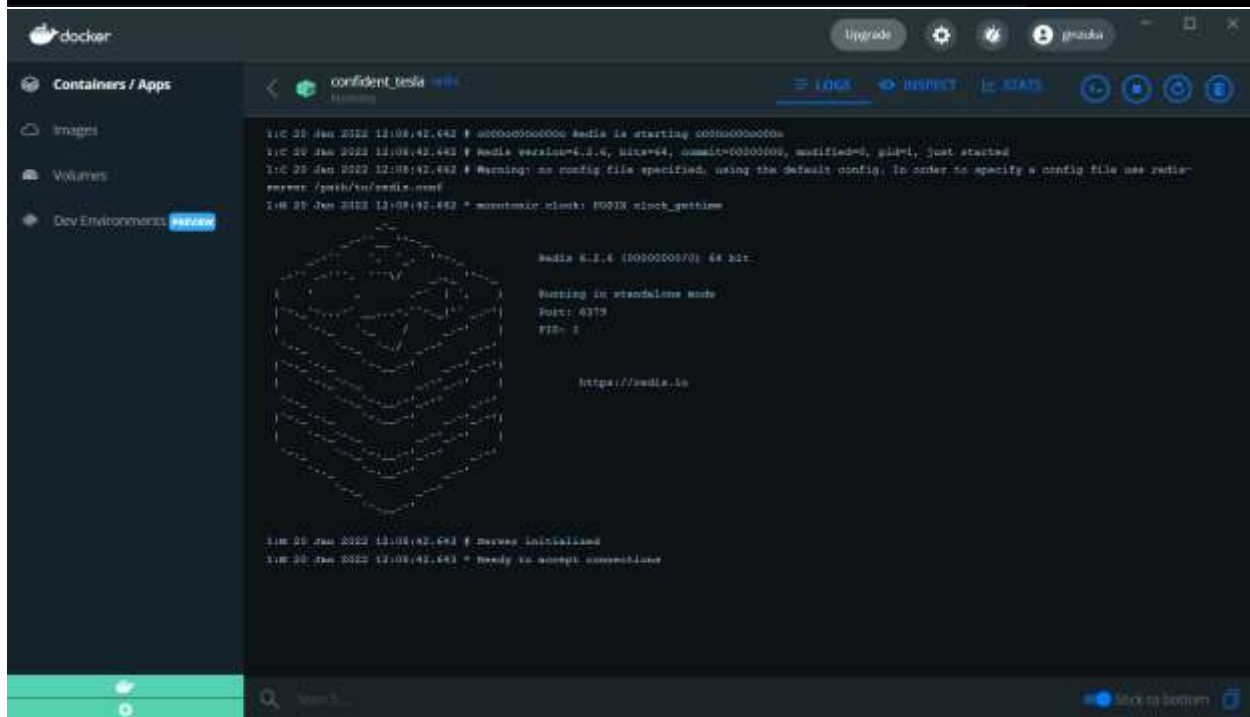


```
Microsoft Windows [Version 10.0.19042.1466]
(c) Microsoft Corporation. All rights reserved.
The system cannot find the path specified.

C:\Users\nipun>docker run -dt redis
Unable to find image 'redis:latest' locally
latest: Pulling from library/redis
a2abf6c4d29d: Pull complete
c7a4e4382001: Pull complete
4044b9ba67c9: Pull complete
c8388a79482f: Pull complete
413c8bb60ba2: Pull complete
1abfd3011519: Pull complete
Digest: sha256:db485f2e245b5b3329fdc7eff4eb00f913e09d8feb9ca720788059fdc2ed8339
Status: Downloaded newer image for redis:latest
6b6c976952bcbab678de17a1ebc6bbf708eb75b053b13f2aa24077e80ddc8fb6

C:\Users\nipun>
```

