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Track : Full Stack Using Php

- What is the difference between:

\* CMD & ENTRYPOINT :

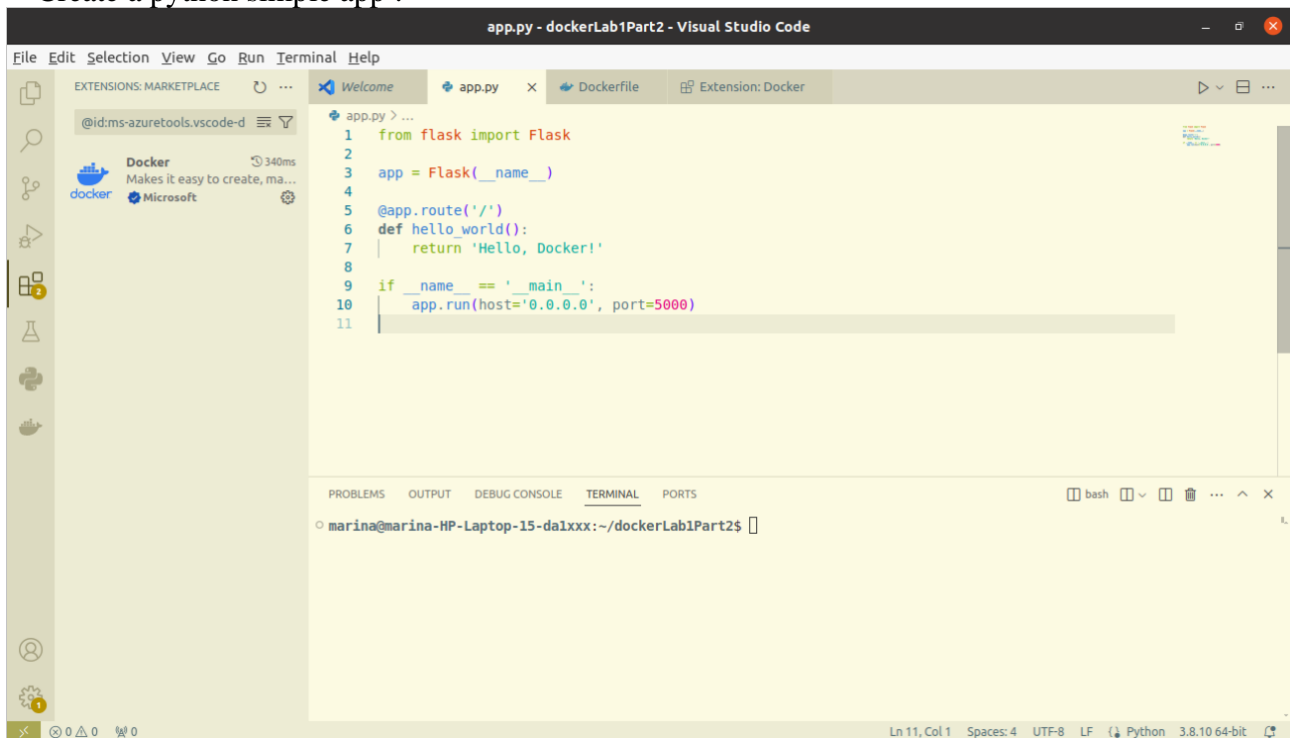
CMD is for default commands that can be overridden, while ENTRYPOINT is for commands that should always run.

\* COPY & ADD :

COPY is for basic file copying, while ADD provides additional capabilities like extracting archives and downloading files.

Problem 5:

- Create a python simple app :

