

# Docker

# Image creation and run container

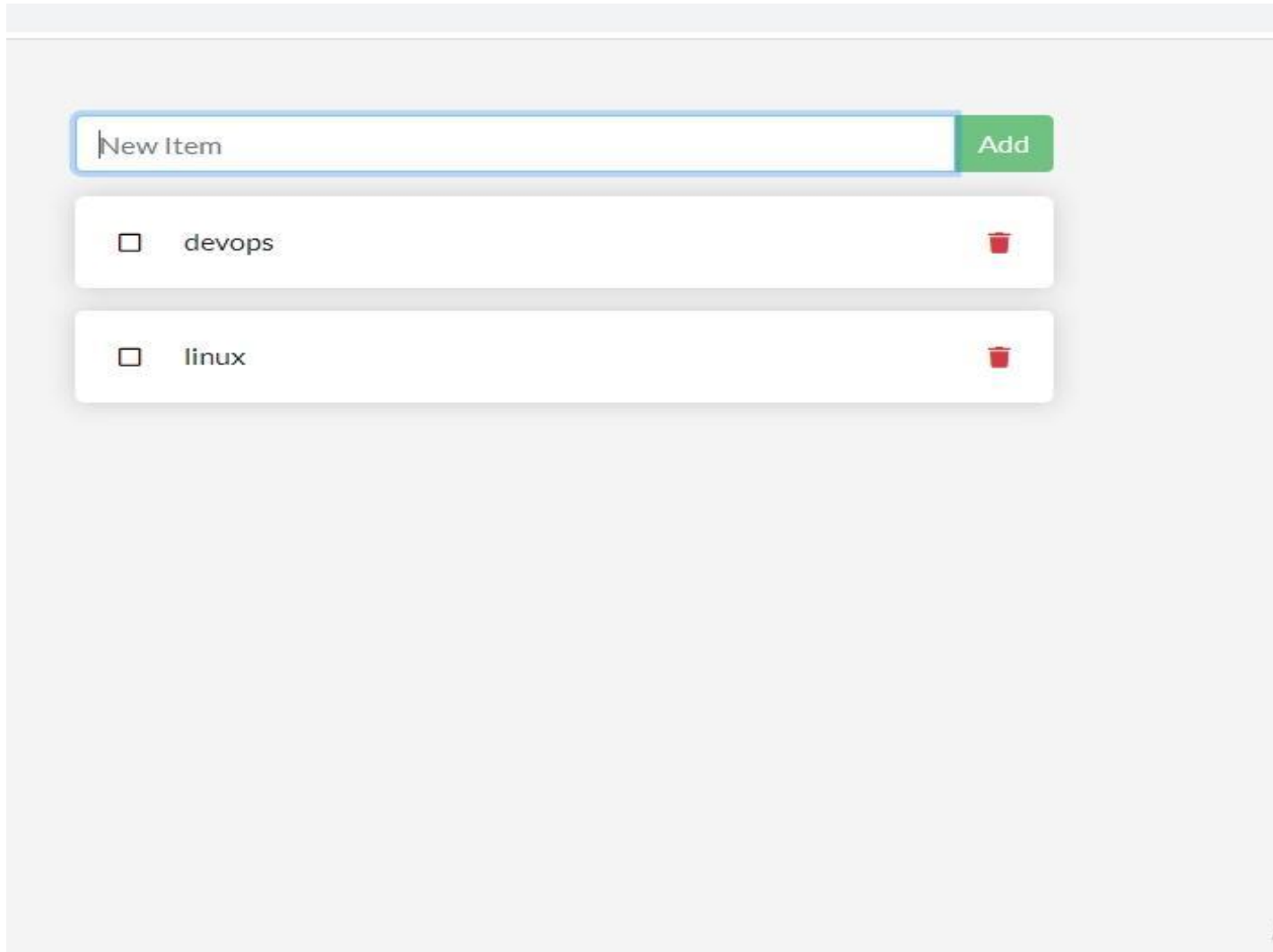
```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  206215-Madhur...

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\labim\Downloads\getting-started-master\getting-started-master> cd app
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker build -t getting-started .
=> [internal] load build definition from Dockerfile                    5.7s
=> => transferring dockerfile: 214B                                   2.0s
=> [internal] load .dockerignore                                       5.1s
=> => transferring context: 2B                                         1.4s
=> resolve image config for docker.io/docker/dockerfile:1           226.3s
=> CACHED docker-image://docker.io/docker/dockerfile:1@sha256:42399d4635eddd7a9b8a24be879d2f9a930d0ed040a61324cfd59ef1357b3b2 0.0s
failed to solve with frontend dockerfile.v0: failed to solve with frontend gateway.v0: frontend grpc server closed unexpectedly
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker run -dp 3000:3000 getting-started
Unable to find image 'getting-started:latest' locally
access to the resource is denied.
See 'docker run --help'.
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker login
Authenticating with existing credentials...
Login Succeeded



Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker run -dp 3000:3000 getting-started
Unable to find image 'getting-started:latest' locally
docker: Error response from daemon: pull access denied for getting-started, repository does not exist or may require 'docker login': denied: requested
access to the resource is denied.
See 'docker run --help'.
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker run -dp 3000:3000 labeeblabi/getting-started
17cf72545cf8b2cdb7dec5eaf36fb8b007fe23fcb1b4dbeccfbed8f608e1437d
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> 
```

