

Home work Docker 1.

1. Забираем образ nginx с Docker Hub

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ id -nG
alex adm cdrom sudo dip plugdev lpadmin lxd sambashare docker
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 images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
nginx         latest    89da1fb6dcb9   5 days ago    187MB
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker run --name My_Nginx -p 8080:80
```

2. Запускаем докер с nginx

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker container run --name My_Nginx -d -p 8080:80 nginx
ea1df973a6c47d720a9bc7cfc7a1007b1fb7fdf173811c74cc044c66a6446cc8
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
ea1df973a6c4   nginx     "/docker-entrypoint..." 8 seconds ago   Up 6 seconds   0.0.0.0:8080->80/tcp, :::8080->80/tcp   My_Nginx
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

3. Останавливаем контейнер и удаляем его

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker stop ea1df973a6c4
ea1df973a6c4
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker rm ea1df973a6c4
ea1df973a6c4
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

4. Выводим список образов

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker images
REPOSITORY      TAG         IMAGE ID          CREATED           SIZE
nginx            latest      89da1fb6dcb9     5 days ago       187MB
hello-world      latest      9c7a54a9a43c     3 months ago     13.3kB
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

5. Выводим информацию о размере и слоях образа

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker inspect 89da1fb6dcb9
[
  {
    "Id": "sha256:89da1fb6dcb964dd35c3f41b7b93ffc35eaf20bc61f2e1335fea710a18424287",
    "RepoTags": [
      "nginx:latest"
    ],
    "RepoDigests": [
      "nginx@sha256:67f9a4f10d147a6e04629340e6493c9703300ca23a2f7f3aa56fe615d75d31ca"
    ],
    "Parent": "",
    "Comment": "",
    "Created": "2023-07-28T02:30:07.215160457Z",
    "Container": "bf98dc4dfdd59d7841d9111d2c8e347b70b76c5e224de9e5469a37cd6192b60f",
    "ContainerConfig": {
      "Hostname": "bf98dc4dfdd5",
      "Domainname": "",
      "User": "",
      "StopSignal": "SIGQUIT"
    },
    "Architecture": "amd64",
    "Os": "linux",
    "Size": 186860096,
    "VirtualSize": 186860096,
    "GraphDriver": {
      "Data": {
        "LowerDir": "/var/lib/docker/overlay2/63d48fe9d82f785f3a1ad4ab3d631908a96cda24/diff:/var/lib/docker/c218348040b5c40983a7b1882b20e655a831f9f64f5969a4a51/diff"
      }
    }
  }
]
```

6. Удаляем образ hello-world

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker images
REPOSITORY      TAG         IMAGE ID      CREATED        SIZE
nginx            latest     89da1fb6dcb9  5 days ago    187MB
hello-world     latest     9c7a54a9a43c  3 months ago  13.3kB
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker rmi 9c7a54a9a43c
Untagged: hello-world:latest
Untagged: hello-world@sha256:926fac19d22aa2d60f1a276b66a20eb765fbeeaa2db5dbdaafeb456ad8ce81598
Deleted: sha256:9c7a54a9a43cca047013b82af109fe963fde787f63f9e016fdc3384500c2823d
Deleted: sha256:01bb4fce3eb1b56b05adf99504dafd31907a5aadac736e36b27595c8b92f07f1
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker images
REPOSITORY      TAG         IMAGE ID      CREATED        SIZE
nginx            latest     89da1fb6dcb9  5 days ago    187MB
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

7. Проверяем дисковое пространство

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           197M  1,5M  195M   1% /run
/dev/sda3       24G   15G   8,1G  65% /
tmpfs           982M    0  982M   0% /dev/shm
tmpfs           5,0M  4,0K  5,0M   1% /run/lock
/dev/sda2       512M  6,1M  506M   2% /boot/efi
tmpfs           197M  108K  197M   1% /run/user/1000
/dev/sr0        52M   52M    0 100% /media/alex/VBox_GAs_7.0.8
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

8. Удаляем ненужные образы, контейнеры и т.д.

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ docker system prune --all --volume
s
WARNING! This will remove:
- all stopped containers
- all networks not used by at least one container
- all volumes not used by at least one container
- all images without at least one container associated to them
- all build cache

Are you sure you want to continue? [y/N] y
Deleted Images:
untagged: nginx:latest
untagged: nginx@sha256:67f9a4f10d147a6e04629340e6493c9703300ca23a2f7f3aa56fe615d75d31ca
deleted: sha256:89da1fb6dcb964dd35c3f41b7b93ffc35eaf20bc61f2e1335fea710a18424287
deleted: sha256:e5afcbbf8f223b546a1db3d4f3c83064f346a2a8e17d4bfbac1d12c90e2a6e3
deleted: sha256:fda03119193d4611de17fa3d1eb9f02fb94333ac5d27ca507139a09ba0eaba1d
deleted: sha256:04d32bbd70d3d7e3368290157afdfb502799784b7c60d87487e77c7aafd67d2d
deleted: sha256:00d0e91fd006a5c96ec790434df1bb4ee545d84b34554ac2fbe5667568f916a1
deleted: sha256:4f15baf3c136dbeff8c6f90737f0e54bd641095fd6441e359a1789ccbe554714
deleted: sha256:748e3217b5fa76ff3ebd97186a6fcb595b92611ca87f480ea3d622e460c9a212
deleted: sha256:c6e34807c2d51444c41c15f4fda65847faa2f43c9b4b976a2f6f476eca7429ce

Total reclaimed space: 186.9MB
alex@alex-VirtualBox:~/projects/Docker_tasks$
```

9. Снова проверяем дисковое пространство.

```
alex@alex-VirtualBox:~/projects/Docker_tasks$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs            197M  1,5M  195M   1% /run
/dev/sda3        24G   15G   8,3G  64% /
tmpfs            982M    0   982M   0% /dev/shm
tmpfs            5,0M  4,0K  5,0M   1% /run/lock
/dev/sda2        512M  6,1M  506M   2% /boot/efi
tmpfs            197M  108K  197M   1% /run/user/1000
/dev/sr0         52M   52M    0 100% /media/alex/VBox_GAs_7.0.8
alex@alex-VirtualBox:~/projects/Docker_tasks$
```