

Write a "Hello World" application using FastAPI, dockerize it, and push the image to Docker Hub:

Step 1: Write the FastAPI Source Code

Create a file named `main.py` and add the following FastAPI code:

```
from fastapi import FastAPI

app = FastAPI()

@app.get("/")
async def read_root():
    return {"message": "Hello World"}
```

Step 2: Create a `requirements.txt` File

List all the necessary packages for your application. For our "Hello World" app, it will just be FastAPI and Uvicorn:

```
fastapi
uvicorn[standard]
```

Step 3: Dockerize the FastAPI Application

Create a Dockerfile in the root directory of your project with the following content:

```
FROM python:3.9-slim

# Copy files

WORKDIR /app

<<<<<< HEAD
# Copy the requirements file
COPY hello-fastapi/* /app/

=====
COPY app/* /app/
>>>>>> a14b5e9 (updated files 1152)
# Install the dependencies
RUN pip install -r requirements.txt

# Expose the port the application will use
EXPOSE 9009

# Run the command to start the development server when the container launches
CMD ["uvicorn", "main:app", "--host", "0.0.0.0", "--port", "9009"]
```

Step 4: Build the Docker Image

Run the following command in your terminal to build the Docker image:

```
docker build -t fastapi:$(date +%Y-%m-%d) .
```

Step 5: Push the Image to Docker Hub

First, tag your image with your Docker Hub username and repository:

```
docker tag my-fastapi-app:$(date +%Y-%m-%d)smitwaman/fastapi:v1
```

Login to your dockerhub registry with your username and use your token as a password

```
Docker login -u smitwaman
```

Then, push the image to Docker Hub:

```
docker push smitwaman/fastapi-app:v1
```

```
sparx@DESKTOP-0N62A4P:~/Wobot_Assignment$ docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
smitwaman/fastapi    20240611       88e2012790b6   4 hours ago    196MB
gcr.io/k8s-minikube/kicbase  v0.0.44       5a6e59a9bdc0   4 weeks ago    1.26GB
python              3.9-slim       4602238ffbdc   2 months ago   126MB
sparx@DESKTOP-0N62A4P:~/Wobot_Assignment$ docker image tag smitwaman/fastapi:20240611 smitwaman/fastapi:v1
sparx@DESKTOP-0N62A4P:~/Wobot_Assignment$ docker image push smitwaman/fastapi:v1
The push refers to repository [docker.io/smitwaman/fastapi]
279ae9f549f1: Layer already exists
7e486361e5e3: Layer already exists
fdc3584468d4: Layer already exists
ae96698df02c: Layer already exists
e555c0055a9b: Layer already exists
205262265e50: Layer already exists
146826fa3ca0: Layer already exists
5d4427064ecc: Layer already exists
v1: digest: sha256:cca50bfbfe613d4e095d23ea9af3e08cea4c54de2a45dbc8e582b3bcf71c0680 size: 1996
sparx@DESKTOP-0N62A4P:~/Wobot_Assignment$ docker run -p 8000:9009 smitwaman/fastapi:v1
INFO:      Started server process [1]
INFO:      Waiting for application startup.
INFO:      Application startup complete.
```