# Output of the container



A screenshot of a web application interface. At the top, there is a light gray header bar. Below it, a form area contains a text input field with the placeholder text "New Item" and a green "Add" button. Below the input field, there is a list of two items, each in a white box with a light gray border. The first item is "devops" and the second is "linux". Each item has a small red trash icon to its right. The background of the form area is a light gray gradient.

New Item Add

- ☐ devops 
- ☐ linux 

# List all image and containers

```
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker run -dp 3000:3000 labeeblabi/getting-started
17cf72545cf8b2cdb7dec5eaf36fb8b007fe23fcb1b4dbeccfbcd8f608e1437d
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker image ls
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
labeeblabi/getting-started	latest	cc455c80469c	8 days ago	454MB
labeeblabi/getting-started	<none>	07734fdc25f3	11 days ago	403MB
redis	latest	7614ae9453d1	2 weeks ago	113MB
mysql	5.7	c20987f18b13	2 weeks ago	448MB
node	12-alpine	106bb94759ad	2 weeks ago	89.5MB
docker/getting-started	latest	26d80cd96d69	5 weeks ago	28.5MB
nicolaka/netshoot	latest	f4c8dceca780	7 weeks ago	432MB
docker/desktop-kubernetes	kubernetes-v1.22.4-cni-v0.8.5-critools-v1.17.0-debian	493a106d3678	7 weeks ago	294MB
k8s.gcr.io/kube-apiserver	v1.22.4	8a5cc299272d	7 weeks ago	128MB
k8s.gcr.io/kube-scheduler	v1.22.4	721ba97f54a6	7 weeks ago	52.7MB
k8s.gcr.io/kube-controller-manager	v1.22.4	0ce02f92d3e4	7 weeks ago	122MB
k8s.gcr.io/kube-proxy	v1.22.4	edeff87e4802	7 weeks ago	104MB
ubuntu	latest	ba6acccedd29	2 months ago	72.8MB
k8s.gcr.io/etcd	3.5.0-0	004811815584	6 months ago	295MB
k8s.gcr.io/coredns/coredns	v1.8.4	8d147537fb7d	7 months ago	47.6MB
docker/desktop-vpnkit-controller	v2.0	8c2c38aa676e	8 months ago	21MB
docker/desktop-storage-provisioner	v2.0	99f89471f470	8 months ago	41.9MB
k8s.gcr.io/pause	3.5	ed210e3e4a5b	9 months ago	683kB
alpine	3.5	f80194ae2e0c	2 years ago	4MB

```
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker container ls
docker: 'container' is not a docker command.
See 'docker --help'
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker container ls
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
17cf72545cf8	labeeblabi/getting-started	"docker-entrypoint.s..."	6 minutes ago	Up 5 minutes	0.0.0.0:3000->3000/tcp	sweet_aryabhata
fb0a4c867244	labeeblabi/getting-started	"docker-entrypoint.s..."	4 hours ago	Up 4 hours		Wsl site bb-demo-79d488
f45c-65c7c_default_58a22d72-bd46-4d73-9350-5b93b143a2aa_0						

```
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app>
```

Activate Windows  
Go to Settings to activate Windows.

