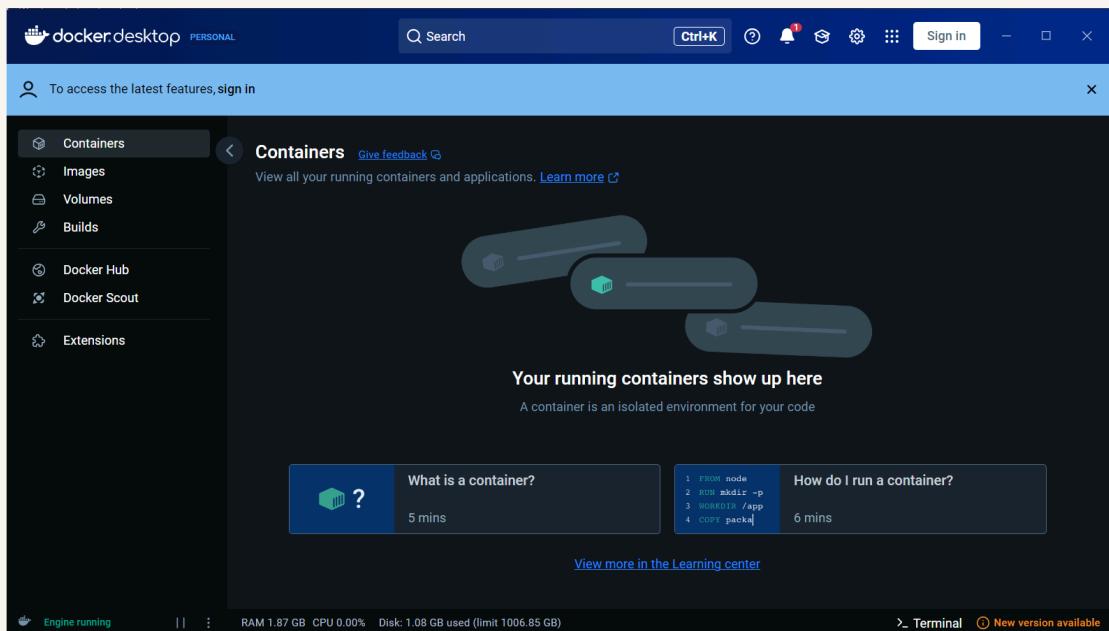


Deploy an App with Docker

RU

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Introducing Today's Project!

What is Docker?

Docker is a tool for managing and creating containers. It packages the code along with the needed dependencies to simplify the software development process. I used Docker to create a image for my web app and deployed it on AWS Elastic Beanstalk.

One thing I didn't expect...

the minimum configuration required for the AWS resources to deploy the application as Elastic Beanstalk handles all of it.

This project took me...

This project took me around 3 hours.

Understanding Containers and Docker

Containers

Containers package applications along with all the dependencies needed to run those applications in one file. They are useful because they enable us to make software development and releases more efficient since it contains everything to run the app.

A container image is a blueprint for containers. It gives Docker instructions on what to include in the container, such as code, libraries, dependencies and other necessary files.

Docker

Docker is a tool for creating and managing containers. Docker Desktop is a program that makes it easy to work with Docker to build, test and deploy applications in a user friendly way.

The Docker daemon is the engine that actually does the job when we run any commands. It is the background process manager that takes commands from the Docker Client and does the building, running and distributing of containers.

Running an Nginx Image

Nginx is web server that serves web pages to people on the internet. It can handle lots of web traffic smoothly and efficiently. It can also be used to forward requests from the internet to other servers, helping balance the load and traffic.

The command I ran to start a new container was 'docker run -d -p 80:80 nginx'. In this command, 'docker run' starts a new container, '-d' runs it in detached mode, '-p 80:80' maps port 80 on host to port 80 in the nginx container.

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.

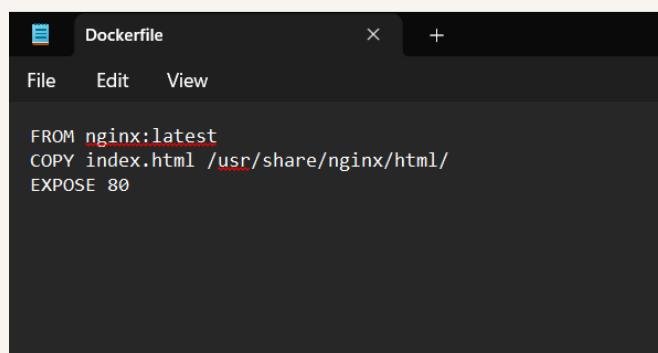
Thank you for using nginx.

Creating a Custom Image

The Dockerfile is a document with all the instructions for building the image. This file would be read by Docker to understand the set up of your application environment and software packages it should install.

My Dockerfile tells Docker three things: 1. start as a copy of 'nginx:latest' 2. replace the existing index file with custom index file. 3. Recieve the web traffic through PORT 80.

