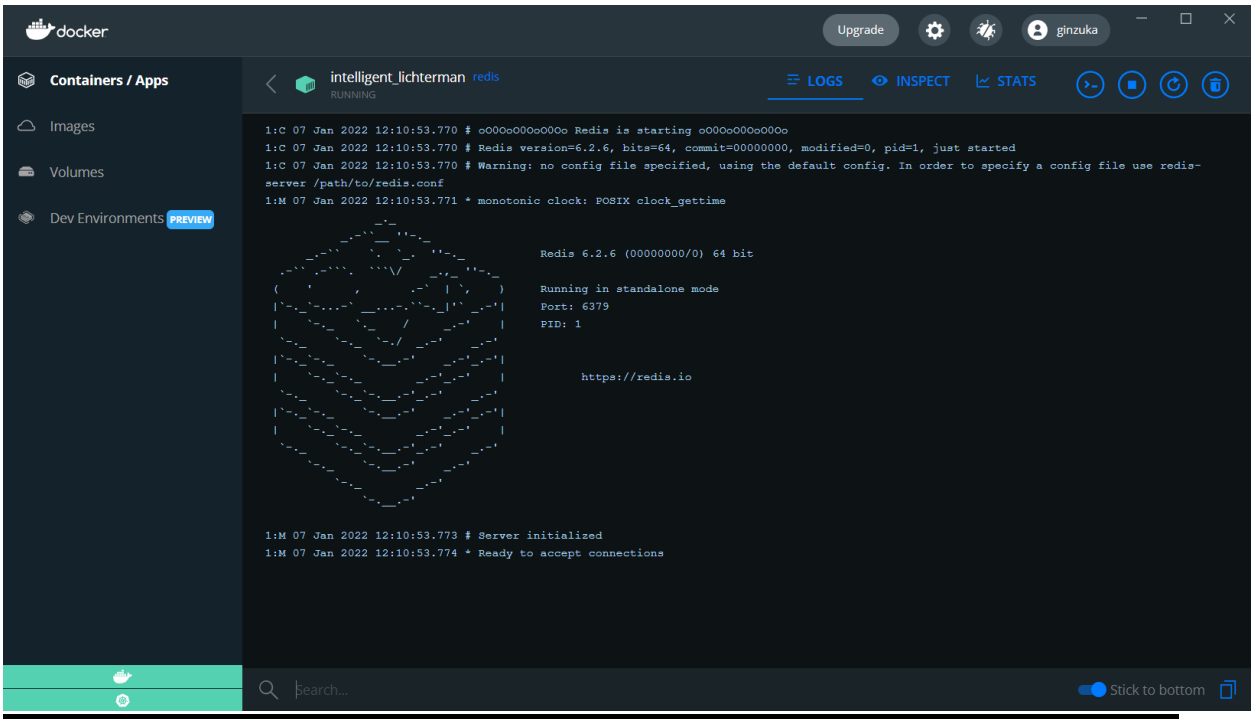
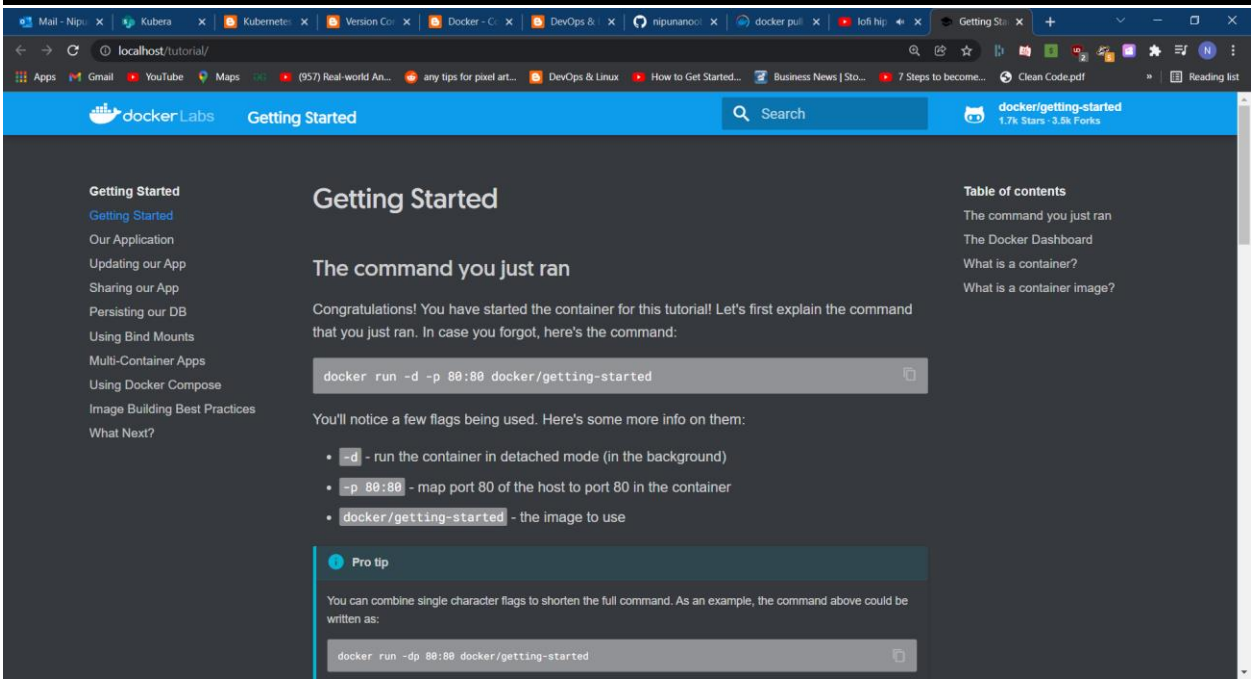
```
PS C:\Users\nipun> docker run -dt redis
c100a779313b47c8fac877038d4094ccd6ee003e612449d5c86da6a826ca443e
```




```
PS C:\Users\nipun> docker -v
Docker version 20.10.11, build dea9396
```

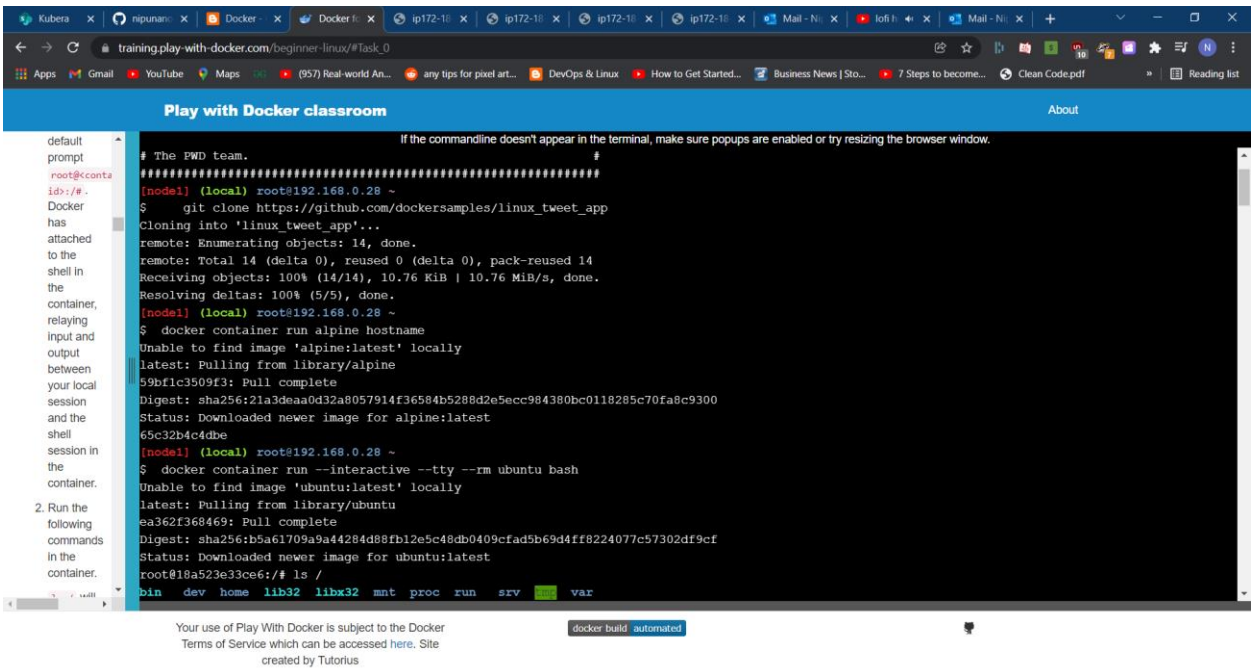
```
PS C:\Users\nipun> docker run -dp 80:80 docker/getting-started
e5dd40e593b343f23b310aa8f3ee6ee3e97124a99f423c51e3177c11ab9efce4
```




```
PS C:\Users\nipun> docker images
REPOSITORY                        TAG                                                IMAGE ID       CREATED
   SIZE
ubuntu                            latest                                             d13c942271d6   10 hours ago
   72.8MB
ginzuka/getting-started           latest                                             f762e8532fdd   8 days ago
   454MB
redis                             latest                                             7614ae9453d1   2 weeks ago
   113MB
docker/getting-started            latest                                             26d80cd96d69   5 weeks ago
   28.5MB
alpine                            latest                                             c059bfaa849c   6 weeks ago
   5.59MB
docker/desktop-kubernetes         kubernetes-v1.22.4-cni-v0.8.5-critools-v1.17.0-debian   493a106d3678   7 weeks ago
   294MB
```

```
PS C:\Users\nipun> docker ps
CONTAINER ID   IMAGE                     COMMAND                  CREATED              STATUS              PORTS
        NAMES
e5dd40e593b3   docker/getting-started    "/docker-entrypoint.…"   About a minute ago   Up About a minute   0.0.0.0:80->
0/tcp   beautiful_archimedes
b4cbadd31012   ubuntu                    "bash -c 'shuf -i 1-…"   2 hours ago          Up 2 hours
        confident_knuth
7ea9a1304753   ginzuka/getting-started   "docker-entrypoint.s…"   2 hours ago          Up 2 hours
        k8s_bb-site_bb-demo-bb6449bb9-2d9fw_default_274e163a-5622-4b81-8033-b5e28474b200_6
```

```
PS C:\Users\nipun> docker image history f762e8532fdd
IMAGE          CREATED       CREATED BY                                      SIZE      COMMENT
f762e8532fdd   8 days ago    CMD ["node" "src/index.js"]                     0B        buildkit.dockerfile.v0
<missing>      8 days ago    RUN /bin/sh -c yarn install --production # b…   83.8MB    buildkit.dockerfile.v0
<missing>      8 days ago    COPY . . # buildkit                             58.1MB    buildkit.dockerfile.v0
<missing>      2 weeks ago   WORKDIR /app                                    0B        buildkit.dockerfile.v0
<missing>      2 weeks ago   RUN /bin/sh -c apk add --no-cache python2 g+…   223MB     buildkit.dockerfile.v0
<missing>      2 weeks ago   /bin/sh -c #(nop)  CMD ["node"]                 0B
<missing>      2 weeks ago   /bin/sh -c #(nop)  ENTRYPOINT ["docker-entry…   0B
<missing>      2 weeks ago   /bin/sh -c #(nop) COPY file:4d192565a7220e13…   388B
<missing>      2 weeks ago   /bin/sh -c apk add --no-cache --virtual .bui…   7.85MB
<missing>      2 weeks ago   /bin/sh -c #(nop)  ENV YARN_VERSION=1.22.17     0B
<missing>      2 weeks ago   /bin/sh -c addgroup -g 1000 node     && addu…   76MB
<missing>      2 weeks ago   /bin/sh -c #(nop)  ENV NODE_VERSION=12.22.8     0B
<missing>      7 weeks ago   /bin/sh -c #(nop)  CMD ["/bin/sh"]              0B
<missing>      7 weeks ago   /bin/sh -c #(nop) ADD file:762c899ec0505d1a3…   5.61MB
```