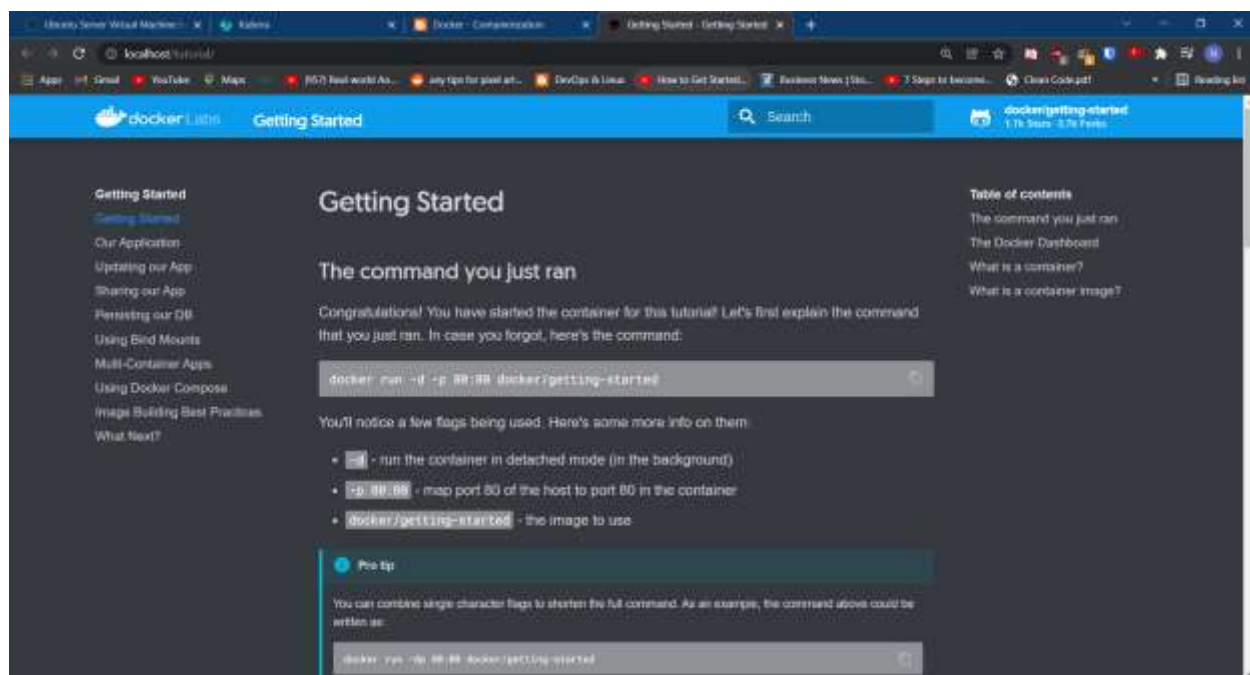


```
6b6c976952bcbab678de17a1ebc6bbf708eb75b053b13f2aa24077e80ddc8fb6

C:\Users\nipun>docker -v
Docker version 20.10.12, build e91ed57

C:\Users\nipun>docker run -dp 80:80 docker/getting-started
Unable to find image 'docker/getting-started:latest' locally
latest: Pulling from docker/getting-started
97518928ae5f: Pull complete
a4e156412037: Pull complete
e0bae2ade5ec: Pull complete
3f3577460f48: Pull complete
e362c27513c3: Pull complete
a2402c2da473: Pull complete
eb65930377cd: Pull complete
69465e074227: Pull complete
Digest: sha256:86093b75a06bf74e3d2125edb77689c8eecf8ed0cb3946573a24a6f71e88cf80
Status: Downloaded newer image for docker/getting-started:latest
d08d4a4a9e42abf5d3c73576c9546e2ef67d50c5ec46345de71ae0f98aacc5e1

C:\Users\nipun>
```



```

C:\Users\nipun>docker image ls
REPOSITORY                                TAG                                IMAGE ID                                CREATED                                SIZE
docker/desktop-kubernetes                 kubernet-es-v1.22.5-cni-v0.8.5-critools-v1.17.0-debian  88c30feb8fa7  2 weeks ago  294MB
redis                                     latest                             7614ae9453d1  4 weeks ago  113MB
k8s.gcr.io/kube-apiserver                  v1.22.5                             059e6cd8cf78  5 weeks ago  128MB
k8s.gcr.io/kube-scheduler                  v1.22.5                             935d8fdc2d52  5 weeks ago  52.7MB
k8s.gcr.io/kube-controller-manager         v1.22.5                             04185bc88e08  5 weeks ago  122MB
k8s.gcr.io/kube-proxy                      v1.22.5                             8f8fdd6672d4  5 weeks ago  104MB
docker/getting-started                     latest                             26d80cd96d69  6 weeks ago  28.5MB
k8s.gcr.io/etcd                            3.5.0-0                             004811815584  7 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  10 months ago  683kB

```

```

C:\Users\nipun>docker image history redis
IMAGE      CREATED      CREATED BY                                      SIZE      COMMENT
7614ae9453d1  4 weeks ago  /bin/sh -c #(nop) CMD ["redis-server"]        0B
<missing>    4 weeks ago  /bin/sh -c #(nop) EXPOSE 6379                  0B
<missing>    4 weeks ago  /bin/sh -c #(nop) ENTRYPOINT ["docker-entry_... 0B
<missing>    4 weeks ago  /bin/sh -c #(nop) COPY file:df205a0ef6e6df89... 374B
<missing>    4 weeks ago  /bin/sh -c #(nop) WORKDIR /data                 0B
<missing>    4 weeks ago  /bin/sh -c #(nop) VOLUME [/data]                0B
<missing>    4 weeks ago  /bin/sh -c mkdir /data && chown redis:redis _... 0B
<missing>    4 weeks ago  /bin/sh -c set -eux; savedAptMark="$(apt-m... 27.8MB
<missing>    4 weeks ago  /bin/sh -c #(nop) ENV REDIS_DOWNLOAD_SHA=5b... 0B
<missing>    4 weeks ago  /bin/sh -c #(nop) ENV REDIS_DOWNLOAD_URL=ht... 0B
<missing>    4 weeks ago  /bin/sh -c #(nop) ENV REDIS_VERSION=6.2.6       0B
<missing>    4 weeks ago  /bin/sh -c set -eux; savedAptMark="$(apt-ma... 4.24MB
<missing>    4 weeks ago  /bin/sh -c #(nop) ENV GOSU_VERSION=1.12         0B
<missing>    4 weeks ago  /bin/sh -c groupadd -r -g 999 redis && usera... 329kB
<missing>    4 weeks ago  /bin/sh -c #(nop) CMD ["bash"]                 0B
<missing>    4 weeks ago  /bin/sh -c #(nop) ADD file:09675d11695f65c55... 80.4MB

