Home work Docker 2.

1. Забираем образ nginx c Docker Hub, запускаем его и проверяем что он работает

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
648e0aadf75a: Pull complete
262696647b70: Pull complete
e66d0270d23f: Pull complete
55ac49bd649c: Pull complete
cbf42f5a00d2: Pull complete
8015f365966b: Pull complete
4cadff8bc2aa: Pull complete
Digest: sha256:67f9a4f10d147a6e04629340e6493c9703300ca23a2f7f3aa56fe615d75d31ca
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker container run --name My_ngi
nx_container -d -p 8080:80 nginx
adacdf2689e1eec5b2e628fbc86af10c50b5a939adbf38495a64849bdf89e14a
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID    IMAGE      COMMAND                  CREATED         STATUS
 PORTS                            NAMES
adacdf2689e1    nginx      "/docker-entrypoint.…"   9 seconds ago   Up 8 seconds
 0.0.0.0:8080->80/tcp, :::8080->80/tcp    My_nginx_container
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

2. Создаём docker volume и проверяем что он создан

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker volume create docker_volume
docker_volume
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker volume ls
DRIVER    VOLUME NAME
local     docker_volume
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

3. Запускаем контейнер и подключаем созданный docker volume

   docker run -d --name My_container --mount source=docker_volume,target=/home/docker_volume
   nginx:latest

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker run -d --name My_container
--mount source=docker_volume,target=/home/docker_volume nginx:latest
e6cf280eebda0a704d6bf101410f1753d9b3574deadc691a5fdd4f710ba175b4
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID    IMAGE           COMMAND                      CREATED               STAT
US              PORTS       NAMES
e6cf280eebda    nginx:latest    "/docker-entrypoint.…"    About a minute ago    Up A
bout a minute    80/tcp      My_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps -a
CONTAINER ID    IMAGE           COMMAND                      CREATED               STATU
S               PORTS       NAMES
e6cf280eebda    nginx:latest    "/docker-entrypoint.…"    2 minutes ago         Up 2
minutes                  80/tcp      My_container
adacdf2689e1    nginx           "/docker-entrypoint.…"    About an hour ago     Exite
d (0) 16 minutes ago            My_nginx_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker exec -it e6cf280eebda bash
root@e6cf280eebda:/# cd home
root@e6cf280eebda:/home# ls -la
total 12
drwxr-xr-x 1 root root 4096 Aug 10 13:29 .
drwxr-xr-x 1 root root 4096 Aug 10 13:29 ..
drwxr-xr-x 2 root root 4096 Aug 10 12:27 docker_volume
root@e6cf280eebda:/home#
```

4. Создаём docker network и подключаем к ней контейнер
   docker network create main_network
   docker network connect main_network My_container

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network create main_network
d7e5f8f2d8ef7dca1129cc3ab680ba30dd7e0fa9d3dbfd32cbfbb612aebdf728
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network ls
NETWORK ID      NAME            DRIVER      SCOPE
8799fbf4176f    bridge          bridge      local
24108c19fee1    host            host        local
d7e5f8f2d8ef    main_network    bridge      local
fc0adba5c096    none            null        local
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network connect main_networ
k My_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker inspect My_container
[
    {
        "Id": "e6cf280eebda0a704d6bf101410f1753d9b3574deadc691a5fdd4f710ba175b4"
```

```
            "MacAddress": "02:42:ac:11:00:02",
            "Networks": {
                "bridge": {
                    "IPAMConfig": null,
                    "Links": null,
                    "Aliases": null,
                    "NetworkID": "8799fbf4176fe3f1f2684d
ffc38e0ec5fe",
                    "EndpointID": "421fc373d08ab3e6a9105
e878e24d11ac8",
                    "Gateway": "172.17.0.1",
                    "IPAddress": "172.17.0.2",
                    "IPPrefixLen": 16,
                    "IPv6Gateway": "",
                    "GlobalIPv6Address": "",
                    "GlobalIPv6PrefixLen": 0,
                    "MacAddress": "02:42:ac:11:00:02",
                    "DriverOpts": null
                },
                "main_network": {
                    "IPAMConfig": {},
```

