
Front matter

lang: ru-RU title: Программирование в командном процессоре ОС UNIX. Командные файлы author: | Leonid A. Sevastianov\inst{1,3} \and Anton L. Sevastianov\inst{1} \and Edik A. Ayrjan\inst{2} \and Anna V. Korolkova\inst{1} \and Dmitry S. Kulyabov\inst{1,2} \and Imrikh Pokorny\inst{4} institute: | \inst{1}RUDN University, Moscow, Russian Federation \and \inst{2}LIT JINR, Dubna, Russian Federation \and \inst{3}BLTP JINR, Dubna, Russian Federation \and \inst{4}Technical University of Košice, Košice, Slovakia date: NEC-2019, 30 September -- 4 October, 2019 Budva, Montenegro

Formatting

toc: false slide_level: 2 theme: metropolis header-includes:

- \metroset{progressbar=frametitle,sectionpage=progressbar,numbering=fraction}
- 'makeatletter'
- 'beamer@ignorenonframefalse'
- 'makeatother' aspectratio: 43 section-titles: true

Цель работы

Изучить основы программирования в оболочке ОС UNIX/Linux. Научиться писать небольшие командные файлы.

Ход работы

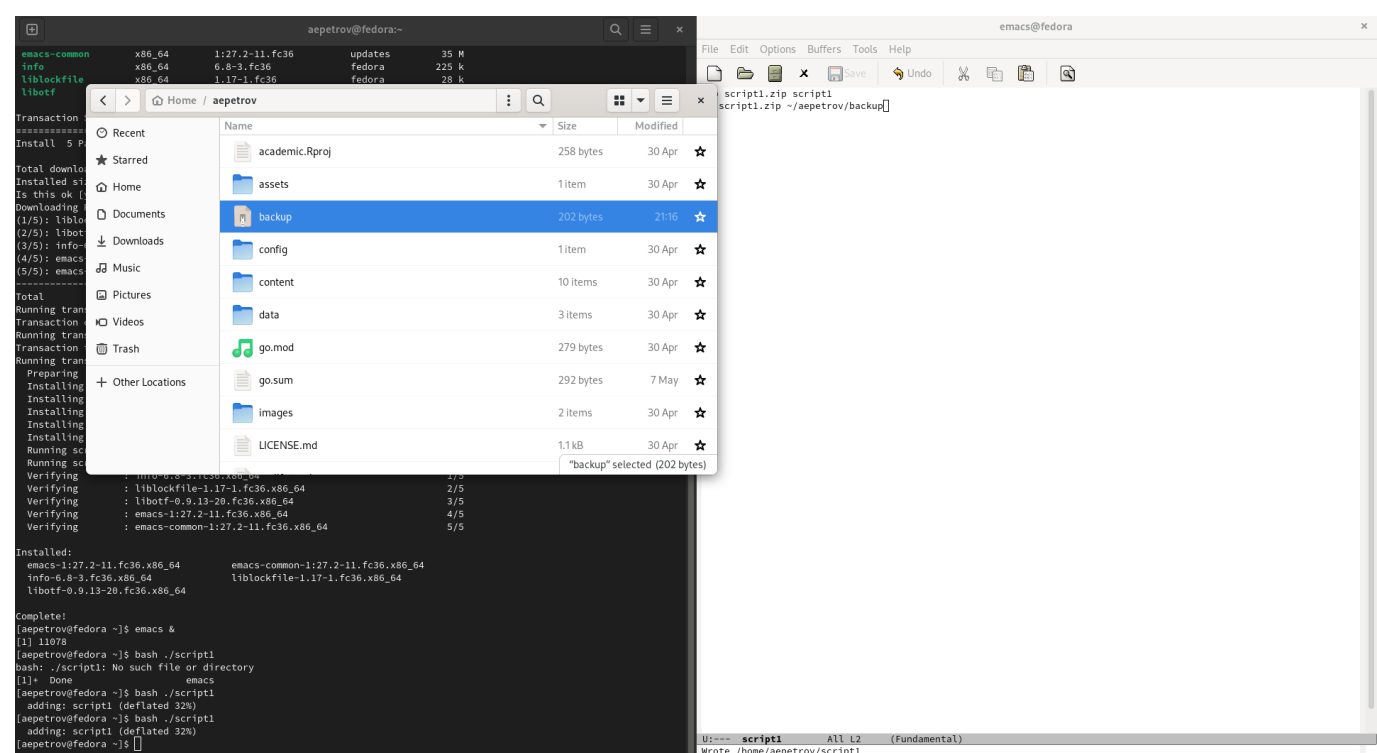
1. Напишем скрипт, который делаем резервную копию самого себя, архивирует резервную копию и кладет по адресу ~/aepetrov/backup(рис. [-@fig:001])

```
emacs &
```

