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# Deploy an App with Docker



Haochen Min

The screenshot shows the Docker Desktop application window. The left sidebar has a 'PERSONAL' badge and includes links for Ask Gordon (BETA), Containers (selected), Images, Volumes, Builds, Docker Hub, Docker Scout, and Extensions. The main area is titled 'Containers' with a 'Give feedback' link. It says 'View all your running containers and applications.' and 'Learn more'. Below this is a section titled 'Your running containers show up here' with the subtext 'A container is an isolated environment for your code'. There are two cards: one for 'What is a container?' (5 mins) and another for 'How do I run a container?' (6 mins). At the bottom, status information includes 'Engine running', resource usage (RAM 1.49 GB, CPU 0.25%, Disk 3.11 GB used / limit 250.92 GB), and a terminal indicator ('Terminal v4.40.0').

A circular profile picture of a young man with red hair and a brown jacket, set against a blue and white background.

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# Introducing Today's Project!

## What is Docker?

Docker is a tool for managing, creating, and deploying containers. I used it in today's project to build a custom image and deploy a container on my localhost.

## One thing I didn't expect...

How easy it was to integrate with AWS

## This project took me...

40-50minutes

A circular profile picture of a young man with red hair and a blue scarf, set against a dark background.

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# Understanding Containers and Docker

## Containers

Containers are applications packed with all of their dependencies. They are useful because they allow one to quickly run another developer's applications without worrying about it not working.

a template for containers

## Docker

Docker is an application that packages applications into containers with their dependencies. Docker desktop allows you to manage your docker containers.

the background engine that manages Docker containers on the computer.



# Running an Nginx Image

a webserver program that serves webpages on the internet

The command I ran to start a new container was docker run

## 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](http://nginx.org).  
Commercial support is available at [nginx.com](http://nginx.com).

*Thank you for using nginx.*



# Creating a Custom Image

The Dockerfile is a document with the instructions to build the docker image

My Dockerfile tells Docker three things: To start as a copy of the latest version of nginx, to override the default HTML file provided by Nginx with my own index.html, and to receive web traffic through port 80

The command I used to build a custom image with my Dockerfile was 'docker -t my-web-app .' The '!' at the end of the command mean to 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 there was already a container running on port 80. I resolved this by stopping the container that was previously running on port 80 on Docker desktop.

In this example, the container image is the Dockerfile that contains the instructions for creating the container. The container is the 'my-web-app' that is created from the container image.





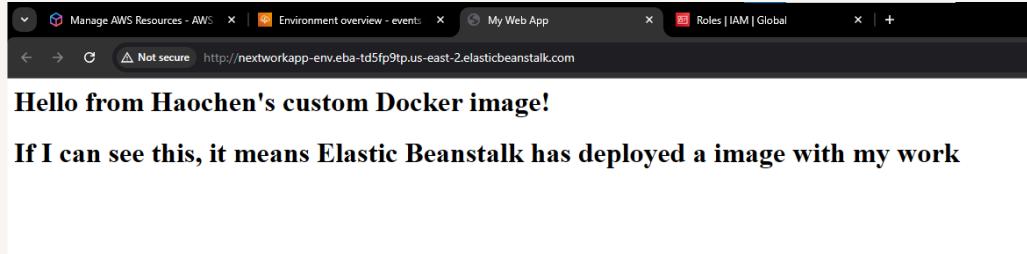
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# Elastic Beanstalk

a Amazon service for deploying cloud applications without worrying about the underlying infrastructure.

Deploying my custom image with Elastic Beanstalk took me about 10 minutes including the launch time





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