```

```

nipun@LAPTOP-IHNTD447: ~$ docker container run alpine hostname
Unable to find image 'alpine:latest' locally
latest: Pulling from library/alpine
59bf1c3509f3: Pull complete
Digest: sha256:21a3deaa0d32a8057914f36584b5288d2e5ecc984380bc0118285c70fa8c9300
Status: Downloaded newer image for alpine:latest
cc506b790fd6
nipun@LAPTOP-IHNTD447:~$ docker container ls --all
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS   NAMES
cc506b790fd6   alpine        "hostname"               27 seconds ago Exited (0) 27 seconds ago
d88d4a4a9e42   docker/getting-started "/docker-entrypoint.s..." 15 minutes ago Up 15 minutes   6379/tcp   reverent_almeida
6b6c976952bc   redis        "docker-entrypoint.s..." 18 minutes ago Up 18 minutes   confident_tesla
nipun@LAPTOP-IHNTD447:~$ docker container run --interactive --tty --rm ubuntu bash
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
ea362f368469: Pull complete
Digest: sha256:b5a61709a9a44284d88fb12e5c48db0409cfad5b69d4ff8224077c57302df9cf
Status: Downloaded newer image for ubuntu:latest
root@0bccec66d1ac:/# ls /
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  var
root@0bccec66d1ac:/# cat /etc/issue
Ubuntu 20.04.3 LTS \n \l
root@0bccec66d1ac:/# exit
exit
nipun@LAPTOP-IHNTD447:~$ cat /etc/issue

```

```

nipun@LAPTOP-IHNTD447: ~$ docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS   NAMES
6b6c976952bc   redis        "docker-entrypoint.s..." 23 minutes ago Up 23 minutes   6379/tcp   confident_tesla
nipun@LAPTOP-IHNTD447:~$ docker container run \
> --detach \
> --publish 80:80 \
> --name linux_tweet_app \
> $DOCKERID/linux_tweet_app:1.0
docker: Error response from daemon: Conflict. The container name "/linux_tweet_app" is already in use by container "5a66d51f2cb446147416207799c150f8e6397eea08cfe580d622730fab90c2c2". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
nipun@LAPTOP-IHNTD447:~$ docker rm 5a66d51f2cb4461
5a66d51f2cb4461
nipun@LAPTOP-IHNTD447:~$ docker container run \
> --detach \
> --publish 80:80 \
> --name linux_tweet_app \
> $DOCKERID/linux_tweet_app:1.0
afa37ad8ff5bfa75fde65fbf3ada4b231faa9dc14d88a2c6e6dd19f26a03facb
nipun@LAPTOP-IHNTD447:~$

