**Containerize The App**

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| **TEAM ID** | **PNT2022TMID50978** |
| **PROJECT NAME** | **Nutrition Assistant Application** |

**Containerize your Flask application:**

* In your project directory, create a file named "Dockerfile." *Suggestion: Name your fileexactly "Dockerfile," nothingelse.*



A "Dockerfile" is used to indicate to Docker a base image, the Docker settings you need, and a listof commands you would like to have executed to prepare and start your new container. In the file,

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paste this code:

FROM python:2.7

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Explanation and breakdown of the above Dockerfile code

* The first part of the code above is:
* FROMpython:2.7

Because this Flask application uses Python 2.7, we want an environment that supports it and already has it installed. Fortunately, DockerHub has an official image that's installed on top of Ubuntu. In one line, we will have a base Ubuntu image with Python 2.7, virtual env, and pip. There are tons of images on DockerHub, but if you would like to start off with a fresh Ubuntu image and build on top of it, you could do that.

* LABEL maintainer="[KunalMalhotra,kunal.malhotra1@ibm.com](mailto:KunalMalhotra%2Ckunal.malhotra1@ibm.com)"
* RUN apt-getupdate
* Let's look at the next part of the code:

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6. Note the maintainer and update the Ubuntu package index. The command is RUN, which isa function that runs the command after it.

* RUN mkdir/app
* WORKDIR/app
* COPY ./app

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* Now it's time to add the Flask application to the image .For simplicity ,copy the application under the

/app directory on our Docker Image.

WORKDIR is essentially a **cd** in bash, and COPY copies a certain directory to the provided directory in an image. ADD is another command that does the same thing as COPY, but it also

allows you to add a repository from a URL. Thus, if you want to clone your git repository instead of copying it from your local repository (for staging and production purposes), you can

use that. COPY, however, should be used most of the time unless you have a URL.

* Now that we have our repository copied to the image ,we will install all of our dependencies, which

RUN pip install--no-cache-dir-rrequirements.txt

is defined in the requirements.txtpart of the code.

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* We want to expose the port(5000) the Flask application runs on, so we useEXPOSE.

14.EXPOSE5000

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* ENTRYPOINT specifies the entry point of your application.
* ENTRYPOINT [ "python"]
* CMD [ "app.py"]

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Build an image from the Dockerfile

Open the terminal and type this command to build an image from your Dockerfile: docker build -t <image\_name>:<tag> .(note the period to indicate we're in our apps top level directory). For example: docker build -t app:latest .



Run your container locally and test

After you build your image succesfully, type: docker run -d -p 5000:5000 app

This command will create a container that contains all the application code and dependencies from the image and runs it locally.



