

Error in repository to build image. Tried correcting it but then need to update app.py to support python 2 and it still not working.

The screenshot shows a macOS desktop environment with a code editor (VS Code) and a terminal window open. The code editor displays a Dockerfile and an app.py file. The terminal window shows the output of a docker build command, which failed due to a missing Python base image. The status bar at the bottom indicates the terminal is running on a MacBook Pro with a resolution of 1440x900.

**Dockerfile Content:**

```
FROM alpine:3.5
COPY app.py /usr/src/app/
CMD ["python", "/usr/src/app/app.py"]
```

**Terminal Output:**

```
wahajhaider@Wahajs-MacBook-Pro:~/Labs$ docker build -t myfirstapp .
[internal] load metadata for docker.io/library/alpine:3.5
[internal] load metadata for docker.io/library/alpine:3.5
ERROR: failed to solve: manifest for docker.io/library/alpine:3.5 not found
wahajhaider@Wahajs-MacBook-Pro:~/Labs$
```

**VS Code Explorer View:**

- Files: master
- LABS: Lab1 (contains templates, index.html, app.py, Dockerfile, requirements.txt)
- beginner: chapters (alpine.md, setup.md), votingapp.md, webapps.md (flask-app, images, static-site, readme.md)
- developer-tools: dockeron-us-2, networking, raspberrypi, registry, security, slides, swarm-mode, windows
- .gitignore, .gitmodules

**Terminal** Shell Edit View Window Help

ChatGPT | Drafts (9) - wahajhaidee007 | Lab1-BLDG.SCALABLE BLC | labs/beginner/chapters/webapps.md | Docker | Sat Jan 13 12:50 AM

github.com/docker/labs/blob/master/beginner/chapters/webapps.md

**Files**

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Go to file

github

12factor

Docker-Orchestration

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**labs / beginner / chapters / webapps.md**

Preview Code Blame 498 lines (358 loc) - 24.7 KB

Top Raw Download

Actually, you probably won't be able to answer any of these questions yet! In this case, the client didn't tell the Docker Engine to publish any of the ports, so you need to re-run the docker run command to add this instruction.

Let's re-run the command with some new flags to publish ports and pass your name to the container to customize the message displayed. We'll use the -d option again to run the container in detached mode.

First, stop the container that you have just launched. In order to do this, we need the container ID.

Since we ran the container in detached mode, we don't have to launch another terminal to do this. Run `docker ps` to view the running containers.

```
$ docker ps
CONTAINER ID        IMAGE               COMMAND
a7a0e504ca3e      dockersamples/static-site "/bin/sh -c 'cd /usr...'"
```

Check out the CONTAINER ID column. You will need to use this CONTAINER ID to stop the container you want to stop, and then to remove it. The example below provides the command to stop the container with ID a7a0e504ca3e.

```
$ docker stop a7a0e504ca3e
$ docker rm a7a0e504ca3e
```

Note: A cool feature is that you do not need to specify the entire CONTAINER ID. It is unique among all the containers that you have launched, the Docker client will automatically find it.

Now, let's launch a container in detached mode as shown below:

```
$ docker run --name static-site -e AUTHOR="Your Name" -d -P dockersamples/static-site
e61d12292d69556eabe2a44c16cbd54486b2527e2ce4f95438e504afb7b02810
```

In the above command:

- d will create a container with the process detached from our terminal
- P will publish all the exposed container ports to random ports on the Docker host
- e is how you pass environment variables to the container

wahajhaidee@Wahaj-MacBook-Pro ~ % docker ps

CONTAINER ID	IMAGE	COMMAND	CREATED
a7a0e504ca3e	dockersamples/static-site	"bin/sh -c 'cd /usr..."	9 minutes ago
4cd4c984d843	dockersamples/static-site	"bin/sh -c 'cd /usr..."	27 hours ago
266228173d7b	dockersamples/static-site	"bin/sh -c 'cd /usr..."	27 hours ago
bc1691561759	dockersamples/static-site	"bin/sh -c 'cd /usr..."	27 hours ago
k	dockersamples/static-site	"bin/sh -c 'cd /usr..."	27 hours ago
wahajhaidee@Wahaj-MacBook-Pro ~ % docker stop 4cd			
4cd			
wahajhaidee@Wahaj-MacBook-Pro ~ % docker ps			

