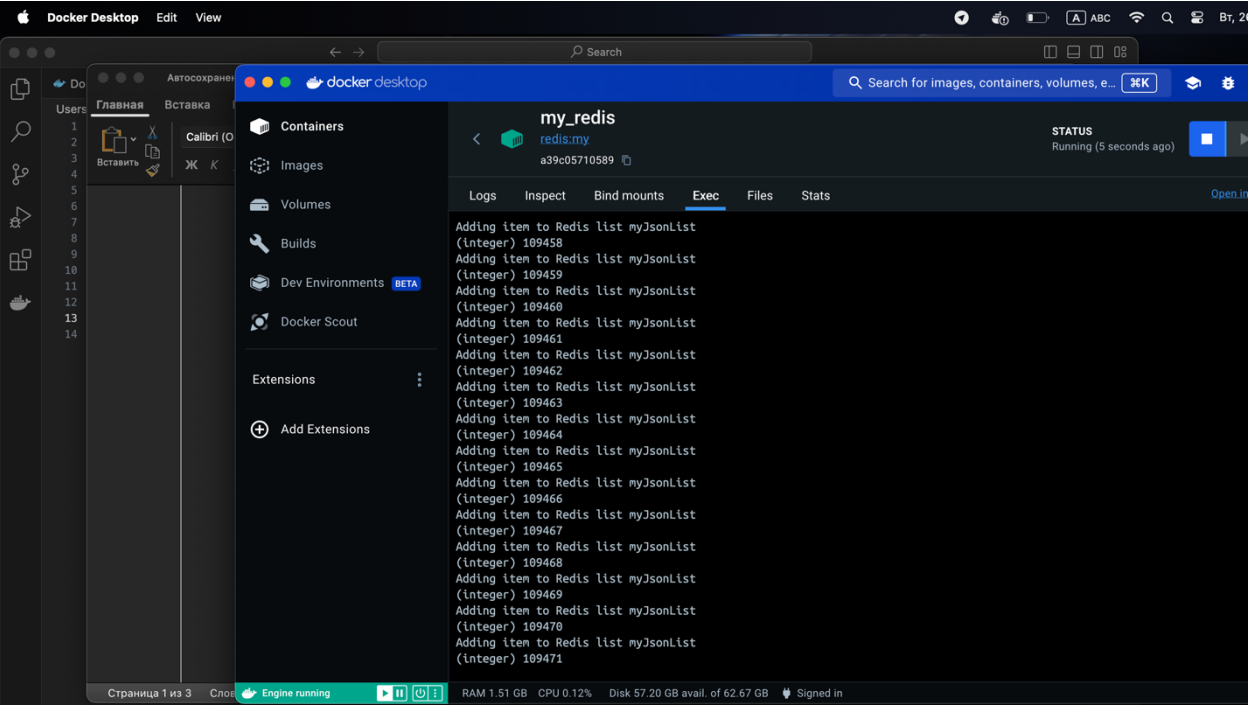
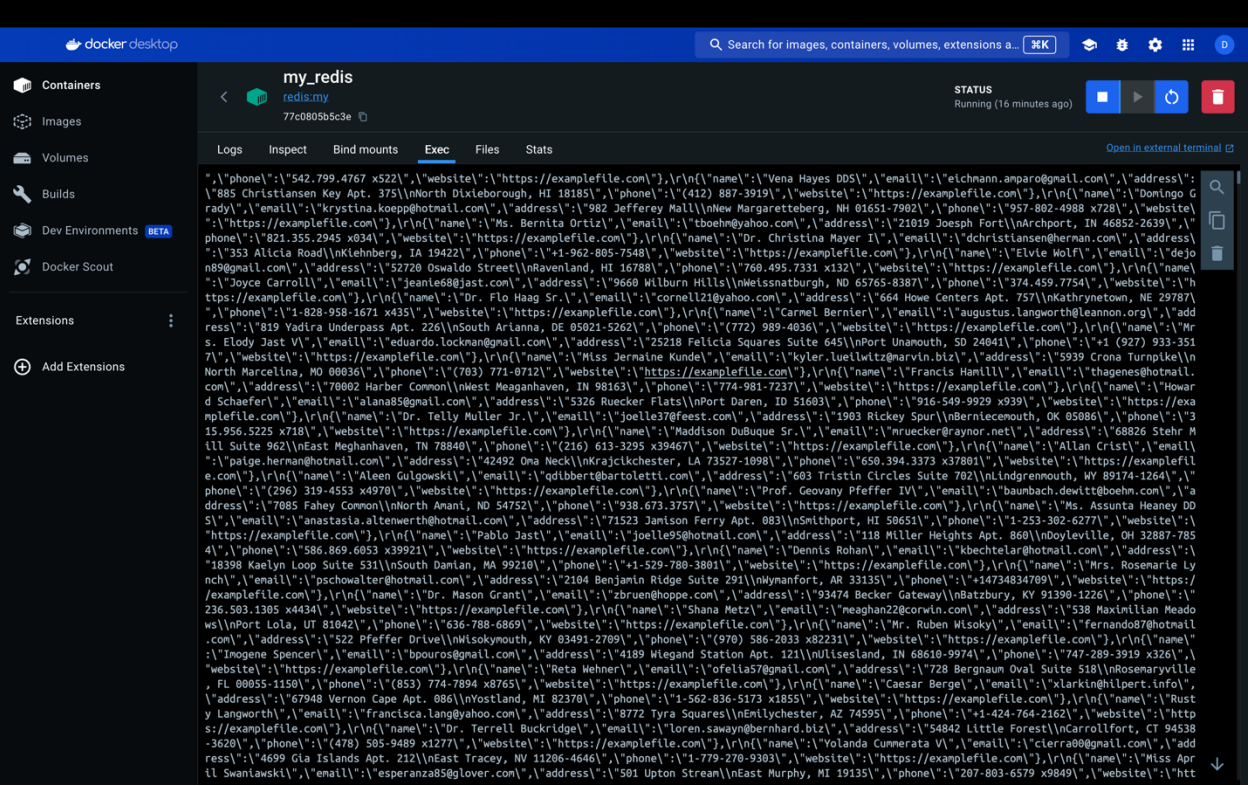


