

docker version

```
igor@ubuntu-server: ~ - Терминал
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igor@ubuntu-server:~$ docker version
Client: Docker Engine - Community
 Version:      20.10.13
 API version:  1.41
 Go version:   go1.16.15
 Git commit:   a224086
 Built:        Thu Mar 10 14:07:51 2022
 OS/Arch:      linux/amd64
 Context:      default
 Experimental:  true

Server: Docker Engine - Community
 Engine:
  Version:      20.10.13
  API version:  1.41 (minimum version 1.12)
  Go version:   go1.16.15
  Git commit:   906f57f
  Built:        Thu Mar 10 14:05:44 2022
  OS/Arch:      linux/amd64
  Experimental:  false
 containerd:
  Version:      1.5.10
  GitCommit:    2a1d4dbdb2a1030dc5b01e96fb110a9d9f150ecc
 runc:
  Version:      1.0.3
  GitCommit:    v1.0.3-0-gf46b6ba
 docker-init:
  Version:      0.19.0
  GitCommit:    de40ad0
igor@ubuntu-server:~$
```

```
ls
cd geekbrains
cd practice
cd 2.docker
cd golang
ls
```

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
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igor@ubuntu-server:~$ ls
app                               data                               gitlab-runner.yaml              kubect1.sha256                  replicaset_.yaml
cidc                             deployment-pg.yaml                help_keyword_report.sql        minikube-linux-amd64           serviceaccount.yaml
'closer.cgi?path=%2Fkafka%2F3.0.0%2Fkafka_2.12-3.0.0.tgz'  deployment-redmine.yaml         id_rsa_gitlab                  mysql.sql                      service-pg.yaml
'closer.cgi?path=%2Fkafka%2F3.0.0%2Fkafka-3.0.0-src.tgz'  deployment_.yaml                id_rsa_gitlab.pub              pod_pv_deployment.yaml        service-redmine.yaml
clusterrolebinding.yaml         Dockerfile                       ingress.yaml                    pod_.yaml                     service.yaml
clusterrole.yaml                example.sql                      kafka                           pv2.yaml                      shop7.sql
configmap.yaml                 fulldb_before.sql               kafka_2.12-3.0.0               pvc.yaml                     statefulset.yaml
daemonset.yaml                 geekbrains                      kafka-3.0.0-src                pv.yaml

igor@ubuntu-server:~$ cd geekbrains
igor@ubuntu-server:~/geekbrains$ ls
'Docker Cheat Sheet.pdf'  homework  'Kubect1 Cheat Sheet.pdf'  practice  README.md  test.txt
igor@ubuntu-server:~/geekbrains$ cd practice
igor@ubuntu-server:~/geekbrains/practice$ ls
2.docker  3.kubernetes-intro  4.resources-and-persistence  5.kubernetes-network  7.advanced-abstractions  8.ci-cd
igor@ubuntu-server:~/geekbrains/practice$ cd 2.docker
igor@ubuntu-server:~/geekbrains/practice/2.docker$ ls
docker-compose  golang  python-django
igor@ubuntu-server:~/geekbrains/practice/2.docker$ cd golang
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ ls
Dockerfile  go.mod  go.sum  main.go
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