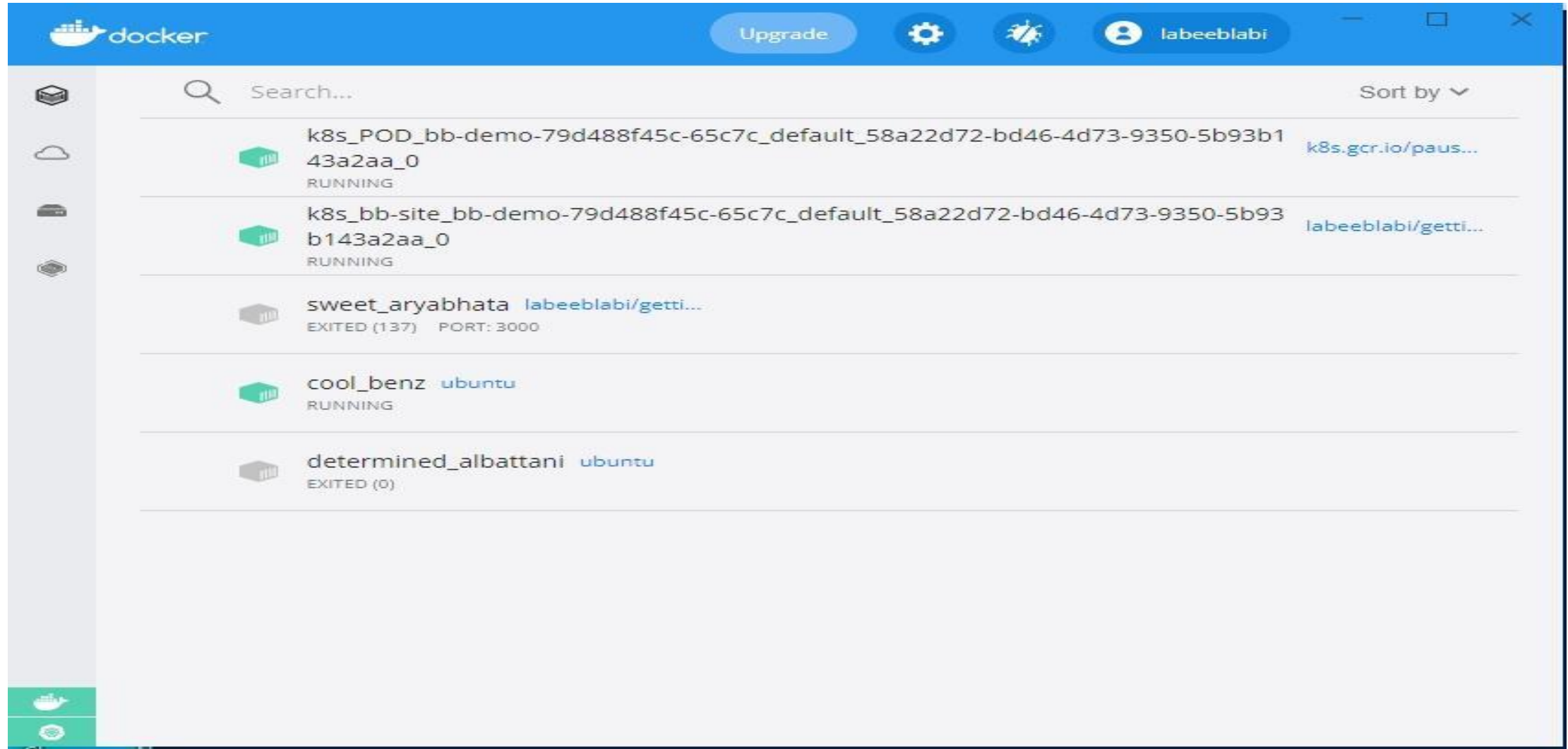
# Creating 2 containers and check

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\labim> docker run -d ubuntu bash -c "shuf -i 1-10000 -n 1 -o /data.txt && tail -f /dev/null"
4bafc14c6f49d86ee162225ac91df054c411c2fd438942e8701e16ddd235fa83
PS C:\Users\labim> docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS   NAMES
4bafc14c6f49   ubuntu        "bash -c 'shuf -i 1-..." 2 minutes ago  Up About a minute           cool_
benz
fb0a4c867244   labeeblabi/getting-started  "docker-entrypoint.s..." 19 hours ago  Up 19 hours           k8s_b
b-site_bb-demo-79d488f45c-65c7c_default_58a22d72-bd46-4d73-9350-5b93b143a2aa_0