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Play with Docker classroom About

default prompt root@<contain id>:/#. Docker has attached to the shell in the container, relaying input and output between your local session and the shell session in the container.

2. Run the following commands in the container.

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
root@18a523e33ce6:/# ps aux
USER       PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  1.3  0.0   4108  3552 pts/0    Ss   04:33   0:00 bash
root        11  0.0  0.0   5896  3020 pts/0    R+   04:33   0:00 ps aux
root@18a523e33ce6:/# cat /etc/issue
Ubuntu 20.04.3 LTS \n \l

root@18a523e33ce6:/#  exit
exit
[node1] (local) root@192.168.0.28 ~
$  cat /etc/issue
Welcome to Alpine Linux 3.12
Kernel \r on an \m (\l)

[node1] (local) root@192.168.0.28 ~
$  docker container run \
>  --detach \
>  --name mydb \
>  -e MYSQL_ROOT_PASSWORD=my-secret-pw \
>  mysql:latest
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
72a69066d2fe: Pull complete
93619dbc5b36: Pull complete
99da31dd6142: Pull complete
626033c43d70: Pull complete
```

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docker build automated

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Play with Docker classroom About

default prompt root@<contain id>:/#. Docker has attached to the shell in the container, relaying input and output between your local session and the shell session in the container.

2. Run the following commands in the container.

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
Digest: sha256:e9027fe4d91c0153429607251656806cc784e914937271037f7738bd5b8e7709
Status: Downloaded newer image for mysql:latest
a76ea727862e54605b005964154f626c28e712caea5ad7495e3738c50fee90db
[node1] (local) root@192.168.0.28 ~
$  docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS
   PORTS                  NAMES
a76ea727862e   mysql:latest   "docker-entrypoint.s…"   1 second ago   Up 1 second
   3306/tcp, 33060/tcp    mydb
[node1] (local) root@192.168.0.28 ~
$  docker container logs mydb
2022-01-08 04:33:52+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server
 8.0.27-1debian10 started.
2022-01-08 04:33:52+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql
'
2022-01-08 04:33:52+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server
 8.0.27-1debian10 started.
2022-01-08 04:33:52+00:00 [Note] [Entrypoint]: Initializing database files
2022-01-08T04:33:52.659290Z 0 [System] [MY-013169] [Server] /usr/sbin/mysqld (mys
qld 8.0.27) initializing of server in progress as process 42
2022-01-08T04:33:52.673442Z 1 [System] [MY-013576] [InnoDB] InnoDB initialization
 has started.
2022-01-08T04:33:53.013530Z 1 [System] [MY-013577] [InnoDB] InnoDB initialization
 has ended.
2022-01-08T04:33:54.279930Z 0 [Warning] [MY-013746] [Server] A deprecated TLS ver
sion TLSv1 is enabled for channel mysql_main
```

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Play with Docker classroom About

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

default prompt `root@container id>:/#`. Docker has attached to the shell in the container, relaying input and output between your local session and the shell session in the container.

2. Run the following commands in the container.

```
ecure option.
[node1] (local) root@192.168.0.28 ~
$    docker container top mydb
PID                 USER                TIME                COMMAND
1009                999                 0:00                {docker-entrypoi} /bi
n/bash /usr/local/bin/docker-entrypoint.sh mysqld
1204                999                 0:00                mysqld --daemonize --
skip-networking --default-time-zone=SYSTEM --socket=/var/run/mysqld/mysqld.sock
[node1] (local) root@192.168.0.28 ~
$  docker exec -it mydb \
>  mysql --user=root --password=$MYSQL_ROOT_PASSWORD --version
mysql: [Warning] Using a password on the command line interface can be insecure.
mysql  Ver 8.0.27 for Linux on x86_64 (MySQL Community Server - GPL)
[node1] (local) root@192.168.0.28 ~
$  docker exec -it mydb sh
#  mysql --user=root --password=$MYSQL_ROOT_PASSWORD --version
mysql: [Warning] Using a password on the command line interface can be insecure.
mysql  Ver 8.0.27 for Linux on x86_64 (MySQL Community Server - GPL)
#  exit
[node1] (local) root@192.168.0.28 ~
$  cd ~/linux_tweet_app
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  cat Dockerfile
FROM nginx:latest

COPY index.html /usr/share/nginx/html
```

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Play with Docker classroom About

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

default prompt `root@container id>:/#`. Docker has attached to the shell in the container, relaying input and output between your local session and the shell session in the container.

2. Run the following commands in the container.

```
COPY linux.png /usr/share/nginx/html

EXPOSE 80 443

CMD ["nginx", "-g", "daemon off;"]
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  echo $DOCKERID

[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ $DOCKERID = ginzuka
bash: =: command not found
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ $DOCKERID=ginzuka
bash: =ginzuka: command not found
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ export DOCKERID=ginzuka
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ $DOCKERID=ginzuka
bash: ginzuka=ginzuka: command not found
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  echo $DOCKERID
ginzuka
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  docker image build --tag $DOCKERID/linux_tweet_app:1.0 .
Sending build context to Docker daemon  92.16kB
Step 1/5 : FROM nginx:latest
```

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Play with Docker classroom About

default prompt `root@<container id>:/#`. Docker has attached to the shell in the container, relaying input and output between your local session and the shell session in the container.

2. Run the following commands in the container.

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
 ---> 6e1d9f736cd7
Successfully built 6e1d9f736cd7
Successfully tagged ginzuka/linux_tweet_app:1.0
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  docker container run \
>  --detach \
>  --publish 80:80 \
>  --name linux_tweet_app \
>  $DOCKERID/linux_tweet_app:1.0
cda9cfb3aca690700c655f2e750cadc35f3ce8cc5b209249b2be023d0d209508
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  docker container run \
>  --detach \
>  --publish 80:80 \
>  --name linux_tweet_app \
>  --mount type=bind,source="$(pwd)",target=/usr/share/nginx/html \
>  $DOCKERID/linux_tweet_app:1.0
docker: Error response from daemon: Conflict. The container name "/linux_tweet_ap
p" is already in use by container "cda9cfb3aca690700c655f2e750cadc35f3ce8cc5b2092
49b2be023d0d209508". You have to remove (or rename) that container to be able to
reuse that name.
See 'docker run --help'.
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  cp index-new.html index.html
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  docker rm --force linux_tweet_app
```

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docker build automated

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Play with Docker classroom About

container is still running. In this case the `hostname` process exits as soon as the output is written. This means the container stops. However, Docker doesn't delete resources by default, so the container still exists in the `Exited` state.

List all containers.