```

```
nipun@LAPTOP-IHNTD447:~$ docker pull busybox
Using default tag: latest
latest: Pulling from library/busybox
Digest: sha256:5acba83a746c7608ed544dc1533b87c737a0b0fb730301639a0179f9344b1678
Status: Image is up to date for busybox:latest
docker.io/library/busybox:latest
nipun@LAPTOP-IHNTD447:~$ docker run busy box
Unable to find image 'busy:latest' locally
docker: Error response from daemon: pull access denied for busy, repository does not exist or may require 'docker login': denied: request access to the resource is denied.
See 'docker run --help'.
nipun@LAPTOP-IHNTD447:~$ docker run busybox
nipun@LAPTOP-IHNTD447:~$ docker run busybox echo "hello from busy"
hello from busy
nipun@LAPTOP-IHNTD447:~$ docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
nipun@LAPTOP-IHNTD447:~$ docker ps 0a
"docker ps" accepts no arguments.
See 'docker ps --help'.

Usage:  docker ps [OPTIONS]

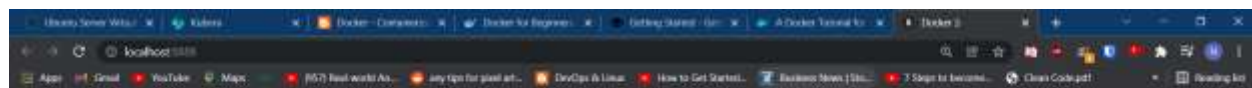
List containers
nipun@LAPTOP-IHNTD447:~$ docker ps -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
2061ec3c3f00   busybox   "echo 'hello from bu..." 11 seconds ago   Exited (0) 10 seconds ago   unruffled_swans
on
54a87457c2db   busybox   "sh"      26 seconds ago   Exited (0) 24 seconds ago   great_gould
cc506b790f66   alpine    "hostname" 24 minutes ago   Exited (0) 24 minutes ago   inspiring_teres
hkova
d08d4a4a9e42   docker/getting-started "/docker-entrypoint..." 39 minutes ago   Exited (0) 18 minutes ago   reverent_almeid
a
6b6c976952bc   redis     "docker-entrypoint.s..." 42 minutes ago   Exited (0) 12 minutes ago   confident_tesla
```

```
nipun@LAPTOP-IHNTD447:~$ docker run -it busybox sh
/ # ll
sh: ll: not found
/ # uptime
 13:02:52 up 3:17, 0 users, load average: 0.00, 0.03, 0.05
/ # exit
nipun@LAPTOP-IHNTD447:~$ docker container prune
WARNING! This will remove all stopped containers.
Are you sure you want to continue? [y/N] y
Deleted Containers:
40f918603799659748de7ab17c9b5c5afe80a66120022e78b0da93bf91450b5a
2061ec3c3f004013be4f1ac86792e4a1e29af6c396445787a63ad92d591b1af5
54a87457c2dbfde54f32844fae2e8e385bcd5205cfae3d2c91dffc02f1061059
60801e56eb9ccf23cd6cd832bf55e723789163d8aad3a5e2d1c8e7e32b196471
cc506b790f663882edf9b4aacc3c57e8807881f1aab9d3751b436053a1b068870
d08d4a4a9e42abf5d3c73576c9546e2ef67d50c5ec46345de71ae0f98aacc5e1
6b6c976952bcab678de17a1ebc6bbf708eb75b053b13f2ea24077e80ddc8fb6
dc9784128eeffaee9d6ddc606cc0580bb8370a6b4bd5181ebf94457a88d5349d
c90ca123ecb32e6e167335fc07a10dc507425226e294caa922c997996830c914

Total reclaimed space: 1.109kB
nipun@LAPTOP-IHNTD447:~$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
d4bce7fd68df: Pull complete
a3ed95cae002: Pull complete
573113c4751a: Pull complete
91917632be33: Pull complete
77e66f18af1c: Pull complete
df3f108f3ade: Pull complete
d7a279eb19f5: Pull complete
e798589c05c5: Pull complete
78eeaf458ae0: Pull complete
Digest: sha256:bb6907c8db9ac4c6cadb25162a979e286575cd8b27727c08c7fba30988534db
```



```
nipun@LAPTOP-IHNTD447: ~$ docker run --rm prakhar1989/static-site
Nginx is running...
nipun@LAPTOP-IHNTD447: ~$ docker run -p 8888:80 prakhar1989/static-site
Nginx is running...
172.17.0.1 - - [20/Jan/2022:13:07:09 +0000] "GET / HTTP/1.1" 200 2041 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/97.0.4692.99 Safari/537.36" "-"
172.17.0.1 - - [20/Jan/2022:13:07:09 +0000] "GET /css/normalize.css HTTP/1.1" 200 7797 "http://localhost:8888/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/97.0.4692.99 Safari/537.36" "-"
172.17.0.1 - - [20/Jan/2022:13:07:09 +0000] "GET /css/skeleton.css HTTP/1.1" 200 11452 "http://localhost:8888/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/97.0.4692.99 Safari/537.36" "-"
172.17.0.1 - - [20/Jan/2022:13:07:09 +0000] "GET /images/favicon.png HTTP/1.1" 200 1156 "http://localhost:8888/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/97.0.4692.99 Safari/537.36" "-"
nipun@LAPTOP-IHNTD447: ~$ docker stop static-site
Error response from daemon: No such container: static-site
nipun@LAPTOP-IHNTD447: ~$ docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
nipun@LAPTOP-IHNTD447: ~$ docker container ls -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
9d8888acae33   prakhar1989/static-site   "./wrapper.sh"          55 seconds ago   Exited (0) 21 seconds ago          epic_pasteur
nipun@LAPTOP-IHNTD447: ~$ git clone https://github.com/prakhar1989/docker-curriculum.git
Cloning into 'docker-curriculum'...
remote: Enumerating objects: 1625, done.
remote: Counting objects: 100% (34/34), done.
remote: Compressing objects: 100% (21/21), done.
remote: Total 1625 (delta 19), reused 14 (delta 13), pack-reused 1591
Receiving objects: 100% (1625/1625), 8.90 MiB | 9.88 MiB/s, done.
Resolving deltas: 100% (912/912), done.
nipun@LAPTOP-IHNTD447: ~$ cd docker-curriculum/flask-app
nipun@LAPTOP-IHNTD447: ~/docker-curriculum/flask-app$
```



Hello Docker!

