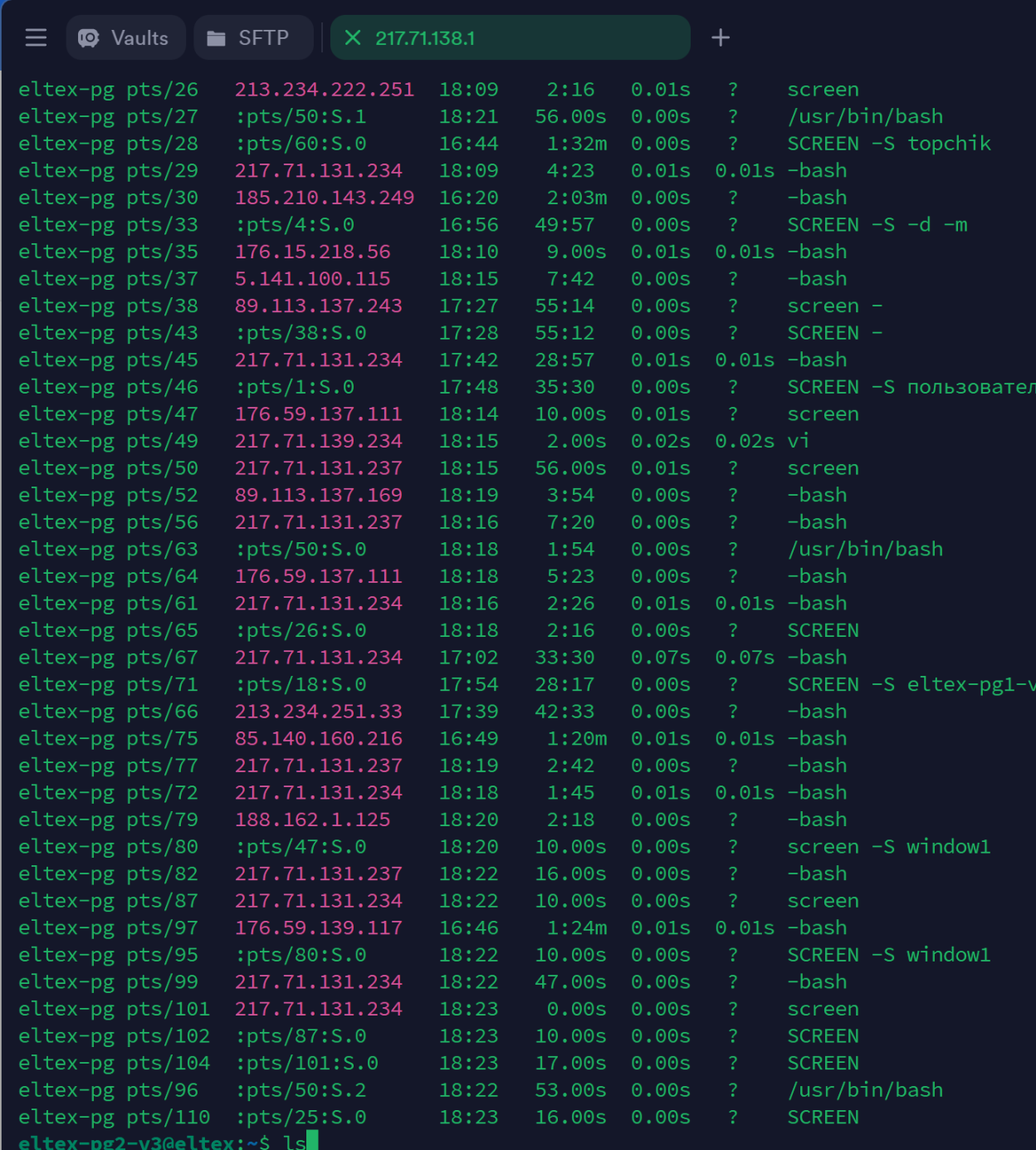


1

Подключитесь к серверу для выполнения практических работ, используя клиент для протокола ssh: ssh, putty, smartty (попробуйте их все и остановитесь на наиболее удобном для вас).