vi Dockerfile

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл Правка Вид Терминал Вкладки Справка
FROM golang as builder
RUN mkdir /app
COPY . /app
WORKDIR /app
RUN CGO_ENABLED=0 GOOS=linux GOARCH=amd64 go build -o server .
FROM scratch
COPY --from=builder /app/server /
EXPOSE 8080
CMD ["/server"]
~
~
~
~
~
:wq
```

`docker build -t my-too-image .`

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл Правка Вид Терминал Вкладки Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker build -t my-too-image .
Sending build context to Docker daemon 5.12kB
Step 1/9 : FROM golang as builder
latest: Pulling from library/golang
5492f66d2700: Already exists
540ff8c0841d: Already exists
a0bf850a0df0: Already exists
d751dc38ae51: Already exists
26ee1eb1b3b3: Pull complete
efc242f34a7e: Pull complete
e795b75807e4: Pull complete
Digest: sha256:fb5993c8c22ae9fec57f91a3e59825f9368d01b1d15a984d83080cac575f79b8
Status: Downloaded newer image for golang:latest
--> 3abbb425095a
Step 2/9 : RUN mkdir /app
--> Running in 8607f1a8fb09
Removing intermediate container 8607f1a8fb09
--> 0a73837b808a
Step 3/9 : COPY . /app
--> 2a3fbb0ccbf6
Step 4/9 : WORKDIR /app
--> Running in 087b44c3c3a3
Removing intermediate container 087b44c3c3a3
--> 325f447b3c45
Step 5/9 : RUN CGO_ENABLED=0 GOOS=linux GOARCH=amd64 go build -o server .
--> Running in 6f4756c82441
go: downloading github.com/gorilla/mux v1.7.4
Removing intermediate container 6f4756c82441
--> c5ac6348e011
Step 6/9 : FROM scratch
-->
Step 7/9 : COPY --from=builder /app/server /
--> 8833d5c131b7
Step 8/9 : EXPOSE 8080
--> Running in 51b42e7d3838
Removing intermediate container 51b42e7d3838
--> 83b8335435e8
Step 9/9 : CMD ["/server"]
--> Running in fcb0b07130a4
Removing intermediate container fcb0b07130a4
--> fce27c0fb25c
Successfully built fce27c0fb25c
Successfully tagged my-too-image:latest
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

`docker image ls`

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл  Правка  Вид  Терминал  Вкладки  Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker image ls
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
my-too-image        latest     fce27c0fb25c  3 minutes ago 6.53MB
<none>              <none>     c5ac6348e011  3 minutes ago 987MB
my-first-image      latest     26e85e62462f  59 minutes ago 974MB
my-first-image      v1        7195fe0eefe0  2 hours ago   956MB
golang              latest     3abbb425095a  5 days ago   964MB
python              3.9       47abcf270bef  6 days ago   914MB
redhat/ubi8-minimal latest     281e62f51d47  2 weeks ago  103MB
hello-world         latest     feb5d9fea6a5  6 months ago 13.3kB
gcr.io/k8s-minikube/kicbase v0.0.27    9fa1cc16ad6d  6 months ago 1.08GB
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

```
docker run -d -p 80:8000 my-too-image
```

```
docker ps
```

```
docker container stop 8ee1bb383977
```

```
docker run -d -p 80:8000 my-too-image
```

```
docker logs 81557d8c3fc3
```

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл  Правка  Вид  Терминал  Вкладки  Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker run -d -p 80:8000 my-too-image
67afc95043e4da69a59a7fd7bbf6750aa63762ff4f16f8f13c55d0e05df2ba
docker: Error response from daemon: driver failed programming external connectivity on endpoint heuristic_tesla (c623d468869d5f4aa7525b3d6abd9528102860966708c5b1163ffe3ef5f79b9e): Bind for 0.0.0.0:80 failed: port is already allocated.
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
8ee1bb383977   7195fe0eefe0   "/bin/sh -c 'python ..." 59 minutes ago Up 59 minutes 0.0.0.0:80->8000/tcp, :::80->8000/tcp wonderful_chatelet
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker container stop 8ee1bb383977
8ee1bb383977
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker run -d -p 80:8000 my-too-image
81557d8c3fc36ad745c87d6a0bf795dd3fbc2472dd00c167cc8dd69c96eedf52
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker logs
"docker logs" requires exactly 1 argument.
See 'docker logs --help'.

Usage: docker logs [OPTIONS] CONTAINER

Fetch the logs of a container
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
81557d8c3fc3   my-too-image   "/server"               About a minute ago Up About a minute 8080/tcp, 0.0.0.0:80->8000/tcp, :::80->8000/tcp eager_bell
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker logs 81557d8c3fc3
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

```
curl 0.0.0.0:80
```

```
docker logs 81557d8c3fc3
```

```
docker exec -t -i 81557d8c3fc3 bash
```

```
vi Dockerfile
```

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл  Правка  Вид  Терминал  Вкладки  Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ curl 0.0.0.0:80
curl: (56) Recv failure: Connection reset by peer
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker logs 81557d8c3fc3
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker exec -t -i 81557d8c3fc3 bash
OCI runtime exec failed: exec failed: container_linux.go:380: starting container process caused: exec: "bash": executable file not found in $PATH: unknown
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ ls
Dockerfile  go.mod  go.sum  main.go
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ vi Dockerfile
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

RUN apt update

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл  Правка  Вид  Терминал  Вкладки  Справка
FROM golang as builder
RUN mkdir /app
COPY . /app
WORKDIR /app
RUN CGO_ENABLED=0 GOOS=linux GOARCH=amd64 go build -o server .
RUN apt update
FROM scratch
COPY --from=builder /app/server /
EXPOSE 8080
CMD ["/server"]
~
:wq
```

