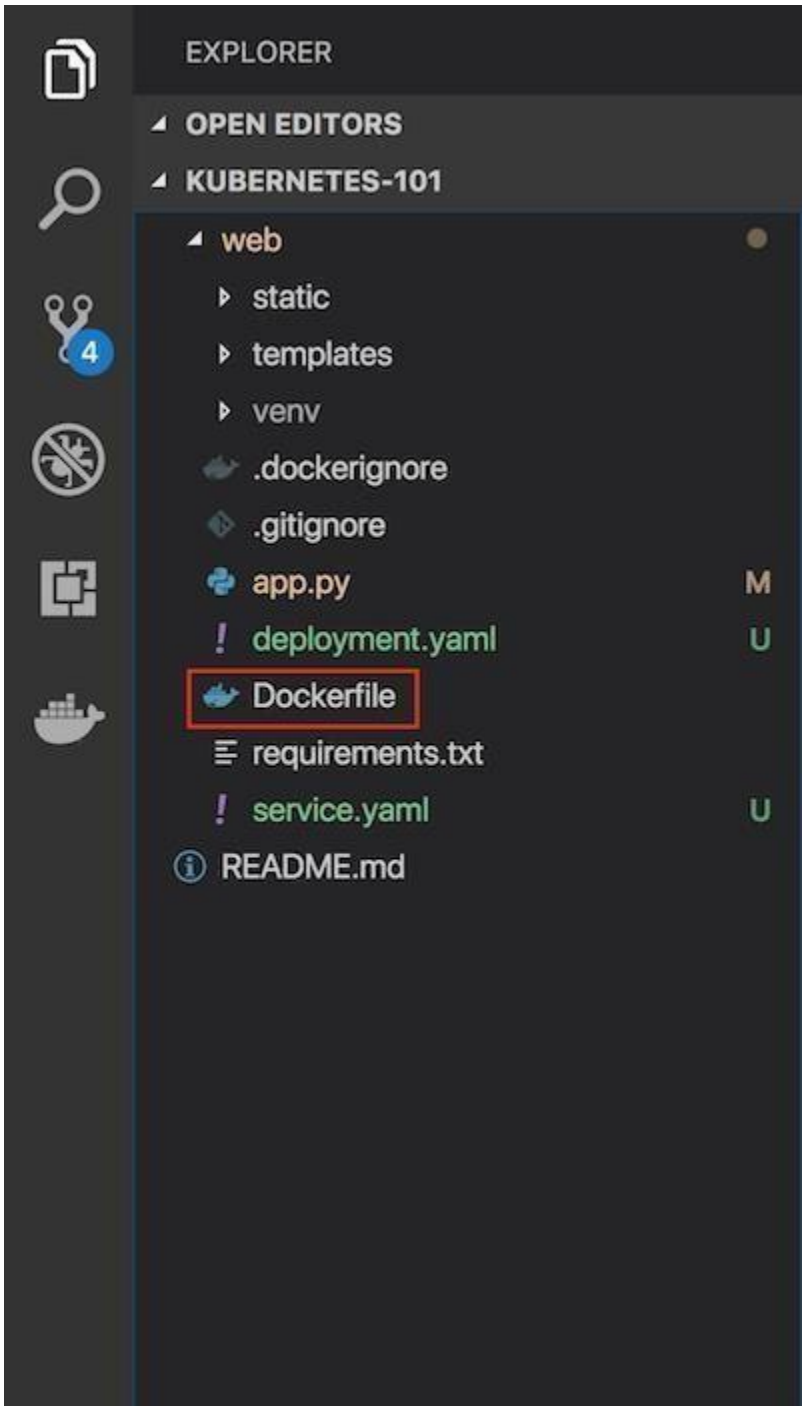
Containerize The App

TEAM ID	**PNT2022TMID46372**
PROJECT NAME	**Customer Care Registry**

Containerize your Flask application:

- In your project directory, create a file named "Dockerfile." *Suggestion: Name your file exactly "Dockerfile," nothingelse.*