2

Запустите новую сессию утилиты screen, с именем по умолчанию, посмотрите список подключенных пользователей командой w, отключитесь от сессии.



```

┌─┐  VaultS  SFTP  X 217.71.138.1  +
eltex-pg pts/26 213.234.222.251 18:09 2:16 0.01s ? screen
eltex-pg pts/27 :pts/50:S.1 18:21 56.00s 0.00s ? /usr/bin/bash
eltex-pg pts/28 :pts/60:S.0 16:44 1:32m 0.00s ? SCREEN -S topchik
eltex-pg pts/29 217.71.131.234 18:09 4:23 0.01s 0.01s -bash
eltex-pg pts/30 185.210.143.249 16:20 2:03m 0.00s ? -bash
eltex-pg pts/33 :pts/4:S.0 16:56 49:57 0.00s ? SCREEN -S -d -m
eltex-pg pts/35 176.15.218.56 18:10 9.00s 0.01s 0.01s -bash
eltex-pg pts/37 5.141.100.115 18:15 7:42 0.00s ? -bash
eltex-pg pts/38 89.113.137.243 17:27 55:14 0.00s ? screen -
eltex-pg pts/43 :pts/38:S.0 17:28 55:12 0.00s ? SCREEN -
eltex-pg pts/45 217.71.131.234 17:42 28:57 0.01s 0.01s -bash
eltex-pg pts/46 :pts/1:S.0 17:48 35:30 0.00s ? SCREEN -S пользователь
eltex-pg pts/47 176.59.137.111 18:14 10.00s 0.01s ? screen
eltex-pg pts/49 217.71.139.234 18:15 2.00s 0.02s 0.02s vi
eltex-pg pts/50 217.71.131.237 18:15 56.00s 0.01s ? screen
eltex-pg pts/52 89.113.137.169 18:19 3:54 0.00s ? -bash
eltex-pg pts/56 217.71.131.237 18:16 7:20 0.00s ? -bash
eltex-pg pts/63 :pts/50:S.0 18:18 1:54 0.00s ? /usr/bin/bash
eltex-pg pts/64 176.59.137.111 18:18 5:23 0.00s ? -bash
eltex-pg pts/61 217.71.131.234 18:16 2:26 0.01s 0.01s -bash
eltex-pg pts/65 :pts/26:S.0 18:18 2:16 0.00s ? SCREEN
eltex-pg pts/67 217.71.131.234 17:02 33:30 0.07s 0.07s -bash
eltex-pg pts/71 :pts/18:S.0 17:54 28:17 0.00s ? SCREEN -S eltex-pg1-v
eltex-pg pts/66 213.234.251.33 17:39 42:33 0.00s ? -bash
eltex-pg pts/75 85.140.160.216 16:49 1:20m 0.01s 0.01s -bash
eltex-pg pts/77 217.71.131.237 18:19 2:42 0.00s ? -bash
eltex-pg pts/72 217.71.131.234 18:18 1:45 0.01s 0.01s -bash
eltex-pg pts/79 188.162.1.125 18:20 2:18 0.00s ? -bash
eltex-pg pts/80 :pts/47:S.0 18:20 10.00s 0.00s ? screen -S window1
eltex-pg pts/82 217.71.131.237 18:22 16.00s 0.00s ? -bash
eltex-pg pts/87 217.71.131.234 18:22 10.00s 0.00s ? screen
eltex-pg pts/97 176.59.139.117 16:46 1:24m 0.01s 0.01s -bash
eltex-pg pts/95 :pts/80:S.0 18:22 10.00s 0.00s ? SCREEN -S window1
eltex-pg pts/99 217.71.131.234 18:22 47.00s 0.00s ? -bash
eltex-pg pts/101 217.71.131.234 18:23 0.00s 0.00s ? screen
eltex-pg pts/102 :pts/87:S.0 18:23 10.00s 0.00s ? SCREEN
eltex-pg pts/104 :pts/101:S.0 18:23 17.00s 0.00s ? SCREEN
eltex-pg pts/96 :pts/50:S.2 18:22 53.00s 0.00s ? /usr/bin/bash
eltex-pg pts/110 :pts/25:S.0 18:23 16.00s 0.00s ? SCREEN
eltex-pg2-v3@eltex:~$ ls
```

```
eltex-pg2-v3@eltex:~$ screen  
[detached from 101072.pts-115.eltex]
```