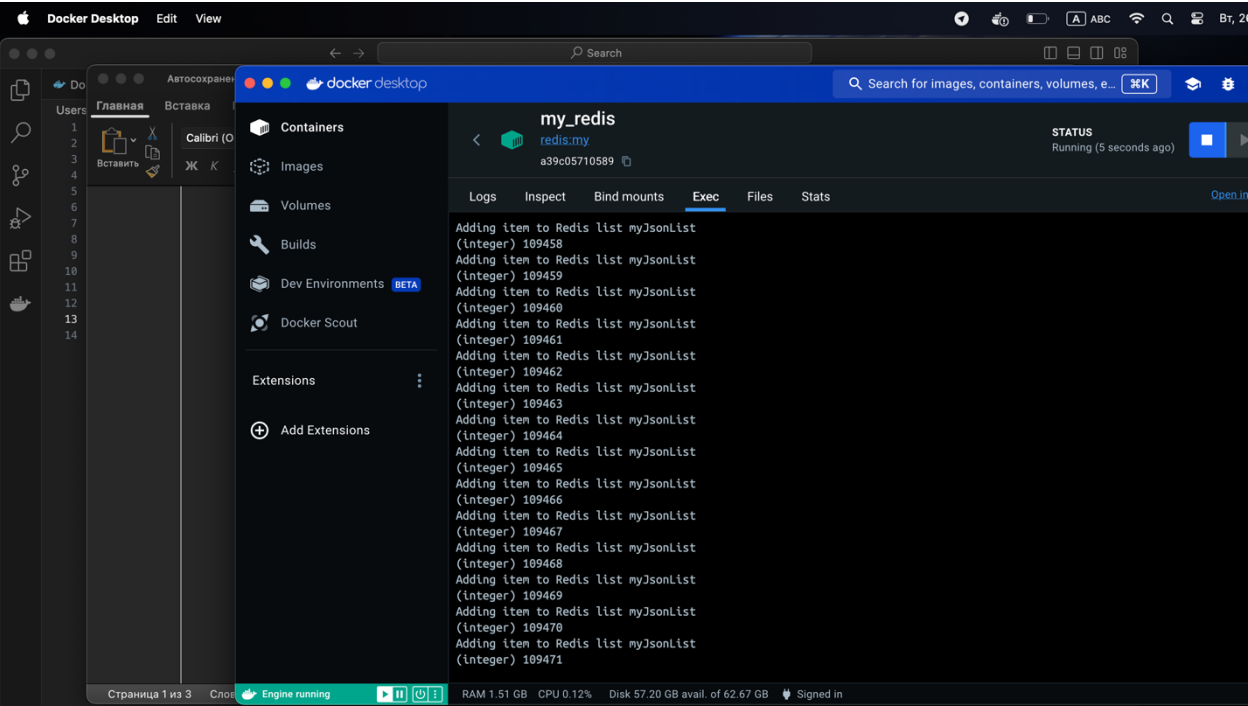
Сохранения json как строку



Вывод строки

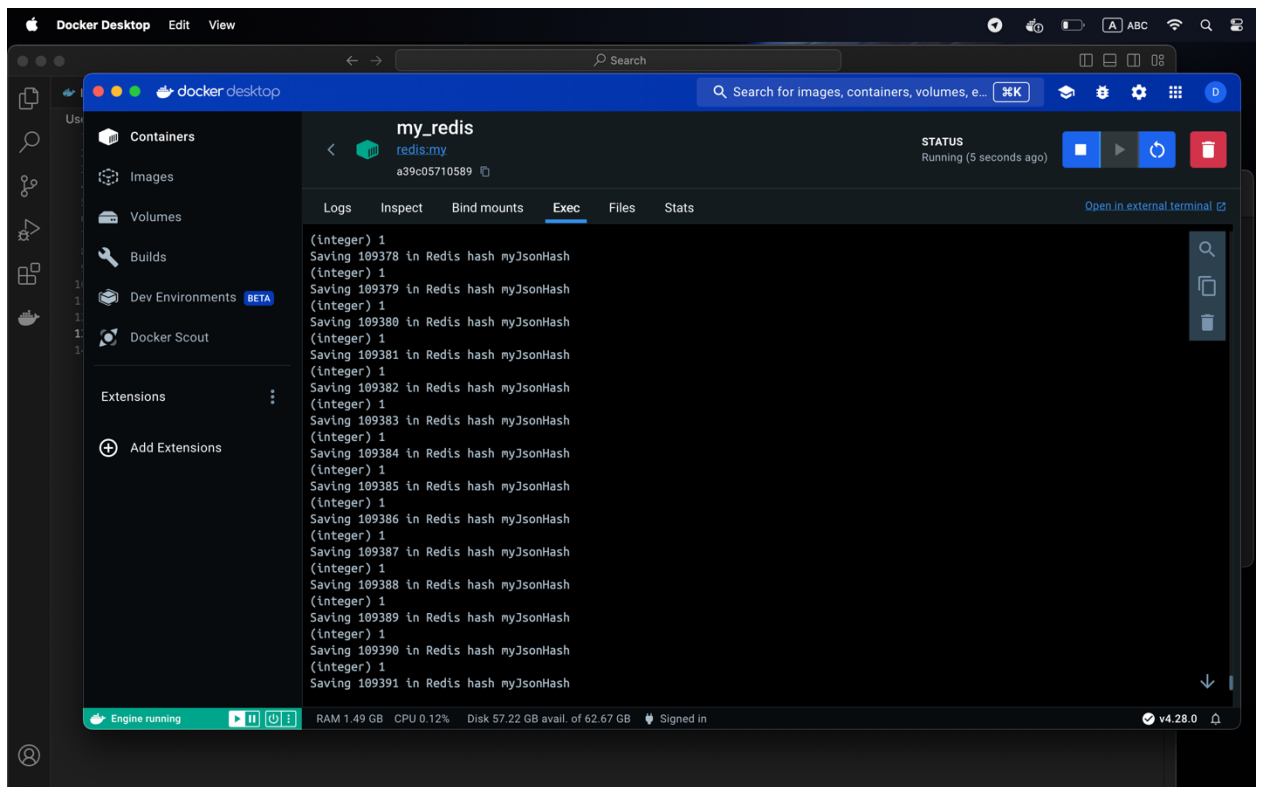


Сохранение как list



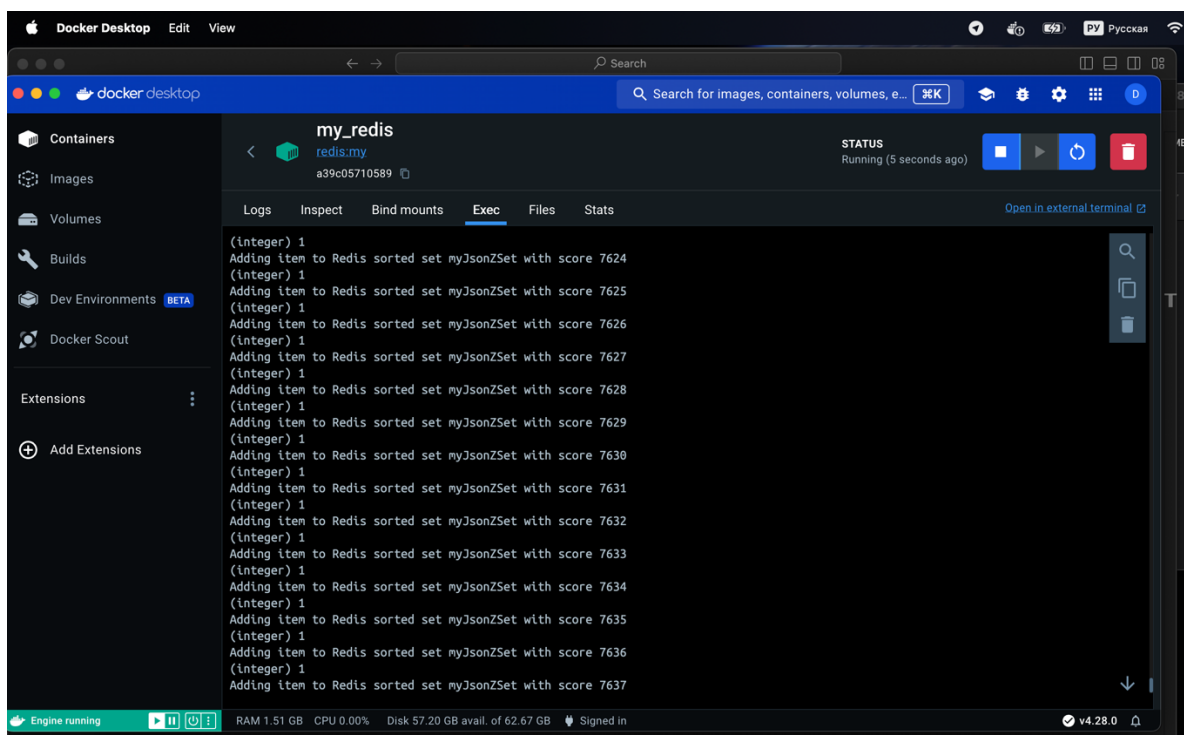
```
/data/static # redis-cli LRANGE myJsonList 3 6
1) "{\"name\":\"Laurianne Toy\",\"email\":\"miller.lavina@yahoo.com\",\"address\":\"18953 Jast Views\\nWest Idell, MT 49914\",\"phone\":\"(483) 471-0047\",\"website\":\"https://examplefile.com\"}"
2) "{\"name\":\"Carmen Herzog III\",\"email\":\"jazmyne.harris@ebert.biz\",\"address\":\"50688 Hilda Spur Suite 143\\nLilianalan d, MA 02882-9809\",\"phone\":\"(436) 215-7804\",\"website\":\"https://examplefile.com\"}"
3) "{\"name\":\"Dr. Clair Emard\",\"email\":\"raquel.goodwin@yahoo.com\",\"address\":\"34984 Edison Court Apt. 380\\nDariusland, WV 43581\",\"phone\":\"256.496.6293 x524\",\"website\":\"https://examplefile.com\"}"
4) "{\"name\":\"Prof. Jensen Bergstrom II\",\"email\":\"hwilderman@schoen.com\",\"address\":\"5394 Allison Squares Apt. 189\\nEast Howardmouth, ID 21148-1772\",\"phone\":\"597-596-7907 x3759\",\"website\":\"https://examplefile.com\"}"
/data/static #
```