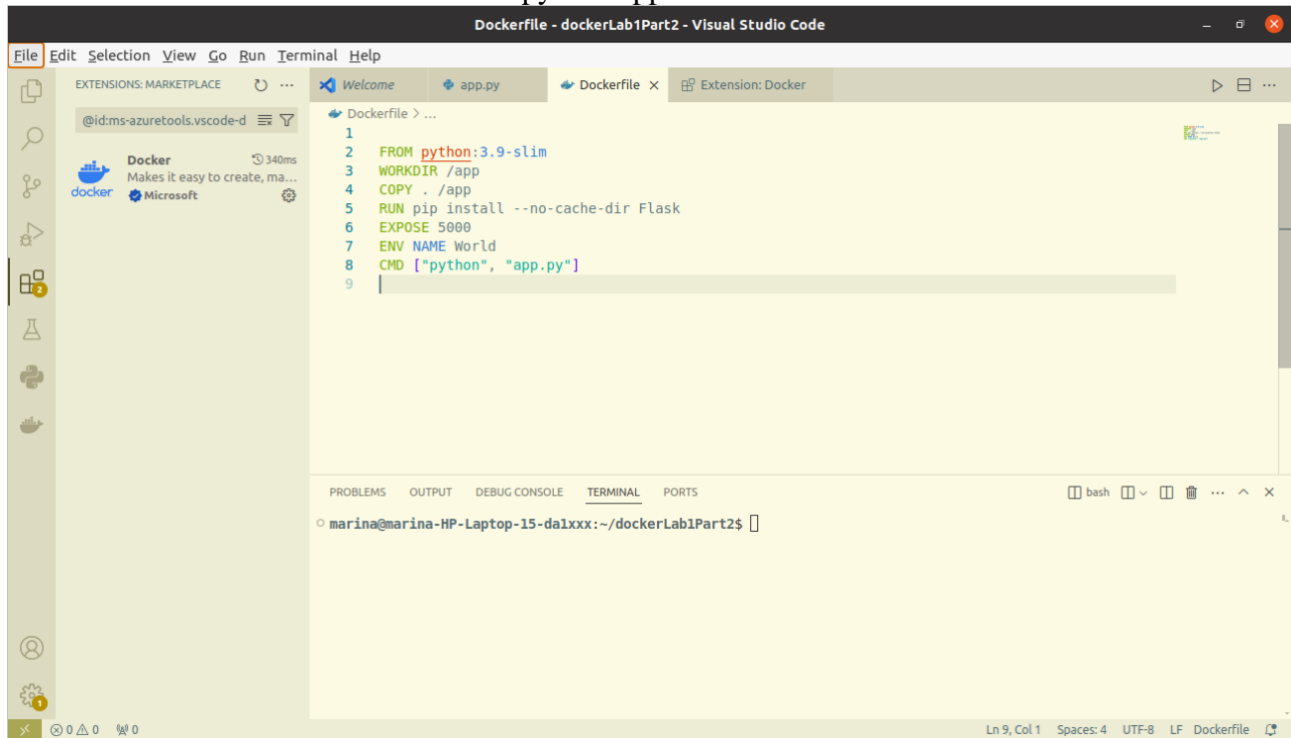


The screenshot shows the Visual Studio Code interface with a Python Flask application named `app.py` open in the editor. The code is as follows:

```
1 from flask import Flask
2
3 app = Flask(__name__)
4
5 @app.route('/')
6 def hello_world():
7     return 'Hello, Docker!'
8
9 if __name__ == '__main__':
10     app.run(host='0.0.0.0', port=5000)
11
```

The left sidebar shows the Extensions Marketplace with the Docker extension installed. The bottom panel shows the TERMINAL with the prompt `marina@marina-HP-Laptop-15-dalxxx:~/dockerLab1Part2$`. The status bar at the bottom indicates the file is at Line 11, Column 1, with 4 spaces, UTF-8 encoding, LF line endings, and Python 3.8.10 64-bit.

