Cheat Sheet:
Building Images and Running Containers

Dockerfile

- The following Dockerfile will work for both external and internal services
  - Create a file called **`Dockerfile`** in both the `internal` and `external` folders:

```
# base image
FROM node:lts-alpine

# Copy application code.
COPY . /app/

# Change the working directory
WORKDIR /app

# Install dependencies.
RUN npm install

# Start the Express app
CMD ["node", "server.js"]
```

Dockerfile (continued)

- Docker supports a concept similar to `.gitignore` to ignore certain folders or files
  - In our case, there is no need to copy the `node_modules` folder into the container image because the **`RUN npm install`** line will create it
- Create a file called **`.dockerignore`** in both the `internal` and `external` folders that has the contents below:

```
node_modules
```

Build

- To build external, from the **external** folder run the command:
  - `docker build . -t external:v1.0.0`
- To build internal, from the **internal** folder run the command:
  - `docker build . -t internal:v1.0.0`

Run Locally

- To run internal, from the `internal` folder:

```
docker run -d -p 8082:8082 -e SERVICE_PORT=8082 internal:v1.0.0
```

- To run external, from the `external` folder

```
docker run -d -p 8080:8080 -e SERVER=http://localhost:8082 --network=host external:v1.0.0
```

  - The SERVER environment variable is needed so the service can find the internal service

- Test your app by previewing on port 8080

Run Locally (continued)

- Other commands to try:
  - `docker ps -a`
  - `docker stop <ContainerID>`
  - `docker rm <ContainerID>`
  - `docker images`

Save All Changes to Git (Bonus)

- You added a Dockerfile and changed the app
  - Save the changes to the Git repo
    - Add, commit, and push the changes

Run Locally (Bonus)

- Try making a change to the code, then build a new Docker image and run the new version
  - Give the new container a different version when you build it
  - You will need to stop the previous version that is running before running the new version
    - Or you will get a port number already in use error