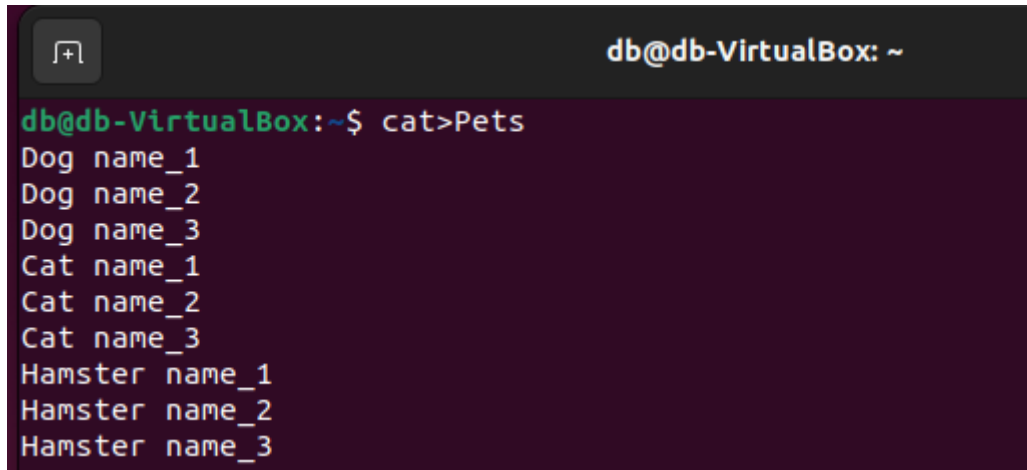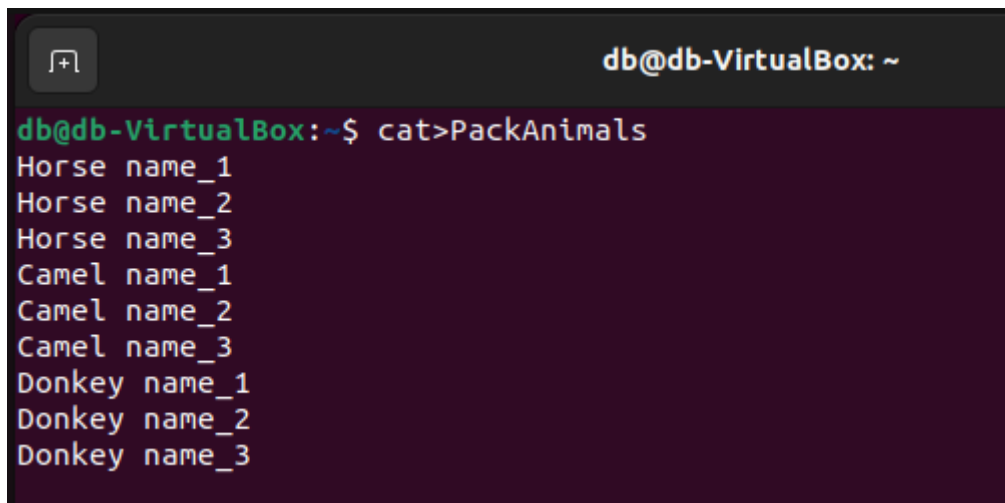1. Использование команды cat в Linux

 - Создать два текстовых файла: "Pets"(Домашние животные) и "Pack animals"(вьючные животные), используя команду `cat` в терминале Linux. В первом файле перечислить собак, кошек и хомяков. Во втором — лошадей, верблюдов и ослов.

```
⊞              db@db-VirtualBox: ~
db@db-VirtualBox:~$ cat>Pets
Dog name_1
Dog name_2
Dog name_3
Cat name_1
Cat name_2
Cat name_3
Hamster name_1
Hamster name_2
Hamster name_3
```

```
⊞              db@db-VirtualBox: ~
db@db-VirtualBox:~$ cat>PackAnimals
Horse name_1
Horse name_2
Horse name_3
Camel name_1
Camel name_2
Camel name_3
Donkey name_1
Donkey name_2
Donkey name_3
```