```
docker container ls --all
```

Notice that your Alpine Linux container is in the `Exited` state.

```
CONTAINER ID
IMAGE
COMMAND
CREATED
STATUS
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
linux_tweet_app
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  docker container run \
>  --detach \
>  --publish 80:80 \
>  --name linux_tweet_app \
>  $DOCKERID/linux_tweet_app:1.0
cab573f77f069705ab665e861b6850bbde4e4baf83a65917537f1e9e179ba081
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ docker rm --force linux_tweet_app
linux_tweet_app
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$  docker image build --tag $DOCKERID/linux_tweet_app:2.0 .
Sending build context to Docker daemon  92.16kB
Step 1/5 : FROM nginx:latest
 ---> 605c77e624dd
Step 2/5 : COPY index.html /usr/share/nginx/html
 ---> 474563061385
Step 3/5 : COPY linux.png /usr/share/nginx/html
 ---> 887f4f02b9ad
Step 4/5 : EXPOSE 80 443
 ---> Running in d1e80890d9db
Removing intermediate container d1e80890d9db
 ---> 74e8a49e94ac
Step 5/5 : CMD ["nginx", "-g", "daemon off;"]
 ---> Running in d59bb313813a
```

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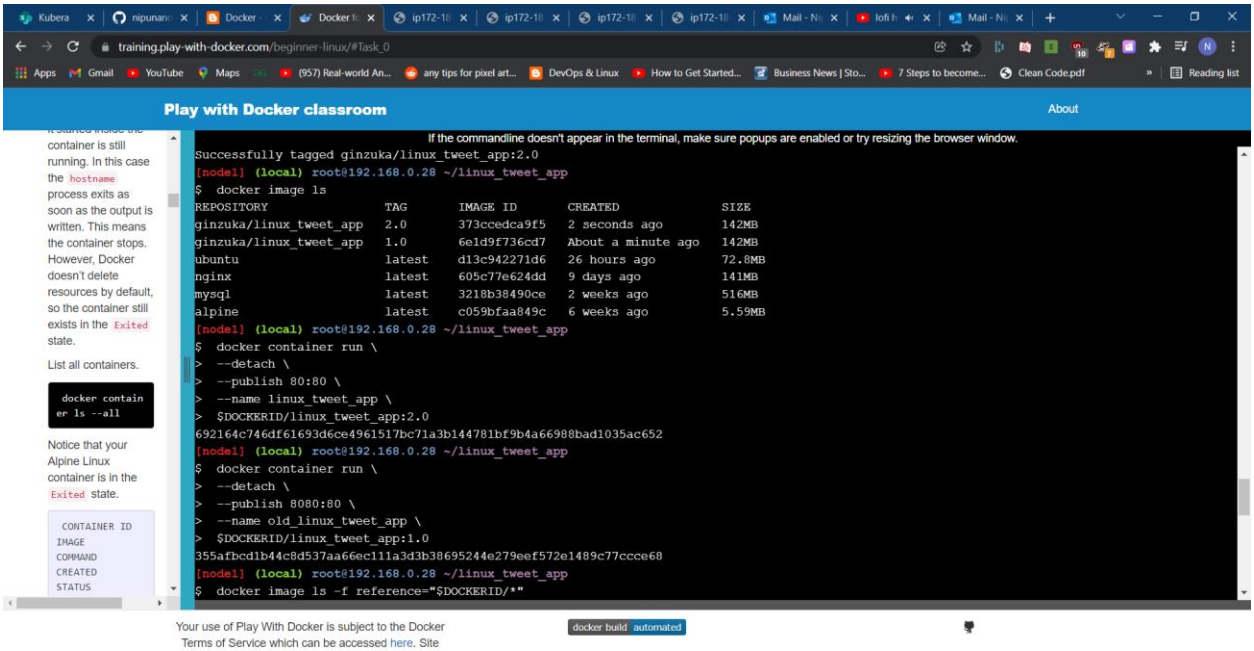
docker build automated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Play with Docker classroom
About
If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.
container is still running. In this case the hostname process exits as soon as the output is written. This means the container stops. However, Docker doesn't delete resources by default, so the container still exists in the Exited state.
List all containers.
docker container ls --all
Notice that your Alpine Linux container is in the Exited state.
CONTAINER ID
IMAGE
COMMAND
CREATED
STATUS
Successfully tagged ginzuka/linux_tweet_app:2.0
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
ginzuka/linux_tweet_app 2.0 373ccedca9f5 2 seconds ago 142MB
ginzuka/linux_tweet_app 1.0 6e1d9f736cd7 About a minute ago 142MB
ubuntu latest d13c942271d6 26 hours ago 72.8MB
nginx latest 605c77e624dd 9 days ago 141MB
mysql latest 3218b38490ce 2 weeks ago 516MB
alpine latest c059bfaa849c 6 weeks ago 5.59MB
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ docker container run \
> --detach \
> --publish 80:80 \
> --name linux_tweet_app \
> $DOCKERID/linux_tweet_app:2.0
692164c746df61693d6ce4961517bc71a3b144781bf9b4a66988bad1035ac652
