Creating a Dockerfile for a FastAPI application using PowerShell involves a few steps. Below is a **step-by-step guide**, including how you can do it in **PowerShell** on Windows, along with a sample Dockerfile.

**✅ Step-by-Step Instructions**

**🧱 Step 1: Set Up Your FastAPI Application**

Let's assume your project structure looks like this:

fastapi-app/

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├── app/

│ ├── main.py

│ └── \_\_init\_\_.py

├── requirements.txt

└── Dockerfile

main.py contains your FastAPI app.

**main.py example:**

from fastapi import FastAPI

app = FastAPI()

@app.get("/")

def read\_root():

return {"message": "Hello from FastAPI"}

**📦 Step 2: Create requirements.txt**

You can generate it with PowerShell:

pip freeze > requirements.txt

Or just create it manually:

**requirements.txt:**

fastapi

uvicorn[standard]

**🐳 Step 3: Write the Dockerfile**

**PowerShell Command to Create Dockerfile:**

New-Item -Path . -Name "Dockerfile" -ItemType "File"

Then open it in Notepad:

notepad Dockerfile

Paste the following content into the Dockerfile:

# Use official Python base image

FROM python:3.11-slim

# Set the working directory

WORKDIR /app

# Copy requirements and install dependencies

COPY requirements.txt .

RUN pip install --no-cache-dir -r requirements.txt

# Copy application code

COPY ./app ./app

# Set environment variable (optional)

ENV PYTHONUNBUFFERED=1

# Run the application

CMD ["uvicorn", "app.main:app", "--host", "0.0.0.0", "--port", "8000"]

**🔧 Step 4: Build Docker Image**

In PowerShell:

docker build -t fastapi-app .

**🚀 Step 5: Run the Container**

docker run -d -p 8000:8000 fastapi-app

Visit: [http://localhost:8000](http://localhost:8000/)

**🧪 Optional: Check Logs**

docker logs <container\_id>

Get container ID:

docker ps

If you'd like, I can generate the files for you or help you containerize a more complex FastAPI app too.