How do you write a Dockerfile?

A Dockerfile is a text document (without a file extension) that contains the instructions to set up an environment for a Docker container. You can build a Docker image using a Dockerfile.

The command `docker build`. builds a Docker image using the Dockerfile in the directory that this command is executed.

Here is an example of a docker file:

```
# Using official ubuntu image as a parent image
FROM ubuntu:latest
# Setting the working directory to /app
WORKDIR /app
# Copy the current directory contents into the container at /app
COPY . /app
# Getting the updates for Ubuntu and installing python into our environment
RUN apt-get -y update  && apt-get install -y python
# Run app.py when the container launches
CMD ["python", "app.py"]
```

The Dockerfile is explained line by line below:

```
# Using official ubuntu image as a parent image
FROM ubuntu:latest
```

Most docker files start from a ‘parent’ image. The parent image is added through the `FROM` keyword. Your image builds upon the parent image. We add the official Ubuntu image using `FROM ubuntu:latest`.

```
# Setting the working directory to /app
WORKDIR /app
```

We then set the working directory in your container with `WORKDIR`. `WORKDIR /app` sets the current directory to `/app` when the container starts running.

```
# Copy the current directory contents into the container at /app
COPY . /app
```

So far, we have the Ubuntu OS in our environment with the current directory set to `/app`. Now we want to transfer our own files into the container from the outside. We do this using `COPY . /app` where the `COPY` command copies all the files from our current directory (the one which contains the Dockerfile) into the `/app`. Our container will now contain the Ubuntu OS and the files from our local directory with the working directory set to `./app`. That’s it! The container will only have the things you specify it to have.

```
# Getting the updates for Ubuntu and installing python into our environment
RUN apt-get -y update  && apt-get install -y python
```

The `RUN` command executes when we build the image and any additional dependencies or packages are usually installed using the `RUN` command. We assume that we have the OS image we specified and build other packages on top of it.

```
# Run app.py when the container launches
CMD ["python", "app.py"]
```

The `CMD` specifies the command which is executed when we start the container.

Note: We can insert comments in your Dockerfile using `#`.