   - Объединить содержимое этих двух файлов в один и просмотреть его содержимое.

```
db@db-VirtualBox: ~

[+]                                    db@db-VirtualBox: ~

db@db-VirtualBox:~$ cat Pets PackAnimals>Animals
db@db-VirtualBox:~$ cat Animals
Dog name_1
Dog name_2
Dog name_3
Cat name_1
Cat name_2
Cat name_3
Hamster name_1
Hamster name_2
Hamster name_3
Horse name_1
Horse name_2
Horse name_3
Camel name_1
Camel name_2
Camel name_3
Donkey name_1
Donkey name_2
Donkey name_3
db@db-VirtualBox:~$
```

- Переименовать получившийся файл в "Human Friends"

```
Donkey name_3
db@db-VirtualBox:~$ mv Animals HumanFriends
db@db-VirtualBox:~$ ls
compose          docker-compose.yml  HumanFriends  Pictures    test_folder
compose2         Documents           Music         Public      Videos
compose3         Dokerfile           Pack          Shared      wordpress
compose.yaml     Downloads           PackAnimals   snap
Desktop          GB                  Pets          Templates
db@db-VirtualBox:~$
```

2. Работа с директориями в Linux

- Создать новую директорию и переместить туда файл "Human Friends".

```
[+]                                    db@db-VirtualBox: ~

db@db-VirtualBox:~$ mkdir Animal
db@db-VirtualBox:~$ mv HumanFriends Animal
db@db-VirtualBox:~$
```

3. Работа с MySQL в Linux. "Установить MySQL на вашу вычислительную машину "

   - Подключить дополнительный репозиторий MySQL и установить один из пакетов из этого репозитория.

4. Управление deb-пакетами

   - Установить и затем удалить deb-пакет, используя команду `dpkg`.

5. История команд в терминале Ubuntu

   - Сохранить и выложить историю ваших терминальных команд в Ubuntu.

db@db-VirtualBox:~$ history

```
1  sodo apt update

2  sodo -apt update

3  sudo apt update

4  sudo apt install openssh-server

5  sudo apt install gcc make perl

6  cd home/

7  ll

8  cd

9  cd .

10  ll

11  cd ..

12  ll

13  sudo usermod -aG vboxsf db
```

```
14  mkdir wordpress && cd wordpress

15  mkdir nginx-conf

16  nano nginx-conf/nginx.conf

17  nano .env

18  nano docker-compose.yml

19  docker-compose up -d

20  sudo apt update

21  sudo apt install apt-transport-https ca-certificates curl software-properties-
common

22  curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key
add -

23  sudo add-apt-repository "deb [arch=amd64]
https://download.docker.com/linux/ubuntu bionic stable"

24  sudo apt update

25  apt-cache policy docker-ce

26  sudo apt install docker-ce
```

27 sudo systemctl status docker

28 sudo usermod -aG docker ${USER}

29 su - ${USER}

30 id -nG

31 sudo usermod -aG docker username

32 sudo curl -L
https://github.com/docker/compose/releases/download/1.29.2/docker-compose-`uname -s`-`uname -m` -o /usr/local/bin/docker-compose

