#010 building our Image Part 1

Introduction

this is part 10:1 from the journey it's a long journey(360 day) so go please check previous parts , and if you need to walk in the journey with me please make sure to follow because I may post more than once in 1 Day but surely I will post daily at least one 😍.

And I will cover lot of tools as we move on.

Docker image

```
(base) (master)in ~/Documents/DevOpsJourney/app_009
> docker image --help

Usage:  docker image COMMAND

Manage images

Commands:
  build       Build an image from a Dockerfile
  history     Show the history of an image
  import      Import the contents from a tarball to create a filesystem image
  inspect     Display detailed information on one or more images
  load        Load an image from a tar archive or STDIN
  ls          List images
  prune       Remove unused images
  pull        Pull an image or a repository from a registry
  push        Push an image or a repository to a registry
  rm          Remove one or more images
  save        Save one or more images to a tar archive (streamed to STDOUT by default)
  tag         Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE

Run 'docker image COMMAND --help' for more information on a command.
(base) (master)in ~/Documents/DevOpsJourney/app_009
>
```

Docker came with a built-in help command .
type docker --help you will get all the commands , from them we need the image command so we type docker image --help

we need the build command to build our image
if you are not in the folder already,

```
cd DevOpsJourney/app_009
```

then let's start the action!

```
docker image build -t app_009_1 .
```

let's break it ,
-t mean the tag we didn't put app_009_1:version so the version will be latest tag

the . it's mean the Dockerfile is inside the folder that we are in

press enter , and let's take a look

```
(base) (master)in ~/Documents/DevOpsJourney/app_009
> docker image build -t app_009_1 .
Sending build context to Docker daemon  4.096kB
Step 1/8 : FROM python:3.9-rc-alpine
3.9-rc-alpine: Pulling from library/python
df20fa9351a1: Already exists
36b3adc4ff6f: Pull complete
7945d0fd0432: Downloading [==============>                                    ]  6.073MB/21.66MB
5158b07ba291: Download complete
5f9539c9fad3: Downloading [==================================>                ]  1.293MB/1.932MB
```

as we see the docker start to pull the python-alpine image from the internet .

```
5f9539c9fad3: Pull complete
Digest: sha256:73e20efc0ca3bd2bfa85c087211667a110765e3ad3f9e4aab55ebbb860e0423e
Status: Downloaded newer image for python:3.9-rc-alpine
 ---> a206803e6cb1
Step 2/8 : RUN mkdir /app
 ---> Running in b213850f81f1
Removing intermediate container b213850f81f1
 ---> f95be31bbbc5
Step 3/8 : WORKDIR /app
 ---> Running in 01082c80c527
Removing intermediate container 01082c80c527
 ---> 223049a5278e
Step 4/8 : COPY requirements.txt requirements.txt
 ---> 4f373305d538
Step 5/8 : RUN pip install -r requirements.txt
 ---> Running in fc86045baa38
Collecting pyttsx3
  Downloading pyttsx3-2.88-py3-none-any.whl (39 kB)
Installing collected packages: pyttsx3
Successfully installed pyttsx3-2.88
Removing intermediate container fc86045baa38
 ---> 1d59f610325c
Step 6/8 : COPY . .
 ---> 311790f13099
Step 7/8 : LABEL maintainer="Omar ElKhatib"
 ---> Running in 060021cb16de
Removing intermediate container 060021cb16de
 ---> 345bbe7bd0c1
Step 8/8 : CMD python run app.py
 ---> Running in 7cfdee992f03
Removing intermediate container 7cfdee992f03
 ---> 3ec284f39edb
Successfully built 3ec284f39edb
Successfully tagged app_009_1:latest
(base) (master)in ~/Documents/DevOpsJourney/app_009
```

as we see he start to run it line by line , as we notice he give it tagged app_009_1:latest