wahajhaidee@Wahaj-MacBook-Pro ~ %

MacBook Pro

**Terminal** Shell Edit View Window Help

Lab 1 - BLDG.SCALABLE.BLC x labs/beginner/chapters/alpine.md +

github.com/docker/labs/blob/master/beginner/chapters/alpine.md

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Preview Code Blame 99 lines (78 loc) · 7.17 KB

\$ docker pull alpine

Note: Depending on how you've installed docker on your system, you command. Try the commands from the Getting Started tutorial to verify docker commands with sudo. Alternatively you can create a docker The pull command fetches the alpine image from the Docker registry command to see a list of all images on your system.

What's Next? View summary of image vulnerabilities and recommendations → docker scout qui

\$ docker images

REPOSITORY	TAG	IMAGE ID	CREATED	VIRTUAL SIZE
alpine	latest	c51f86c28340	4 weeks ago	1.109 MB
hello-world	latest	690ed74de0ff	5 months ago	960 B

## 1.1 Docker Run

Great! Let's now run a Docker container based on this image. To do that you are going to use the docker run command.

\$ docker run alpine ls -l

```
total 48
drwxr-xr-x  2 root  root    4096 Mar  2 16:20 bin
drwxr-xr-x  5 root  root    368 Mar 18 09:47 dev
drwxr-xr-x 13 root  root    4096 Mar 18 09:47 etc
drwxr-xr-x  2 root  root    4096 Mar  2 16:20 home
drwxr-xr-x  5 root  root    4096 Mar  2 16:20 lib
.....
.....
```

What happened? Behind the scenes, a lot of stuff happened. When you call run,

1. The Docker client contacts the Docker daemon
2. The Docker daemon checks local store if the image (alpine in this case) is available locally, and if not, downloads it from Docker Store. (Since we have issued docker pull alpine before, the download step is not necessary)
3. The Docker daemon creates the container and then runs a command in that container.
4. The Docker daemon streams the output of the command to the Docker client

**Terminal** Shell Edit View Window Help

Lab 1 - BLDG.SCALABLE.BLC x labs/beginner/chapters/alpine.md +

github.com/docker/labs/blob/master/beginner/chapters/alpine.md

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1. The Docker client contacts the Docker daemon

2. The Docker daemon checks local store if the image (alpine in this case) is available locally, and if not, downloads it from Docker Store. (Since we have issued docker pull alpine before, the download step is not necessary)

3. The Docker daemon creates the container and then runs a command in that container.

4. The Docker daemon streams the output of the command to the Docker client

When you run docker run alpine, you provided a command (ls -l). zsh: command not found: \$

```
wahajhaider@Wahajs-MacBook-Pro ~ % docker run alpine echo "hello from alpine"
hello from alpine
wahajhaider@Wahajs-MacBook-Pro ~ %
```

Let's try something more exciting.

\$ docker run alpine echo "hello from alpine"

hello from alpine

OK, that's some actual output. In this case, the Docker client dutifully ran the echo command in our alpine container and then exited it. If you've noticed, all of that happened pretty quickly. Imagine booting up a virtual machine, running a command and then killing it. Now you know why they say containers are fast!

Try another command.

\$ docker run alpine /bin/sh

Wait, nothing happened! Is that a bug? Well, no. These interactive shells will exit after running any scripted commands, unless they are run in an interactive terminal - so for this example to not exit, you need to docker run -it alpine /bin/sh.

You are now inside the container shell and you can try out a few commands like ls -l, uname -a and others. Exit out of the container by giving the exit command.