3

Запустите отсоединенную сессию утилиты screen, при этом запустите в этой сессии команду top. Назовите сессию именем «top».

```
eltex-pg2-v3@eltex:~$ screen -dmS top  
eltex-pg2-v3@eltex:~$ screen -ls  
There are screens on:  
106952.top (06.03.2025 18:44:22) (Detached)
```

```
top - 18:44:49 up 5:21, 72 users, load average: 0,18, 0,06, 0,01  
Tasks: 579 total, 1 running, 578 sleeping, 0 stopped, 0 zombie  
%Cpu(s): 0,0 us, 33,3 sy, 0,0 ni, 66,7 id, 0,0 wa, 0,0 hi, 0,0 si, 0,0 st  
MiB Mem : 3914,7 total, 2297,2 free, 1159,7 used, 686,5 buff/cache  
MiB Swap: 976,0 total, 976,0 free, 0,0 used. 2755,0 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
107510	eltex-pt	20	0	11632	5420	3272	R	6.2	0.1	0:00.01	top

4

Получите список сессий, созданных утилитой screen.

```
eltex-pg2-v3@eltex:~$ screen -ls  
There are screens on:  
107509.pts-115.eltex (06.03.2025 18:44:49) (Detached)  
106952.top (06.03.2025 18:44:22) (Detached)  
104342.top (06.03.2025 18:42:31) (Detached)  
104202.pts-115.eltex (06.03.2025 18:42:26) (Detached)  
102739.pts-115.eltex (06.03.2025 18:41:22) (Detached)  
101072.pts-115.eltex (06.03.2025 18:39:53) (Detached)  
99955.pts-115.eltex (06.03.2025 18:38:37) (Detached)  
97893.pts-115.eltex (06.03.2025 18:36:28) (Detached)  
91297.pts-115.eltex (06.03.2025 18:29:38) (Detached)  
86212.pts-101.eltex (06.03.2025 18:23:17) (Detached)  
82476.pts-20.eltex (06.03.2025 18:18:40) (Detached)
```

5

Подсоединитесь к сессии top.

Screen -r top

6

Создайте еще одно окно в сессии top.

ctrl+a c

7

В созданном окне выполните команду:

8

watch /usr/bin/vmstat

```
Every 2,0s: /usr/bin/vmstat
```

```
procs -----memory----- ---swap-- -----io---- -system-- -----cpu-----  
r  b   swpd   free  buff  cache   si   so    bi    bo    in   cs us sy id wa st  
2  0       0 2300120 67160 636464    0    0     3    12   56   69  0  0 98  1  0
```

9

Получите список окон.

```
0-$ top 1*$ bash
```

10.Переименуйте второе окно как «vmstat».

```
0-$ top 1*$ vmstat
```

11.Перейдите в окно, в котором работает top.

Ctrl+a 0

12.Отсоединитесь от сессии top.

ctrl+a d

13.Запустите новую сессию и запустите в окне команду:

vi report\_part1.txt

```
eltex-pg2-v3@eltex:~$ ls  
report_part1.txt
```

14 Отсоединитесь от сессии и получите список сессий.