PS C:\Users\labim> docker exec 4bafc14c6f49 cat /data.txt
5627
PS C:\Users\labim> docker run -it ubuntu ls
bin    dev    home  lib32  libx32  mnt    proc   run    srv    tmp    var
boot  etc   lib   lib64  media   opt    root   sbin   sys    usr
PS C:\Users\labim>
```

# In docker dashboard







# Share image from docker hub

09:24:09

CLOSE SESSION

Instances  

+ ADD NEW INSTANCE

192.168.0.8  
node1

c7cgbbfn\_c7cgbdnnjsv000atco10

IP  
192.168.0.8

OPEN PORT 3000

Memory  
15.99% (639.7MiB / 3.906GiB)

CPU  
0.95%

SSH  
ssh ip172-18-0-13-c7cgbbfnjsv000atco0g@direct.labs.play-

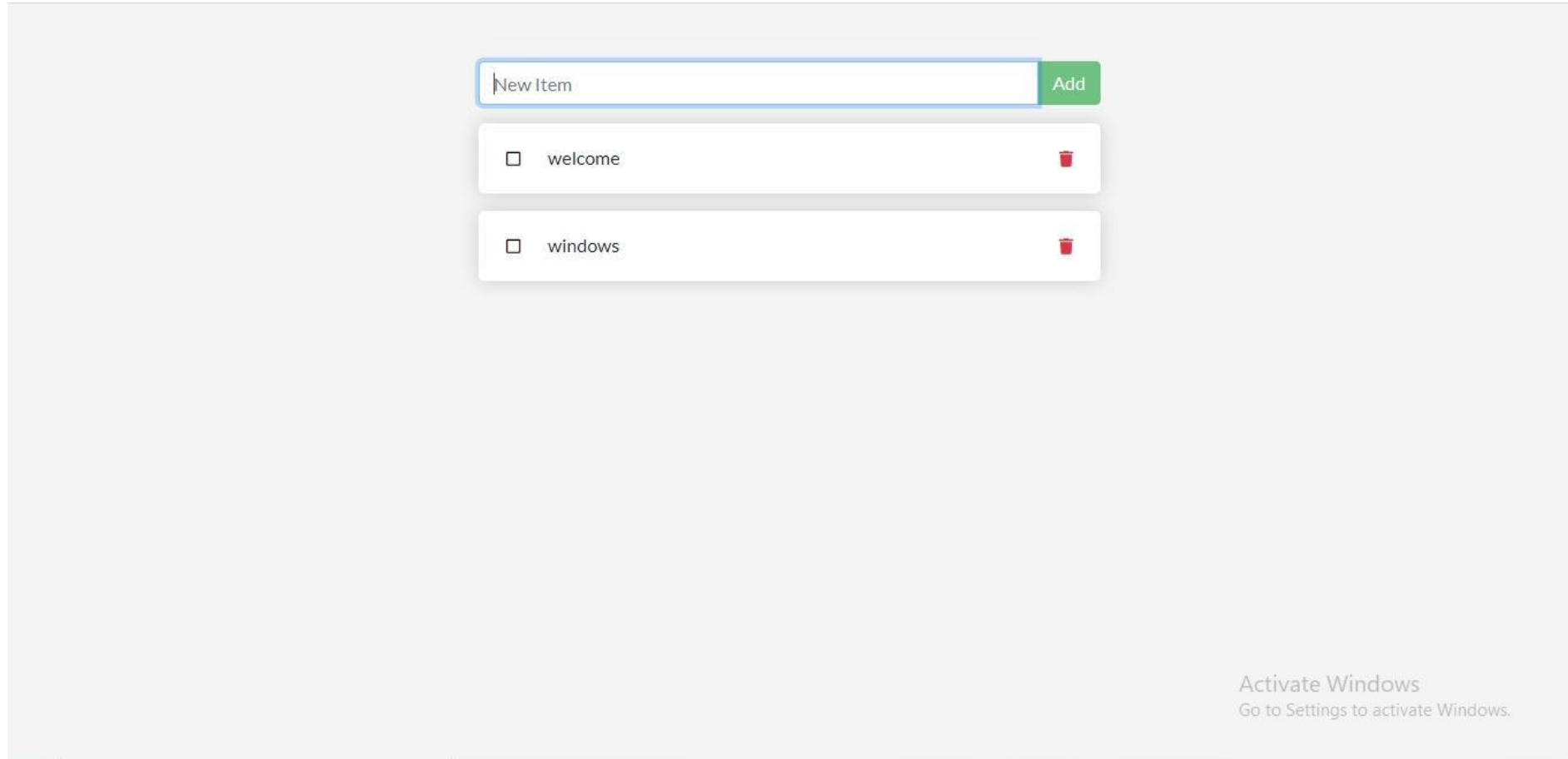
DELETE

EDITOR