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ docker container run \
> --detach \
> --publish 8080:80 \
> --name old_linux_tweet_app \
> $DOCKERID/linux_tweet_app:1.0
355afbcd1b44c8d537aa66ec111a3d3b38695244e279eef572e1489c77ccce68
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ docker image ls -f reference="$DOCKERID/*"
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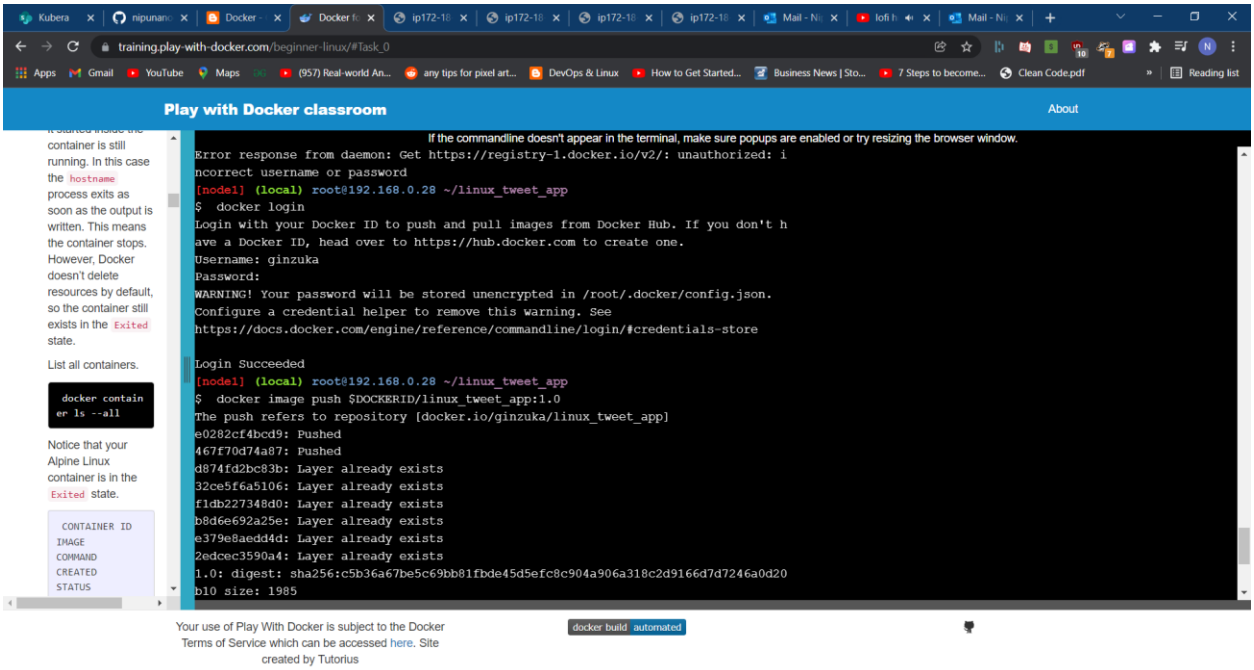
docker build automated


training.play-with-docker.com/beginner-linux/#Task_0
Play with Docker classroom
About
If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.
container is still running. In this case the hostname process exits as soon as the output is written. This means the container stops. However, Docker doesn't delete resources by default, so the container still exists in the Exited state.
List all containers.
docker container ls --all
Notice that your Alpine Linux container is in the Exited state.
CONTAINER ID
IMAGE
COMMAND
CREATED
STATUS
Error response from daemon: Get https://registry-1.docker.io/v2/: unauthorized: i
ncorrect username or password
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't h
ave a Docker ID, head over to https://hub.docker.com to create one.
Username: ginzuka
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store
Login Succeeded
[node1] (local) root@192.168.0.28 ~/linux_tweet_app
$ docker image push $DOCKERID/linux_tweet_app:1.0
The push refers to repository [docker.io/ginzuka/linux_tweet_app]
e0282cf4bcd9: Pushed
467f70d74a87: Pushed
d874fd2bc83b: Layer already exists
32ce5f6a5106: Layer already exists
f1db227348d0: Layer already exists
b8d6e692a25e: Layer already exists
e379e8aedd4d: Layer already exists
2edcec3590a4: Layer already exists
1.0: digest: sha256:c5b36a67be5c69bb81fbde45d5efc8c904a906a318c2d9166d7d7246a0d20
b10 size: 1985
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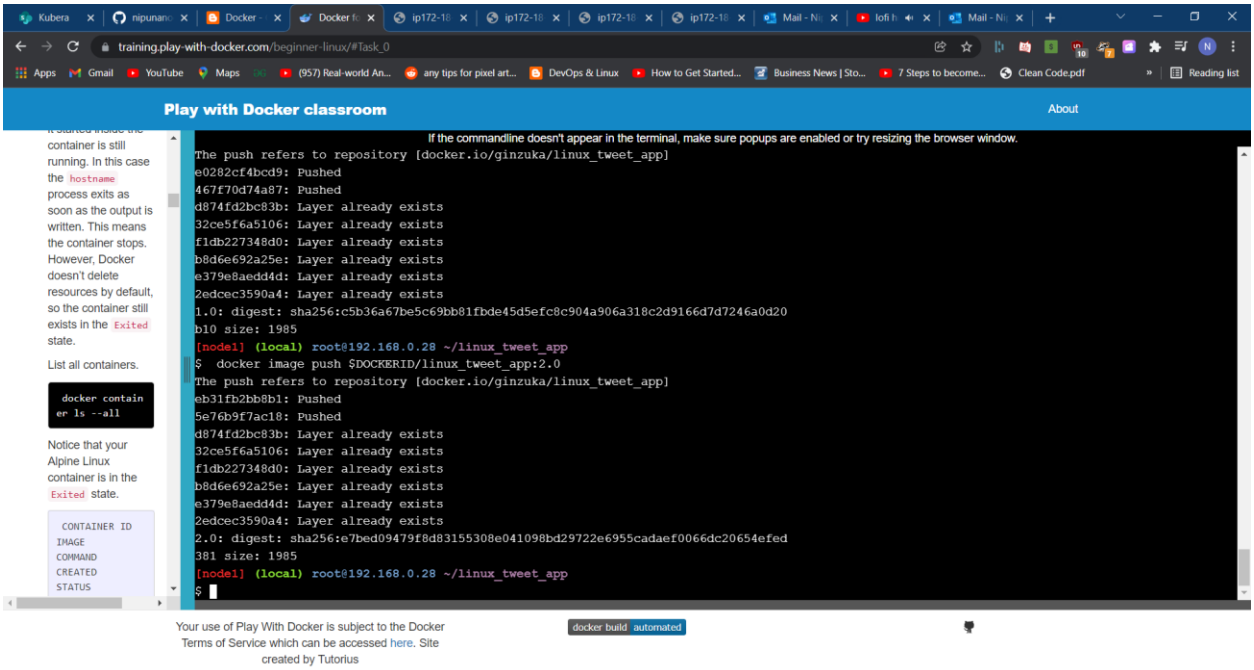
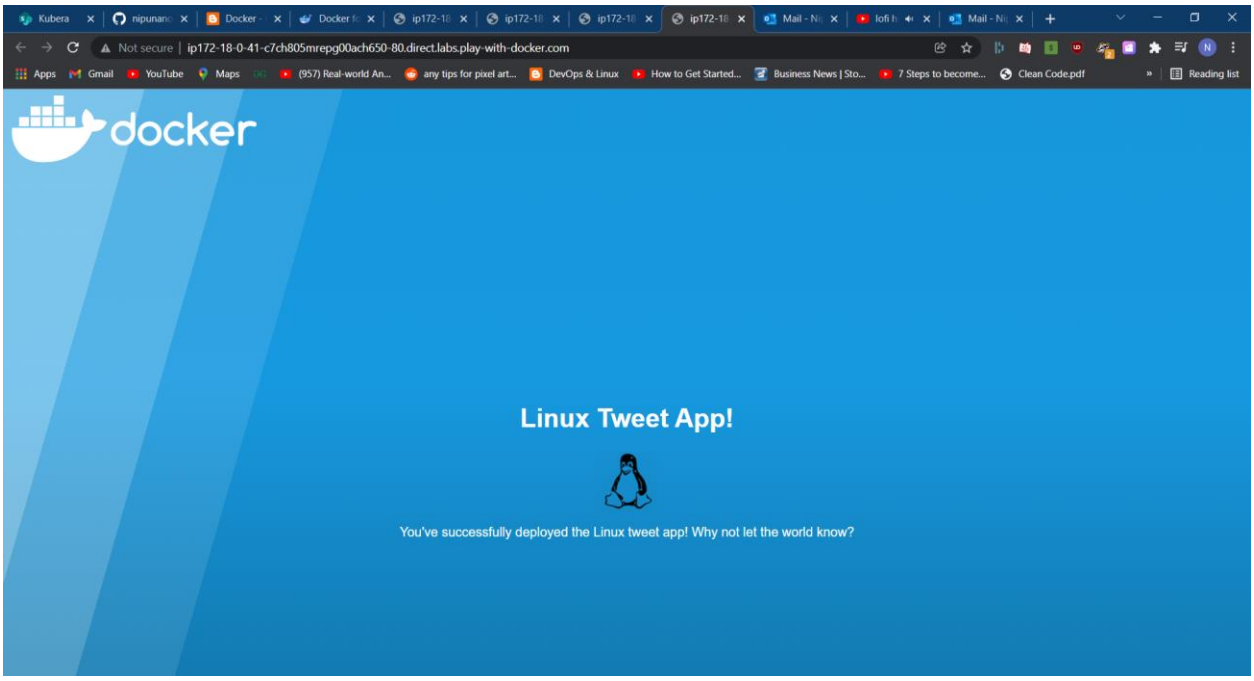
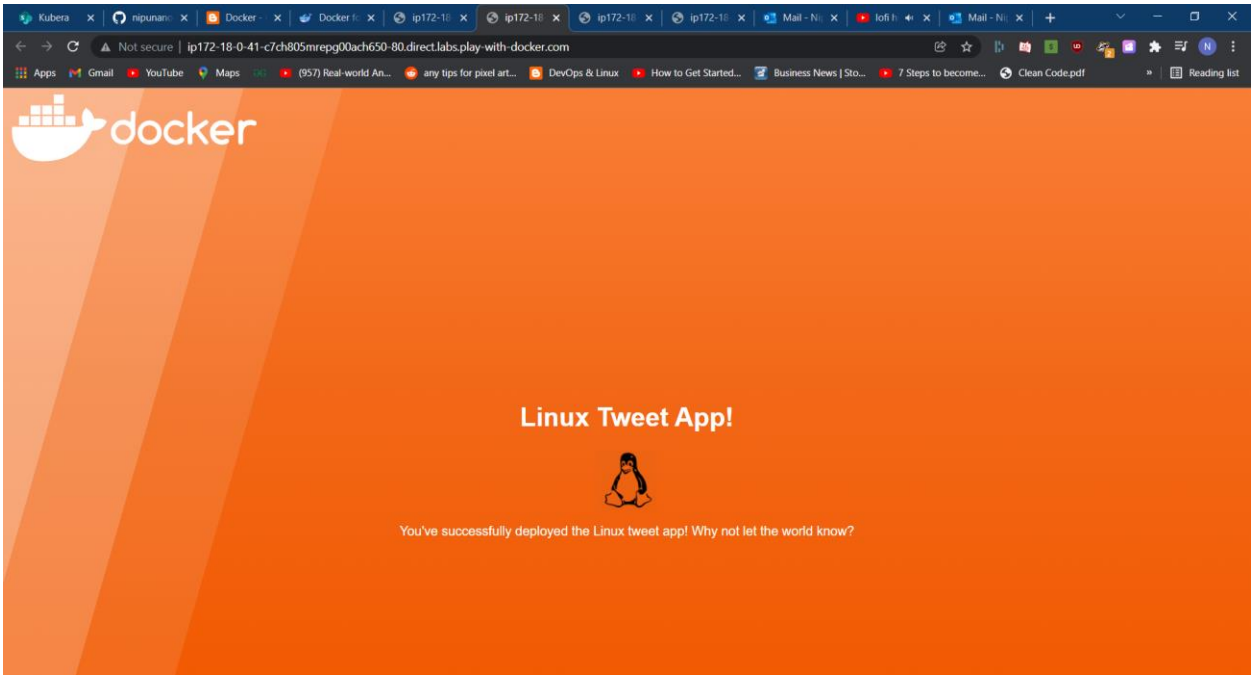
docker build automated



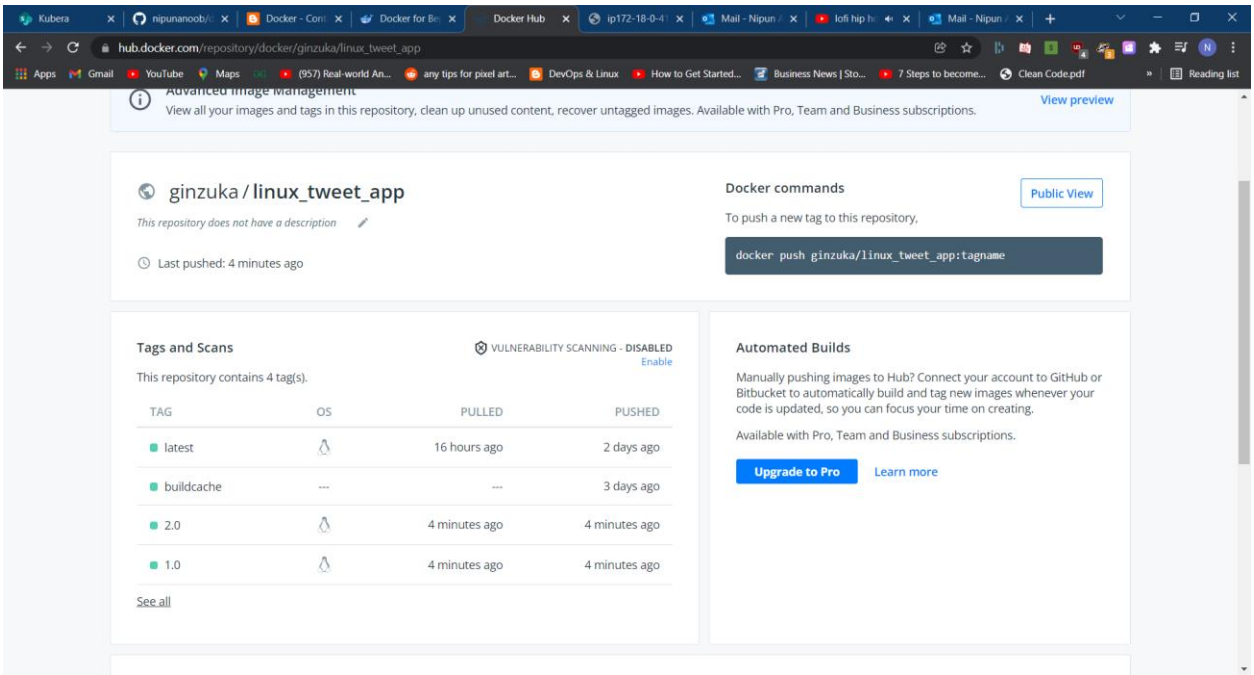
Linux_tweet_app: version 1



Linux_tweet_app: version 2



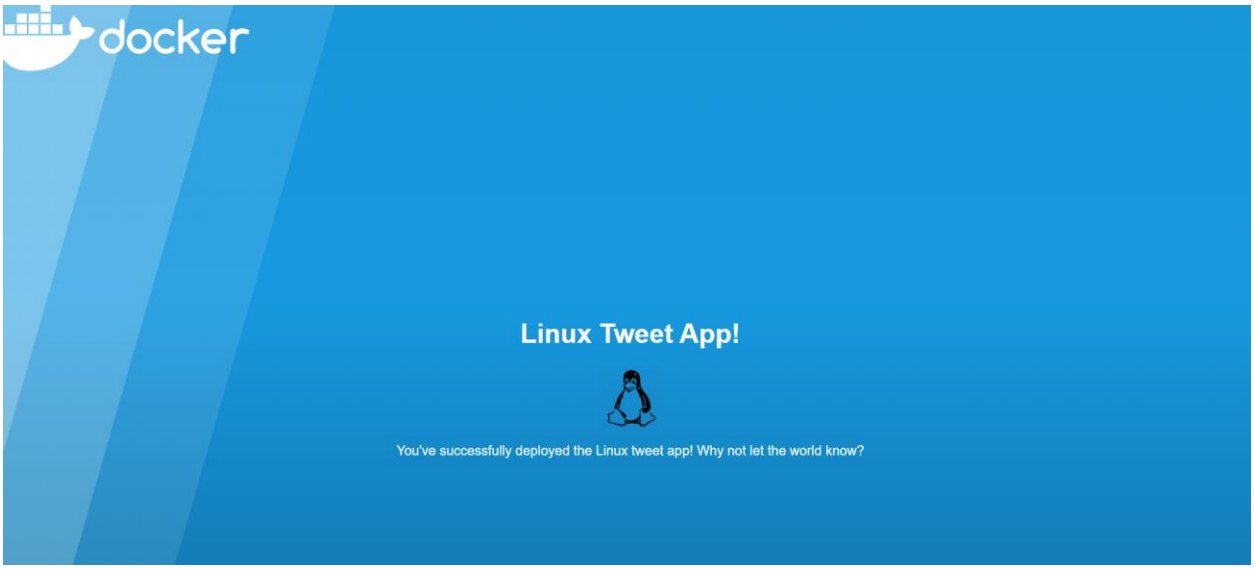
Uploaded both versions to docker hub repository



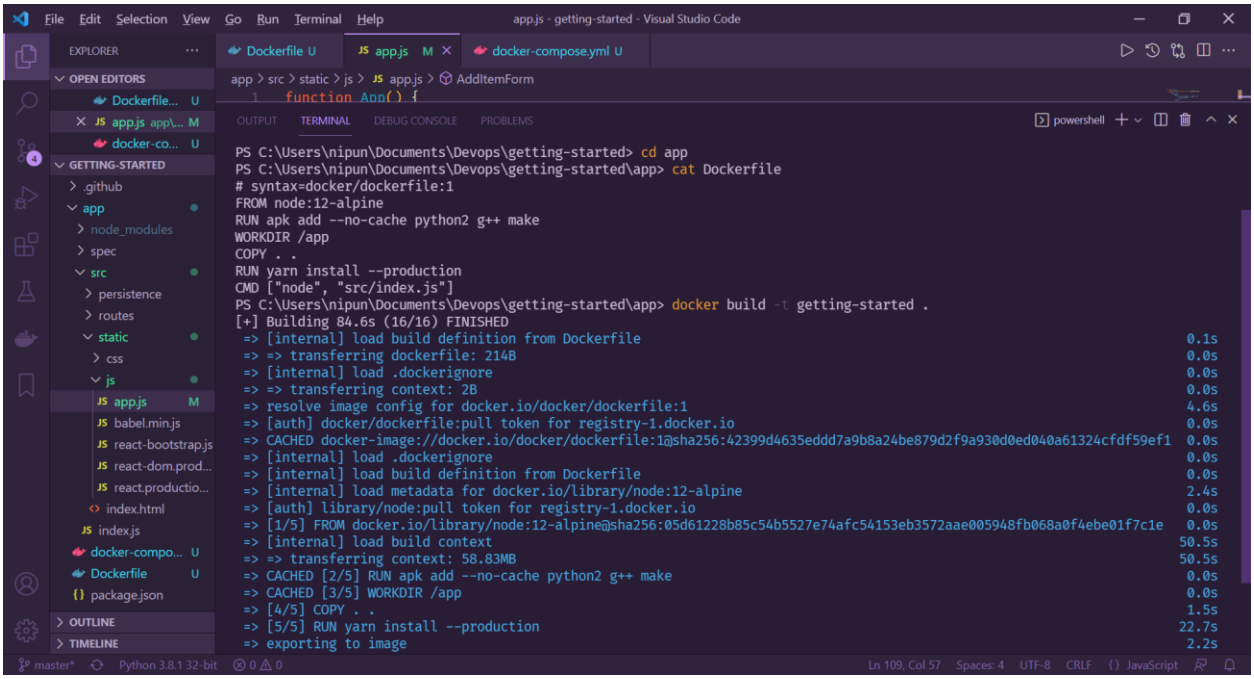
Pulling image from docker hub and running it in local machine