This is being served from a **docker** container running Nginx.

```
hipun@LAPTOP-1HNTD447: ~/code-ctf/11-06-11-20-20-20$ ls
Dockerfile  Dockerrun.aws.json  app.py  requirements.txt  .vscode
hipun@LAPTOP-1HNTD447: ~/code-ctf/11-06-11-20-20-20$ cat Dockerfile
FROM python:3

# set a directory for the app
[+] Building 48.4s (5/9)
[+] Building 48.9s (5/9)
[+] Building 61.9s (5/9)
[+] Building 64.2s (5/9)
[+] Building 64.9s (5/9)
[+] Building 114.7s (10/10) FINISHED
```

```
hipun@LAPTOP-1HNTD447: ~/code-ctf/11-06-11-20-20-20$ docker scan ginzuka/catnip
Testing ginzuka/catnip...

[+] Low severity vulnerability found in tiff/libtiff5
Description: Out-of-bounds Read
Info: https://snyk.io/vuln/SNYK-DEBIAN11-TIFF-514595
Introduced through: imagenagick@8:6.9.11.60+dfsg-1.3, imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3
From: imagenagick@8:6.9.11.60+dfsg-1.3 > imagenagick/imagenagick-6.q16@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-6@8:6.9.11.60+dfsg-1.3 > tiff/libtiff5@4.2.0-1
From: imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-dev@8:6.9.11.60+dfsg-1.3 > tiff/libtiff-dev@4.2.0-1 > tiff/libtiff5@4.2.0-1
From: imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-dev@8:6.9.11.60+dfsg-1.3 > tiff/libtiff-dev@4.2.0-1 > tiff/libtiffxx5@4.2.0-1 > tiff/libtiff5@4.2.0-1
and 3 more...

[+] Low severity vulnerability found in tiff/libtiff5
Description: NULL Pointer Dereference
Info: https://snyk.io/vuln/SNYK-DEBIAN11-TIFF-516778
Introduced through: imagenagick@8:6.9.11.60+dfsg-1.3, imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3
From: imagenagick@8:6.9.11.60+dfsg-1.3 > imagenagick/imagenagick-6.q16@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-6@8:6.9.11.60+dfsg-1.3 > tiff/libtiff5@4.2.0-1
From: imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-dev@8:6.9.11.60+dfsg-1.3 > tiff/libtiff-dev@4.2.0-1 > tiff/libtiff5@4.2.0-1
From: imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-dev@8:6.9.11.60+dfsg-1.3 > tiff/libtiff-dev@4.2.0-1 > tiff/libtiffxx5@4.2.0-1 > tiff/libtiff5@4.2.0-1
and 3 more...

[+] Low severity vulnerability found in tiff/libtiff5
Description: Missing Release of Resource after Effective Lifetime
Info: https://snyk.io/vuln/SNYK-DEBIAN11-TIFF-518574
Introduced through: imagenagick@8:6.9.11.60+dfsg-1.3, imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3
From: imagenagick@8:6.9.11.60+dfsg-1.3 > imagenagick/imagenagick-6.q16@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-6@8:6.9.11.60+dfsg-1.3 > tiff/libtiff5@4.2.0-1
From: imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-dev@8:6.9.11.60+dfsg-1.3 > tiff/libtiff-dev@4.2.0-1 > tiff/libtiff5@4.2.0-1
From: imagenagick/libmagickcore-dev@8:6.9.11.60+dfsg-1.3 > imagenagick/libmagickcore-6.q16-dev@8:6.9.11.60+dfsg-1.3 > tiff/libtiff-dev@4.2.0-1 > tiff/libtiffxx5@4.2.0-1 > tiff/libtiff5@4.2.0-1
and 3 more...
```

```
nipun@LAPTOP-1HNTD447: ~/node-university/app
Platform:      linux/amd64
Base image:    python:3.10.2-bullseye

Tested 427 dependencies for known vulnerabilities, found 204 vulnerabilities.

Base Image      Vulnerabilities  Severity
python:3.10.2-bullseye  204             10 critical, 16 high, 32 medium, 146 low

Recommendations for base image upgrade:

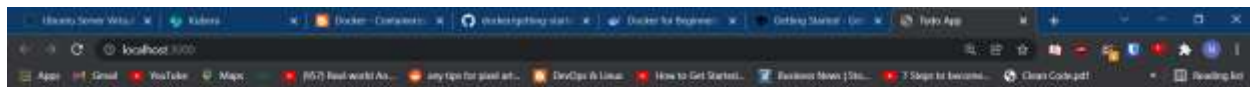
Alternative image types
Base Image      Vulnerabilities  Severity
python:3.11.0a3-slim-bullseye  52             4 critical, 7 high, 0 medium, 41 low
python:3.11-rc-slim           52             4 critical, 7 high, 0 medium, 41 low
python:3.11.0a2-slim          53             4 critical, 8 high, 0 medium, 41 low
python:3-slim-buster          85             5 critical, 17 high, 8 medium, 55 low

For more free scans that keep your images secure, sign up to Snyk at https://docker.ly/3ePqVcp

nipun@LAPTOP-1HNTD447: ~/node-university/app$ docker run -p 8888:5000 ginzuka/catnip
Traceback (most recent call last):
  File "/usr/src/app/.app.py", line 1, in <module>
    from flask import Flask, render_template
  File "/usr/local/lib/python3.10/site-packages/flask/__init__.py", line 21, in <module>
    from .app import Flask, Request, Response
  File "/usr/local/lib/python3.10/site-packages/flask/app.py", line 34, in <module>
    from .sessions import SecureCookieSessionInterface
  File "/usr/local/lib/python3.10/site-packages/flask/sessions.py", line 14, in <module>
    from collections import MutableMapping
ImportError: cannot import name 'MutableMapping' from 'collections' (/usr/local/lib/python3.10/collections/__init__.py)
nipun@LAPTOP-1HNTD447: ~/node-university/app$
```

```
nipun@LAPTOP-1HNTD447: ~/getting-started
nipun@LAPTOP-1HNTD447: $ git clone https://github.com/docker/getting-started.git
Cloning into 'getting-started'...
remote: Enumerating objects: 645, done.
remote: Counting objects: 100% (122/122), done.
remote: Compressing objects: 100% (115/115), done.
remote: Total 645 (delta 58), reused 36 (delta 7), pack-reused 523
Receiving objects: 100% (645/645), 3.78 MiB | 5.22 MiB/s, done.
Resolving deltas: 100% (327/327), done.
nipun@LAPTOP-1HNTD447: $ cd getting-started