```
# The PWD team.
#####
[node1] (local) root@192.168.0.8 ~
$ docker run -dp 3000:3000 labeeblabi/getting-started
Unable to find image 'labeeblabi/getting-started:latest' locally
latest: Pulling from labeeblabi/getting-started
97518928ae5f: Pull complete
58ab2943ea3a: Pull complete
da5d3df7401d: Pull complete
7384cfecbf77: Pull complete
721846eb83d8: Pull complete
ebf771a3d253: Pull complete
0456fabb4d32: Pull complete
98649bf0d7ef: Pull complete
Digest: sha256:0cf8d53f71657a50477e390459f3c4f82c03e0793f3f26dc0af25206631faa6b
Status: Downloaded newer image for labeeblabi/getting-started:latest
a3b087c53ca3ea58f5692958b83b4406387fb7739b8f3b1a0253e8405a5dcb62
[node1] (local) root@192.168.0.8 ~
$
```

Activate Windows  
Go to Settings to activate Windows.

# Shared container run in localhost

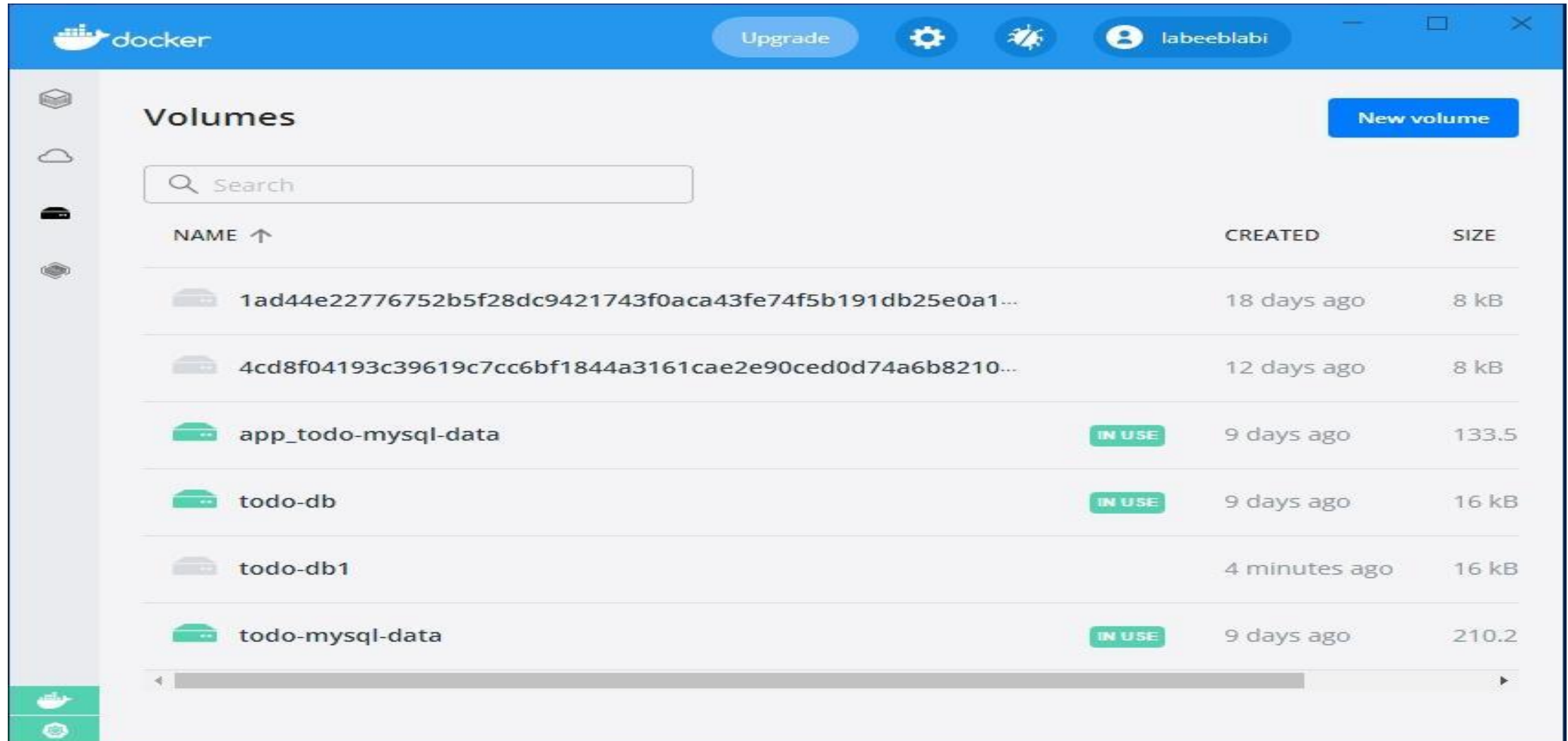




# Volume created and cross check