- Create a dockerfile to containerize the python app

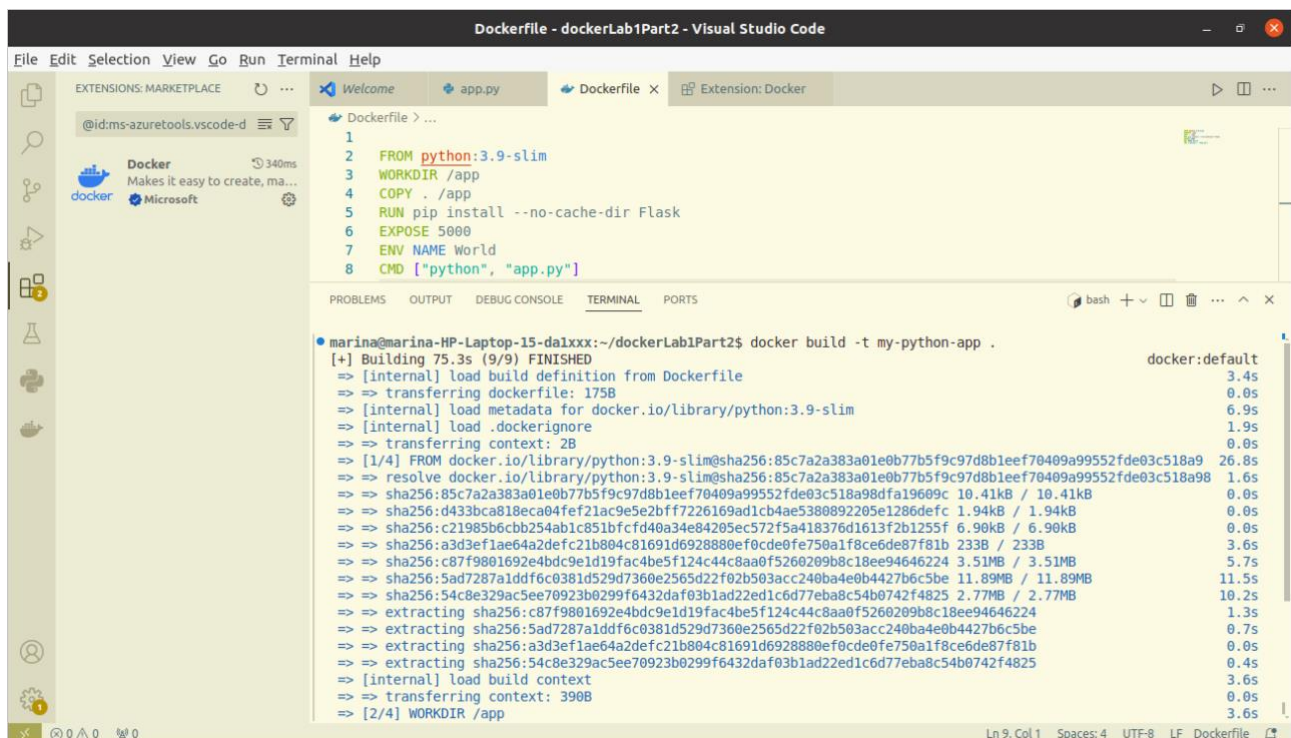


The screenshot shows the Visual Studio Code interface with a Dockerfile being edited. The Dockerfile contains the following instructions:

```
1
2 FROM python:3.9-slim
3 WORKDIR /app
4 COPY . /app
5 RUN pip install --no-cache-dir Flask
6 EXPOSE 5000
7 ENV NAME World
8 CMD ["python", "app.py"]
9
```

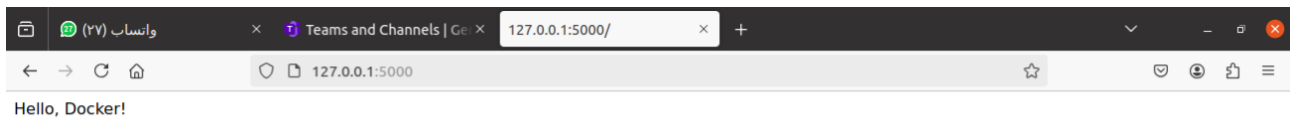
The terminal at the bottom shows the user's prompt: `marina@marina-HP-Laptop-15-dalxxx:~/dockerLab1Part2$`.

