```
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  Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
 PS C:\Users\bgure> docker images
                                                                                                                                    IMAGE ID
bf3dc08bfed0
05455a08881e
5b117edd0b76
                                                                                                                                                                                       CREATED
                                                                                                                                                                                   2 weeks ago
3 months ago
7 years ago
8 years ago
                                                                                                  latest
latest
   ubuntu
 dockersamples/static-site latest f5
PS C:\Users\bgure> docker run alpine ls
total 56
                                                                                                                                    f589ccde7957
                                                                                                                                     4096 Jan 26 17:53 bin

340 May 19 13:29 dev

4096 May 19 13:29 etc

4096 Jan 26 17:53 home

4096 Jan 26 17:53 home

4096 Jan 26 17:53 meti

4096 Jan 26 17:53 meti

4096 Jan 26 17:53 proc

4096 Jan 26 17:53 rot

4096 Jan 26 17:53 rot

4096 Jan 26 17:53 sbin

4096 Jan 26 17:53 stin

4096 Jan 26 17:53 usr

4096 Jan 26 17:53 usr
                                                2 root
5 root
1 root
2 root
7 root
5 root
   drwxr-xr-x
drwxr-xr-x
   drwxr-xr-x
   drwxr-xr-x
                                                                                        root
   drwxr-xr-x
drwxr-xr-x
  | drwxr-xr-x | 5 root | drwxr-xr-x | 2 root | 2 ro
                                                                                        root
                                                                                        root
root
root
                                                                                        root
root
root
    drwxr-xr-x 7 rose
drwxr-xr-x 12 root
                                                                                                                                       4096 Jan 26 17:53 var
                                                                                        root
 drwxr-xr-x 12 root root 4096 Jan 26 17:53 ve
PS C:\Users\bgure> docker run alpine echo "hello from alpin
hello from alpine
PS C:\Users\bgure> docker run alpine /bin/sh
PS C:\Users\bgure> docker ps
CONTAINER ID IMAGE COMMAND
                                                                                                                                                                                                                                    CREATED
 NAMES

12be502174a6 dockersamples/static-site "/bin/sh -c 'cd /usr.." 26 minutes ago Up 26 minutes 0.0.0.0:32769->80/tcp, 0.0.0.0:32768->443/tcp static-site
PS C:\Users\bgure> docker stop 12be502174a6
12be502174a6
12be59217446
PS C:\Users\bgure> docker rm 12be59217446
12be59217446
PS C:\Users\bgure> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
PS C:\Users\bgure> docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
PS C:\Users\bgure> docker ps -a
CONTAINER ID IMAGE COMMAND CREATED CREATED
66a379415777 alpine "/bin/sh" About a labine "echo 'hello from al..." About a la695da76cd5d alpine "ls -l" 2 minute
                                                                                                                                                                                                                              NAMES
                                                                                                                                                                                                                                                                         STATUS
Exited (0) About a minute ago
Exited (0) About a minute ago
Exited (0) 2 minutes ago
                                                                                                                                                                                                                                                                                                                                                                                                                          NAMES
                                                                                                          "/bin/sh" About a minute ago
"echo 'hello from al..." About a minute ago
"ls -l" 2 minutes ago
                                                                                                                                                                                                                                                                                                                                                                                                                          eager_shannon
                                                                                                                                                                                                                                                                                                                                                                                                                          epic_dubinsky
tender_chaplygin
  Copyright (C) Microsoft Corporation. All rights reserved.
  Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
 PS C:\Users\bgure> docker images
                                                                                                                                   IMAGE ID CREATED
bf3dc08bfed0 2 weeks ago
05455a08881e 3 months ago
5b117edd0b76 7 years ago
f589ccde7957 8 years ago
                                                                                                  TAG
Latest
latest
  REPOSITORY
  alpine
  ubuntu 12.04 5511
dockersamples/static-site latest f589
PS C:\Users\bgure> docker run alpine ls -l
  total 56
                                                                                                                                     4096 Jan 26 17:53 bin
340 May 19 13:29 dev
4096 May 19 13:29 etc
4096 Jan 26 17:53 home
4096 Jan 26 17:53 Lib
4096 Jan 26 17:53 mett
4096 Jan 26 17:53 met
4096 Jan 26 17:53 opt
6 May 19 13:29 proc
4096 Jan 26 17:53 root
4096 Jan 26 17:53 root
4096 Jan 26 17:53 sbin
4096 Jan 26 17:53 stin
4096 Jan 26 17:53 stin
4096 Jan 26 17:53 stin
4096 Jan 26 17:53 sty
6 May 19 13:29 sys
4096 Jan 26 17:53 tmp
                                               2 root
5 root
1 root
2 root
7 root
  drwxr-xr-x
drwxr-xr-x
drwxr-xr-x
drwxr-xr-x
                                                                                       root
root
root
   drwxr-xr-x 5 root
drwxr-xr-x 2 root
drwxr-xr-x 2 root
                                                                                         root
   dr-xr-xr-x 302 root
root
                                                                                                                                                                                                                                   CREATED
                                                                                                                                                                                                                                                                                                  STATUS
                                                                                                                                                                                                                                                                                                                                                         PORTS
  12be592174a6 dockersamples/static-site "/bin/sh -c 'cd /usr..." 26 minutes ago Up 26 minutes 0.0.0.0:32769->80/tcp, 0.0.0.0:32768->443/tcp static-site PS C:\Users\bgure> docker stop 12be592174a6
  12be502174a6
PS C:\Users\bgure> docker rm 12be502174a6
12be502174a6
 12be592174ab
PS C:\Users\bgure> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
PS C:\Users\bgure> docker ps
CONTAINER ID IMAGE COMMAND CREA
PS C:\Users\bgure> docker ps =a
CONTAINER ID IMAGE COMMAND
66aa7941f2f7 alpine "/bin/sh
6cb4fbe4956b alpine "echo'h
a605da76cd5d alpine "ls -l"
                                                                                                                                                                                                                                NAMES
                                                                                                                                                                                                                                                                         STATUS
Exited (0) About a minute ago
Exited (0) About a minute ago
Exited (0) 2 minutes ago
                                                                                                                                                                                                CREATED
                                                                                                                                                                                                                                                                                                                                                                                       PORTS
                                                                                                                                                                                                                                                                                                                                                                                                                        NAMES
                                                                                                                                                                                                                                                                                                                                                                                                                          eager_shannon
epic_dubinsky
tender_chaplygin
                                                                                                            "/bin/sh" About a minute ago
"echo 'hello from al..." About a minute ago
"ls -l" About a minute ago
2 minutes ago
```