Ok, now it's time to see the docker ps command. The docker ps command shows you all containers that are currently running.

\$ docker ps

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS

Since no containers are running, you see a blank line. Let's try a more useful variant: docker ps -a

\$ docker ps -a

**Terminal** Shell Edit View Window Help

Thu Jan 11 9:02PM

github.com/docker/labs/blob/master/beginner/chapters/alpine.md

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When you run `docker run alpine`, you provided a command (`ls -l`)

Let's try something more exciting.

```
$ docker run alpine echo "hello from alpine"
hello from alpine
```

OK, that's some actual output. In this case, the Docker client dutifully runs your command inside the container. You've noticed, all of that happened pretty quickly. Imagine booting up a real computer and running `ls`!

Try another command.

```
$ docker run alpine /bin/sh
```

Wait, nothing happened! Is that a bug? Well, no. These interactive shells will exit after running any scripted commands, unless they are run in an interactive terminal – so for this example to not exit, you need to `docker run -it alpine /bin/sh`.

You are now inside the container shell and you can try out a few commands like `ls -l`, `uname -a` and others. Exit out of the container by giving the `exit` command.

Ok, now it's time to see the `docker ps` command. The `docker ps` command shows you all containers that are currently running.

\$ docker ps	CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS

Since no containers are running, you see a blank line. Let's try a more useful variant: `docker ps -a`

\$ docker ps -a	CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
	36171a5da744	alpine	""/bin/sh"	5 minutes ago	Exited (0) 2 minutes ago	
	a69a46d0b2f	alpine	"echo 'Hello from alp'"	6 minutes ago	Exited (0) 5 minutes ago	
	ff08a5c375b9	alpine	"ls -l"	8 minutes ago	Exited (0) 8 minutes ago	
	c317d0a9e3d2	hello-world	"/hello"	34 seconds ago	Exited (0) 12 minutes ago	

Apple Mac OS X Dock

Thu Jan 11 9:05PM

github.com/docker/labs/blob/master/beginner/chapters/alpine.md

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Preview Code Blame 99 lines (78 loc) · 7.17 KB

`* docker ps`

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS

Since no containers are running, you see a blank line. Let's try a more useful variant: `docker ps -a`

\$ docker ps -a	CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
	56a79510934	alpine	"//bin/sh"	3 minutes ago	Exited (1)	
	38130498000	alpine	"command_beaver"	3 minutes ago	Exited (0)	
	c3feef643fd	alpine	"//bin/sh"	4 minutes ago	Exited (0)	
	497fa5f2d2645	alpine	"magical_kilby"	5 minutes ago	Exited (0)	
	497fa5f2d2645	alpine	"//bin/sh"	5 minutes ago	Exited (0)	
	56a79510934	alpine	"determined_colden"	5 minutes ago	Exited (0)	
	b5c98939e869	alpine	"echo 'Hello from alp'"	9 minutes ago	Exited (0)	
	31290498000	alpine	"ls"	11 minutes ago	Exited (0)	
	ff08a5c375b9	alpine	"prideless_newton"	11 minutes ago	Exited (0)	
	c317d0a9e3d2	hello-world	"/hello"	21 minutes ago	Exited (0)	
	wahajhaiderWahaj-MacBook-Pro-11	wahajhaiderWahaj-MacBook-Pro-11	"wahajhaiderWahaj-MacBook-Pro-11"	30 seconds ago	Exited (0) 12 minutes ago	

What you see above is a list of all containers that you ran. Notice that the `STATUS` column shows that these containers exited a few minutes ago. You're probably wondering if there is a way to run more than just one command in a container. Let's try that now:

```
$ docker run -it alpine /bin/sh
/ # ls
bin dev etc home lib linuxrc media mnt proc root run sbin sys
/ # uname -a
Linux 97916e8c5dc 4.4.27-moby #1 SMP Wed Oct 26 14:01:48 UTC 2016 x86_64 Linux
```

Running the `run` command with the `-it` flags attaches us to an interactive tty in the container. Now you can run as many commands in the container as you want. Take some time to run your favorite commands.