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 that Docker should look for the Dockerfile in the current directory.

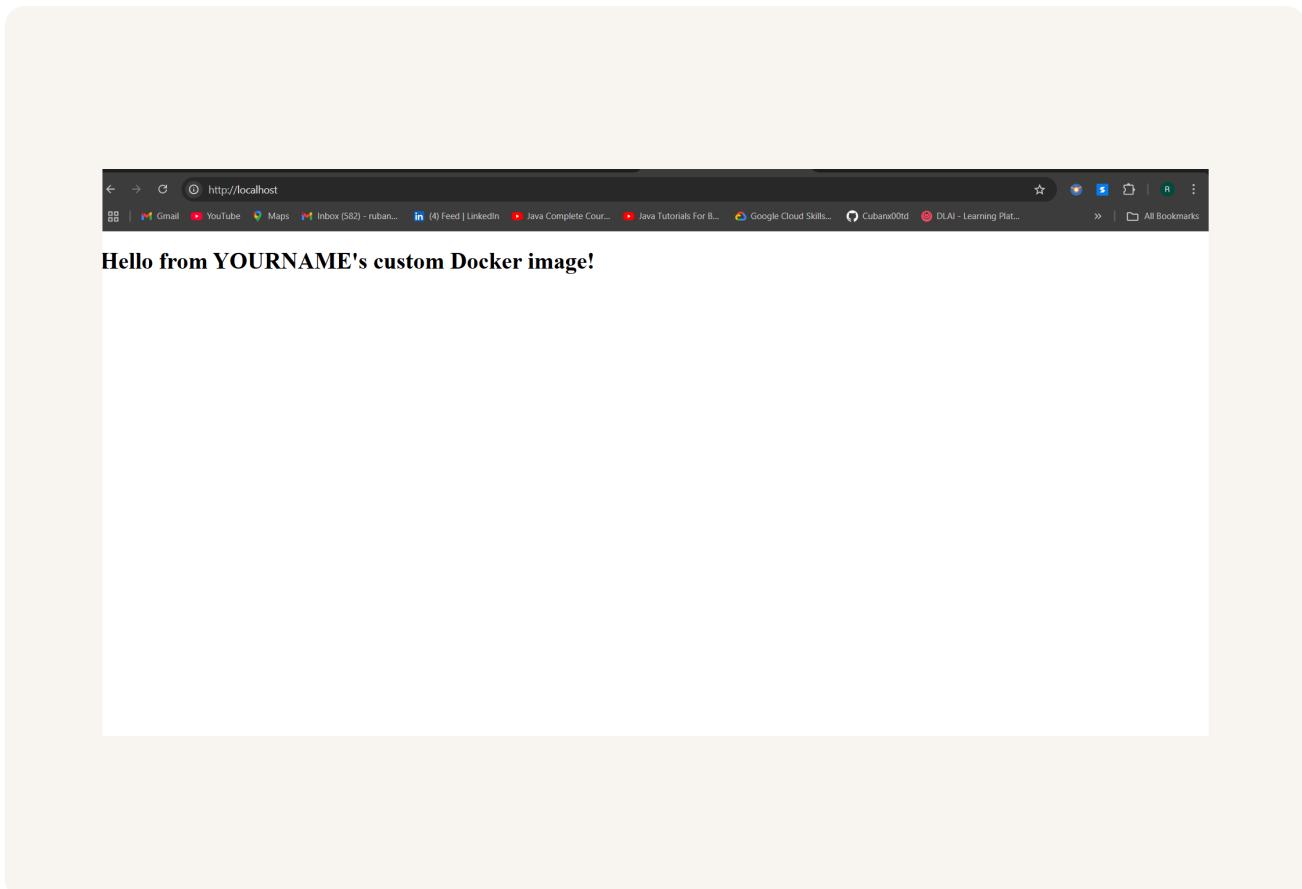


```
FROM nginx:latest
COPY index.html /usr/share/nginx/html/
EXPOSE 80
```

Running My Custom Image

There was an error when I ran my custom image because the port 80 was already being used by nginx image that I built earlier. I resolved this by clicking the stop icon for the nginx image in Docker Desktop.

In this example, the container image is built using the docker file when we run 'docker build -t my-web-app .' Once the image is built, multiple containers can be set up to deploy the application in various environments.



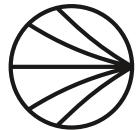
Elastic Beanstalk

Elastic Beanstalk is a service that makes it easy to deploy cloud applications without worrying about the underlying infrastructure. I just need to upload my code and it handles everything to get it running, like setting up servers, scaling etc.

Deploying my custom image with Elastic Beanstalk took me around 20 minutes since I had few errors in my first attempt but after going through each configuration step carefully, I was able to deploy the image successfully.

Hello from YOURNAME's custom Docker image!

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



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