

Docker

Установим Docker

```
sudo apt-get update
sudo apt-get install ca-certificates curl
sudo install -m 0755 -d /etc/apt/keyrings
sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc
sudo chmod a+r /etc/apt/keyrings/docker.asc

# Add the repository to Apt sources:
echo \
"deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu \
$(. /etc/os-release && echo "$VERSION_CODENAME") stable" | \
sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
sudo apt-get update

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

Сделаем возможность запуска без sudo

```
sudo groupadd docker
sudo usermod -aG docker $USER
newgrp docker
```

Проверим установку

```
docker run hello-world
```

```
ilyado @ ilyado-desktop /mnt/Disk_F/projects/HT/my-container
$ docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
c1ec31eb5944: Pull complete
Digest: sha256:53641cd209a4fecfc68e21a99871ce8c6920b2e7502df0a20671c6fccc73a7c6
Status: Downloaded newer image for hello-world:latest
```

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:

1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
(amd64)
3. The Docker daemon created a new container from that image which runs the executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
\$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
<https://hub.docker.com/>

For more examples and ideas, visit:
<https://docs.docker.com/get-started/>

Установим docker-compose

```
sudo curl -SL https://github.com/docker/compose/releases/download/v2.26.1/
docker-compose-linux-x86_64 -o /usr/local/bin/docker-compose
```

Проверим установку

```
docker-compose version
```

```
ilyado @ ilyado-desktop /mnt/Disk_F/projects/HT/my-container
└─ $ ▶ docker-compose version
Docker Compose version v2.26.1
```

Создадим файл compose.yaml

В файле будет произвольное содержимое (образы из Docker Hub)

```
services:
  base:
    image: pytorch/pytorch:2.2.2-cuda12.1-cudnn8-devel
    restart: always

  db:
    image: postgres:alpine3.18
    restart: always
    environment:
      MYSQL_ROOT_PASSWORD: 12345
```

Запустим docker-compose

```
docker-compose up -d
```

```
ilyado @ ilyado-desktop /mnt/Disk_F/projects/HT/my-container
└─ $ ▶ docker-compose up -d
[+] Running 23/27
   # base [=====] 8.333GB / 9.066GB Pulling
   ✓ 43f89b94cd7d Already exists
   ✓ dd4939a04761 Pull complete
   ✓ b0d7cc89b769 Pull complete
   ✓ 1532d9024b9c Pull complete
   ✓ 04fc8a31fa53 Pull complete
   ✓ a14a8a8a6ebc Pull complete
   ✓ 7d61afc7a3ac Pull complete
   ✓ 8bd2762ffd09 Pull complete
   ✓ 2a8ee6fadd42 Pull complete
   ✓ 22ba8fb08ae2 Pull complete
   ✓ 4d37a6bba88f Pull complete
   ✓ 4bc954eb910a Pull complete
   ✓ 33b520f961ce Pull complete
   # 9d7094f8dfaf Downloading [=====] 3.538GB/3.655GB
   # 4f4fb700ef54 Downloading [=====] 328/328
   # 6a5e409e654c Downloading [=====] 998/998
   ✓ db Pulled
   ✓ 619be1103602 Pull complete
   ✓ 923f583d82c3 Pull complete
   ✓ 27a118cf7609 Pull complete
   ✓ 0bc16082e9e9 Pull complete
   ✓ 5c2213790a8f Pull complete
   ✓ 3ef59a207a9d Pull complete
   ✓ a8dfeba1f2ba Pull complete
   ✓ 7b2714b613ef Pull complete
   ✓ 66ec292f927c Pull complete
```

Проверим, что нужные контейнеры действительно собрались

```
docker-compose ps -a
```

```
ilyado @ ilyado-desktop /mnt/Disk_F/projects/HT/my-container
└─ $ ▶ docker-compose ps -a
```

NAME	IMAGE	COMMAND	SERVICE	CREATED	STATUS	PORTS
my-container-adminer-1	adminer:4.8.1	"entrypoint.sh php -..."	adminer	16 minutes ago	Exited (0) 15 minutes ago	
my-container-base-1	pytorch/pytorch:2.2.2-cuda12.1-cudnn8-devel	"/opt/nvidia/nvidia_..."	base	6 minutes ago	Restarting (0) 38 seconds ago	