5. Создаём второй контейнер и подключаем его к сети
   docker run -d --name My_container2 –mount
   source=docker_volume,target=/home/docker_volume nginx:latest

   docker network connect main_network My_container2

```
]
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker run -d --name My_container2
 --mount source=docker_volume,target=/home/docker_volume nginx:latest
8589c260601af0a93e640694d3a62a8800af96e0db5547235c792059c44381b4
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network connect main_networ
k My_container2
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker inspect My_container2
[
    {
        "Id": "8589c260601af0a93e640694d3a62a8800af96e0db5547235c792059c44381b4"
,
        "Created": "2023-08-10T13:57:23.814494474Z",
```

```
              "Networks": {
                  "bridge": {
                      "IPAMConfig": null,
                      "Links": null,
                      "Aliases": null,
                      "NetworkID": "8799fbf4176fe3f1f2684cf:
9a0d34ffc38e0ec5fe",
                      "EndpointID": "93fd7bf7527ac23ecb02aa
3436e4f33a67bc32d60",
                      "Gateway": "172.17.0.1",
                      "IPAddress": "172.17.0.3",
                      "IPPrefixLen": 16,
                      "IPv6Gateway": "",
                      "GlobalIPv6Address": "",
                      "GlobalIPv6PrefixLen": 0,
                      "MacAddress": "02:42:ac:11:00:03",
                      "DriverOpts": null
                  },
                  "main_network": {
                      "IPAMConfig": {},
                      "Links": null,
```

6. Создаём текстовый файл в первом контейнере

docker exec -it e6cf280eebda bash

apt update

apt upgrade

apt install nano

nano test.txt


```
Processing triggers for libc-bin (2.36-9+deb12u1) ...
root@e6cf280eebda:/home/docker_volume# nano test.txt
```

7. Запишем сообщение в журнал при помощи logger

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED             STATU
S              PORTS          NAMES
d1d142b2d577   ubuntu           "bash"                 8 minutes ago       Up 8
minutes                   My_container4
4303b076e201   ubuntu           "/bin/bash"            35 minutes ago      Up 35
 minutes                  My_container3
8589c260601a   nginx:latest   "/docker-entrypoint.…"   About an hour ago   Up Ab
out an hour    80/tcp    My_container2
e6cf280eebda   nginx:latest   "/docker-entrypoint.…"   2 hours ago         Up 2
hours          80/tcp    My_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker exec -it e6cf280eebda bash
root@e6cf280eebda:/# cd home/docker_volume/
root@e6cf280eebda:/home/docker_volume# ls
test.txt
root@e6cf280eebda:/home/docker_volume# logger "My firt message"
root@e6cf280eebda:/home/docker_volume#
```

8. Записываем сообщения в файл из первого контейнера

```
hours        80/tcp     My_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker exec -it e6cf280eebda bash
root@e6cf280eebda:/# cd home/docker_volume/
root@e6cf280eebda:/home/docker_volume# ls
test.txt
root@e6cf280eebda:/home/docker_volume# logger "My firt message"
root@e6cf280eebda:/home/docker_volume# echo "My first message" >> test.txt
root@e6cf280eebda:/home/docker_volume# echo "My second message" >> test.txt
root@e6cf280eebda:/home/docker_volume# cat test.txt
Hello!
My first message
My second message
root@e6cf280eebda:/home/docker_volume#
```

9. Заходим во второй контейнер, чтобы проверить доступен ли из него файл

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS
         PORTS          NAMES
d1d142b2d577   ubuntu           "bash"                 16 minutes ago   Up 16 mi
nutes              My_container4
4303b076e201   ubuntu           "/bin/bash"            43 minutes ago   Up 43 mi
nutes              My_container3
8589c260601a   nginx:latest   "/docker-entrypoint.…"   2 hours ago      Up 2 hou
rs       80/tcp    My_container2
e6cf280eebda   nginx:latest   "/docker-entrypoint.…"   2 hours ago      Up 2 hou
rs       80/tcp    My_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker exec -it 8589c260601a bash
root@8589c260601a:/# cd home/docker_volume/
root@8589c260601a:/home/docker_volume# cat test.txt
Hello!
My first message
My second message
root@8589c260601a:/home/docker_volume#
```