```
Windows PowerShell
Unable to find image 'getting-started:latest' locally
docker: Error response from daemon: Get "https://registry-1.docker.io/v2/": net/http: request canceled while waiting for connection (Client.Timeout exceeded while awaiting headers).
See 'docker run --help'.
PS C:\Users\labim> docker run -dp 3000:3000 -v todo-db1:/etc/todos labeeblabi/getting-started
23b1db8297bc0af9e02d3d9a90e73a29deee3eed39ef56b6be1be9d5864cfb59
PS C:\Users\labim> docker ps
CONTAINER ID   IMAGE                COMMAND                  CREATED        STATUS        PORTS                NAMES
23b1db8297bc   labeeblabi/getting-started   "docker-entrypoint.s..." About a minute ago   Up About a minute   0.0.0.0:3000->3000/tcp   pedantic_williamson
4bafc14c6f49   ubuntu                "bash -c 'shuf -i 1-..." 9 minutes ago     Up 7 minutes                cool_benz
fb0a4c867244   labeeblabi/getting-started   "docker-entrypoint.s..." 19 hours ago      Up 19 hours                k8s_bb-site_bb-demo-79d488f45c-65c7c_default_58a22d72-bd4
6-4d73-9350-5b93b143a2aa_0
PS C:\Users\labim> docker ps
CONTAINER ID   IMAGE                COMMAND                  CREATED        STATUS        PORTS                NAMES
23b1db8297bc   labeeblabi/getting-started   "docker-entrypoint.s..." About a minute ago   Up About a minute   0.0.0.0:3000->3000/tcp   pedantic_williamson
4bafc14c6f49   ubuntu                "bash -c 'shuf -i 1-..." 9 minutes ago     Up 8 minutes                cool_benz
fb0a4c867244   labeeblabi/getting-started   "docker-entrypoint.s..." 19 hours ago      Up 19 hours                k8s_bb-site_bb-demo-79d488f45c-65c7c_default_58a22d72-bd4
6-4d73-9350-5b93b143a2aa_0
PS C:\Users\labim> docker rm -f 23b1db8297bc
23b1db8297bc
PS C:\Users\labim> docker ps