33 sudo chmod +x /usr/local/bin/docker-compose

34 docker-compose --version

35 docker-compose up -d

36 docker-compose ps

37 mkdir wordpress && cd wordpress

38 cd wordpress/

39 mkdir nginx-conf

```
40  nano nginx-conf/nginx.conf

41  nano .env

42  nano docker-compose.yml

43  docker-compose up -d

44  nano docker-compose.yml

45  docker-compose up -d

46  docker-compose ps

47  docker-compose logs service_name

48  docker-compose exec webserver ls -la /etc/letsencrypt/live

49  nano docker-compose.yml

50  docker-compose up --force-recreate --no-deps certbot

51  docker-compose stop webserver

52  rm nginx-conf/nginx.conf
```

```
53  nano nginx-conf/nginx.conf

54  nano docker-compose.yml

55  docker-compose up -d --force-recreate --no-deps webserver

56  docker-compose ps

57  docker-compose up -d --force-recreate --no-deps webserver

58  docker-compose ps

59  docker-compose up -d --force-recreate --no-deps webserver

60  docker-compose ps

61  docker-compose stop webserver

62  curl -sSLo nginx-conf/options-ssl-nginx.conf
https://raw.githubusercontent.com/certbot/certbot/master/certbot-
nginx/certbot_nginx/_internal/tls_configs/options-ssl-nginx.conf

63  rm nginx-conf/nginx.conf

64  nano nginx-conf/nginx.conf

65  nano docker-compose.yml
```

```
66  docker-compose up -d --force-recreate --no-deps webserver

67  docker-compose ps

68  docker-compose exec webserver ls -la /etc/letsencrypt/live

69  nano script.sh

70  pwd

71  nano script.sh

72  ll

73  ls -A

74  pwd

75  .\script.sh /home/db

76  ./script.sh /home/db

77  sudo ./script.sh /home/db

78  ./script.sh /home/db

79  cmod +x script.sh
```

80 chmod +x script.sh

81 ./script.sh /home/db

82 ls -A

83 mkdif folder1 && mkdir folder2

84 mkdir folder1 && mkdir folder2

85 ll

86 ll -A

87 ls -A

88 ./script.sh /home/db

89 ls -A

90 ./script.sh /home/db

91 pwd

92 ls -A

```
93  cd /home/db/test_folder/

94  ll

95  nano tesn.bak

96  cp tesn.bak test.bakup

97  cp tesn.bak test.tmp

98  ls -A

99  ll

100  ls

101  ll

102  clear

103  nano tesn.bak

104  cp tesn.bak test.tmp

105  cp tesn.bak test.backup

106  ll
```

```
107  cd ~/test_folder/

108  ./script.sh

109  nano script.sh

110  ./script.sh

111  nano script.sh

112  pwd

113  ./script.sh /home/db/test_folder

114  nano script.sh

115  ./script.sh /home/db/test_folder

116  nano script.sh

117  cd /home/db/test_folder

118  nano ownersort.sh

119  ll
```

```
120  ./ownersort.sh /home/db/test_folder

121  chmod +x ownersort.sh

122  ./ownersort.sh /home/db/test_folder

123  ll

124  nano ownersort.sh

125  ./ownersort.sh /home/db/test_folder

126  nano ownersort.sh

127  ./ownersort.sh /home/db/test_folder

128  nano ownersort.sh

129  ./ownersort.sh /home/db/test_folder

130  nano ownersort.sh

131  ./ownersort.sh /home/db/test_folder

132  nano ownersort.sh

133  ./ownersort.sh /home/db/test_folder
```

```
134  nano ownersort.sh

135  ./ownersort.sh /home/db/test_folder

136  nano ownersort.sh

137  mkdir GB

138  chroot GB /bin/bash

139  mkdir GB/bin

140  cp bin/bash GB/bin

141  cp bin/bash GB/bin/

142  cp /bin/bash GB/bin/

143  chroot GB /bin/bash

144  ls GB

145  ldd /bin/bash/

146  ldd /bin/bash
```

```
147  mkdir GB/lib

148  mkdir GB/lib64

149  cp /lib64/ld-linux-x86-64.so. GB/lib

150  cp libtinfo.so.6 => /lib/x86_64-linux-gnu/libtinfo.so.6 GB/lib

151  cp /lib/x86_64-linux-gnu/libtinfo.so.6 testfolder/lib

152  cp /lib/x86_64-linux-gnu/libtinfo.so.6 GB/lib

153  cp /lib/x86_64-linux-gnu/libc.so.6 GB/lib

154  cp /lib64/ld-linux-x86-64.so.2 GB/lib64/

155  chroot testfolder

156  cp linux-vdso.so.1  GB/lib64/

157  cp /lib/x86_64-linux-gnu/libc.so.6  GB/lib64/

158  cp /lib64/ld-linux-x86-64.so.2  GB/lib64/

159  ll lib64/

160  ll /lib64
```

