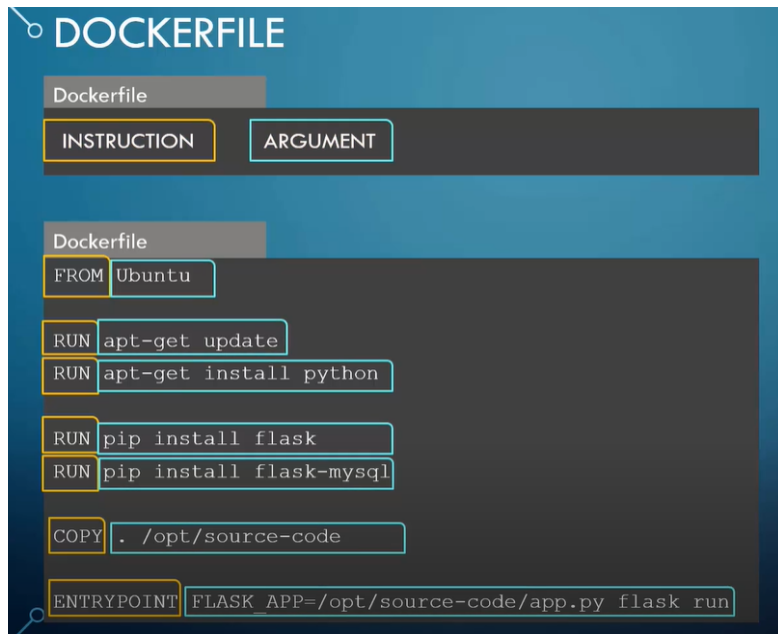


Docker Images

To create a Docker image you need to write a Docker file. A Docker file consists of instructions and arguments.

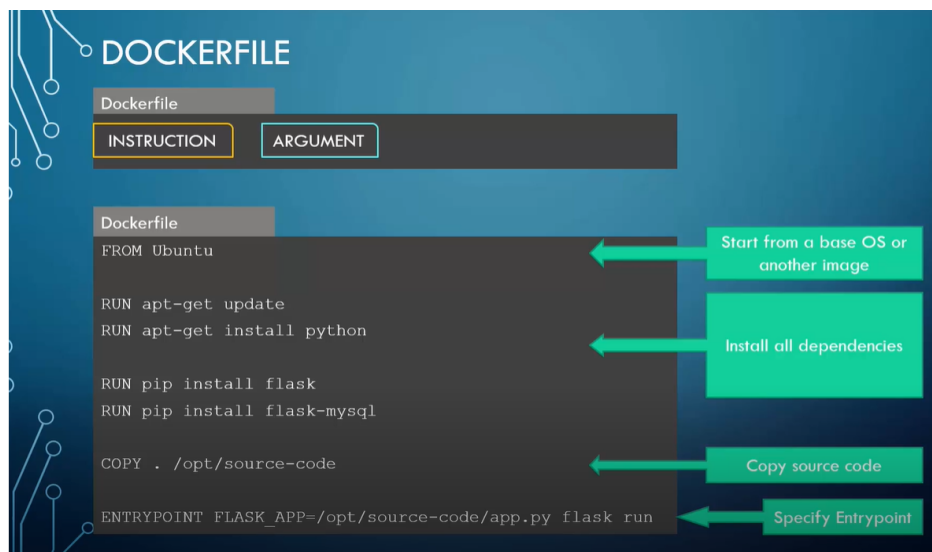


A Docker file always starts with a FROM instruction.

RUN: instructs Docker to run a particular command.

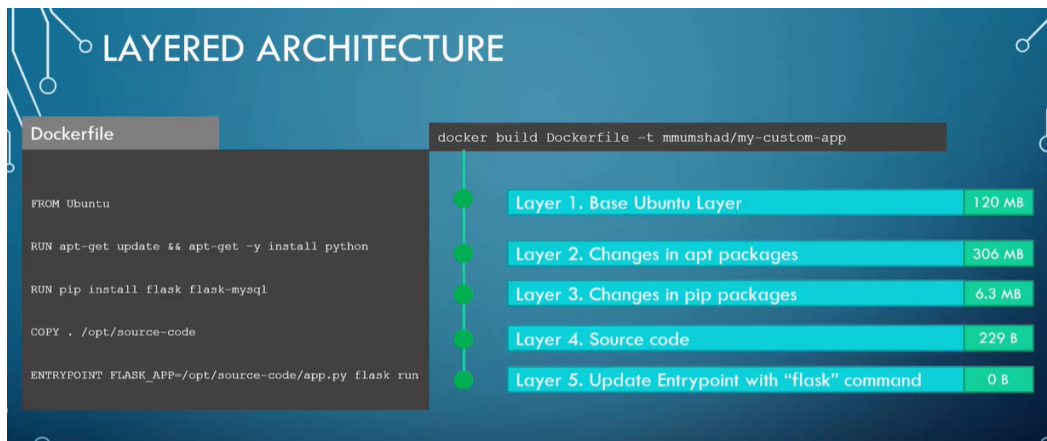
COPY: copies files from the local system onto the Docker image.

ENTRYPOINT: specifies a command that will be run when the image is run as a container.



Layered Architecture

When Docker builds an image, it does it in a layered architecture. Each line of instructions creates a new layer in the Docker image with just the changes from the previous layer. Since each layer only contains the changes from the previous layers, this is reflected in the size as well.



When you run the build command, you can see the result of each step (layer).

DOCKER BUILD OUTPUT

```
root@osboxes:/root/simple-webapp-docker # docker build .
Sending build context to Docker daemon 3.072kB
Step 1/5 : FROM ubuntu
--> ccc7a1ld65b1
Step 2/5 : RUN apt-get update && apt-get install -y python python-setuptools python-dev
--> Running in a7840dbfad17
Get:1 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:2 http://security.ubuntu.com/ubuntu xenial-security InRelease [102 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [102 kB]
Get:4 http://security.ubuntu.com/ubuntu xenial-security/universe Sources [46.3 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [102 kB]
Get:6 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [440 kB]
Step 3/5 : RUN pip install flask flask-mysql
--> Running in a4a6c9190ba3
Collecting flask
  Downloading Flask-0.12.2-py2.py3-none-any.whl (83kB)
Collecting flask-mysql
  Downloading Flask_MySQL-1.4.0-py2.py3-none-any.whl
Removing intermediate container a4a6c9190ba3
Step 4/5 : COPY app.py /opt/
--> e7cdab17e782
Removing intermediate container faaaaf63c512
Step 5/5 : ENTRYPOINT FLASK_APP=/opt/app.py flask run --host=0.0.0.0
--> Running in d452c574a8bb
--> 9f27c36920bc
Removing intermediate container d452c574a8bb
Successfully built 9f27c36920bc
```

All the layers built are cached. The Layered Architecture helps you re-start the build process from a particular step in case it fails, or if you were to add new steps in the build process, you wouldn't have to start all over again.