Сохранение как hset



```
(nil)
/data/static # redis-cli HGET myJsonHash 109466
{"name":"Yasmeen Hegmann","email":"jonathon.hegmann@howe.com","address":"3370 Quitzon Drive\\nLockmanmouth, WV 29597", "phone":"(910) 230-6996","website":"https://examplefile.com"}
/data/static #
```

Сохранение как zset



```

(integer) 0
/data/static # redis-cli ZADD myJsonList 7 "item1"
(integer) 0
/data/static # redis-cli ZADD myJsonList 7647 "item2"
(integer) 1
/data/static # redis-cli ZRANGE myJsonList 0 -1 WITHSCORES
1) "item1"
2) "7"
3) "item2"
4) "7647"
/data/static # █

```

Тестирование скорости сохранения списка

```

109470) "{\"name\":\"Bradford Stokes\",\"email\":\"bmacejko@icloud.com\",\"address\":\"15290 Magdalena Courts Apt. 643\\nTurco
tteside, OH 70214-2606\",\"phone\":\"938.537.0708 x3865\",\"website\":\"https://examplefile.com\"}"
109471) "{\"name\":\"Dr. Daphne Beier PhD\",\"email\":\"pouros.gaston@yahoo.com\",\"address\":\"47811 Kub Extension\\nPort Enriq
ueton, LA 45175-0465\",\"phone\":\"502.892.2107 x973\",\"website\":\"https://examplefile.com\"}"
109472) "{\"name\":\"Luz Franecki\",\"email\":\"jerod.gutkowski@walter.com\",\"address\":\"65326 Julie Garden\\nBrakusfort, IL 1
5373\",\"phone\":\"(565) 872-4644 x360\",\"website\":\"https://examplefile.com\"}"
real    0m 17.95s
user    0m 1.58s
sys     0m 0.17s

```

Тестирование скорости чтения списка

```

(integer) 218944
/data/static # time redis-cli LRANGE "myJsonList" 0 -1 > /dev/null
real    0m 0.12s
user    0m 0.06s
sys     0m 0.03s

```

Тестирование скорости сохранения хэша

```

(integer) 0
Saving 109471 in Redis hash myJsonHash
(integer) 0
real    2m 0.45s
user    0m 46.26s
sys     1m 10.12s
/data/static #

```

Тестирование скорости чтения списка

Тестирование скорости чтения zset (сначала мой файл очень долго сохранялся в zset, поэтому я над ним посидел немного, но я делал первые 2 пункта за 1.5 недели до первого дедлайна, поэтому не помню на каком именно этапе я сменил файл)

```
-j-
/data/static # time redis-cli ZRANGE myJsonZSet 0 -1 myJsonZSet > /dev/null
real    0m 0.00s
user    0m 0.00s
sys     0m 0.00s
/data/static # █
```