- Build the Image and Test It:

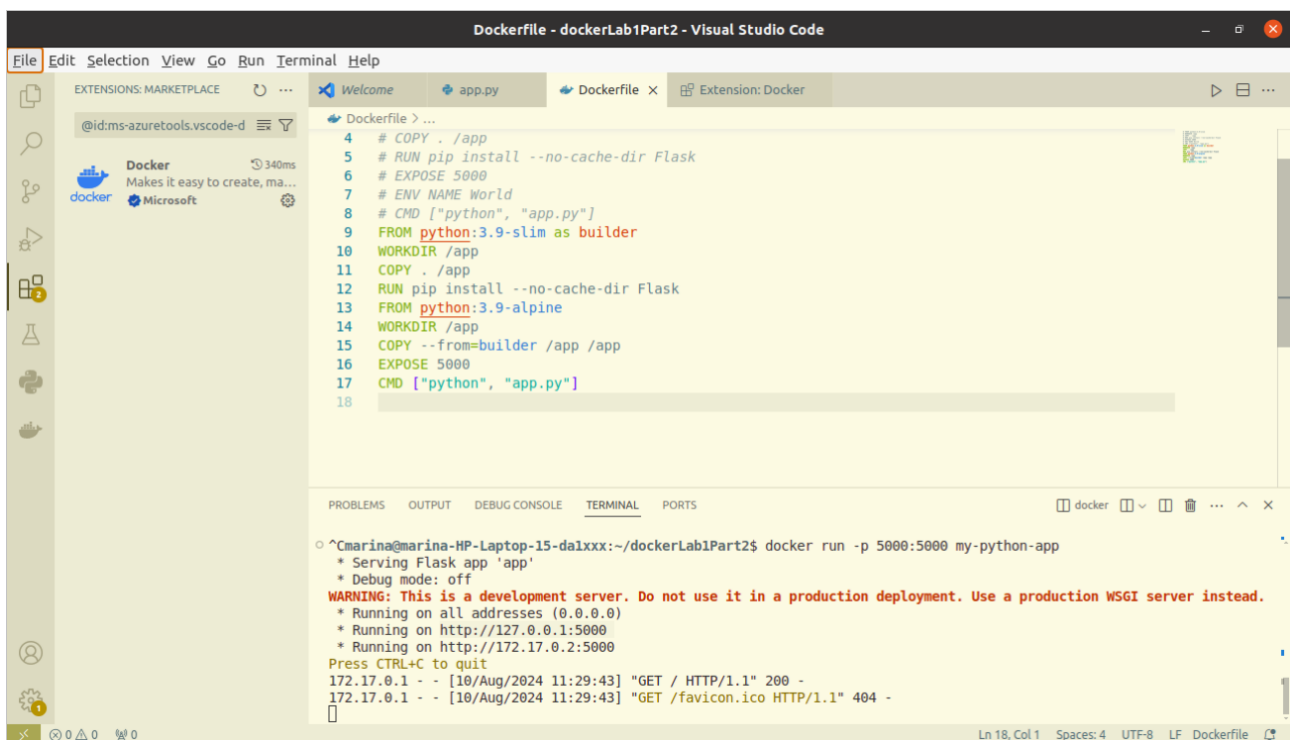


The screenshot shows the Visual Studio Code interface with the Dockerfile being edited. The terminal at the bottom shows the output of the command `docker build -t my-python-app .`:

```
marina@marina-HP-Laptop-15-dalxxx:~/dockerLab1Part2$ docker build -t my-python-app .
[+] Building 75.3s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 175B
=> [internal] load metadata for docker.io/library/python:3.9-slim
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/4] FROM docker.io/library/python:3.9-slim@sha256:85c7a2a383a01e0b77b5f9c97d8b1eef70409a99552fde03c518a9 26.8s
=> => resolve docker.io/library/python:3.9-slim@sha256:85c7a2a383a01e0b77b5f9c97d8b1eef70409a99552fde03c518a98 1.6s
=> sha256:85c7a2a383a01e0b77b5f9c97d8b1eef70409a99552fde03c518a98dfa19609c 10.41kB / 10.41kB
=> sha256:d433bca818eca04fef21ac9e5e2bfff7226169ad1cb4ae5380892205e1280defc 1.94kB / 1.94kB
=> sha256:c21985b6cbb254ab1c851bfcfd40a34e84205ec572f5a418376d1613f2b1255f 6.90kB / 6.90kB
=> sha256:a3d3ef1ae64a2defc21b804c81691d6928880ef0cde0fe750a1f8ce6de87f81b 233B / 233B
=> sha256:c87f9801692e4bdc9e1d19fac4be5f124c44c8aa0f5260209b8c18ee94646224 3.51MB / 3.51MB
=> sha256:5ad7287a1dddf6c0381d529d7360e2565d22f02b503acc240ba4e0b4427b6c5be 11.89MB / 11.89MB
=> sha256:54c8e329ac5ee70923b0299f6432daf03b1ad22ed1c6d77eba8c54b0742f4825 2.77MB / 2.77MB
=> extracting sha256:c87f9801692e4bdc9e1d19fac4be5f124c44c8aa0f5260209b8c18ee94646224 1.3s
=> extracting sha256:5ad7287a1dddf6c0381d529d7360e2565d22f02b503acc240ba4e0b4427b6c5be 0.7s
=> extracting sha256:a3d3ef1ae64a2defc21b804c81691d6928880ef0cde0fe750a1f8ce6de87f81b 0.0s
=> extracting sha256:54c8e329ac5ee70923b0299f6432daf03b1ad22ed1c6d77eba8c54b0742f4825 0.4s
=> [internal] load build context
=> => transferring context: 390B
=> [2/4] WORKDIR /app
```