CONTAINER ID   IMAGE                COMMAND                  CREATED        STATUS        PORTS                NAMES
4bafc14c6f49   ubuntu                "bash -c 'shuf -i 1-..." 11 minutes ago   Up 10 minutes                cool_benz
fb0a4c867244   labeeblabi/getting-started   "docker-entrypoint.s..." 19 hours ago      Up 19 hours                k8s_bb-site_bb-demo-79d488f45c-65c7c_default_58a22d72-bd46-4d73-9350-5b93b143a2aa_0
PS C:\Users\labim> docker run -dp 3000:3000 -v todo-db1:/etc/todos labeeblabi/getting-started
41bc3d665963545902aaf92b5a78ba765f101e0b103d501e9bbf3a41277889d9
PS C:\Users\labim>
```

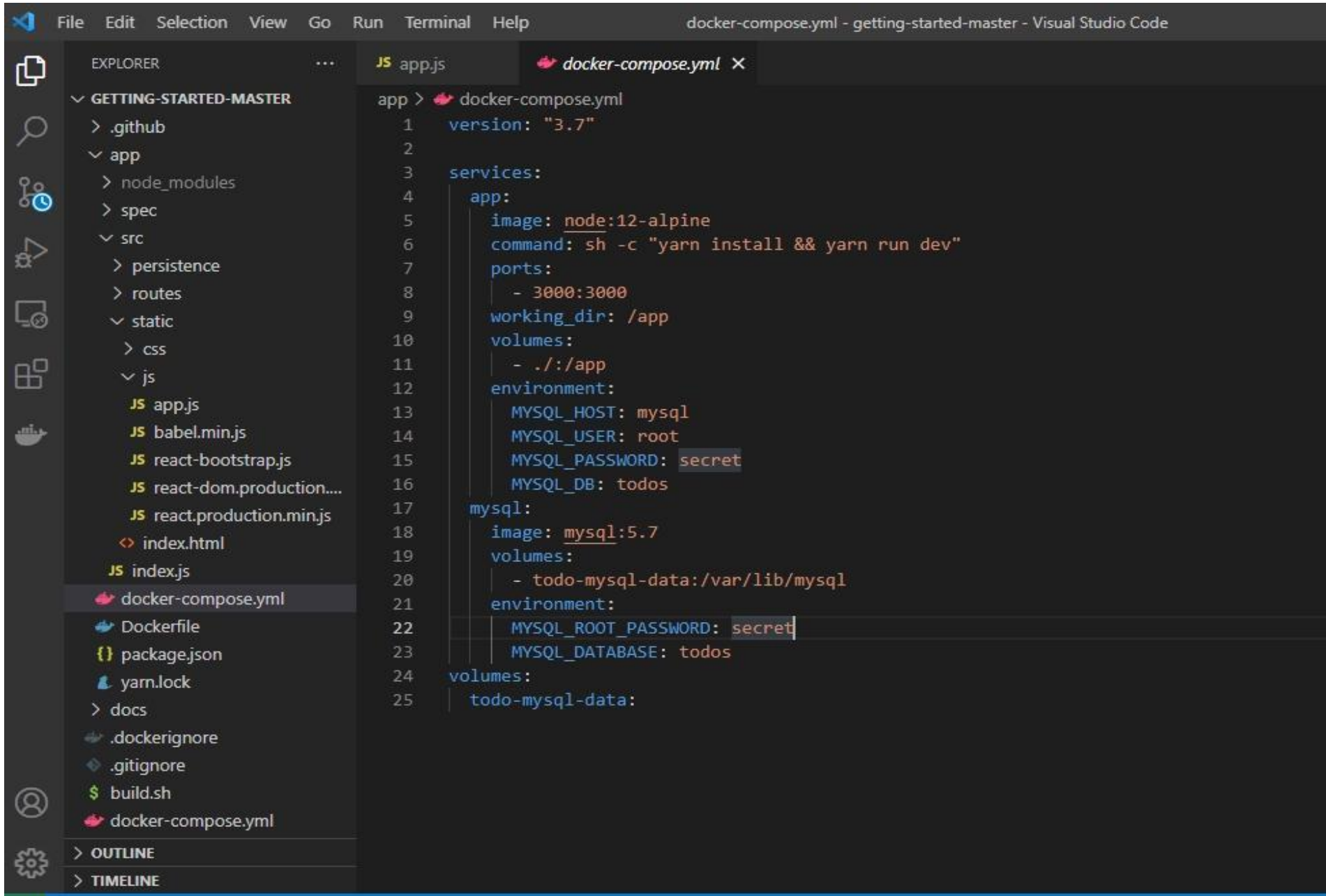
# In docker dashboard



The screenshot shows the Docker Dashboard interface. At the top, there's a blue header with the Docker logo, an 'Upgrade' button, and icons for settings, notifications, and the user profile 'labeeblabi'. The main content area is titled 'Volumes' and features a 'New volume' button in the top right. Below the title is a search bar. A table lists the volumes, with columns for 'NAME', 'CREATED', and 'SIZE'. The table contains six entries, with the last three marked as 'IN USE'.

NAME	CREATED	SIZE
1ad44e22776752b5f28dc9421743f0aca43fe74f5b191db25e0a1...	18 days ago	8 kB
4cd8f04193c39619c7cc6bf1844a3161cae2e90ced0d74a6b8210...	12 days ago	8 kB
app_todo-mysql-data	9 days ago	133.5
todo-db	9 days ago	16 kB
todo-db1	4 minutes ago	16 kB
todo-mysql-data	9 days ago	210.2

# Docker compose yaml file



The screenshot shows the Visual Studio Code interface with a Docker Compose YAML file open. The Explorer sidebar on the left shows a project structure for 'GETTING-STARTED-MASTER' with a subdirectory 'app' containing 'app.js' and 'docker-compose.yml'. The main editor displays the content of 'docker-compose.yml'.