```
PS C:\Users\nipun> docker pull ginzuka/linux_tweet_app:1.0
1.0: Pulling from ginzuka/linux_tweet_app
a2abf6c4d29d: Already exists
f3409a9a9e73: Pull complete
9919a6cbae9c: Pull complete
fc1ce43285d7: Pull complete
1f01ab499216: Pull complete
13cfaf79ff6d: Pull complete
e4777e98e6c3: Pull complete
697b67033bda: Pull complete
Digest: sha256:c0e4fa696180a424533f98acac6c1aa8d08d1ce3f29273687aea490e65bf6ec1
Status: Downloaded newer image for ginzuka/linux_tweet_app:1.0
docker.io/ginzuka/linux_tweet_app:1.0
PS C:\Users\nipun> docker run -dp 3000:3000 ginzuka/linux_tweet_app:1.0
abbaf209a237d1f58395cac42604b06f5818a268126ac14beea6e60697711470
```

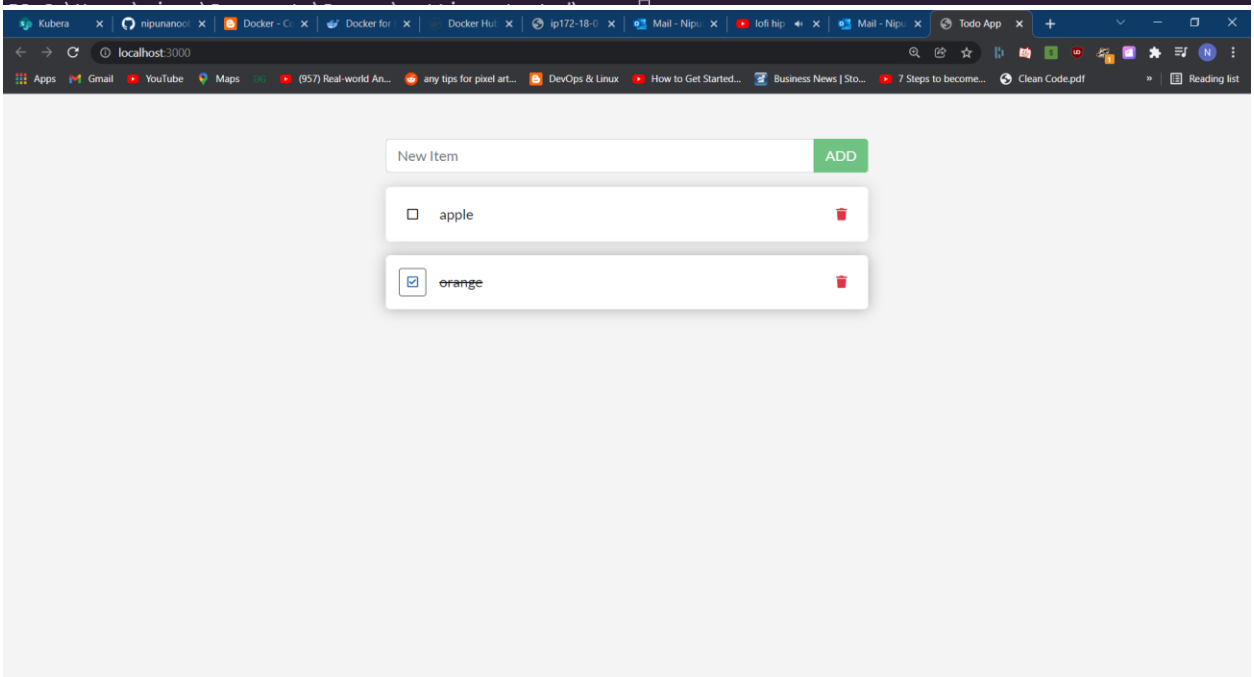
Running linux_tweet_app in local host