nipun@LAPTOP-1HNTD447: ~/getting-started$ ls
Dockerfile  Jenkinsfile  LICENSE  README.md  app  build.sh  docker-compose.yml  mkdocs.yml  requirements.txt  yarn.lock
nipun@LAPTOP-1HNTD447: ~/getting-started$ cd app
nipun@LAPTOP-1HNTD447: ~/getting-started/app$ ls
package.json  yarn.lock
nipun@LAPTOP-1HNTD447: ~/getting-started/app$ nano
nipun@LAPTOP-1HNTD447: ~/getting-started/app$ nano Dockerfile
nipun@LAPTOP-1HNTD447: ~/getting-started/app$ docker build -t getting-started .
[+] Building 33.4s (11/11) FINISHED
#0 FROM python:3.10.2-bullseye
#0 WORKDIR /app
#0 COPY requirements.txt requirements.txt
#0 RUN pip install --no-cache-dir -r requirements.txt
#0 COPY . .
#0 EXPOSE 5000
#0 CMD ["python", "app.py"]
#1 FROM scratch
#1 WORKDIR /app
#1 COPY --from=0 /app /app
#1 EXPOSE 5000
#1 CMD ["python", "app.py"]
#2 FROM scratch
#2 WORKDIR /app
#2 COPY --from=1 /app /app
#2 EXPOSE 5000
#2 CMD ["python", "app.py"]
#3 FROM scratch
#3 WORKDIR /app
#3 COPY --from=2 /app /app
#3 EXPOSE 5000
#3 CMD ["python", "app.py"]
#4 FROM scratch
#4 WORKDIR /app
#4 COPY --from=3 /app /app
#4 EXPOSE 5000
#4 CMD ["python", "app.py"]
#5 FROM scratch
#5 WORKDIR /app
#5 COPY --from=4 /app /app
#5 EXPOSE 5000
#5 CMD ["python", "app.py"]
#6 FROM scratch
#6 WORKDIR /app
#6 COPY --from=5 /app /app
#6 EXPOSE 5000
#6 CMD ["python", "app.py"]
#7 FROM scratch
#7 WORKDIR /app
#7 COPY --from=6 /app /app
#7 EXPOSE 5000
#7 CMD ["python", "app.py"]
#8 FROM scratch
#8 WORKDIR /app
#8 COPY --from=7 /app /app
#8 EXPOSE 5000
#8 CMD ["python", "app.py"]
#9 FROM scratch
#9 WORKDIR /app
#9 COPY --from=8 /app /app
#9 EXPOSE 5000
#9 CMD ["python", "app.py"]
#10 FROM scratch
#10 WORKDIR /app
#10 COPY --from=9 /app /app
#10 EXPOSE 5000
#10 CMD ["python", "app.py"]
```





```
nipun@LAPTOP-1HNTD447:~/getting-started$ docker run -dp 3000:3000 getting-started
5aece1492b20de8c5beca97253b1a81fd24ecc0f76236e3877c2620965c324df
nipun@LAPTOP-1HNTD447:~/getting-started$ ls
Dockerfile package.json src and yarn.lock
nipun@LAPTOP-1HNTD447:~/getting-started$ cd src/static/js
nipun@LAPTOP-1HNTD447:~/getting-started/src/static/js$ ls
app.js babel.min.js react-bootstrap.js react-dom.production.min.js react.production.min.js
nipun@LAPTOP-1HNTD447:~/getting-started/src/static/js$ nano app.js
nipun@LAPTOP-1HNTD447:~/getting-started/src/static/js$ cd ../../
nipun@LAPTOP-1HNTD447:~/getting-started$ docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
5aece1492b20   getting-started "docker-entrypoint.s..." 2 minutes ago  Up 2 minutes  0.0.0.0:3000->3000/tcp    objective_cray
nipun@LAPTOP-1HNTD447:~/getting-started$ docker stop 5aece1492b20
5aece1492b20
nipun@LAPTOP-1HNTD447:~/getting-started$ docker rm 5aece1492b20
5aece1492b20
nipun@LAPTOP-1HNTD447:~/getting-started$ docker volumes
docker: 'volumes' is not a docker command.
See 'docker --help'
nipun@LAPTOP-1HNTD447:~/getting-started$ docker volume ls
DRIVER      VOLUME NAME
local      31e78932325392bab175f1726a0726bcd67f8c6ad5e74113cd0f542566a4ad6
local      b395dc7e0f8a7bf53beab5c57b2ddcfe33e204f018ee7596cc04a17dd664d299
nipun@LAPTOP-1HNTD447:~/getting-started$ cd ..
nipun@LAPTOP-1HNTD447:~/getting-started$ docker run -dp 3000:3000 -v todo-db:/etc/todos getting-started
47ffa89be07194d723fe2cf82d100e1d952daae84730a8783df6906077a2e9fa
nipun@LAPTOP-1HNTD447:~/getting-started$ docker rm -f 47ffa89be07194d
47ffa89be07194d
nipun@LAPTOP-1HNTD447:~/getting-started$ docker run -dp 3000:3000 -v todo-db:/etc/todos getting-started
9b09a4fee0ce17e21616aa8188c9822f332908282e58b7c8562dcc22c0a3ebdb8
nipun@LAPTOP-1HNTD447:~/getting-started$
```

```

nlpun@LAPTOP-1HNTD447: ~/project/todo-app$ docker run -dp 3000:3000 \
> --w /app -v "${PWD}:/app" \
> node:12-alpine \
> sh -c "yarn install && yarn run dev"
Unable to find image 'node:12-alpine' locally
12-alpine: Pulling from library/node
59bf1c3509f3: Already exists
56a1bcfc516: Already exists
55284a5c72ce: Already exists
a9867c49b9eb: Already exists
Digest: sha256:c3e7817c8fd124f1597cd66124d247d08e138e8ef311ba085b7104d900129d0b
Status: Downloaded newer image for node:12-alpine
f5c46d756a201a65b68553e4986550859ce16c8af939e1eb71efaeb8612434e3
nlpun@LAPTOP-1HNTD447: ~/project/todo-app$ docker logs -f f5c46d756a201a65b6
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"
warning sqlite3 > node-gyp > tar@2.2.2: This version of tar is no longer supported, and will not receive security updates. Please upgrade asap.
warning sqlite3 > node-gyp > request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
warning sqlite3 > node-gyp > request > har-validator@5.1.5: this library is no longer supported
warning sqlite3 > node-gyp > request > uuid@3.4.0: Please upgrade to version 7 or higher. Older versions may use Math.random() in certain circumstances, which is known to be problematic. See https://v8.dev/blog/math-random for details.
[2/4] Fetching packages...
[3/4] Linking dependencies...
[4/4] Building fresh packages...
success Saved lockfile.
Done in 17.77s.
yarn run v1.22.17
$ nodemon src/index.js
[nodemon] 2.0.13
[nodemon] to restart at any time, enter `rs`