```
1  version: "3.7"
2
3  services:
4    app:
5      image: node:12-alpine
6      command: sh -c "yarn install && yarn run dev"
7      ports:
8        - 3000:3000
9      working_dir: /app
10     volumes:
11       - ./:/app
12     environment:
13       MYSQL_HOST: mysql
14       MYSQL_USER: root
15       MYSQL_PASSWORD: secret
16       MYSQL_DB: todos
17   mysql:
18     image: mysql:5.7
19     volumes:
20       - todo-mysql-data:/var/lib/mysql
21     environment:
22       MYSQL_ROOT_PASSWORD: secret
23       MYSQL_DATABASE: todos
24   volumes:
25     todo-mysql-data:
```

```
>> -e MYSQL_HOST=mysql `
>> -e MYSQL_USER=root `
>> -e MYSQL_PASSWORD=secret `
>> -e MYSQL_DB=todos `
>> node:12-alpine `
>> sh -c "yarn install && yarn run dev"
2ec113977d3b9aabff740d5a5b082d0534fbd4fc54bc826a8e0d85a0c1817976
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master> docker compose up -d
[+] Building 6.5s (2/2) FINISHED
=> [internal] load build definition from Dockerfile 4.2s
=> => transferring dockerfile: 2B 0.6s
=> [internal] load .dockerignore 5.8s
=> => transferring context: 52B 1.2s
failed to solve: rpc error: code = Unknown desc = failed to solve with frontend dockerfile.v0: failed to read dockerfile: open /var/lib/docker/tmp/buildkit-mount725404252/Dockerfile: no such file or directory
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master> cd app
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker run -dp 3000:3000 `
>> -w/app -v "$(pwd):/app" `
>> --network todo-app `
>> -e MYSQL_HOST=mysql `
>> -e MYSQL_USER=root `
>> -e MYSQL_PASSWORD=secret `
>> -e MYSQL_DB=todos `
>> node:12-alpine `
>> sh -c "yarn install && yarn run dev"
becf33051bfa4b4ae553404d92966ff02db0b7dbfbc00e8cbaac4b0e15d6881f
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker compose up -d
[+] Running 1/2
- Container app_app_1 Starting 70.6s
- Container app_mysql_1 Started 70.6s
Error response from daemon: driver failed programming external connectivity on endpoint app_app_1 (d9909b61bbdba4e1bdc8beaaf1f05291d1847b0d44f63934c35c77c3effd4846): Bind for 0.0.0.0:3000 failed: port is already allocated
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app> docker compose up -d
[+] Running 2/2
- Container app_mysql_1 Running 0.0s
- Container app_app_1 Started 99.7s
PS C:\Users\labim\Downloads\getting-started-master\getting-started-master\app>
```





Sort by ▾

xenodochial\_feynman [node:12-alpine](#)

EXITED (1) PORT: 3000

deno.1.0l1n2i2za12648abpzeaoik8f [alpine:3.5](#)

RUNNING

elated\_hopper [node:12-alpine](#)

EXITED (1) PORT: 3000

trusting\_joliot [node:12-alpine](#)

EXITED (1) PORT: 3000

keen\_borg [node:12-alpine](#)

EXITED (1) PORT: 3000



app

RUNNING

app\_mysql\_1 [mysql:5.7](#)

RUNNING

app\_app\_1 [node:12-alpine](#)

RUNNING PORT: 3000



# Run multicontainer by network

```
Windows PowerShell
PS C:\Users\labim> docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
bc32b2a641c0   mysql:5.7      "docker-entrypoint.s..." 9 minutes ago  Up 9 minutes  3306/tcp, 33060/tcp      cool_leavitt
2130c0503158   alpine:3.5     "ping 8.8.8.8"           2 hours ago   Up 2 hours    -                        deno.1.qrlxc4znvmjxieuu06nsbm4mn
PS C:\Users\labim> docker exec -it bc32b2a641c0 mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.7.36 MySQL Community Server (GPL)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> SHOW DATABASE;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'DATABASE' at line 1
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| todos |
+-----+
5 rows in set (0.00 sec)

mysql> exit
Bye
PS C:\Users\labim> docker run -it --network todo-app nicolaka/netshoot
      dP      dP      dP
      88      88      88
88d888b. .d8888b. d8888P .d8888b. 88d888b. .d8888b. d8888P
88' `88 880000d8 88 Y800000. 88' `88 88' `88 88' `88 88
88 88 88. ... 88 88 88 88 88 88. .88 88. .88 88
dP dP `88888P' dP `88888P' dP dP `88888P' `88888P' dP

Welcome to Netshoot! (github.com/nicolaka/netshoot)
```



Windows Powershell

```
8      88 88. ... 88      88 88      88 88. .88 88. .88 88
P      dP `88888P' dP      `88888P' dP      dP `88888P' `88888P' dP
```

Welcome to Netshoot! (github.com/nicolaka/netshoot)

d7a0fd7e3fa4 dig mysql

```
<<>> DiG 9.16.22 <<>> mysql
; global options: +cmd
; Got answer:
; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 20020
; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0

; QUESTION SECTION:
mysql.                IN      A

; ANSWER SECTION:
mysql.                600     IN      A      172.18.0.2

; Query time: 700 msec
; SERVER: 127.0.0.11#53(127.0.0.11)
; WHEN: Sat Jan 08 01:38:06 UTC 2022
; MSG SIZE rcvd: 44
```

d7a0fd7e3fa4 exit

C:\Users\labim> docker run -dp 3000:3000 `

> -w/app -v "\$(pwd):/app" `

> --network todo-app `

> -e MYSQL\_HOST=mysql `

> -e MYSQL\_USER=root `

> -e MYSQL\_PASSWORD=secret `

> -e MYSQL\_DB=todos `

> node:12-alpine `

> sh -c "yarn install && yarn run dev"

dab2aaeb4ecbd79640254baf16055c00885ae3cedd4dbb0fc7d066ca1741c21