-(Bonus) Create a Dockerfile with Multi-Stage Build:



## -Push your Docker image to the new repository.

The screenshot shows a web browser window displaying the Docker Hub repository page for `marinasamir15/my-python-app`. The page is in the "General" tab, showing the repository name, a "Public View" button, and a message indicating that the repository does not have a description. Below the page, a terminal window shows the execution of Docker commands. The terminal output includes the command `docker login`, which prompts for a username and password, and the command `docker push marinasamir15/my-python-app:tagname`, which pushes the image to the repository. The push output shows the image being pushed with the tag `latest` and the repository `docker.io/marinasamir15/my-python-app`. The terminal also shows the image being mounted from the library/python image.

marinasamir15 / Repositories / my-python-app / General

Using 0 of 1 private repositories.

General Tags Builds Collaborators Webhooks Settings

marinasamir15/my-python-app

Created less than a minute ago

This repository does not have a description INCOMPLETE

Docker commands

To push a new tag to this repository:

`docker push marinasamir15/my-python-app:tagname`

Public View

16 EXPOSE 5000

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

172.17.0.1 - - [10/Aug/2024 11:29:43] "GET /favicon.ico HTTP/1.1" 404 -

• marina@marina-HP-Laptop-15-dalxxx:~/dockerLab1Part2\$ docker login

Log in with your Docker ID or email address to push and pull images from Docker Hub. If you don't have a Docker ID, head over to <https://hub.docker.com/> to create one.

You can log in with your password or a Personal Access Token (PAT). Using a limited-scope PAT grants better security and is required for organizations using SSO. Learn more at <https://docs.docker.com/go/access-tokens/>

Username: marinasamir15

Password:

WARNING! Your password will be stored unencrypted in /home/marina/.docker/config.json.

Configure a credential helper to remove this warning. See <https://docs.docker.com/engine/reference/commandline/login/#credential-stores>

Login Succeeded

• marina@marina-HP-Laptop-15-dalxxx:~/dockerLab1Part2\$ docker tag my-python-app marinasamir15/my-python-app

Ln 1, Col 1 (149 selected) Spaces: 4 UTF-8 LF Dockerfile

18

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

• marina@marina-HP-Laptop-15-dalxxx:~/dockerLab1Part2\$ docker push marinasamir15/my-python-app

Using default tag: latest

The push refers to repository [docker.io/marinasamir15/my-python-app]

08724312a676: Pushed

2ef1ef2da6c2: Pushed

8ea88dc7eab6: Pushed

ec6949936a52: Mounted from library/python

f71fab544a97: Mounted from library/python

d42276be08b5: Mounted from library/python

cc2286334a7b: Mounted from library/python

e0781bc8667f: Mounted from library/python

latest: digest: sha256:42aceb84f2d13346284d38ca1567e1e7e193cfa2b69ca4e680d5c621bdf19a40 size: 1994

• marina@marina-HP-Laptop-15-dalxxx:~/dockerLab1Part2\$

Ln 18, Col 1 (26 selected) Spaces: 4 UTF-8 LF Dockerfile