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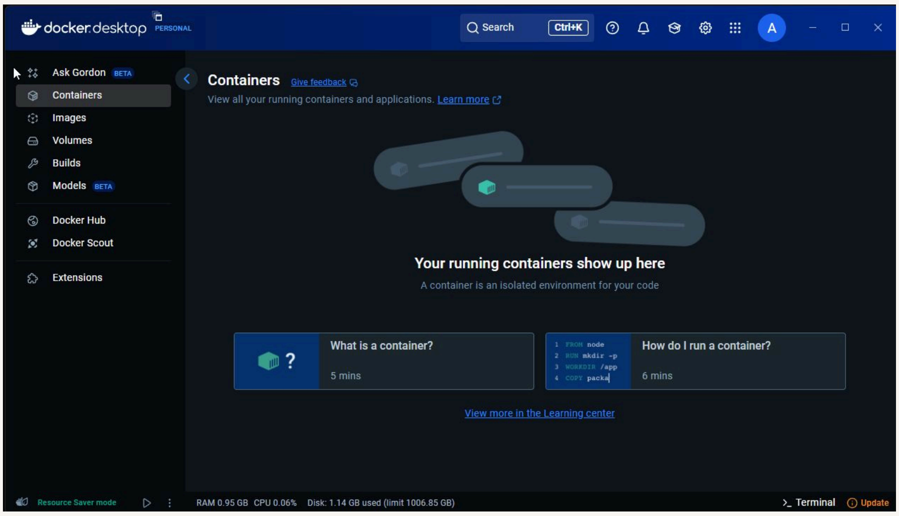
Deploy an App with Docker

A Anthony Castleberry



Containers Give feedback

View all your running containers and applications. Learn more

Your running containers show up here

A container is an isolated environment for your code

What is a container?

5 mins

```
FROM node
RUN mkdir -p
WORKDIR /app
COPY packa
```

How do I run a container?

6 mins

View more in the Learning center

RAM 0.95 GB CPU 0.06% Disk: 1.14 GB used (limit 1006.85 GB)

Introducing Today's Project!

What is Docker?

Docker is a software platform that automates the deployment of applications within lightweight, isolated environments called containers. Today I created a basic webpage in docker and deployed to the internet using AWS Beanstalk

One thing I didn't expect...

I didn't expect the process to of uploading docker to AWS to be so seamless. short of a few details to keep it free tier it was nearly plug an play.

This project took me...

Start to finish this project took a little over an hour, and that was due to documenting and double checking my configurations.

Understanding Containers and Docker

Containers

in the case Docker, small programs and everything needed to have that program run the same way are combined into a "container". This allows me to create a program and insure it will run anywhere on any system.

A container image is a standalone, executable file that contains everything needed to run a container, including the application code, runtime, system tools, system libraries, and settings.

Docker

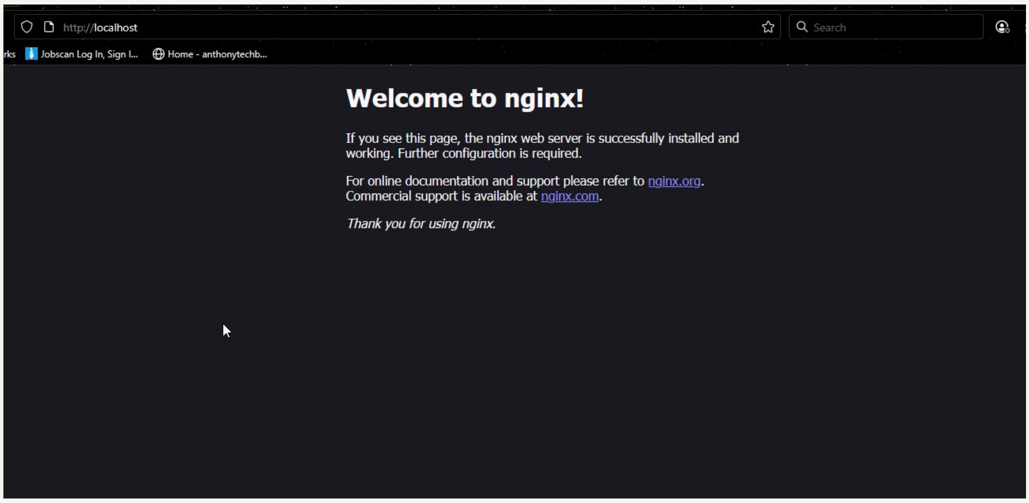
Docker Desktop is a downloadable app you can run locally to monitor of of your containers

The Docker daemon is a background process that manages the Docker containers on your computer

Running an Nginx Image

Nginx (engine-x) is a web server, which means it's a program that serves web pages to people on the internet.

The command I ran to start a new container was "docker run" from the Powershell CLI



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

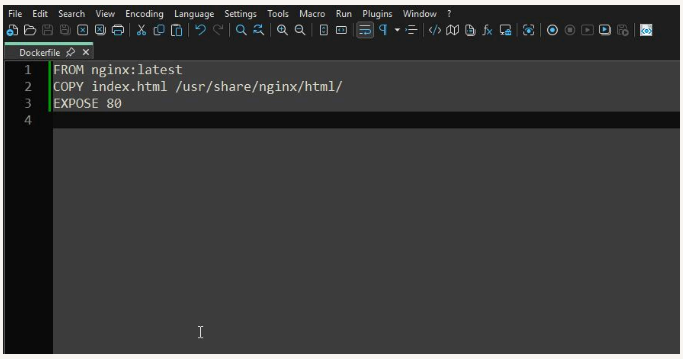
Thank you for using nginx.