161 ls lib64

162 chroot GB

163 cp /lib64/ld-linux-x86-64.so.2 GB/lib

164 cp /lib/x86_64-linux-gnu/libc.so.6 GB/lib

165 cp /lib64/ld-linux-x86-64.so.2 GB/lib

166 chroot GB

167 cp /lib64/ld-linux-x86-64.so.2 GB/lib64

168 chroot GB

169 ll /lib64

170 ldd /bin/bash

171 cp /lib/x86_64-linux-gnu/libtinfo.so.6 GB/lib

172 cp /lib/x86_64-linux-gnu/libc.so.6 GB/lib

173 cp /lib64/ld-linux-x86-64.so.2 GB/lib64/

174 chroot GB

175 chroot GB /bin/bash

176 cp /lib/x86_64-linux-gnu/libc.so GB/lib

177 chroot GB

178 top

179 ps

180 tty

181 ls /dev/pts

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

183 echo $DATE

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

185 echo $DATE

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

187 echo $DATE

```
188  DATE=$(date +%d-%m-%Y %T)

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

190  echo $DATE

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

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

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

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

195  echo $DATE

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

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

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

199  echo $DATE

200  DATE=$(date +%d-%m-%Y) $(date +%T)
```

```
201  DATE=$(date +%d-%m-%Y)$(date +%T)

202  echo $DATE

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

204  echo $DATE

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

206  echo $DATE

207  echo date

208  echo $DATE

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

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

211  echo $DATE

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

213  echo $DATE

214  DATE=$(date)
```

```
215  echo $DATE

216  h

217  --help

218  help

219  sleep 600

220  jobs

221  ps -l

222  renice -n 10 $(pidof sleep)

223  ps -l

224  id

225  pdp -id

226  pdp-id

227  mc
```

```
228  sudo mc

229  sudo apt apdate

230  sudo apt update

231  sudo apt upgrade

232  ls -l

233  mc

234  apt install mc

235  sudo apt install mc

236  mc

237  nano docker-compose.yml

238  nano Dokerfile

239  ls -l

240  docker compose up

241  docker compose down
```

242 docker compose up

243 docker compose down

244 docker compose up

245 docker ps

246 ls -l

247 docker ps

248 sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin

249 sudo docker run hello-world

250 Docker compose up

251 docker compose up

252 mc

253 docker compose up

254 docker run -it ubuntu:23.10 bash

```
255  mc

256  docker compose up

257  sudo docker compose up

258  sudo su -

259  sudo mc

260  docker compose up

261  sudo docker compose up

262  mc

263  docker compose up

264  docker compose down

265  docker-compose up

266  docker compose up

267  sudo docker run hello-world

268  mc
```

269 ls -l

270 docker compose up

271 docker compose down

272 docker compose up

273 docker images

274 docker rmi $(docker images -q)

275 docker images

276 docker rmi $(docker images -q)

277 clear

278 mkdir compose

279 cd compose/

280 nano dbui.sh

281 bash dbui.sh

```
282  nano dbui.sh

283  bash dbui.sh

284  cd compose/

285  bash dbui.sh

286  docker ps

287  docker rm 9faa8b736152

288  docker ps

289  docker rm 9faa8b736152

290  docker rm 473dcba144ed

291  docker ps

292  docker stop nginx

293  docker rm $(docker ps -qa)

294  sudo docker rm $(docker ps -qa)

295  docker ps
```

```
296  docker system prune

297  docker ps

298  docker rmi $(docker images -a -q)

299  docker ps

300  docker stop $(docker ps -a -q)

301  docker rm $(docker ps -a -q)

302  docker ps

303  nano dbui.sh

304  cd compose/

305  bash dbui.sh

306  nano dbui.sh

307  mc

308  cp -r compose compose2
```

```
309  cd compose2/

310  compose.yaml

311  nano compose.yaml

312  docker compose up -d

313  nano compose.yaml

314  docer-compose ps

315  docker-compose ps

316  docker-compose ps -a

317  docker ps -a

318  nano compose.yaml

319  docker-compose

320  docker-compose up

321  nano compose.yaml

322  docker-compose up
```

```
323  nano compose.yaml

324  docker-compose up

325  nano compose.yaml

326  docker-compose up

327  nano compose.yaml

328  docker-compose up

329  nano compose.yaml

330  docker-compose up

331  nano compose.yaml

332  docker-compose up

333  nano compose.yaml

334  docker-compose up

335  nano compose.yaml
```