Жмем C-x C-f, кладем файл по адресу ~, я назвал его script1

Bash-code:

```
zip script1.zip script1
mv script1.zip ~/aepetrov/backup
```



{ #fig:001 width=70% }

2. Написать пример командного файла, который обрабатывает произвольное число аргументов командной строки, в том числе и превышающее 10(рис. [-@fig:002]).

```
emacs &
```

Жмем C-x C-f, кладем файл по адресу ~, я назвал его script2

Bash-Code:

```
for a in $*
do echo $a
done
```

```

for a in $*
do echo $a
done

```

```

Installing : emacs-common-1:27.2-11.fc36.x86_64 3/5
Installing : info-6.8-3.fc36.x86_64 4/5
Installing : emacs-1:27.2-11.fc36.x86_64 5/5
Running scriptlet: emacs-common-1:27.2-11.fc36.x86_64 5/5
Running scriptlet: emacs-1:27.2-11.fc36.x86_64 5/5
Verifying : info-6.8-3.fc36.x86_64 1/5
Verifying : libblockfile-1.17-1.fc36.x86_64 2/5
Verifying : libotf-0.9.13-20.fc36.x86_64 3/5
Verifying : emacs-1:27.2-11.fc36.x86_64 4/5
Verifying : emacs-common-1:27.2-11.fc36.x86_64 5/5

Installed:
  emacs-1:27.2-11.fc36.x86_64      emacs-common-1:27.2-11.fc36.x86_64
  info-6.8-3.fc36.x86_64          libblockfile-1.17-1.fc36.x86_64
  libotf-0.9.13-20.fc36.x86_64

Complete!
[aepetrov@fedora ~]$ emacs &
[1] 11078
[aepetrov@fedora ~]$ bash ./script1
bash: ./script1: No such file or directory
[1]+  Done                  emacs
[aepetrov@fedora ~]$ bash ./script1
adding: script1 (deflated 32%)
[aepetrov@fedora ~]$ bash ./script1
adding: script1 (deflated 32%)
[aepetrov@fedora ~]$ emacs &
[1] 26985
[aepetrov@fedora ~]$ cd aepetrov
[aepetrov@fedora aepetrov]$ ls
academic.Rproj  backup  content  go.mod  images  netlify.toml  public  resources  theme.toml
assets         config  data    go.sum  LICENSE.md  preview.png  README.md  static
[aepetrov@fedora aepetrov]$ cd
[aepetrov@fedora ~]$ bash ./script2
[aepetrov@fedora ~]$ bash ./script2 1111 111 482 42823 1281 84 581 8551 41 23185 1 734 21 4616 32 451
1111
1111
482
42823
1281
84
581
8551
41
23185
1
734
21
4616
32
451
[aepetrov@fedora ~]$

```

{ #fig:002 width=70% }

3. Написать командный файл, аналог команды ls, который выдает информацию о нужном каталоге и выводит информацию о правах доступа к файлам каталога(рис. [-@fig:003]).

```
emacs &
```

Жмем C-x C-f, кладем файл по адресу ~, я назвал его script2

Bash-Code:

```

for a in *
do if test -d $a
then echo $a: is a directory
else echo -n $a: "is a file and "
if test -w $a
then echo writeable
elif test -r $a
then echo readable
else echo neither readable not writeable
fi
fi
done

```

```

for a in *
do if test -d $a
then echo $a: is a directory
else echo -n $a: "is a file and "
    if test -w $a
    then echo writeable
    elif test -r $a
    then echo readable
    else echo neither readable not writeable
    fi
fi
done