```
PS C:\Users\nipun> docker ps
CONTAINER ID   IMAGE                          COMMAND                  CREATED         STATUS         PORTS
           NAMES
8911206da016   ginzuka/linux_tweet_app:2.0    "/docker-entrypoint.…"   2 minutes ago   Up 2 minutes   0.0.0.0:80->80/tcp,
 443/tcp   sleepy_villani
b4cbadd31012   ubuntu                         "bash -c 'shuf -i 1-…"   2 hours ago     Up 6 minutes
           confident_knuth
7ea9a1304753   ginzuka/getting-started        "docker-entrypoint.s…"   2 hours ago     Up 2 hours
           k8s_bb-site_bb-demo-bb6449bb9-2d9fw_default_274e163a-5622-4b81-8033-b5e28474b200_6
PS C:\Users\nipun> docker stop 7ea9a1304753
7ea9a1304753
PS C:\Users\nipun> docker start 7ea9a1304753
7ea9a1304753
PS C:\Users\nipun> docker rm --force 7ea9a1304753
7ea9a1304753
```




```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -dp 3000:3000 getting-started
14519d19068b25effd275839706fe4867fc9a7f6ac1fd5f258af434158efeb1b
```



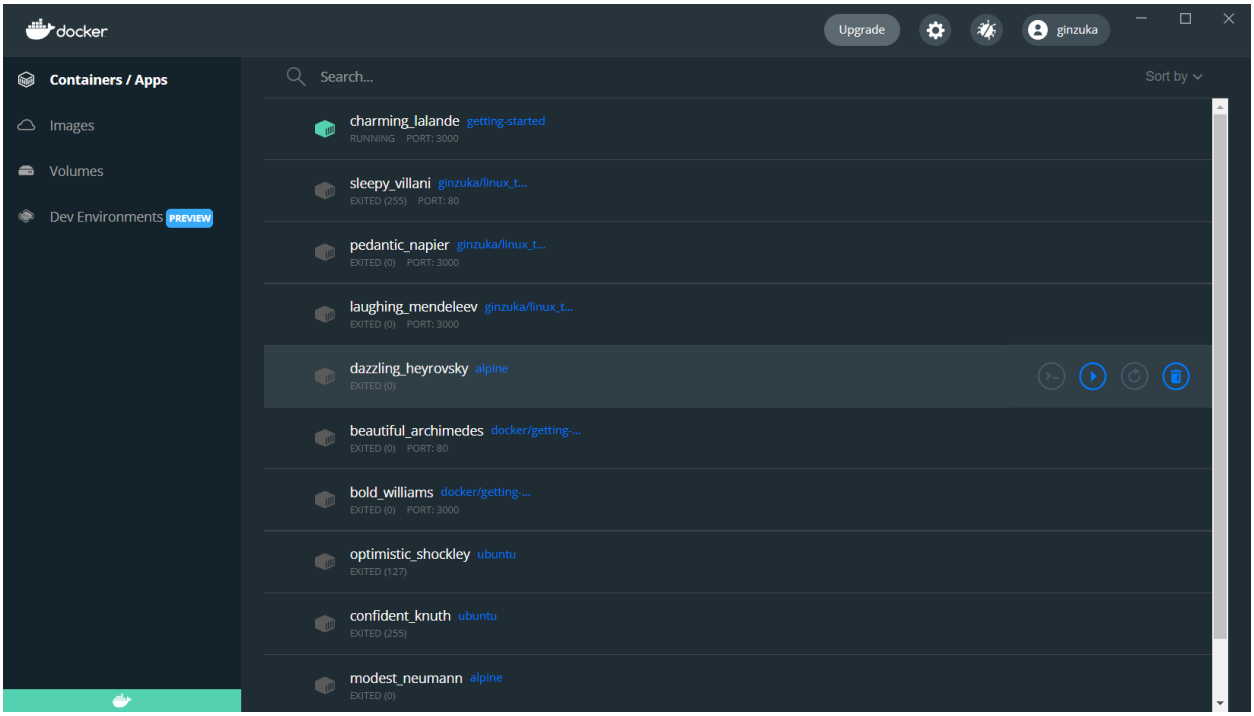
```
Error response from daemon: You cannot remove a running container 14519d19068b25effd275839706fe4867fc9a7f6ac1fd5f258af434158efe
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker rm -f 14519d19068b25e
14519d19068b25e
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -dp 3000:3000 getting-started
dba2370a5674cc42ec504043e0a194da66f7a3c3ef6b01f62cae1818a7099c0e
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker rm -f dba2370a5674cc42e
dba2370a5674cc42e
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker build -t getting-started .
[+] Building 35.1s (16/16) FINISHED
 => [internal] load build definition from Dockerfile                                                    0.0s
 => => transferring dockerfile: 32B                                                                     0.0s
 => [internal] load .dockerignore                                                                       0.0s
 => => transferring context: 2B                                                                         0.0s
 => resolve image config for docker.io/docker/dockerfile:1                                              3.6s
 => [auth] docker/dockerfile:pull token for registry-1.docker.io                                        0.0s
 => CACHED docker-image://docker.io/docker/dockerfile:1@sha256:42399d4635eddd7a9b8a24be879d2f9a930d0ed040a61324cfdf59ef1  0.0s
 => [internal] load build definition from Dockerfile                                                    0.0s
 => [internal] load .dockerignore                                                                       0.0s
 => [internal] load metadata for docker.io/library/node:12-alpine                                       1.9s
 => [auth] library/node:pull token for registry-1.docker.io                                             0.0s
 => [internal] load build context                                                                       1.5s
 => => transferring context: 602.13kB                                                                   1.5s
 => [1/5] FROM docker.io/library/node:12-alpine@sha256:05d61228b85c54b5527e74afc54153eb3572aae005948fb068a0f4ebe01f7c1e  0.0s
 => CACHED [2/5] RUN apk add --no-cache python2 g++ make                                                0.0s
 => CACHED [3/5] WORKDIR /app                                                                           0.0s
 => [4/5] COPY . .                                                                                      1.4s
 => [5/5] RUN yarn install --production                                                                24.0s
 => exporting to image                                                                                  2.1s
 => => exporting layers                                                                                 2.1s
 => => writing image sha256:ee1ba354d5f62950dcae1471796c918387314dc8f84a9a1288a5a51abf897c30            0.0s
 => => naming to docker.io/library/getting-started                                                      0.0s
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -dp 3000:3000 getting-started
11b316b17ee791dba149e04d3a95d31d73d12e695b814082590f0c9c7b37fd89
PS C:\Users\nipun\Documents\Devops\getting-started\app>
```

New Item

Add new items

There are currently no todo items, Add one above!

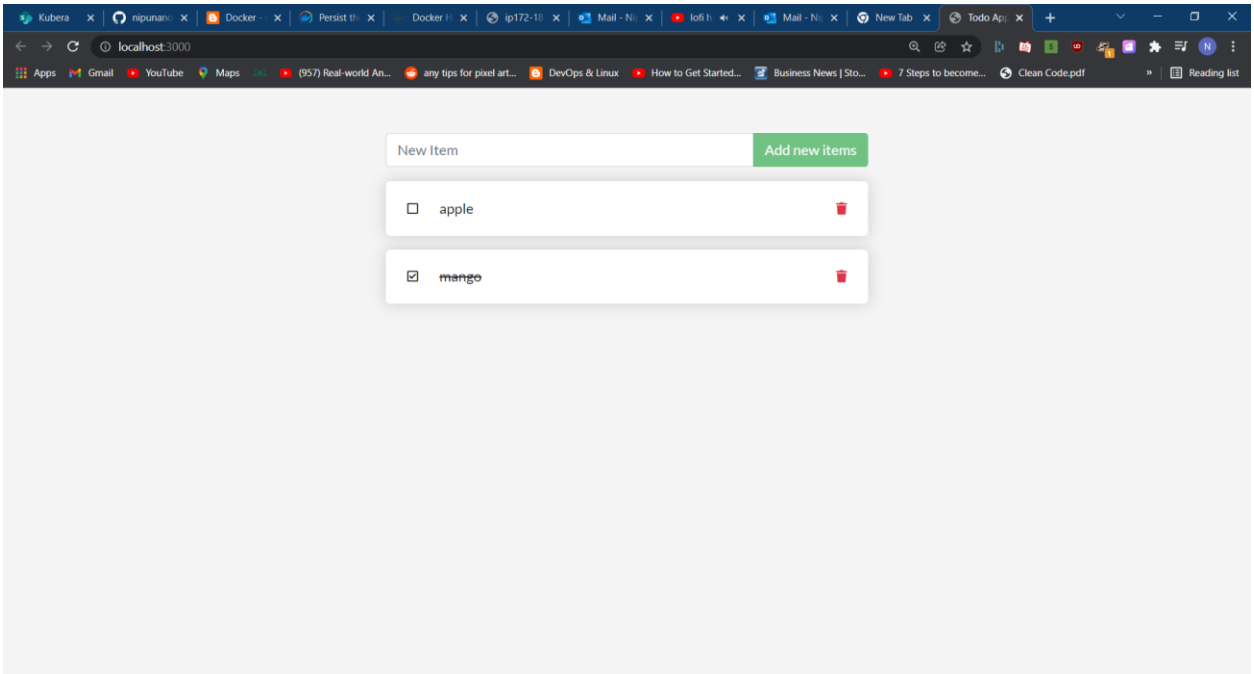
Docker Containers