336 nano dbui.sh

337 ls -l

338 mc

339 docker-compose up

340 mc

341 bash dbui.sh

342 cd compose

343 bash dbui.sh

344 ss -ntlp

345 docker-compose up

346 docker-compose up -d

347 docker rm -vf db

348 docker rm -vf ui

349 docker ps -a

```
350  ifconfig

351  sudo apt install net-tools

352  ifconfig

353  ip address

354  docker swarm

355  docker swarm init

356  ip address

357  ifconfig

358  ip config

359  ipconfig

360  clear

361  docker swarm

362  docker swarm init
```

```
363  ip address

364  docker swarm init

365  ip address

366  docker swarm init

367  docker swarm

368  docker swarm ca

369  docker swarm update

370  docker swarm

371  docker swarm init

372  firewall-cmd --add-port=2376/tcp --permanent;

373  sudo apt install firewalld

374  firewall-cmd --add-port=2376/tcp --permanent;

375  firewall-cmd --add-port=2377/tcp --permanent;

376  sudo su
```

```
377  docker ps -a

378  cd compose/

379  docker-compose up

380  cd compose2/

381  cd .

382  cd ..

383  cd compose2/

384  docker-compose up

385  docker-compose down

386  cd ..

387  cd compose/

388  docker-compose down

389  cd ..
```

390 docker-compose

391 cd compose2/

392 docker-compose up

393 docker-compose down

394 cd ..

395 cd compose/

396 docker-compose up

397 docker-compose down

398 cd compose/

399 docker-compose down

400 cd ..

401 cd compose2/

402 docker-compose down

403 cd ..

```
404  cd compose3/

405  docker-compose up -f lab.yaml

406  docker-compose up -flab.yaml

407  docker-compose up -f lab.yaml

408  docker-compose up -d lab.yaml

409  docker-compose up

410  cd compose2/

411  docker-compose up

412  cd compose3/

413  docker-compose up

414  docker ps -a

415  clear

416  docker ps -a
```

```
417  cd compose2/

418  docker-compose down

419  cd ..

420  cd compose3/

421  docker-compose down

422  docker ps -a

423  docker stop $(docker ps -a -q)

424  docker ps -a

425  docker stop $(docker ps -a -q)

426  docker ps -a

427  sudo docker stop $(sudo docker ps -aq)

428  docker ps -a

429  docker rm $(docker ps -aq)

430  docker ps -a
```

431 cat Pets

432 cat>Pets

433 clear

434 cat>Pack animals

435 cat>PackAnimals

436 clesr

437 clear

438 cat Pets PackAnimal>Animals

439 clear

440 cat Pets PackAnimals>Animals

441 cat Animals

442 mv Animals HumanFriends

443 ls

444 clear

445 mkdir HumanFriends

446 sudo -su

447 mkdir HumanFriends

448 sudo mkdir HumanFriends

449 clear

450 mkdir folder_test

451 mkdir HumanFriends

452 mkdir Human

453 clear

454 mkdir Animal

455 mv HumanFriends Animal

456 clear

457 sudo apt update

```
458  sudo apt install mysql-server

459  clear

460  sudo dpkg -i ~/Downloads/mysql-apt-config_0.8.29-1_all.deb

461  sudo apt update

462  sudo apt install mysql-server mysql-client

463  dpkg -i mysql-MVER-DVER-CPU.deb

464  sudo dpkg -i mysql-MVER-DVER-CPU.deb

465  clear

466  sudo dpkg -i mysql-apt-config*

467  sudo wget https://dev.mysql.com/get/mysql-apt-config_0.8.10-1_all.deb

468  sudo dpkg -i mysql-apt-config*

469  history

db@db-VirtualBox:~$
```