SUPERCHARGE YOUR ML SKILLS USING DOCKER

Sho Fola Soboyejo, Kroger Co.

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@shoreason | linkedin.com/in/shofola

WHAT IS DOCKER

- Allows you ship code along with all its dependencies in a self-contained manner

- Dockerfile like a manifest allows you to describe these dependencies and steps to set it up

- Spin up many instances of this image as you want (container)

- Cloud ready

WHY USE IT

- So many many libraries, so many many versions
- Dependency Install nightmare (libraries co-exist can sometimes be a challenge) and be shielded from inadvertent upgrades
- Simplify and speed up focus on actual ML problem not supporting infrastructure

STEP 1

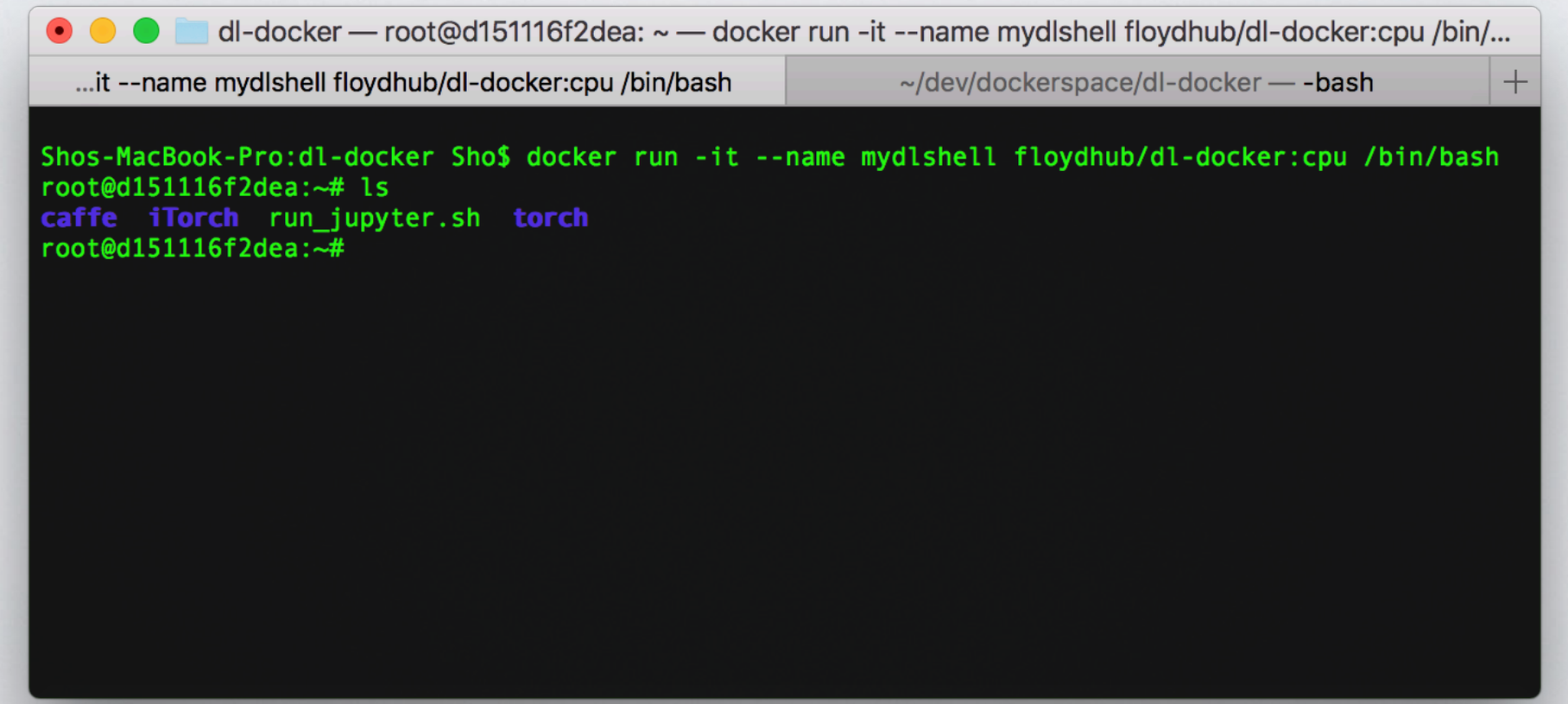
Download the image of choice from Docker Hub

```
$ docker pull floydhub/dl-docker:cpu
```

STEP 2

Start container with that image

$: docker run -it --name mydlshell floydhub/dl-docker:cpu /bin/bash



STEP 2B

Start Container

$: docker start -ia mydlshell

STEP 3

Interact with the container to perform various tasks

Copy files into Container

$: docker cp ~/dev/dockerspace/census_keras.py dl-docker/ mydlshell:/root/test/census_keras.py

STEP 3B

Or Share a Volume (my preferred method)

$: docker run -it -v ~/dev/dockerspace/dl-docker:/projects/dl-docker --name mydlspace floydhub/dl-docker:cpu

$:docker start mydlspace

$:docker exec -it mydlspace python /projects/dl-docker/census_keras.py

“HOW CAN IT BE THIS EASY ?”

CAVEATS

- You need docker installed and running
- Changes made in container are not persistent
- New instance of image (container) every time we use docker run
- Running a container without options means it will start and stop immediately

“WHERE IS MY JUPYTER NOTEBOOK ?”

STEP 4

Firing Up Good Ol' Jupyter

```
$ docker start spark
```

```
$ docker exec -it spark jupyter notebook list
```

STEP 5

Build Image From Your Dockerfile

Dockerfile — ~/dev/dockerspace/dl-docker

census_keras.py | Dockerfile | text_sum_prep.py

```
1  FROM floydhub/dl-docker:cpu
2  RUN apt-get update && apt-get install -y git
3  COPY . /root/projects/dl-docker
4  RUN /usr/local/bin/pip install -r /root/projects/dl-docker/requirements.txt
5  CMD ["echo 'Yo I am done'"]
6
```

Dockerfile 5:19 LF 1 deprecation UTF-8 Plain Text 0 files 3 updates

- `FROM` creates a layer from floydhub/dl-docker:cpu Docker image
- `RUN` installs git
- `COPY` adds files from Docker client's current directory (including requirements.txt)
- `RUN` installs dependencies from requirements.txt
- `CMD` specifies what command to run within the container

$ docker build -t =“mydlspacewgit”

Look out for deck on Slideshare

@shoreason

www.shoreason.com

github.com/shoreason