PS C:\Users\bgure> docker port static-site 80/tcp -> 0.0.0.0:32769 443/tcp -> 0.0.0.0:32768 PS C:\Users\bgure> docker run --name static-site -e AUTHOR="Bahar Gurel" -d -P dockersamples/static-site 12be502174a61b0ab1628cfa5fc6a7f96b6b049c22a7d2885a3f056482ef8c20

PS C:\Users\bgure> docker run ---name static-site -e AUTHOR="Bahar Gurel" -d -P dockersamples/static-site 12be502174a61b0ab1628cfa5fc6a7f96b6b049c22a7d2885a3f056482ef8c20

PS C:\Users\bgure> docker stop 8a15e0acc687

8a15e0acc687

PS C:\Users\bgure> docker rm 8a15e0acc687 8a15e0acc687

PS C:\Users\bgure> <mark>docker</mark> stop 8a15e0acc687 8a15e0acc687

PS C:\Users\bgure> <mark>docker</mark> rm 8a15e0acc687 8a15e0acc687

PS C:\Users\bgure> docker ps						
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAM
ES						
8a15e0acc687	dockersamples/static-site	"/bin/sh -c 'cd /usr"	5 minutes ago	Up 5 minutes	80/tcp, 443/tcp	ten
der_mirzakhani						
PS C:\Users\bgure> docker ps						
PS C:\Users\bg	ure> docker ps					
	ure> docker ps IMAGE	COMMAND	CREATED	STATUS	PORTS	NAM
		COMMAND	CREATED	STATUS	PORTS	NAM
CONTAINER ID				STATUS Up 5 minutes	PORTS 80/tcp, 443/tcp	NAM ten

PS C:\Users\bgure> docker run -d dockersamples/static-site 8a15e0acc68737348d94e45bc84b45f0b82fd68f3058d4fbea72c129eea0a26d

C:\Users\bgure>docker port static-site 80/tcp -> 0.0.0.0:32769 443/tcp -> 0.0.0.0:32768

C:\Users\bgure>docker run --name static-site -e AUTHOR=" wizardly_carson" -d -P dockersamples/static-site f55eeace7891f051ef7aa860698b0c0d701f5b2f2f51e9e005a161db216a9d69