```

```

nlpun@LAPTOP-1HNTD447: ~/project/todo-app$ docker network create todo-app
bcc485aebf4f70ff08a48b2c240c6ccc11f8a7a66b7d0cb113640cef99863
nlpun@LAPTOP-1HNTD447: ~/project/todo-app$ docker run -d \
> --network todo-app --network-alias mysql \
> -v > -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
e5c707858ec0: Pull complete
fc41578cbf60: Pull complete
4785d896ef10: Pull complete
7d250cdc93be: Pull complete
2efa6ef3579a: Pull complete
40dc4a5ca41a: Pull complete
cd6f90222f59: Pull complete
031e631e9021: Pull complete
Digest: sha256:66488693e01295d85954bb5d2e2f41f29ebceb57d3d8098ea0c9d201473f2d8b
Status: Downloaded newer image for mysql:5.7
67f321946461ea73b97f32e7f818c912b2fb62350d9b4adbbae3931da8e818ca
nlpun@LAPTOP-1HNTD447: ~/project/todo-app$ docker container ls

```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
67f321946461	mysql:5.7	"docker-entrypoint.s..."	9 seconds ago	Up 7 seconds	3306/tcp, 33060/tcp	nifty_lichterman
f5c46d756a20	node:12-alpine	"docker-entrypoint.s..."	5 minutes ago	Up 5 minutes	0.0.0.0:3000->3000/tcp	compassionate_proskuriakova

```

nlpun@LAPTOP-1HNTD447: ~/project/todo-app$ docker run -d \
> --network todo-app --network-alias mysql \
> -v todo-mysql-data:/var/lib/mysql \
> -e MYSQL_ROOT_PASSWORD=secret \

```

```
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker run -d \
--name todo-app --network alias mysql \
-v todo-mysql-data:/var/lib/mysql \
-e MYSQL_ROOT_PASSWORD=secret \
-e MYSQL_DATABASE=todos \
clear
Unable to find image 'clear:latest' locally
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
67f321946461   mysql:5.7      "docker-entrypoint.s..." 37 seconds ago Up 35 seconds 3306/tcp, 33060/tcp      nifty_lichterman
f5c46d756a20   node:12-alpine "docker-entrypoint.s..." 6 minutes ago  Up 6 minutes  0.0.0.0:3000->3000/tcp    compassionate_proskuriakova

nipun@LAPTOP-1HNTD447: ~/getting-started$ docker exec -it 67f321946461 mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.7.37 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 DATABASES;
+-----+
| Database |
+-----+
| information_schema |
+-----+
```