That concludes a whirlwind tour of the `docker run` command which would most likely be the command you'll use most often. It makes sense to spend some time getting comfortable with it. To find out more about `run`, use `docker run --help` to see a list of all flags it supports. As you proceed further, we'll see a few more variants of `docker run`.

## 1.2 Terminology

In the last section, you saw a lot of Docker-specific jargon which might be confusing to some. So before you go further, let's clarify some terminology that is used frequently in the Docker ecosystem.

- Images** - The file system and configuration of our application which are used to create containers. To find out more about a Docker image, run `docker inspect alpine`. In the demo above, you used the `docker pull` command to download the `alpine` image. When you executed the command `docker run hello-world`, it also did a `docker pull` behind the scenes to download the `hello-world` image.

**Terminal** Shell Edit View Window Help

Thu Jan 19 9:10PM

github.com/docker/labs/blob/master/beginner/chapters/alpine.md

**Files**

master

alpine.md

Running the `run` command with the `-it` flags attaches us to an interactive `ty` in the container. Now you can run as many commands in the container as you want. Take some time to run your favorite commands.

What you see above is a list of all containers that you ran. Notice that I ago. You're probably wondering if there is a way to run more than just `ls`.  
`$ docker run -it alpine /bin/sh`  
`/ # exit`  
`wahajhaider@Wahaj's-MacBook-Pro ~ % docker ps`  
`CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES`  
`565178b59914 alpine "/bin/sh" 3 minutes ago Exited (1)`  
`380 3 minutes ago charming_beaver`  
`wahajhaider@Wahaj's-MacBook-Pro ~ % docker ps -a`  
`CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES`  
`565178b59914 alpine "/bin/sh" 3 minutes ago Exited (1)`  
`380 3 minutes ago charming_beaver`  
`9e81d5d9983e alpine "/bin/sh" 4 minutes ago Exited (0)`  
`5 minutes ago determined_colden`  
`8c5989394869 alpine "echo 'Hello from al..." 5 minutes ago Exited (0)`  
`19 5 minutes ago hello-world`  
`312d6c49c827 alpine "ls -l" 11 minutes ago Exited (0)`  
`11 minutes ago hello-world`  
`priceless_newton`  
`1.21 minutes ago static-site`  
`wahajhaider@Wahaj's-MacBook-Pro ~ % docker run -it alpine /bin/sh`  
`Linux 97916e8c5dc 4.4.27-moby #1 SMP Wed Oct 26 14:01:48 UTC 2017`  
`# uname -a`  
`wahajhaider@Wahaj's-MacBook-Pro ~ % docker run -it alpine /bin/sh`  
`Linux f32f9c2b017 6.5.11-linuxkit #1 SMP PREEMPT Wed Dec 6 17:08:31 UTC 2023`  
`arch64 Linux`  
`/ #`

That concludes a whirlwind tour of the `docker run` command which would most likely be the command you'll use most often. It makes sense to spend some time getting comfortable with it. To find out more about `run`, use `docker run --help` to see a list of all flags it supports. As you proceed further, we'll see a few more variants of `docker run`.

## 1.2 Terminology

In the last section, you saw a lot of Docker-specific jargon which might be confusing to some. So before you go further, let's clarify some terminology that is used frequently in the Docker ecosystem.

- **Images** - The file system and configuration of our application which are used to create containers. To find out more about a Docker image, run `docker inspect alpine`. In the demo above, you used the `docker pull` command to download the `alpine` image. When you executed the command `docker run hello-world`, it also did a `docker pull` behind the scenes to download the `hello-world` image.
- **Containers** - Running instances of Docker images — containers run the actual applications. A container includes an application and all of its dependencies. It shares the kernel with other containers, and runs as an isolated process in user space on the host OS. You created a container using `docker run` which you did using the `alpine` image that you downloaded. A list of running containers can be seen using the `docker ps` command.
- **Docker daemon** - The background service running on the host that manages building, running and distributing Docker containers.
- **Docker client** - The command line tool that allows the user to interact with the Docker daemon.
- **Docker Store** - A [registry](#) of Docker images, where you can find trusted and enterprise ready containers, plugins, and Docker editions. You'll be using this later in this tutorial.