A "Dockerfile" is used to indicate to Docker a base image, the Docker settings you need, and a list of commands you would like to have executed to prepare and start your new container. In the file,

```
•
•       LABEL maintainer="Kunal Malhotra, kunal.malhotra1@ibm.com"
```

paste this code:

```
        FROM python:2.7
```

```
RUNapt-getupdate
RUN mkdir /app
WORKDIR /app
COPY ./app
RUNpipinstall-
rrequirements.txtEXPOSE5000
ENTRYPOINT [ "python" ]
CMD["app.py"]
```

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Explanation and breakdown of the above Dockerfile code

1. The first part of the code aboveis:

```
FROMpython:2.7
```

Because this Flask application uses Python 2.7, we want an environment that supports it and already has it installed. Fortunately, DockerHub has an official image that's installed on top of Ubuntu. In one line, we will have a base Ubuntu image with Python 2.7, virtualenv, and pip. There are tons of images on DockerHub, but if you would like to start off with a fresh Ubuntu image and build on top of it, you could do that.

3. Let's look at the next part of thecode:

```
LABELmaintainer="KunalMalhotra,kunal.malhotra1@ibm.com"
RUNapt-getupdate
```

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6. Note the maintainer and update the Ubuntu package index. The command is `RUN`, which isa function that runs the command afterit.

```
RUN mkdir/app
WORKDIR/app
COPY ./app
```

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10. Nowit's timetoaddtheFlaskapplicationtotheimage.Forsimplicity,copytheapplicationunder the `/app`directory on our Docker Image.

`WORKDIR` is essentially a **cd** in bash, and `COPY` copies a certain directory to the provided directory in an image. `ADD` is another command that does the same thing as `COPY`, but it also allows you to add a repository from a URL. Thus, if you want to clone your git repository instead of copying it from your local repository (for staging and production purposes), you can use that. `COPY`, however, shouldbe used most of the time unless you have a URL.

11. Nowthatwehave our repositorycopiedtotheimage,we willinstallallofour dependencies, which

```
RUNpipinstall--no-cache-dir-rrequirements.txt
```

is defined in the `requirements.txt`part of the code. 12.

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13. We want to expose the port(5000) the Flask application runs on, so we use `EXPOSE`.
14. EXPOSE5000

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15. `ENTRYPOINT` specifies the entrypoint of yourapplication.
16. ENTRYPOINT ["python"]
17. CMD ["app.py"]

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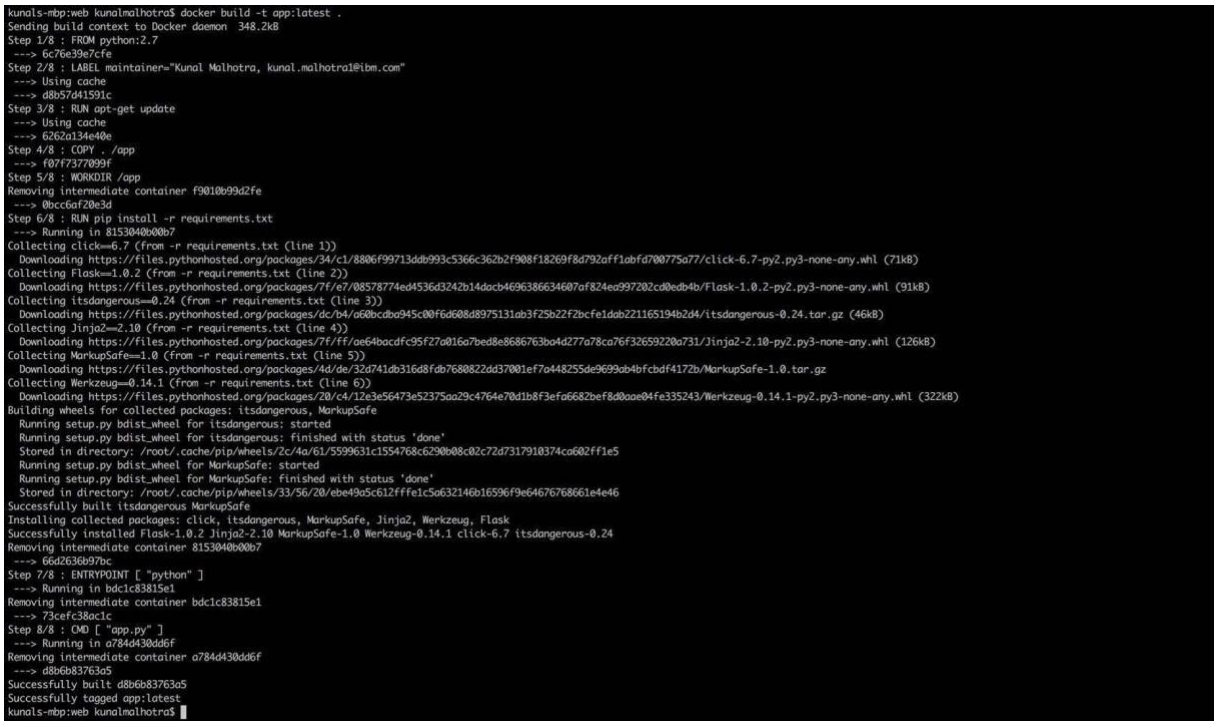
Build an image from the Dockerfile

