.txt
55 man cd
56 cd --help
```

. 18: man pwd

```

66 git config --global user.name "Давидов Сергей"
67 git config --global user.email "ser.dav2006@mail.ru"
68 git config --global core.quotespath false
69 git config --global git config --global init.defaultbranch master
70 git config --global core.autocrlf input
71 git config --global user.name "<Sergei Davydov>"
72 LUDOPALINGITC
73 git config --global user.email "<ser.dav2006@mail.ru>"
74 git config --global core.quotespath false
75 git config --global init.defaultbranch master
76 git config --global core.safecrlf warn
77 ssh-keygen -C "Sergei Davydov <ser.dav2006@mail.ru>"
78 cat ~/.ssh/id_rsa.pub
79 mkdir -p ~/work/study/2023-2024/"Архитектура компьютера"
80 cd work/study/2023-2024/"Архитектура компьютера"
81 git clone --recursive git@github.com:plugixk/Sergei-Davydov.git
82 ls
83 cd Sergei-Davydov
84 rm package.json
85 rm package.json
86 echo arch-pc > COURSE
87 make
88 make
89 make
90 git commit -am "feat(main): make course structure"
91 git config --global user.name "sanita baskina"
92 git config --global user.name "<Sergei Davydov>"
93 git config --global user.email "<ser.dav2006@gmail.com>"
94 git config --global core.quotespath false
95 git config --global init.defaultbranch master
96 git config --global core.autocrlf input
97 git config --global core.safecrlf warn
98 ssh-keygen -C "Sergei Davydov <ser.dav2006@gmail.com>"
99 cat ~/.ssh/id_rsa.pub
100 mkdir -p ~/work/study/2023-2024/"Архитектура компьютера"
101 mkdir -p ~/work/study/2023-2024/"Архитектура компьютера"
102 cd ~/work/study/2023-2024/"Архитектура компьютера"
103 cd ~/work/study/2023-2024/"Архитектура компьютера"
104 git clone --recursive git@github.com:plugixk/study_2023-2024_arch-pc.git
105 cd ~/work/study/2023-2024/"Архитектура компьютера"/arch-pc
106 cd arch-pc
107 cd study_2023-2024_arch-pc-
108 rm package.json
109 echo arch-pc > COURSE
110 make
111 git add .
112 git commit -am "feat(main): make course structure"
113 git commit -am "feat(main): make course structure"
114 git push
115 git push
116 git push
117 git pull origin
118 git push
119 ls

```

. 19: man mkdir

```
Новая вкладка _ Разделить окно _ Копировать Вставить Найти
126 ls work study
127 cd work
128 ls
129 ls study
130 cd study
131 cd 2023-2024
132 ls
133 cd Архитектура компьютера
134 cd "Архитектура компьютера"
135 ls
136 cd study_2023-2024_arch--pc-
137 ls
138 git add .
139 git commit -as "Feat(main): make course structure"
140 git push
141 history
142 git config --global user.name "plugikx"
143 git config --global user.email "ser.dav2000@gmail.com"
144 git config --global core.quotepath false
145 git config --global core.quotepath false
146 git config --global core.quotepath false
147 git config --global init.defaultBranch master
148 git config --global core.autocrlf input
149 git config --global core.safecrlf warn
150 gpg --full-generate-key
151 gpg --list-secret-keys --keyid-format LONG
152 gpg --armor --export 2020CA7B848E9209D22123984043B7AD864BF6C7
153 git config --global user.signingkey 4043B7AD864BF6C7
154 git config --global commit.gpgsign true
155 git config --global gpg.program $(which gpg2)
156 gh auth login
157 gh auth login
158 gh auth login
159 gh auth login
160 gh auth login
161 gh auth login
162 gh auth login
163 gh auth login
164 gh auth login
165 gh auth login
166 gh auth login
167 gh auth login
168 export BROWSER="/mnt/c/Windows/explorer.exe"
169 source ~/.bashrc
170 gh auth login
171 mkdir -p ~/work/study/2022-2023/"Операционные системы"
172 cd ~/work/study/2022-2023/"Операционные системы"
173 gh repo create study_2022-2023_os-intro --template=yamadharma/course-directory-student-template --public
174 git clone --recursive git@github.com:plugikx/study_2022-2023_os-intro.git
175 ls
176 cd study_2022-2023_os-intro
177 rm package.json
178 echo os-intro > COURSE
179 make prepare
```

```
adam@dev:~$ ls -f
.          .bashrc      'Рабочий стол'  Музыка      .java      parentdir    .rltk      nemo
..         .bash_profile  Загрузки        Избранное   glirc-2.0  dirr         .ssh       nix
public     .Xauthority    Шаблоны        Видео       .cache     .bash_history  work
public_html .gnupg         Общедоступные  .config     parentdir  .xsession-errors.old .pki
profile    .local         Документы      mozilla     parent      .gitconfig    letters
adam@dev:~$
```

. 21: man rm





history

```

sadev@badev-k202 ~ % ls -l
total 12
drwxr-xr-x 3 sadev parent public_html 4096 Jan  1 10:00
drwxr-xr-x 2 sadev parent  .ssh 4096 Jan  1 10:00
drwxr-xr-x 2 sadev parent  work 4096 Jan  1 10:00
-rw-r--r-- 1 sadev parent  .bashrc 175 Jan  1 10:00
-rw-r--r-- 1 sadev parent  .bash_profile 10 Jan  1 10:00
-rw-r--r-- 1 sadev parent  .profile 10 Jan  1 10:00
-rw-r--r-- 1 sadev parent  .zshrc 175 Jan  1 10:00

```

. 22: history



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