Тестирование скорости сохранения zset

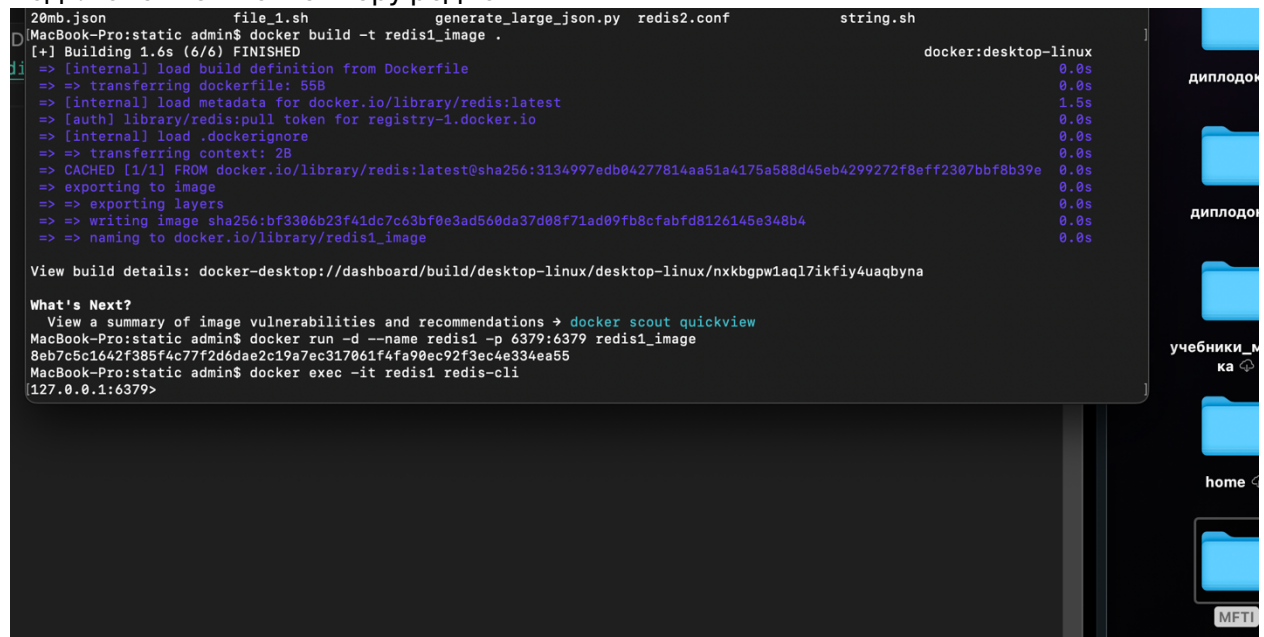
Adding item to Redis sorted set myJsonZSet with score 1712066199

Время добавления в sorted set: 0 секунд(ы)

Тестирование скорости чтения из sorted set myJsonZSet...

```
real    0m 0.07s
user    0m 0.04s
sys     0m 0.01s
/data/static # █
```

подключение к контейнеру редис



```
20mb.json      file.1.sh      generate_large_json.py  redis2.conf      string.sh
MacBook-Pro:static admin$ docker build -t redis1_image .
[+] Building 1.6s (6/6) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 55B
=> [internal] load metadata for docker.io/library/redis:latest
=> [auth] library/redis:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> => transferring context: 2B
=> CACHED [1/1] FROM docker.io/library/redis:latest@sha256:3134997edb04277814aa51a4175a588d45eb4299272f8eff2307bbf8b39e
=> exporting to image
=> => exporting layers
=> => writing image sha256:bf3306b23f41dc7c63bf0e3ad560da37d08f71ad09fb8cfabfd8126145e348b4
=> => naming to docker.io/library/redis1_image

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/nxkgpw1aql7ikfiy4uaqbyna

What's Next?
View a summary of image vulnerabilities and recommendations → docker scout quickview
MacBook-Pro:static admin$ docker run -d --name redis1 -p 6379:6379 redis1_image
8eb7c5c1642f385f4c77f2d6dae2c19a7ec317061f4fa90ec92f3ec4e334ea55
MacBook-Pro:static admin$ docker exec -it redis1 redis-cli
127.0.0.1:6379>
```


Это я затюнил таймаут редис1 (слева vs code, справа отображается подтверждение в терминале)

```
Users > admin > Desktop > MFTI > data_base >
1 cluster-enabled yes
2 cluster-config-file nodes.conf
3 cluster-node-timeout 5000
4 timeout 300
5 tcp-keepalive 300
6

MacBook-Pro:static admin$ docker exec -it redis1 cat /usr/local/etc/redis/redis.conf
cluster-enabled yes
cluster-config-file nodes.conf
cluster-node-timeout 5000
timeout 0
tcp-keepalive 300
MacBook-Pro:static admin$ docker exec -it redis1 cat /usr/local/etc/redis/redis.conf
cluster-enabled yes
cluster-config-file nodes.conf
cluster-node-timeout 5000
timeout 300
tcp-keepalive 300
MacBook-Pro:static admin$
```