```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -d ubuntu bash -c "shuf -i 1-10000 -n 1 -o /data.txt && tail
 -f /dev/null"
b17adc4aee414ac274126148f786b58eb8711a0b88dad0cba34c0fba96968983
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker exec b17adc4aee414ac2741 cat /data.txt
3652
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker exec b17adc4aee414ac2741 cat /data.txt
3652
PS C:\Users\nipun\Documents\Devops\getting-started\app> 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\nipun\Documents\Devops\getting-started\app>
```

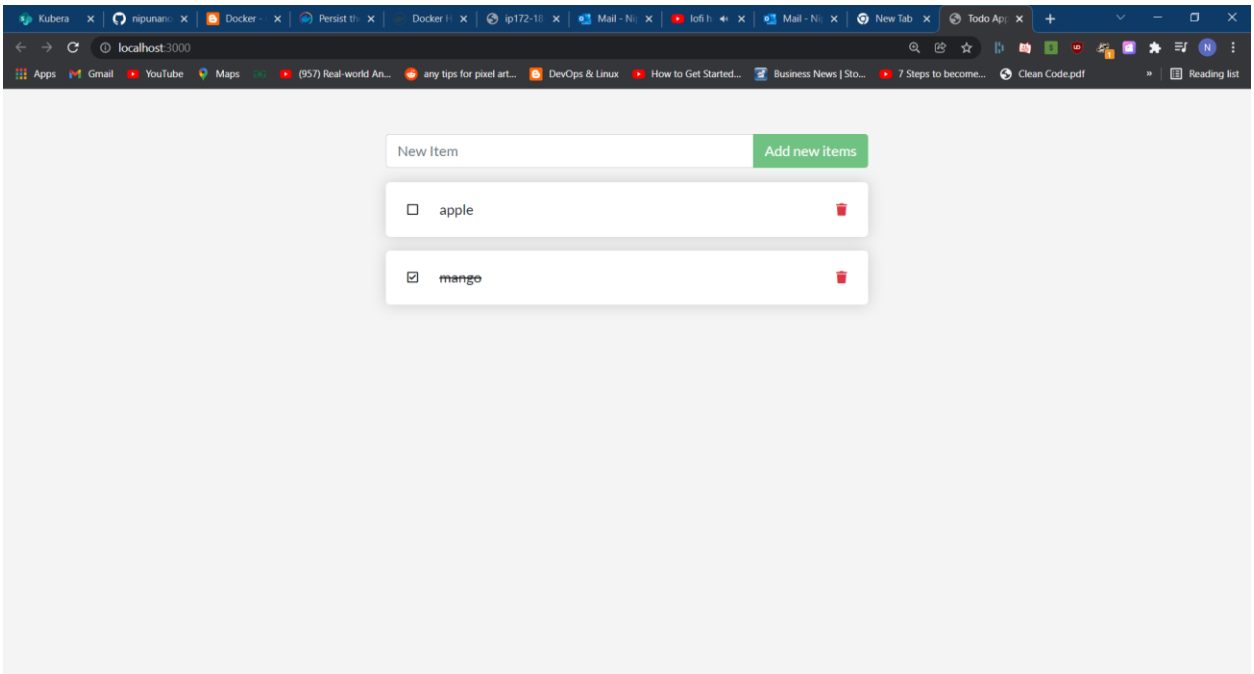
```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker volume create todo-db
todo-db
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -dp 3000:3000 -v todo-db:/etc/todos getting-started
e73b4d631a2c56b88b080862092a8f4816273b2029da85ab78b083150205ab95
```

Contents of todo-app in first container




```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker rm -f e73b4d631a2c56b88b080
e73b4d631a2c56b88b080
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -dp 3000:3000 -v todo-db:/etc/todos getting-started
7021aae751774daa5bb7eca07b23011aa1b4200c1af904aa1617b4a7334f0f05
```

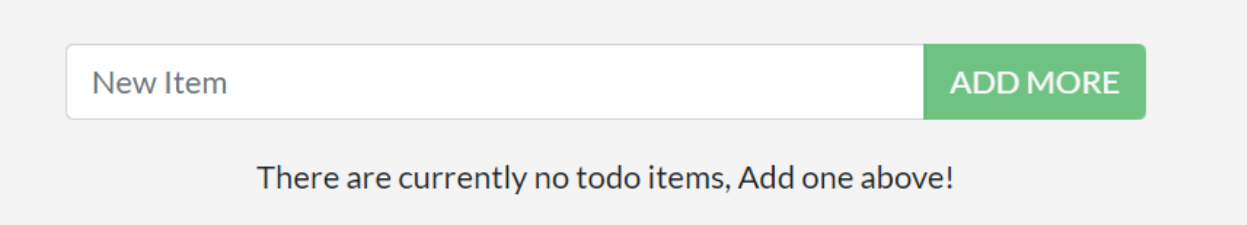
Contents of second todo-app container(Persistent Data in app)




```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker volume inspect todo-db
[
    {
        "CreatedAt": "2022-01-08T04:56:55Z",
        "Driver": "local",
        "Labels": {},
        "Mountpoint": "/var/lib/docker/volumes/todo-db/_data",
        "Name": "todo-db",
        "Options": {},
        "Scope": "local"
    }
]
```

```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -dp 3000:3000 `
>>      -w /app -v "$(pwd):/app" `
>>      node:12-alpine `
>>      sh -c "yarn install && yarn run dev"
65b36cd7c1dc817371bc2e01465ef4575b8b4fbca20138206b2bfa7a4ac94352
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker logs -f  65b36cd7c1dc817
yarn install v1.22.17
[1/4] Resolving packages...
warning Resolution field "ansi-regex@5.0.1" is incompatible with requested version "ansi-regex@^2.0.0"
warning Resolution field "ansi-regex@5.0.1" is incompatible with requested version "ansi-regex@^3.0.0"
success Already up-to-date.
Done in 1.03s.
yarn run v1.22.17
$ nodemon src/index.js
[nodemon] 2.0.13
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node src/index.js`
Using sqlite database at /etc/todos/todo.db
Listening on port 3000
PS C:\Users\nipun\Documents\Devops\getting-started\app>
```

Refresh the page and changes to app.js is visible in same container without running docker build again