docker container stop 81557d8c3fc3

docker container rm 81557d8c3fc3

docker ps -a

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл  Правка  Вид  Терминал  Вкладки  Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker container stop 81557d8c3fc3
81557d8c3fc3
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker container rm 81557d8c3fc3
81557d8c3fc3
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
67afcbc95043   my-too-image   "/server"                33 minutes ago Created              heuristic_tesla
8e1bb383977    7195fe0eefe0   "/bin/sh -c 'python ..." About an hour ago Exited (137) 19 minutes ago wonderful_chatelet
e273cc18a91a   26e85e62462f   "/bin/sh -c 'python ..." About an hour ago Exited (1) About an hour ago gifted_gould
56a6cf0b90ec   my-first-image "/bin/sh -c 'python ..." About an hour ago Exited (1) About an hour ago priceless_kowalevski
3041bc99fb37   gcr.io/k8s-minikube/kicbase:v0.0.27 "/usr/local/bin/entr..." 4 months ago Exited (130) 4 months ago minikube
0a4bdf412265   hello-world    "/hello"                 4 months ago Exited (0) 4 months ago happy_brahmagupta
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

docker build -t my-too-image:v1 .

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл Правка Вид Терминал Вкладки Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker build -t my-too-image:v1 .
Sending build context to Docker daemon  5.12kB
Step 1/10 : FROM golang as builder
--> 3abbb425095a
Step 2/10 : RUN mkdir /app
--> Using cache
--> 0a73837b808a
Step 3/10 : COPY . /app
--> 80ad9b5e7421
Step 4/10 : WORKDIR /app
--> Running in 70d3bcd50792
Removing intermediate container 70d3bcd50792
--> 707abf89af56
Step 5/10 : RUN CGO_ENABLED=0 GOOS=linux GOARCH=amd64 go build -o server .
--> Running in 662fdfa5759a
go: downloading github.com/gorilla/mux v1.7.4
Removing intermediate container 662fdfa5759a
--> 5758bd961866
Step 6/10 : RUN apt update
--> Running in 8fb40e35673c
WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Get:1 http://security.debian.org/debian-security bullseye-security InRelease [44.1 kB]
Get:2 http://deb.debian.org/debian bullseye InRelease [116 kB]
Get:3 http://deb.debian.org/debian bullseye-updates InRelease [39.4 kB]
Get:4 http://security.debian.org/debian-security bullseye-security/main amd64 Packages [122 kB]
Get:5 http://deb.debian.org/debian bullseye/main amd64 Packages [8183 kB]
Get:6 http://deb.debian.org/debian bullseye-updates/main amd64 Packages [2596 B]
Fetched 8507 kB in 2s (5221 kB/s)
Reading package lists...
Building dependency tree...
Reading state information...
All packages are up to date.
Removing intermediate container 8fb40e35673c
--> f85c604d6496
Step 7/10 : FROM scratch
-->
Step 8/10 : COPY --from=builder /app/server /
--> Using cache
--> 8833d5c131b7
Step 9/10 : EXPOSE 8080
--> Using cache
--> 83b8335435e8
Step 10/10 : CMD ["/server"]
--> Using cache
--> fce27c0fb25c
Successfully built fce27c0fb25c
Successfully tagged my-too-image:v1
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

docker image ls

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл Правка Вид Терминал Вкладки Справка
Successfully tagged my-too-image:v1
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker image ls
REPOSITORY          TAG          IMAGE ID       CREATED        SIZE
<none>              <none>       f85c604d6496  2 minutes ago 1GB
my-too-image        latest       fce27c0fb25c  42 minutes ago 6.53MB
my-too-image        v1          fce27c0fb25c  42 minutes ago 6.53MB
<none>              <none>       c5ac6348e011  42 minutes ago 987MB
my-first-image      latest       26e85e62462f  2 hours ago   974MB
my-first-image      v1          7195fe0eefe0  3 hours ago   956MB
golang              latest       3abbb425095a  5 days ago    964MB
python              3.9         47abcf270bef  6 days ago    914MB
redhat/ubi8-minimal latest       281e62f51d47  2 weeks ago   103MB
hello-world         latest       feb5d9fea6a5  6 months ago  13.3kB
gcr.io/k8s-minikube/kicbase v0.0.27     9fa1cc16ad6d  6 months ago  1.08GB
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