**Next Steps**

Sat Jan 13 12:49AM

ChatGPT

github.com/docker/labs/blob/master/beginner/chapters/webapps.md

**Files**

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webapps.md

Actually, you probably won't be able to answer any of these questions yet! ☺ In this case, the client didn't tell the Docker Engine to publish any of the ports, so you need to re-run the `docker run` command to add this instruction.

Let's re-run the command with some new flags to publish ports and pass your name to the container to customize the message displayed. We'll use the `-d` option again to run the container in detached mode.

First, stop the container that you have just launched. In order to do this, we need the container ID.

Since we ran the container in detached mode, we don't have to launch another terminal to do this. Run `docker ps` to view the running containers.

`$ docker ps`

CONTAINER ID	IMAGE	COMMAND
a7a0e504ca3e	dockersamples/static-site	"/bin/sh -c 'cd /usr...'

Check out the `CONTAINER ID` column. You will need to use this `CONTAINER ID` to stop the container you want to stop, and then to remove it. The example below provides the `CONTAINER ID` for the container that you see in your terminal.

`$ docker stop a7a0e504ca3e`

Note: A cool feature is that you do not need to specify the entire `CONTAINER ID`. The Docker client's `CONTAINER ID` is unique among all the containers that you have launched, the Docker client will automatically detect the correct container to stop.

Now, let's launch a container in detached mode as shown below:

`$ docker run --name static-site -e AUTHOR="Your Name" -d dockersamples/static-site`

In the above command:

- `-d` will create a container with the process detached from our terminal
- `-P` will publish all the exposed container ports to random ports on the Docker host
- `-e` is how you pass environment variables to the container

A screenshot of a Mac desktop showing a terminal window and a file explorer. The terminal window displays errors related to a Dockerfile, specifically regarding the 'requirements.txt' file. The file explorer shows a 'LABS' folder containing files like 'Dockerfile', 'app.py', 'requirements.txt', and 'index.html'. The desktop background is a scenic mountain landscape.

```
Lab1 > ↵ Dockerfile
8 RUN pip install --upgrade pip
9
10 # install Python modules needed by the Python app
11 COPY requirements.txt /usr/src/app/
12 RUN pip install --no-cache-dir -r /usr/src/app/requirements.txt
13
14 # copy files required for the app to run
15 COPY app.py /usr/src/app/
16 COPY templates/index.html /usr/src/app/templates/
17
18 # tell the port number the container should expose
19 EXPOSE 5000
20
21 # run the application
22 CMD ["python", "/usr/src/app/app.py"]
```

```
wahajhaider@wahaj-MacBook-Pro Lab1 % docker build -t yourmanwahaj/myfirstapp .
docker:desktop-linux
[+] Building 0.6s (4/4) FINISHED
   => [internal] load build context
   => transferring context: 2B
   => [internal] load build definition from Dockerfile
   => [internal] transfer dockerfile: 0B
   => [internal] load metadata for docker.io/library/alpine:3.5
   => [auth] Library/alpine:pull token for registry-1.docker.io
[+] [internal] load metadata for docker.io/library/alpine:3.5:
[+] [internal] load metadata for docker.io/library/alpine:3.5:
Dockerfile:2
1 # our base image
2 >>> FROM alpine:3.5
3
4 # Install python and pip
5
6 ERROR: failed to solve: "Vulnerable dependency: python 2.7.17-1 is missing from the manifest of base image alpine:3.5. It is required by requirement python >= 2.7.17-1 in requirements.txt".
```

