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#\*Start of AI Generated Content\*

# **Docker Deployment Steps for Python Full Stack Application**

## **Deploying Missing Value Imputation and Date Format Conversion Service**

### **Step 1: Dockerfile Creation** (14px)

\* \*\*File Name:\*\* `Dockerfile`  
\* \*\*Content:\*\*  
```dockerfile  
# Use an official Python runtime as a parent image  
FROM python:3.9-slim  
  
# Set the working directory in the container  
WORKDIR /app  
  
# Copy the current directory contents into the container at /app  
COPY . /app  
  
# Install any needed packages specified in requirements.txt  
RUN pip install --trusted-host pypi.org -r requirements.txt  
  
# Make port 80 available to the world outside this container  
EXPOSE 80  
  
# Define environment variable  
ENV API\_BASE\_URL=<YOUR\_API\_BASE\_URL>  
ENV API\_KEY=<YOUR\_API\_KEY>  
ENV DATE\_FORMAT\_STANDARD=<YOUR\_DATE\_FORMAT\_STANDARD>  
  
# Run app.py when the container launches  
CMD ["python", "app.py"]

* **Note:** Replace <YOUR\_API\_BASE\_URL>, <YOUR\_API\_KEY>, and <YOUR\_DATE\_FORMAT\_STANDARD> with your actual values.

### \*\*Step 2: Requirements File Update\*\* <font size="2">(14px)</font>  
```markdown  
\* \*\*File Name:\*\* `requirements.txt`  
\* \*\*Update Content:\*\*  
```makefile  
requests  
pandas

* **Note:** Ensure all dependencies from your Python script are included in this file.

### \*\*Step 3: Docker Image Build\*\* <font size="2">(14px)</font>  
```markdown  
\* \*\*Command:\*\*  
```bash  
docker build -t my-full-stack-app .

* **Note:** Run this command in the directory containing your Dockerfile.

### \*\*Step 4: Docker Container Run\*\* <font size="2">(14px)</font>  
```markdown  
\* \*\*Command:\*\*  
```bash  
docker run -p 8080:80 my-full-stack-app

* **Note:** Map port 8080 on the host to port 80 in the container.

### \*\*Step 5: Verify Deployment\*\* <font size="2">(14px)</font>  
```markdown  
\* \*\*Step:\*\*  
 1. Open a web browser or use a tool like `curl` to access `http://localhost:8080`.  
 2. Verify the application's functionality by testing the missing value imputation and date format conversion endpoints.  
\* \*\*Note:\*\* Depending on your application's API structure, you may need to append specific endpoint paths to the URL.

### **Step 6: Docker Hub Push (Optional)** (14px)

\* \*\*Prerequisites:\*\*  
 + Docker Hub account  
 + `docker login` executed successfully  
\* \*\*Commands:\*\*  
```bash  
docker tag my-full-stack-app:latest <your-docker-hub-username>/my-full-stack-app:latest  
docker push <your-docker-hub-username>/my-full-stack-app:latest

* **Note:** Replace <your-docker-hub-username> with your actual Docker Hub username.

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