C:\Users\bgure>docker stop 372b7d8ac3b6 372b7d8ac3b6

C:\Users\bgure>docker rm 372b7d8ac3b6 372b7d8ac3b6

C:\Users\bgure>docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
NAMES
372b7d8ac3b6 dockersamples/static-site "/bin/sh -c 'cd /usr..." About a minute ago Up About a minute 80/tcp, 443
/tcp wizardly_carson

C:\Users\bgure>docker run -d dockersamples/static-site

Unable to find image 'dockersamples/static-site:latest' locally

latest: Pulling from dockersamples/static-site

fdd5d7827f33: Pull complete a3ed95caeb02: Pull complete 716f7a5f3082: Pull complete 7b10f03a0309: Pull complete aff3ab7e9c39: Pull complete

Digest: sha256:daa686c61d7d239b7977e72157997489db49f316b9b9af3909d9f10fd28b2dec

Status: Downloaded newer image for dockersamples/static-site:latest 372b7d8ac3b66abdf26512ce5510470745c7f3acdb72f17563440721cc059cd0

```
C:\Users\bgure>docker run -it alpine /bin/sh
C:\Users\bgure>docker ps -a
CONTAINER ID
             IMAGE
                      COMMAND
                                             CREATED
                                                                STATUS
                                                                                            PORTS
                                                                                                     NAMES
5951119a5b48
                       "/bin/sh"
                                             About a minute ago
                                                               Exited (0) About a minute ago
                                                                                                     pricele
             alpine
ss_rhodes
95320ac38178
             alpine
                      "echo 'hello from al..."
                                            About a minute ago
                                                               Exited (0) About a minute ago
                                                                                                     busy_ge
rmain
14a204ae9743
                      "ls -l"
             alpine
                                                               Exited (0) 3 minutes ago
                                                                                                     pricele
                                             3 minutes ago
ss_dijkstra
C:\Users\bgure>docker run alpine /bin/sh
C:\Users\bgure>docker ps
CONTAINER ID
                      IMAGE
                                     COMMAND
                                                    CREATED
                                                                   STATUS
                                                                                  PORTS
                                                                                                 NAMES
```

C:\Users\bgure> docker run alpine echo "hello from alpine"
hello from alpine

```
C:\Users\bgure>docker run alpine ls -l
total 56
                                         4096 Jan 26 17:53 bin
drwxr-xr-x
              2 root
                          root
                                          340 May 14 22:06 dev
              5 root
drwxr-xr-x
                          root
                                         4096 May 14 22:06 etc
drwxr-xr-x
              1 root
                          root
              2 root
                                         4096 Jan 26 17:53 home
drwxr-xr-x
                          root
drwxr-xr-x
              7 root
                                         4096 Jan 26 17:53 lib
                          root
              5 root
                                         4096 Jan 26 17:53 media
drwxr-xr-x
                          root
drwxr-xr-x
              2 root
                                         4096 Jan 26 17:53 mnt
                          root
drwxr-xr-x
              2 root
                          root
                                         4096 Jan 26 17:53 opt
dr-xr-xr-x
            299 root
                                            0 May 14 22:06 proc
                          root
drwx----
                                         4096 Jan 26 17:53 root
              2 root
                          root
              2 root
                                         4096 Jan 26 17:53 run
drwxr-xr-x
                          root
                                         4096 Jan 26 17:53 sbin
              2 root
drwxr-xr-x
                          root
                                         4096 Jan 26 17:53 srv
drwxr-xr-x
              2 root
                          root
                                            0 May 14 22:06 sys
dr-xr-xr-x
             11 root
                          root
              2 root
                                         4096 Jan 26 17:53 tmp
drwxrwxrwt
                          root
              7 root
                                         4096 Jan 26 17:53 usr
drwxr-xr-x
                          root
                                         4096 Jan 26 17:53 var
drwxr-xr-x
             12 root
                          root
```