```
eltex-pg2-v3@eltex:~$ screen -ls
There are screens on:
 143601.pts-199.eltex      (06.03.2025 19:05:46)   (Detached)
 141701.editor      (06.03.2025 19:04:48)   (Detached)
 137863.pts-199.eltex      (06.03.2025 19:02:45)   (Detached)
 129253.pts-199.eltex      (06.03.2025 18:58:17)   (Detached)
 128089.pts-199.eltex      (06.03.2025 18:57:41)   (Detached)
 124466.pts-115.eltex      (06.03.2025 18:55:36)   (Detached)
 112013.pts-115.eltex      (06.03.2025 18:47:37)   (Detached)
 111745.top2      (06.03.2025 18:47:29)   (Detached)
 107509.pts-115.eltex      (06.03.2025 18:44:49)   (Detached)
 106952.top      (06.03.2025 18:44:22)   (Detached)
 104342.top      (06.03.2025 18:42:31)   (Detached)
 104202.pts-115.eltex      (06.03.2025 18:42:26)   (Detached)
 102739.pts-115.eltex      (06.03.2025 18:41:22)   (Detached)
 101072.pts-115.eltex      (06.03.2025 18:39:53)   (Detached)
 99955.pts-115.eltex      (06.03.2025 18:38:37)   (Detached)
 97893.pts-115.eltex      (06.03.2025 18:36:28)   (Detached)
 91297.pts-115.eltex      (06.03.2025 18:29:38)   (Detached)
 86212.pts-101.eltex      (06.03.2025 18:23:17)   (Detached)
 82476.pts-20.eltex      (06.03.2025 18:18:40)   (Detached)
```

15 Отключитесь от сервера, используя команду `logout` или комбинацию клавиш `Ctrl+D`

16 Подключитесь к серверу (как в п.1), и получите список сессий `screen`

```
eltex-pg2-v3@eltex:~$ screen -ls
There are screens on:
 143601.pts-199.eltex      (06.03.2025 19:05:46)   (Detached)
 141701.editor      (06.03.2025 19:04:48)   (Detached)
 137863.pts-199.eltex      (06.03.2025 19:02:45)   (Detached)
 129253.pts-199.eltex      (06.03.2025 18:58:17)   (Detached)
 128089.pts-199.eltex      (06.03.2025 18:57:41)   (Detached)
 124466.pts-115.eltex      (06.03.2025 18:55:36)   (Detached)
 112013.pts-115.eltex      (06.03.2025 18:47:37)   (Detached)
 111745.top2      (06.03.2025 18:47:29)   (Detached)
 107509.pts-115.eltex      (06.03.2025 18:44:49)   (Detached)
 106952.top      (06.03.2025 18:44:22)   (Detached)
 104342.top      (06.03.2025 18:42:31)   (Detached)
 104202.pts-115.eltex      (06.03.2025 18:42:26)   (Detached)
 102739.pts-115.eltex      (06.03.2025 18:41:22)   (Detached)
 101072.pts-115.eltex      (06.03.2025 18:39:53)   (Detached)
 99955.pts-115.eltex      (06.03.2025 18:38:37)   (Detached)
 97893.pts-115.eltex      (06.03.2025 18:36:28)   (Detached)
 91297.pts-115.eltex      (06.03.2025 18:29:38)   (Detached)
 86212.pts-101.eltex      (06.03.2025 18:23:17)   (Detached)
 82476.pts-20.eltex      (06.03.2025 18:18:40)   (Detached)
```

17 Подключитесь к сессии с редактором и запишите в файл

"ФИО часть 1 модуля 1 успешно завершена дата и время"

```
eltex-pg2-v3@eltex:~$ cat report_part1.txt
Глазунов Кирилл Дмитриевич часть 1 модуль 1 успешно завершена 06.03.2025 19:08
```

18 Закройте редактор, сохранив файл и закройте все сессии screen.