docker run -d -p 80:8000 my-too-image

docker ps

curl 0.0.0.0:80

docker logs 0a632b875ae6


```
docker logs my-too-image
```

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл  Правка  Вид  Терминал  Вкладки  Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker run -d -p 80:8000 my-too-image
0a632b875ae6437e7781d80779b82add3b110b3d034b4bdb28854efa44465d60
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
0a632b875ae6   my-too-image   "/server"               21 seconds ago Up 20 seconds  8080/tcp, 0.0.0.0:80->8000/tcp, :::80->8000/tcp  keen_kalam
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ curl 0.0.0.0:80
curl: (56) Recv failure: Connection reset by peer
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker logs 0a632b875ae6
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker logs my-too-image
Error: No such container: my-too-image
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

```
docker ps -a
```

```
docker ps
```

```
docker container stop 0a632b875ae6
```

```
docker ps
```

```
docker ps -a
```

```
igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал
Файл  Правка  Вид  Терминал  Вкладки  Справка
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
0a632b875ae6   my-too-image   "/server"               6 minutes ago Up 6 minutes   8080/tcp, 0.0.0.0:80->8000/tcp, :::80->8000  keen_kalam
67afcbc95043   my-too-image   "/server"               46 minutes ago Created                                     heuristic_tesla
8ee1bb383977   7195fe0eefe0   "/bin/sh -c 'python ..." 2 hours ago   Exited (137) 32 minutes ago                wonderful_chatelet
e273cc18a91a   26e85e62462f   "/bin/sh -c 'python ..." 2 hours ago   Exited (1) 2 hours ago                    gifted_gould
56a6cf0b90ec   my-first-image "/bin/sh -c 'python ..." 2 hours ago   Exited (1) 2 hours ago                    priceless_kowalevski
3041bc99fb37   gcr.io/k8s-minikube/kicbase:v0.0.27 "/usr/local/bin/entr..." 4 months ago  Exited (130) 4 months ago                minikube
0a4bdf412265   hello-world    "/hello"                 4 months ago  Exited (0) 4 months ago                   happy_brahmagupta
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
0a632b875ae6   my-too-image   "/server"               7 minutes ago Up 7 minutes   8080/tcp, 0.0.0.0:80->8000/tcp, :::80->8000/tcp  keen_kalam
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker container stop 0a632b875ae6
0a632b875ae6
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
0a632b875ae6   my-too-image   "/server"               8 minutes ago Exited (2) 10 seconds ago                keen_kalam
67afcbc95043   my-too-image   "/server"               48 minutes ago Created                                     heuristic_tesla
8ee1bb383977   7195fe0eefe0   "/bin/sh -c 'python ..." 2 hours ago   Exited (137) 33 minutes ago                wonderful_chatelet
e273cc18a91a   26e85e62462f   "/bin/sh -c 'python ..." 2 hours ago   Exited (1) 2 hours ago                    gifted_gould
56a6cf0b90ec   my-first-image "/bin/sh -c 'python ..." 2 hours ago   Exited (1) 2 hours ago                    priceless_kowalevski
3041bc99fb37   gcr.io/k8s-minikube/kicbase:v0.0.27 "/usr/local/bin/entr..." 4 months ago  Exited (130) 4 months ago                minikube
0a4bdf412265   hello-world    "/hello"                 4 months ago  Exited (0) 4 months ago                   happy_brahmagupta
igor@ubuntu-server:~/geekbrains/practice/2.docker/golang$
```

```
docker image ls
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igor@ubuntu-server: ~/geekbrains/practice/2.docker/golang - Терминал

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igor@ubuntu-server:~/geekbrains/practice/2.docker/golang\$ docker image ls

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
<none>	<none>	f85c604d6496	14 minutes ago	1GB
my-too-image	latest	fce27c0fb25c	55 minutes ago	6.53MB
my-too-image	v1	fce27c0fb25c	55 minutes ago	6.53MB
<none>	<none>	c5ac6348e011	55 minutes ago	987MB
my-first-image	latest	26e85e62462f	2 hours ago	974MB
my-first-image	v1	7195fe0ee0	3 hours ago	956MB
golang	latest	3abbb425095a	5 days ago	964MB
python	3.9	47abcf270bef	6 days ago	914MB
redhat/ubi8-minimal	latest	281e62f51d47	2 weeks ago	103MB
hello-world	latest	feb5d9fea6a5	6 months ago	13.3kB
gcr.io/k8s-minikube/kicbase	v0.0.27	9falcc16ad6d	6 months ago	1.08GB

igor@ubuntu-server:~/geekbrains/practice/2.docker/golang\$