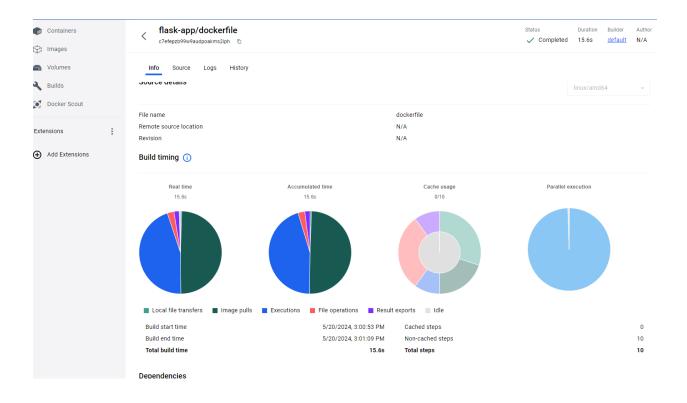
```
C:\Users\bgure> docker pull alpine
Using default tag: latest
latest: Pulling from library/alpine
4abcf2066143: Pull complete
Digest: sha256:c5b1261d6d3e43071626931fc004f70149baeba2c8ec672bd4f27761f8e1ad6b
Status: Downloaded newer image for alpine:latest
docker.io/library/alpine:latest
What's Next?
 View a summary of image vulnerabilities and recommendations → docker scout quickview alpine
C:\Users\bgure>docker images
REPOSITORY
            TAG
                        IMAGE ID
                                          CREATED
                                                          SIZE
alpine
              latest
                        05455a08881e
                                         3 months ago
                                                          7.38MB
C:\Users\bgure>
Download an image from a registry
PS C:\Users\bgure> docker pull alpine
Using default tag: latest
latest: Pulling from library/alpine
Digest: sha256:c5b1261d6d3e43071626931fc004f70149baeba2c8ec672bd4f27761f8e1ad6b
Status: Image is up to date for alpine:latest
docker.io/library/alpine:latest
What's Next?
 View a summary of image vulnerabilities and recommendations → docker scout quickview alpine
PS C:\Users\bgure> docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
Digest: sha256:3f85b7caad41a95462cf5b787d8a04604c8262cdcdf9a472b8c52ef83375fe15
Status: Image is up to date for ubuntu:latest
docker.io/library/ubuntu:latest
What's Next?
 View a summary of image vulnerabilities and recommendations → docker scout quickview ubuntu
PS C:\Users\bgure>
PS C:\Users\bgure> docker run --name static-site-2 -e AUTHOR="Bahar Gurel" -d -p 8888:80 dockersamples/static-site
c3f6604b25d6cb5c7a5c2fd1414ec036a439d0f6c483ca8af42c119382ca10a5
PS C:\Users\bgure> docker stop static-site
static-site
PS C:\Users\bgure> docker rm static-site
static-site
PS C:\Users\bgure> docker rm -f static-site-2
static-site-2
PS C:\Users\bgure> docker ps
CONTAINER ID IMAGE COMM
PS C:\Users\bgure>
                      COMMAND CREATED STATUS
                                                 PORTS
                                                           NAMES
```

```
PS C:\Users\bgure> docker run --name static-site-2 -e AUTHOR="Bahar Gurel" -d -p 8888:80 dockersamples/static-site c3f6604b25d6cb5c7a5c2fd141dec036a439d0f6c483ca8af42c119382ca10a5
PS C:\Users\bgure> docker stop static-site static-site
PS C:\Users\bgure> docker rm static-site
static-site
PS C:\Users\bgure> docker rm -f static-site-2 static-site-2
PS C:\Users\bgure> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
PS C:\Users\bgure>
localhost:32771
```



Hello Bahar Gurel!