10. Останавливаем и удаляем контейнеры

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID    IMAGE           COMMAND                   CREATED         STATUS
     PORTS                                  NAMES
e6cf280eebda    nginx:latest    "/docker-entrypoint.…"    6 hours ago     Up 4 second
s    80/tcp                                 My_container
adacdf2689e1    nginx           "/docker-entrypoint.…"    7 hours ago     Up 19 secon
ds   0.0.0.0:8080->80/tcp, :::8080->80/tcp   My_nginx_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker stop e6cf280eebda adacdf268
9e1
e6cf280eebda
adacdf2689e1
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID    IMAGE       COMMAND     CREATED     STATUS      PORTS       NAMES
```

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps -a
CONTAINER ID    IMAGE           COMMAND                   CREATED         STATUS
              PORTS        NAMES
d1d142b2d577    ubuntu          "bash"                    4 hours ago     Exited (137
) 3 hours ago                   My_container4
4303b076e201    ubuntu          "/bin/bash"               5 hours ago     Exited (137
) 3 hours ago                   My_container3
8589c260601a    nginx:latest    "/docker-entrypoint.…"    5 hours ago     Exited (0)
3 hours ago                     My_container2
e6cf280eebda    nginx:latest    "/docker-entrypoint.…"    6 hours ago     Exited (0)
About a minute ago              My_container
adacdf2689e1    nginx           "/docker-entrypoint.…"    7 hours ago     Exited (0)
About a minute ago              My_nginx_container
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker rm d1d142b2d577 4303b076e20
1 8589c260601a e6cf280eebda adacdf2689e1
d1d142b2d577
4303b076e201
8589c260601a
e6cf280eebda
adacdf2689e1
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps-a
docker: 'ps-a' is not a docker command.
See 'docker --help'
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps -a
CONTAINER ID    IMAGE       COMMAND     CREATED     STATUS      PORTS       NAMES
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

11. Удаляем образы

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED       SIZE
bash          latest    3c04497fad88   2 days ago    13.9MB
nginx         latest    89da1fb6dcb9   13 days ago   187MB
ubuntu        latest    5a81c4b8502e   6 weeks ago   77.8MB
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker rmi 3c04497fad88 89da1fb6dc
b9 5a81c4b8502e
Untagged: bash:latest
Untagged: bash@sha256:d91f283473ba66c94dbd3b2aaab45cef4d67e65eec107481c2357f15f5
1a48b8
Deleted: sha256:3c04497fad88ca32bf78b3447ca26c703e0d8afc9ed99e233cf575a290a86fc4
Deleted: sha256:bc743db5bfc6d01f0efcf3c049c2217067b501097580d05a1ac4ae4439373add
Deleted: sha256:84f8545082a4ed57b8dbbd83899a48157c52bf8ce51e707350a8571c33350979
Deleted: sha256:4693057ce2364720d39e57e85a5b8e0bd9ac3573716237736d6470ec5b7b7230
Untagged: nginx:latest
Untagged: nginx@sha256:67f9a4f10d147a6e04629340e6493c9703300ca23a2f7f3aa56fe615d
75d31ca
Deleted: sha256:89da1fb6dcb964dd35c3f41b7b93ffc35eaf20bc61f2e1335fea710a18424287
Deleted: sha256:e5afcbbf8f223b546a1db3d4f3c83064f346a2a8e17d4bfbaec1d12c90e2a6e3
Deleted: sha256:fda03119193d4611de17fa3d1eb9f02fb94333ac5d27ca507139a09ba0eaba1d
Deleted: sha256:04d32bbd70d3d7e3368290157afdfb502799784b7c60d87487e77c7aafd67d2d
Deleted: sha256:00d0e91fd006a5c96ec790434df1bb4ee545d84b34554ac2fbe5667568f916a1
Deleted: sha256:4f15baf3c136dbeff8c6f90737f0e54bd641095fd6441e359a1789ccbe554714
Deleted: sha256:748e3217b5fa76ff3ebd97186a6fcb595b92611ca87f480ea3d622e460c9a212
Deleted: sha256:c6e34807c2d51444c41c15f4fda65847faa2f43c9b4b976a2f6f476eca7429ce
Untagged: ubuntu:latest
Untagged: ubuntu@sha256:0bced47fffa3361afa981854fcabcd4577cd43cebbb808cea2b1f33a
3dd7f508
Deleted: sha256:5a81c4b8502e4979e75bd8f91343b95b0d695ab67f241dbed0d1530a35bde1eb
Deleted: sha256:59c56aee1fb4dbaeb334aef06088b49902105d1ea0c15a9e5a2a9ce560fa4c5d
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker images
REPOSITORY    TAG       IMAGE ID    CREATED    SIZE
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

12. Удаляем том

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker volume ls
DRIVER      VOLUME NAME
local       docker_volume
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker volume rm docker_volume
docker_volume
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker volume ls
DRIVER      VOLUME NAME
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network ls
```

13. Удаляем докер сеть

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network ls
NETWORK ID     NAME           DRIVER     SCOPE
967aa3620355   bridge         bridge     local
24108c19fee1   host           host       local
d7e5f8f2d8ef   main_network   bridge     local
fc0adba5c096   none           null       local
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network rm d7e5f8f2d8ef
d7e5f8f2d8ef
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker network ls
NETWORK ID     NAME      DRIVER     SCOPE
967aa3620355   bridge    bridge     local
24108c19fee1   host      host       local
fc0adba5c096   none      null       local
alex@alex-VirtualBox:~/projects/Docker_tasks$
```