```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker network create todo-app
Error response from daemon: network with name todo-app already exists
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -d `
>>      --network todo-app --network-alias mysql `
>>      -v todo-mysql-data:/var/lib/mysql `
>>      -e MYSQL_ROOT_PASSWORD=secret `
>>      -e MYSQL_DATABASE=todos `
>>      mysql:5.7
Unable to find image 'mysql:5.7' locally
5.7: Pulling from library/mysql
72a69066d2fe: Pull complete
93619dbc5b36: Pull complete
99da31dd6142: Pull complete
626033c43d70: Pull complete
37d5d7efb64e: Pull complete
ac563158d721: Pull complete
d2ba16033dad: Pull complete
0ceb82207cd7: Pull complete
37f2405cae96: Pull complete
e2482e017e53: Pull complete
70deed891d42: Pull complete
Digest: sha256:f2ad209efe9c67104167fc609cca6973c8422939491c9345270175a300419f94
Status: Downloaded newer image for mysql:5.7
9302d28bf4d476a479cabf94fe5319f82d5ce83cf1ccb303e7bad6878f9fadb9
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker exec -it 9302d28bf4d476a479cabf94fe5319f82d5ce83cf1ccb303e7bad68
78f9fadb9 mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
```

```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
| todos              |
+--------------------+
5 rows in set (0.00 sec)
```

```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker run -it --network todo-app nicolaka/netshoot
Unable to find image 'nicolaka/netshoot:latest' locally
latest: Pulling from nicolaka/netshoot
97518928ae5f: Already exists
09706d35e05d: Pull complete
4996ecc64030: Pull complete
9a11de879aaa: Pull complete
44f8e61e69d1: Pull complete
dcf41a6beeb6: Pull complete
d4d3a508f57b: Pull complete
ca86b0e825d1: Pull complete
7eeba344c2b1: Pull complete
c52dc2d61c4a: Pull complete
d04aa1a002c2: Pull complete
7070cabd1e04: Pull complete
Digest: sha256:d6942ec583d8e2818f5a5d7a71c303e861a70a11396ad9e9d25b355842e97589
Status: Downloaded newer image for nicolaka/netshoot:latest
                    dP            dP                           dP
                    88            88                           88
88d888b. .d8888b. d8888P .d8888b. 88d888b. .d8888b. .d8888b. d8888P
88'  `88 88ooood8   88   Y8ooooo. 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)
```

```
8a8ea26ba211 ~ dig mysql

 <<>> DiG 9.16.22 <<>> mysql
; global options: +cmd
; Got answer:
; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 32370
; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0

; QUESTION SECTION:
mysql.                          IN      A

; ANSWER SECTION:
ysql.                   600     IN      A       172.19.0.2

; Query time: 0 msec
; SERVER: 127.0.0.11#53(127.0.0.11)
; WHEN: Sat Jan 08 05:10:06 UTC 2022
; MSG SIZE  rcvd: 44
```

```
PS C:\Users\nipun\Documents\Devops\getting-started\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"
cb14720f403554f93296275428b2883e6422e666ed93aa47e64fd1b1daa6efcd
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker logs cb14720f403554f9329627542
yarn install v1.22.17
[1/4] Resolving packages...
warning Resolution field "ansi-regex@5.0.1" is incompatible with requested version "ansi-regex@^2.0.0"
warning Resolution field "ansi-regex@5.0.1" is incompatible with requested version "ansi-regex@^3.0.0"
success Already up-to-date.
Done in 0.55s.
yarn run v1.22.17
$ nodemon src/index.js
[nodemon] 2.0.13
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node src/index.js`
Waiting for mysql:3306.
Connected!
Connected to mysql db at host mysql
Listening on port 3000
PS C:\Users\nipun\Documents\Devops\getting-started\app>
```

```
  login       Log in to a Docker registry
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker exec -it 9302d28bf4d4 mysql -p todos
Enter password:
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 5
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> select * from todo_items;
Empty set (0.00 sec)

mysql> select * from todo_items;
+--------------------------------------+--------+-----------+
| id                                   | name   | completed |
+--------------------------------------+--------+-----------+
| 788113ef-c0e7-4acd-9e6d-46e9b9f00ada | apple  |         0 |
| 0937aacb-9029-4e9a-8778-3c75635058e8 | orange |         0 |
+--------------------------------------+--------+-----------+
2 rows in set (0.00 sec)
```

Docker-compose.yml file

docker-compose.yml - getting-started - Visual Studio Code

app > docker-compose.yml > {} volumes > todo-mysql-data

```yaml
version: "3.7"

services:
  app:
    image: node:12-alpine
    command: sh -c "yarn install && yarn run dev"
    ports:
      - 3000:3000
    working_dir: /app
    volumes:
      - ./:/app
    environment:
      MYSQL_HOST: mysql
      MYSQL_USER: root
      MYSQL_PASSWORD: secret
      MYSQL_DB: todos
  mysql:
    image: mysql:5.7
    volumes:
      - todo-mysql-data:/var/lib/mysql
    environment:
      MYSQL_ROOT_PASSWORD: secret
      MYSQL_DATABASE: todos

volumes:
  todo-mysql-data:
```

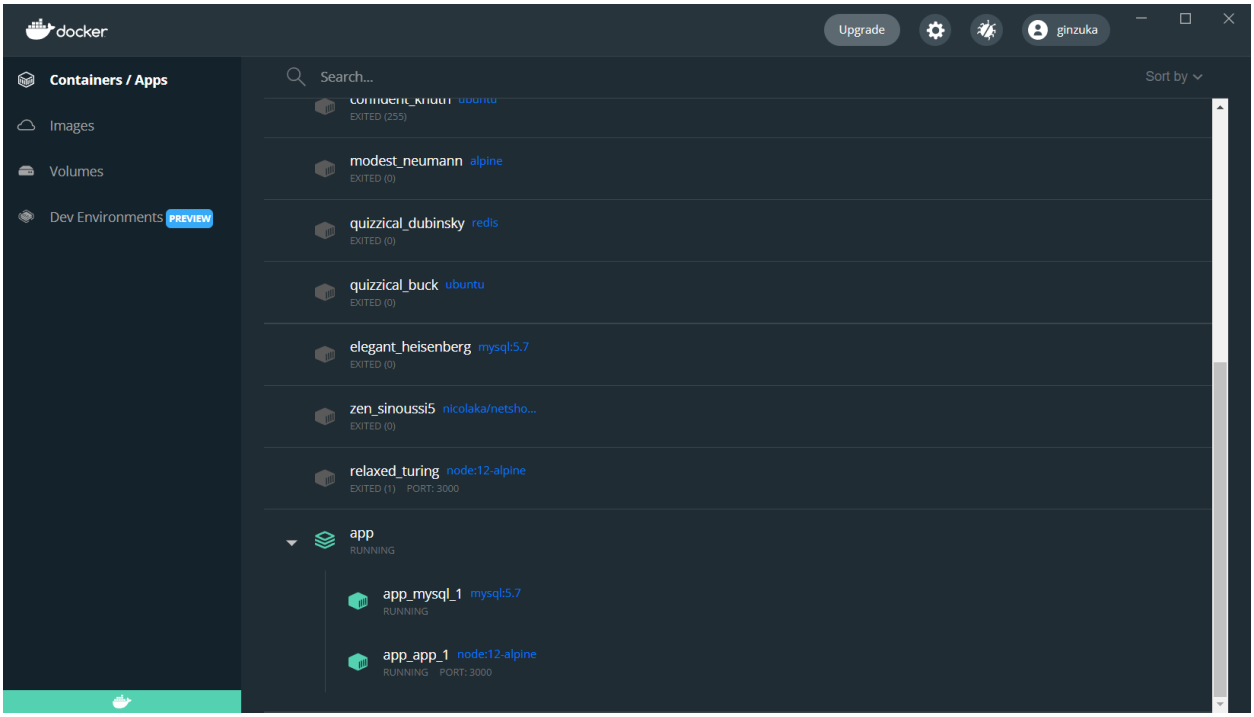
```
Docker Compose version v2.2.1
PS C:\Users\nipun\Documents\Devops\getting-started\app>
```

docker-compose.yml - getting-started - Visual Studio Code

app > docker-compose.yml > {} volumes > todo-mysql-data

```yaml
  mysql:
    image: mysql:5.7
    volumes:
      - todo-mysql-data:/var/lib/mysql
    environment:
      MYSQL_ROOT_PASSWORD: secret
      MYSQL_DATABASE: todos
```

```
Run 'docker compose COMMAND --help' for more information on a command.
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker compose version
Docker Compose version v2.2.1
PS C:\Users\nipun\Documents\Devops\getting-started\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"
9c1c2f49c300e45f87c726b3f6c3373961a0540ad9f3d875441e60802a0af562
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker rm -f 9c1c2f49c300e45f87c726
9c1c2f49c300e45f87c726
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker-compose up -d
[+] Running 4/4
 - Network app_default           Created                                    0.7s
 - Volume "app_todo-mysql-data"  Created                                    0.0s
 - Container app_app_1           Started                                    5.0s
 - Container app_mysql_1         Started                                    3.6s
PS C:\Users\nipun\Documents\Devops\getting-started\app>
```




```
PS C:\Users\nipun\Documents\Devops\getting-started\app> docker-compose down
[+] Running 3/3
 - Container app_app_1     Removed                                          1.4s
 - Container app_mysql_1   Removed                                          5.1s
 - Network app_default     Removed                                          0.7s
```