let's try to build it again ...

```
(base) (master)in ~/Documents/DevOpsJourney/app_009
> docker image build -t app_009_1 .
Sending build context to Docker daemon  4.096kB
Step 1/8 : FROM python:3.9-rc-alpine
 ---> a206803e6cb1
Step 2/8 : RUN mkdir /app
 ---> Using cache
 ---> f95be31bbbc5
Step 3/8 : WORKDIR /app
 ---> Using cache
 ---> 223049a5278e
Step 4/8 : COPY requirements.txt requirements.txt
 ---> Using cache
 ---> 4f373305d538
Step 5/8 : RUN pip install -r requirements.txt
 ---> Using cache
 ---> 1d59f610325c
Step 6/8 : COPY . .
 ---> Using cache
 ---> 311790f13099
Step 7/8 : LABEL maintainer="Omar ElKhatib"
 ---> Using cache
 ---> 345bbe7bd0c1
Step 8/8 : CMD python run app.py
 ---> Using cache
 ---> 3ec284f39edb
Successfully built 3ec284f39edb
Successfully tagged app_009_1:latest
(base) (master)in ~/Documents/DevOpsJourney/app_009
>
```

We notice that he didn't get any thing from the hub this time! it's all cached . (as a challenge try and change the maintainer name and build it on your own again)

```
(base) (master)in ~/Documents/DevOpsJourney/app_009
> docker image inspect app_009_1
[
    {
        "Id": "sha256:3ec284f39edb30bb32714eec933dc5d62461a118df9182fef775f85f19a856a6",
        "RepoTags": [
            "app_009_1:latest"
        ],
        "RepoDigests": [],
        "Parent": "sha256:345bbe7bd0c10d61eca89c772a5d0bb918796ff3fd850f861798cfc43e722c7c",
        "Comment": "",
```

we ged some info about the build in JSON form , we notice in RepoTags we get the tag.

```
(base) (master)in ~/Documents/DevOpsJourney/app_009
> docker image build -t app_009_1:1.0 .
Sending build context to Docker daemon  4.096kB
Step 1/8 : FROM python:3.9-rc-alpine
 ---> a206803e6cb1
Step 2/8 : RUN mkdir /app
 ---> Using cache
 ---> f95be31bbbc5
Step 3/8 : WORKDIR /app
 ---> Using cache
 ---> 223049a5278e
Step 4/8 : COPY requirements.txt requirements.txt
 ---> Using cache
 ---> 4f373305d538
Step 5/8 : RUN pip install -r requirements.txt
 ---> Using cache
 ---> 1d59f610325c
Step 6/8 : COPY . .
 ---> Using cache
 ---> 311790f13099
Step 7/8 : LABEL maintainer="Omar ElKhatib"
 ---> Using cache
 ---> 345bbe7bd0c1
Step 8/8 : CMD python run app.py
 ---> Using cache
 ---> 3ec284f39edb
Successfully built 3ec284f39edb
Successfully tagged app_009_1:1.0
(base) (master)in ~/Documents/DevOpsJourney/app_009
>
```

```
docker image build -t app_009_1:1.0 .
```

we give it now the tag 1.0

```
(base) (master)in ~/Documents/DevOpsJourney/app_009
> docker image inspect app_009_1
[
    {
        "Id": "sha256:3ec284f39edb30bb32714eec933dc5d62461a118df9182fef775f85f19a856a6",
        "RepoTags": [
            "app_009_1:1.0",
            "app_009_1:latest"
        ],
        "RepoDigests": [],
        "Parent": "sha256:345bbe7bd0c10d61eca89c772a5d0bb918796ff3fd850f861798cfc43e722c7c",
        "Comment": "",
        "Created": "2020-06-12T23:16:01.908864553Z",
        "Container": "7cfdee992f038ef6fc96d0ca724e1dd432994e743c0c35e042690801db5701bc",
```

we inspect again and we notice now we have 2 tags in the repo latest and 1.0

if we list the image using

```
docker image ls
```

we can see we have 3 images , app_009_1 with 1.0 and another with latest tag.

python 3.9-rc-alpine

all are now local if we need to build again it's all cached.

with simple math 83.3 - 77.7 = 5.6 MB
our app and alpine image is just 5.6 MB !

End

I will split it into 2 parts to make it easier to read