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

mysql> exit
Bye
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker run -it --network todo-app nicolaka/netshoot
Unable to find image 'nicolaka/netshoot:latest' locally
latest: Pulling from nicolaka/netshoot
97518928ae5f: Already exists
89786d35e95d: 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
d84aa1a002c2: Pull complete
7070cabd1e04: Pull complete
Digest: sha256:d6942ec583d8e2818f5a5d7a71c303e861a70a11396ad9e9d25b355842e97589
Status: Downloaded newer image for nicolaka/netshoot:latest
dP      dP      dP
88      88      88
88d888b. .d8888P .d8888b. 88d888b. .d8888b. .d8888b. d8888P
88'  '88 88oooo8 88  Y8oooo. 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   88888P' 88888P' dP
```

```
nipun@LAPTOP-1HNTD447: ~/app$ dig mysql
; <<> DiG 9.16.22 <<> mysql
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 33953
;; 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: 0 msec
;; SERVER: 127.0.0.11#53(127.0.0.11)
;; WHEN: Thu Jan 20 13:39:05 UTC 2022
;; MSG SIZE rcvd: 44

nipun@LAPTOP-1HNTD447: ~/app$ exit
nipun@LAPTOP-1HNTD447: ~/app$ docker run -dp 3000:3000 \
> -w /app -v "${PWD}:/app" \
> --network todo-app \
> -e Mx -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"
fc570cfe37578d833521b56206b06e0a92a38d2840153a7e9ae014ce248bb161
```

```
nipun@LAPTOP-1HNTD447: ~/app$ nodemon src/index.js
nodemon: command not found
nipun@LAPTOP-1HNTD447: ~/app$ docker exec -it <mysql-container-id> mysql -p todos
-bash: mysql-container-id: No such file or directory
nipun@LAPTOP-1HNTD447: ~/app$ docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
fc570cfe3757  node:12-alpine "docker-entrypoint.s..." About a minute ago Up About a minute 0.0.0.0:3000->3000/tcp youthful_gol
dberg
57f321946461  mysql:5.7      "docker-entrypoint.s..." 5 minutes ago  Up About a minute 3306/tcp, 33060/tcp               nifty_lichte
rman
nipun@LAPTOP-1HNTD447: ~/app$ docker exec -it 57f321946461 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 4
Server version: 5.7.37 MySQL Community Server (GPL)

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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>
```

```
mysql> select * from todo_items
-> ;
```

id	name	completed
b6908e40-f13b-46fa-aa49-bec0b5d078c4	funny	0
458abec5-41f9-4a87-84e3-131fb064cd19	things	0

2 rows in set (0.00 sec)

```
nipun@LAPTOP-1HNTD447: ~/getting-started$ ls
Dockerfile  todo_modules package.json  yarn.lock
nipun@LAPTOP-1HNTD447: ~/getting-started$ nano docker-compose.yml
nipun@LAPTOP-1HNTD447: ~/getting-started$ nano docker-compose.yml
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker-compose up -d
[+] Running 3/4
  3 Container app-app-1      Starting
Error response from daemon: driver failed programming external connectivity on endpoint app-app-1 (fb4d4d761ae09f11a2266841ade22a7b669d
f7720ecfedcc3749a471796ab417): Bind for 0.0.0.0:3000 failed: port is already allocated
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker containers
docker: 'containers' is not a docker command.
See 'docker --help'
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
195b3ea1f12c   mysql:5.7     "docker-entrypoint.s..." 14 seconds ago Up 12 seconds 3306/tcp, 33060/tcp               app-mysql-1
fc570cfe3757   node:12-alpine "docker-entrypoint.s..." 5 minutes ago  Up 4 minutes  0.0.0.0:3000->3000/tcp            youthful_goldberg
67f321946461   mysql:5.7     "docker-entrypoint.s..." 9 minutes ago  Up 4 minutes  3306/tcp, 33060/tcp              nifty_lichterman
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker prune container
docker: 'prune' is not a docker command.
See 'docker --help'
nipun@LAPTOP-1HNTD447: ~/getting-started$ docker container prune
WARNING! This will remove all stopped containers.
Are you sure you want to continue? [y/N] y
Deleted containers:
666a95b14de33cef5398a27da881219c229aaba95d261fdd0b854c7810df03cf
8d35b6850691d254cd2301af07ea787745fc4c6925ded3fadf4d89d7a0be0f74
d58860f9ff4364584388dc755eb14ae704ccc260b5e1ac51251610a01729e238
f5c46d756a201a65b68553e4986550859ce16c8af939e1eb71efae8612434e3
9b09a4fee0ce17e21616aa8188c9822f332908202e58b7c8562dcc22c0a3ehd8
8bbffbd6d5956c5b82bbb191ec124aeda1a0b8c2a1d2c92a583bdf06de24a059
```



```

nipun@LAPTOP-1HNTD447: ~/getting-started-app$ cat docker-compose.yml
cat: docker-compose.yml: No such file or directory
nipun@LAPTOP-1HNTD447: ~/getting-started-app$ ls
Dockerfile  docker-compose.yml  node_modules  package.json  yarn.lock
nipun@LAPTOP-1HNTD447: ~/getting-started-app$ cat docker-compose.yml
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:
nipun@LAPTOP-1HNTD447: ~/getting-started-app$

```