```
eltex-pg2-v3@eltex:~$ for i in $(screen -ls |grep -v Socket|grep -v There|awk '{print $1}'); do screen -S $i -X quit; done
eltex-pg2-v3@eltex:~$ screen -ls
No Sockets found in /run/screen/S-eltex-pg2-v3.
```

2 Модуль

1)screen -S "пользователь в системе\_part2" -L -Logfile "\$USER\_part.log"

2)compgen -c ls

3)compgen -v HIST

4)echo \$HISTSIZE

5)ls -a ~ | grep '^\.'

6)export HISTTIMEFORMAT="%F %T "

7)date

history

```
PROMPT_COMMAND="history -a"

echo "test"

history

history -a; cat ~/.bash_history | tail

8)DATE=$(date +%Y-%m-%d)

echo $DATE

9)TIME=$(date +%H:%M:%S)

echo $TIME

10)DATE_TIME="$DATE $TIME"

echo $DATE_TIME

11)find /bin /sbin -type f -name '[0-9]*'

12)PS1="\u@\h-\A> "

13)export PS1

bash

14)mkdir $(date +"%Y")-{01..12}
```

3 модуль

1)

```
cd ~

touch $USER_part3.log

echo "cd ~" >> $USER_part3.log

echo "touch \"$USER_part3.log\" >> $USER_part3.log
```

2)

```
mkdir -p D1/D2/D3

echo "mkdir -p D1/D2/D3" >> $USER_part3.log
```

3)

```
touch D1/D2/file.txt

echo "touch D1/D2/file.txt" >> $USER_part3.log
```

4)

```
echo "Hello, this is a test file." > D1/D2/file.txt
```

```
echo "echo \"Hello, this is a test file.\" > D1/D2/file.txt" >> $USER_part3.log
```

5)

```
ln -s D1/D2/file.txt D1/D2/D3/symlink_file.txt
```

```
ln D1/D2/file.txt D1/D2/D3/hardlink_file.txt
```

```
echo "ln -s D1/D2/file.txt D1/D2/D3/symlink_file.txt" >> $USER_part3.log
```

```
echo "ln D1/D2/file.txt D1/D2/D3/hardlink_file.txt" >> $USER_part3.log
```

6)

```
ls -l D1/D2/D3/
```

```
echo "ls -l D1/D2/D3/" >> $USER_part3.log
```

```
cat D1/D2/D3/symlink_file.txt
```

```
cat D1/D2/D3/hardlink_file.txt
```

```
echo "cat D1/D2/D3/symlink_file.txt" >> $USER_part3.log
```

```
echo "cat D1/D2/D3/hardlink_file.txt" >> $USER_part3.log
```

7)

```
mv D1/D2/file.txt D1/
```

```
echo "mv D1/D2/file.txt D1/" >> $USER_part3.log
```

8)

```
cat D1/D2/D3/symlink_file.txt
```

```
cat D1/D2/D3/hardlink_file.txt
```

```
echo "cat D1/D2/D3/symlink_file.txt" >> $USER_part3.log
```

```
echo "cat D1/D2/D3/hardlink_file.txt" >> $USER_part3.log
```

9)

```
rm -r D1/D2
```

```
echo "rm -r D1/D2" >> $USER_part3.log
```

10)

```
find / -type f -size +50M > $USER_part3_gt50M.log 2>/dev/null
```

```
echo "find / -type f -size +50M > \${USER_part3_gt50M.log 2>/dev/null}" >> $USER_part3.log
```

```
ls -lh -- $(cat $USER_part3_gt50M.log)
```

11)

```
find ~ -type f -mtime -1
```

```
echo "find ~ -type f -mtime -1" >> $USER_part3.log
```

12)

```
which find
```

```
echo "which find" >> $USER_part3.log
```

13)

```
file $(which find)
```

```
echo "file \$(which find)" >> $USER_part3.log
```

14)

```
file /boot/initrd.img*
```

```
echo "file /boot/initrd.img*" >> $USER_part3.log
```

Образ файловой системы