```

U:--- script3 All L9 (Fundamental)
Wrote /home/aeetrov/script3

```

Templates: is a directory
text.txt: is a file and writeable
tutorial: is a directory
Videos: is a directory
work: is a directory
[aeetrov@fedora ~]$ bash ./script3
./script3: line 2: test: 2022-04-30: binary operator expected
2022-04-30 11:50:47.mkv: is a file and ./script3: line 5: test: 2022-04-30: binary operator expected
./script3: line 7: test: 2022-04-30: binary operator expected
neither readable not writeable
abcl: is a file and writeable
aeetrov: is a directory
australia: is a directory
Backup: is a file and writeable
bin: is a directory
./script3: line 2: test: computer: binary operator expected
computer algebra: is a file and ./script3: line 5: test: computer: binary operator expected
./script3: line 7: test: computer: binary operator expected
neither readable not writeable
conf.txt: is a file and writeable
Desktop: is a directory
Documents: is a directory
Downloads: is a directory
efs: is a directory
feathers: is a file and writeable
file: is a file and writeable
idk: is a file and writeable
lab07.sh: is a file and writeable
lab07.sh: is a file and writeable
may: is a file and writeable
monthly: is a directory
Music: is a directory
my_os: is a file and readable
mystuff: is a directory
newfile: is a file and writeable
Pictures: is a directory
play: is a directory
Public: is a directory
reports: is a directory
script1: is a file and writeable
script2: is a file and writeable
script2: is a file and writeable
script3: is a file and writeable
script3: is a file and writeable
ski.places: is a directory
snap: is a directory
Templates: is a directory
text.txt: is a file and writeable
tutorial: is a directory
Videos: is a directory
work: is a directory
[aeetrov@fedora ~]$

```

{ #fig:003 width=70% }

- Написать командный файл, который получает в качестве аргумента командной строки формат файла (.txt, .doc, .jpg, .pdf и т.д.) и вычисляет количество таких файлов в указанной директории. Путь к директории также передаётся в виде аргумента командной строки(рис. [-@fig:004]).

emacs &

Жмем C-x C-f, кладем файл по адресу ~, я назвал его script2

Bash-Code:

```

echo "enter the name of directory:"
read dir
echo "enter the format"
read format
find ${dir} -maxdepth 1 -name "*${format}" -type f | wc -l

```

```

echo "enter the name of directory:"
read dir
echo "enter the format"
read format
find $(dir) -maxdepth 1 -name "${format}" -type f | wc -l

```

```

[aepetrov@fedora presentation]$ cd ..
[aepetrov@fedora lab09]$ git add .
[aepetrov@fedora lab09]$ git commit -am "boredom"
[master ffe1bca] boredom
19 files changed, 377 insertions(+), 370 deletions(-)
create mode 100644 labs/lab09/presentation/image/1.png
create mode 100644 labs/lab09/presentation/image/2.png
create mode 100644 labs/lab09/presentation/image/3.png
create mode 100644 labs/lab09/presentation/image/4.png
create mode 100644 labs/lab09/presentation/image/5.png
create mode 100644 labs/lab09/presentation/image/6.png
create mode 100644 labs/lab09/presentation/image/placement_800_600_tech.jpg
create mode 100644 labs/lab09/presentation/presentation.docx
rewrite labs/lab09/presentation/presentation.md (92%)
create mode 100644 labs/lab09/presentation/presentation.pdf
create mode 100644 labs/lab09/report/image/1.png
create mode 100644 labs/lab09/report/image/2.png
create mode 100644 labs/lab09/report/image/3.png
create mode 100644 labs/lab09/report/image/4.png
create mode 100644 labs/lab09/report/image/5.png
create mode 100644 labs/lab09/report/image/6.png
create mode 100644 labs/lab09/report/report.docx
rewrite labs/lab09/report/report.md (76%)
create mode 100644 labs/lab09/report/report.pdf
[aepetrov@fedora lab09]$ git push
Enumerating objects: 26, done.
Counting objects: 100% (26/26), done.
Delta compression using up to 6 threads
Compressing objects: 100% (19/19), done.
Writing objects: 100% (19/19), 594.05 KiB | 4.53 MiB/s, done.
Total 19 (delta 4), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (4/4), completed with 2 local objects.
To github.com:alekseiunknwn/study_2021-2022_os-intro.git
 55571d5..ffe1bca master -> master
[aepetrov@fedora lab09]$ cd ..
[aepetrov@fedora labs]$ cd lab10
[aepetrov@fedora lab10]$ cd
[aepetrov@fedora ~]$ emacs &
[1] 25532
[aepetrov@fedora ~]$ emacs &
[2] 26576
[1] Done          emacs
[aepetrov@fedora ~]$ bash ./script4
enter the name of directory:
home
enter the format
.txt
find: 'home': No such file or directory
0
[2]+  Done          emacs

```

{ #fig:004 width=70% }

Выводы

На данной лабораторной работе мы научились пользоваться скриптами bash и создавать свои, которые выполняют несложные команды, иногда заменяющие команды linux.