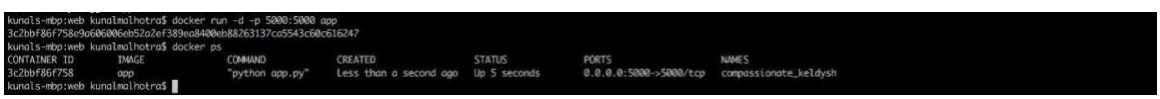
Open the terminal and type this command to build an image from your Dockerfile: `docker build -t <image_name>:<tag> .` (note the period to indicate we're in our apps top level directory). For example: `docker build -t app:latest .`

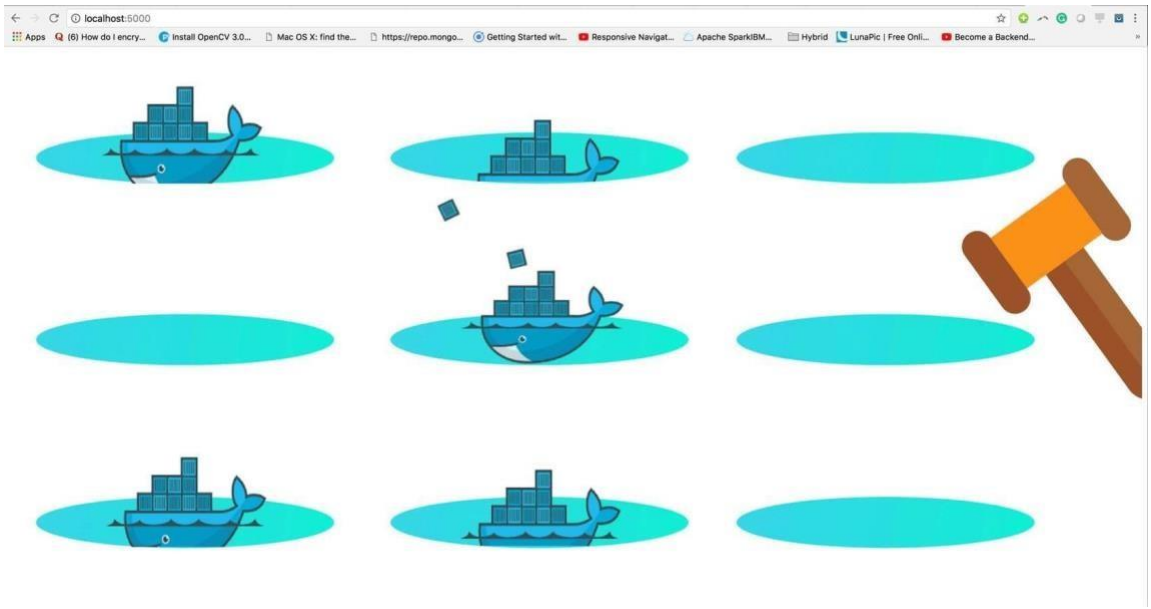


Run your container locally and test

After you build your image succesfully, type: `docker run -d -p 5000:5000 app`

This command will create a container that contains all the application code and dependencies from the image and runs it locally.




localhost:5000
Apps
(6) How do I encry...
Install OpenCV 3.0...
Mac OS X: find the...
https://repo.mongo...
Getting Started wit...
Responsive Navigat...
Apache SparkIBM...
Hybrid
LunaPic | Free Onli...
Become a Backend...