Creating a Custom Image

The Dockerfile is configured with the based instructions, copied from the nginx container, its set to read from my "index" file.

The first line, means our image starts as a copy of the latest Nginx image. The second line replaces the default HTML file provided by Nginx with your own custom index.html file The last line opens the container to the internet.

The command I used to build a custom image with my Dockerfile was "docker build -t my-web-app ." The '.' at the end of the command means' find the Dockerfile in the current directory.

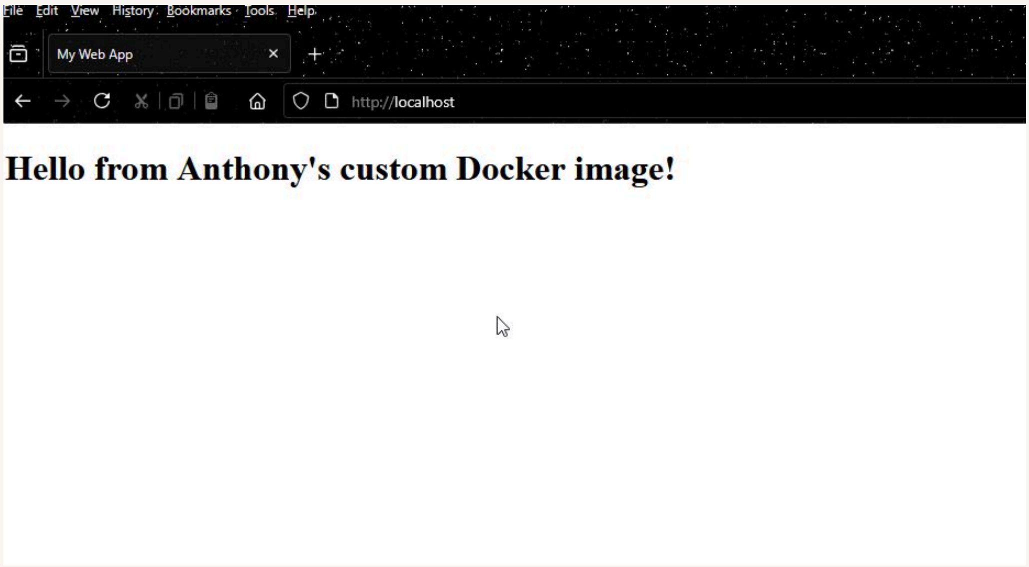


```
FROM nginx:latest
COPY index.html /usr/share/nginx/html/
EXPOSE 80
```

Running My Custom Image

There was an error when I ran my custom image because the new image could not access port 80. "Error response from daemon: failed to set up container networking:" I resolved this by stopping the nginx container i set up earlier.

In this example, the container image is the blueprint that tells Docker the application code, dependencies, libraries etc The container is the actual software that's created from this image and running the web server

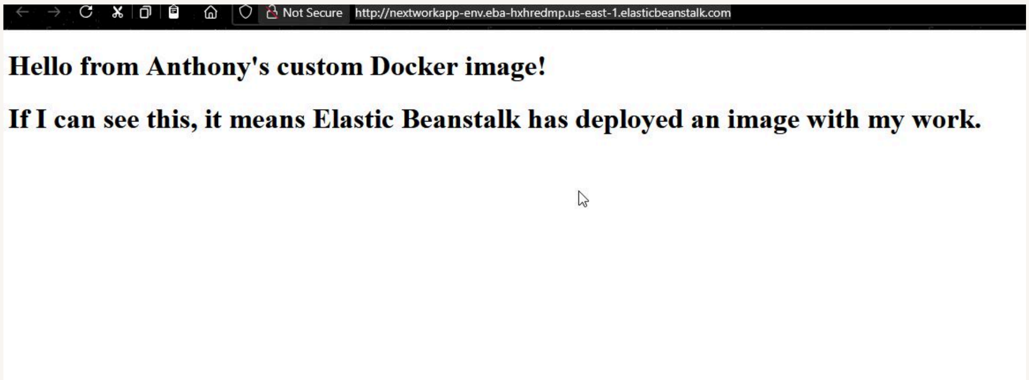


Hello from Anthony's custom Docker image!

Elastic Beanstalk

AWS Elastic Beanstalk is a service that makes it easy to deploy cloud applications without worrying about the underlying infrastructure, and Beanstalk can run applications in docker containers.

Deploying my custom image with Elastic Beanstalk took me 5 minutes, since I'm already running applications on AWS, i was able to use those roles and didn't have to create new ones. Creating the roles would have only taken a couple of minutes.


Not Secure
http://nextworkapp-env.eba-hxhredmp.us-east-1.elasticbeanstalk.com

Hello from Anthony's custom Docker image!

If I can see this, it means Elastic Beanstalk has deployed an image with my work.

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