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



```
C:\Users\bgure\myproject\flask-app> docker build -f dockerfile -t zuzay76/flask-app .
   Building 0.0s (0/0) docker:default
Building 15.8s (11/11) FINISHED
[internal] load build definition from dockerfile
   => transferring dockerfile: 489B
   [internal] load metadata for docker.io/library/python:3.9-slim
=> [auth] library/python:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load build context
=> => transferring context: 623B
=> [1/5] FROM docker.io/library/python:3.9-slim@sha256:088d9217202188598aac37f8db0929345e124a82134ac66b8bb50ee9750b045b
=> resolve docker.io/library/python:3.9-slim@sha256:088d9217202188598aac37f8db0929345e124a82134ac66b8bb50ee9750b045b
=> sha256:088d9217202188598aac37f8db0929345e124a82134ac66b8bb50ee9750b045b 1.86kB / 1.86kB
=> => sha256:b92e6f45558d9cafacc38563e946f8d249d850db862cbbd8befcf7f49eef8209 1.37kB / 1.37kB
=> => sha256:4602238ffbdcf66f436adfb46e31c9521ab4a9960b51b1a051004fa5a70f3f42 6.90kB / 6.90kB
=> => sha256:09f376ebb190216b0459f470e71bec7b5dfa611d66bf008492b40dcc5f1d8eae 29.15MB / 29.15MB
=> => sha256:276709cbedc1f168290ee408fca2af2aacfeb4f922ddca125e9e8047f9841479 3.51MB / 3.51MB
=> => sha256:4e7363ac3b6fb61a9310bbb00e385beaa54c712a9633c01de34cc7d8b0823dba 11.89MB / 11.89MB
=> sha256:1f1e6fb6a4a52a77049d55697db79164d7d0e5a78ae115c657699f4471398fc0 244B / 244B
=> => sha256:bf8f57a642c477da4e61c92dc0c0fd036a8d7e3d3951df39b88c3dd73bf3d5af 3.13MB / 3.13MB
=> extracting sha256:09f376ebb190216b0459f470e71bec7b5dfa611d66bf008492b40dcc5f1d8eae
=> extracting sha256:276709cbedc1f168290ee408fca2af2aacfeb4f922ddca125e9e8047f9841479
=> extracting sha256:4e7363ac3b6fb61a9310bbb00e385beaa54c712a9633c01de34cc7d8b0823dba
=> extracting sha256:1f1e6fb6a4a52a77049d55697db79164d7d0e5a78ae115c657699f4471398fc0
=> => extracting sha256:bf8f57a642c477da4e61c92dc0c0fd036a8d7e3d3951df39b88c3dd73bf3d5af
=> [2/5] WORKDIR /usr/src/app
=> [3/5] COPY requirements.txt ./
=> [4/5] RUN pip install --no-cache-dir --verbose -r requirements.txt
=> [5/5] COPY
=> exporting to image
=> => exporting layers
=> => writing image sha256:3a0c2bf28627746b20dbe4ff94a1341c221b0a1deb037a96af0ec166777130cd
 => => naming to docker.io/zuzay76/flask-app
/iew build details: docker-desktop://dashboard/build/default/default/c7efepzb99w9audpoakms2iph
What's Next?
View a summary of image vulnerabilities and recommendations \rightarrow docker scout quickview
```

```
View build details: docker-desktop://dashboard/build/default/default/uhzvrm2qkay24sc70shrbpkwk
What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\bgure\myproject\flask-app> docker images
REPOSITORY
                            TAG
                                      IMAGE ID
                                                     CREATED
                                                                          ST7F
zuzay76/flask-app
                                      c66e4c6c8d2c
                                                     About a minute ago
                            latest
                                                                          138MB
<none>
                            <none>
                                      3a0c2bf28627
                                                     12 minutes ago
                                                                          138MB
                                      bf3dc08bfed0
ubuntu
                            latest
                                                    3 weeks ago
                                                                          76.2MB
                                                                          7.38MB
alpine
                                      05455a08881e
                            latest
                                                     3 months ago
ubuntu
                            12.04
                                      5b117edd0b76
                                                     7 years ago
                                                                          104MB
dockersamples/static-site
                            latest
                                      f589ccde7957
                                                     8 years ago
                                                                          191MB
PS C:\Users\bgure\myproject\flask-app>
```

```
Confirm
The item at C:\Users\bgure\myproject has children and the Recurse parameter was not specified. If you continue, all children will be removed with the item. Are you sure you want to continue?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "Y"): y

PS C:\Users\bgure\ acked cker rm - fm yrirstapp

Fror response from daemon: No such container: myfirstapp

FS C:\Users\bgure\ acked cker rm - fm yripoject
myproject

PS C:\Users\bgure\ acked close https://github.com/docker/example-voting-app.git

Cloning into 'example-voting-app'...
remote: Enumerating objects: 1140, done.
remote: Total 1140 (delta 0), reused 0 (delta 0), pack-reused 1140

Receiving objects: 190% (1140/1140), 1.19 MiB | 4.62 MiB/s, done.
Resolving deltas: 190% (1140/1140), 1.19 MiB | 4.62 MiB/s, done.

PS C:\Users\bgure\cap dexample-voting-app b docker swarm init

Swarm initialized: current node (pyautrlmqlmyonn28d1ha8vwe) is now a manager.

To add a worker to this swarm, run the following command:

docker swarm join —token SWMTKN-1-0ap02egy@untsfte72rlcwl0g28hsg3j3yhbmijvrig2un91u8-32da3re7ynrs7jcvvlsl67dl0 192.168.65.3:2377

To add a manager to this swarm, run 'docker swarm join-token manager' and follow the instructions.

PS C:\Users\bgure\example-voting-app> docker stack deploy
"docker stack deploy" requires exactly 1 argument.

See 'docker stack deploy | Tequires exactly 1 argument.

See 'docker stack deploy | Tequires exactly 1 argument.

See 'docker stack deploy | [OPTIONS] STACK

Deploy a new stack or update an existing stack

PS C:\Users\bgure\example-voting-app>
```