Таймаут редис2

```
Dockerfile redis1.conf redis2.conf x
Users > admin > Desktop > MFTI > data_base > Dailehi
1 cluster-enabled yes
2 cluster-config-file nodes.conf
3 cluster-node-timeout 5000
4 timeout 500
5 tcp-keepalive 300
6

cat: /usr/local/etc/redis/redis.conf: No such file or directory
MacBook-Pro:static admin$ docker exec -it redis2 cat /usr/local/etc/redis/redis2.conf
cluster-enabled yes
cluster-config-file nodes.conf
cluster-node-timeout 5000
timeout 0
tcp-keepalive 300
MacBook-Pro:static admin$ docker exec -it redis2 cat /usr/local/etc/redis/redis2.conf
cluster-enabled yes
cluster-config-file nodes.conf
cluster-node-timeout 5000
timeout 500
tcp-keepalive 300
MacBook-Pro:static admin$
```

И соответственно редис3

```
Dockerfile redis1.conf redis2.conf
Users > admin > Desktop > MFTI > data_base >
1 cluster-enabled yes
2 cluster-config-file nodes.conf
3 cluster-node-timeout 5000
4 timeout 300
5 tcp-keepalive 300
6

MacBook-Pro:static admin$ docker exec -it redis3 cat /usr/local/etc/redis/redis3.conf
cluster-enabled yes
cluster-config-file nodes.conf
cluster-node-timeout 5000
timeout 0
tcp-keepalive 300
MacBook-Pro:static admin$ docker exec -it redis3 cat /usr/local/etc/redis/redis3.conf
cluster-enabled yes
cluster-config-file nodes.conf
cluster-node-timeout 5000
timeout 300
tcp-keepalive 300
MacBook-Pro:static admin$
```

Это я понимаю, что пробросил через одинаковые порты первые два редиса

```
MacBook-Pro:static admin$ docker rm redis2
redis2
MacBook-Pro:static admin$ docker rm redis2
Error response from daemon: No such container: redis2
MacBook-Pro:static admin$ docker run -d --name redis2 -p 6371:6371 redis2_image
7f86a27e0b960a2bd37db95525fcdcf29936c4120eb05c0bdca111774a8f77cac
MacBook-Pro:static admin$
```

Кластер из трех узлов

```
>>> Performing hash slots allocation on 3 nodes...
Master[0] -> Slots 0 - 5460
Master[1] -> Slots 5461 - 10922
Master[2] -> Slots 10923 - 16383
M: 6502e8a09a73a68b28645c9c89ec4f8be7deff1e 127.0.0.1:8000
slots:[0-5460] (5461 slots) master
M: c97986badd193e2c0510e50758aff48d8b5d06a 127.0.0.1:8001
slots:[5461-10922] (5462 slots) master
M: e68255af5eaa070bee22e3bbb630dd6406e02d86 127.0.0.1:8002
slots:[10923-16383] (5461 slots) master
Can I set the above configuration? (type 'yes' to accept): yes
>>> Nodes configuration updated
>>> Assign a different config epoch to each node
>>> Sending CLUSTER MEET messages to join the cluster
Waiting for the cluster to join
.....
```

Создание реплики

```
MacBook-Pro:~ admin$ docker run -d --name redis-replica1 redis:latest redis-server --slaveof redis-master 6379
46b3bbd090c56fe457acbc1516eb61a9865e173c38ecabfc3147ffd7149c9fce
MacBook-Pro:~ admin$ docker run -d --name redis-replica2 redis:latest redis-server --slaveof redis-master 6379
5ed885e61914c634ea8be577a850b666bef5f2dcf7c04588310b7f0c053a9ba0
MacBook-Pro:~ admin$ █
```

Если какой-то скрин забыл, то я точно сделал, просто забыл вставить, домашка очень объемная получилась.