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Containers on Elastic Beanstalk

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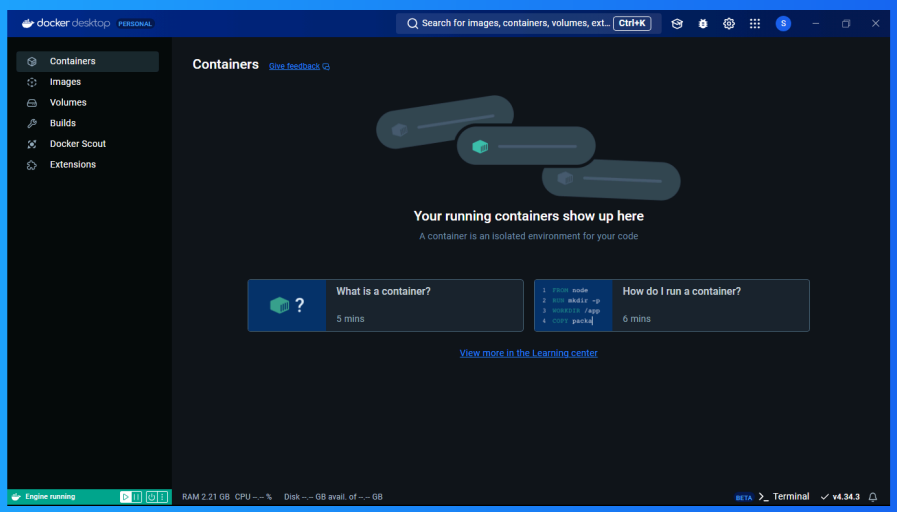

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Introducing Today's Project!

What is Docker?

Docker is a platform for packaging applications into containers. In today's project, I used Docker with AWS Elastic Beanstalk to deploy and manage our application, simplifying scaling and deployment.

One thing I didn't expect...

The anticipated errors.

This project took me...

About an hour and half.

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Understanding Containers and Docker

Containers

A container in Docker is a lightweight, portable, and isolated environment that packages an application and all its dependencies, allowing it to run consistently across different systems.

A container image is a lightweight, standalone, and executable package that includes everything needed to run software: code, runtime, libraries, and system tools. It serves as a blueprint for creating containers.

Docker

Docker is a platform for creating, deploying, and managing containers. Docker Desktop is an application that provides an easy-to-use interface for developing and running containers on a local machine.

The Docker daemon is a background service that manages Docker containers on a host. It listens to API requests, builds, runs, and monitors containers, and communicates with Docker clients to manage container lifecycle and resources efficiently.

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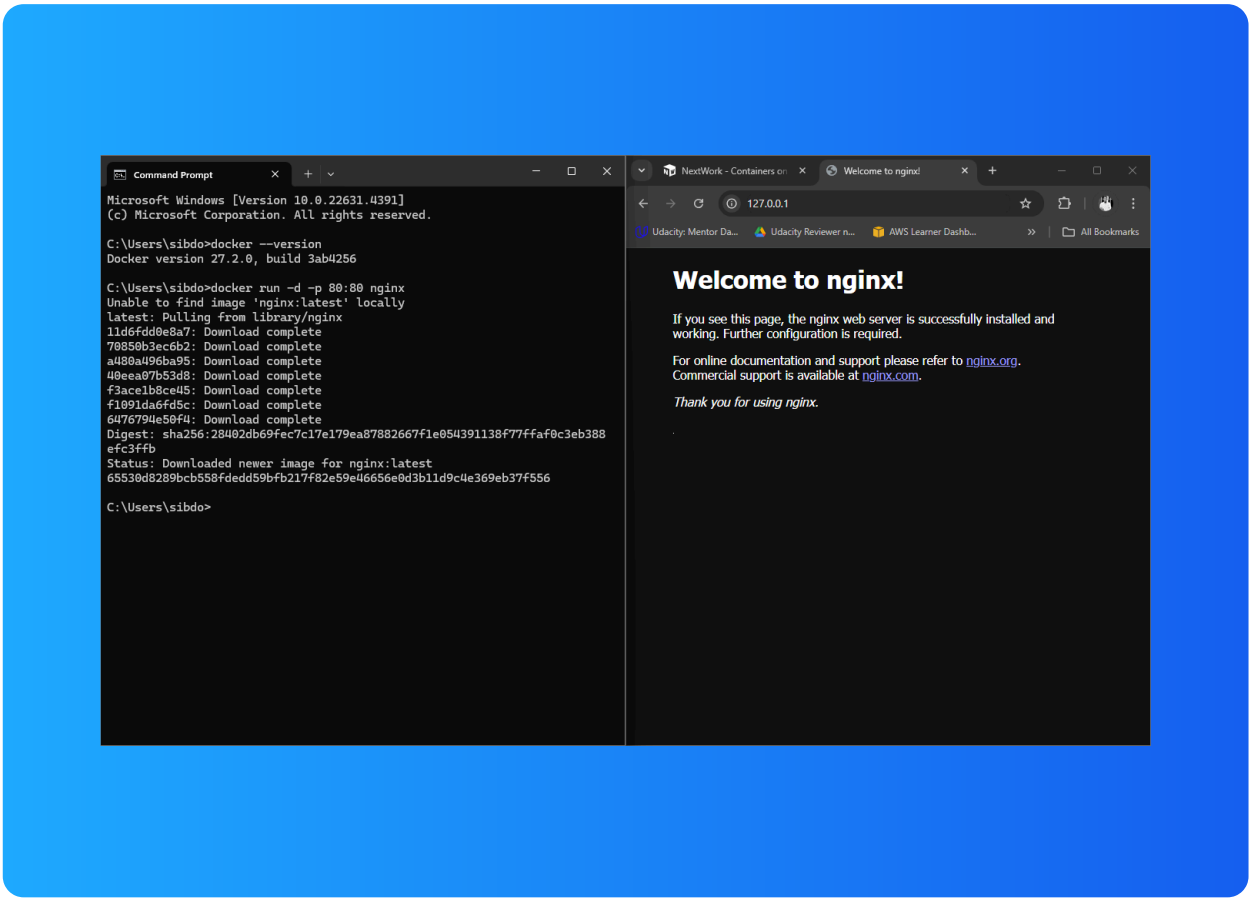
Running an Nginx Image

Nginx is an open-source web server and reverse proxy server designed for high performance, scalability, and security. It efficiently handles HTTP traffic, serves static content, balances loads, and can also act as a mail proxy server.

Start your answer with 'The command I ran to start a new container was: docker run -d -p 80:80 nginx.



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Creating a Custom Image

The Dockerfile is a text file containing a set of instructions used to build a Docker image. It defines the base image, application code, dependencies, configurations, and commands to create the final image.

My Dockerfile tells Docker three things: start with the latest Nginx image (`FROM`), copy my `index.html` file to the default Nginx directory (`COPY`), and open port 80 for web traffic (`EXPOSE`).

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 the build context is the current directory, where Docker will look for the Dockerfile and other resources.

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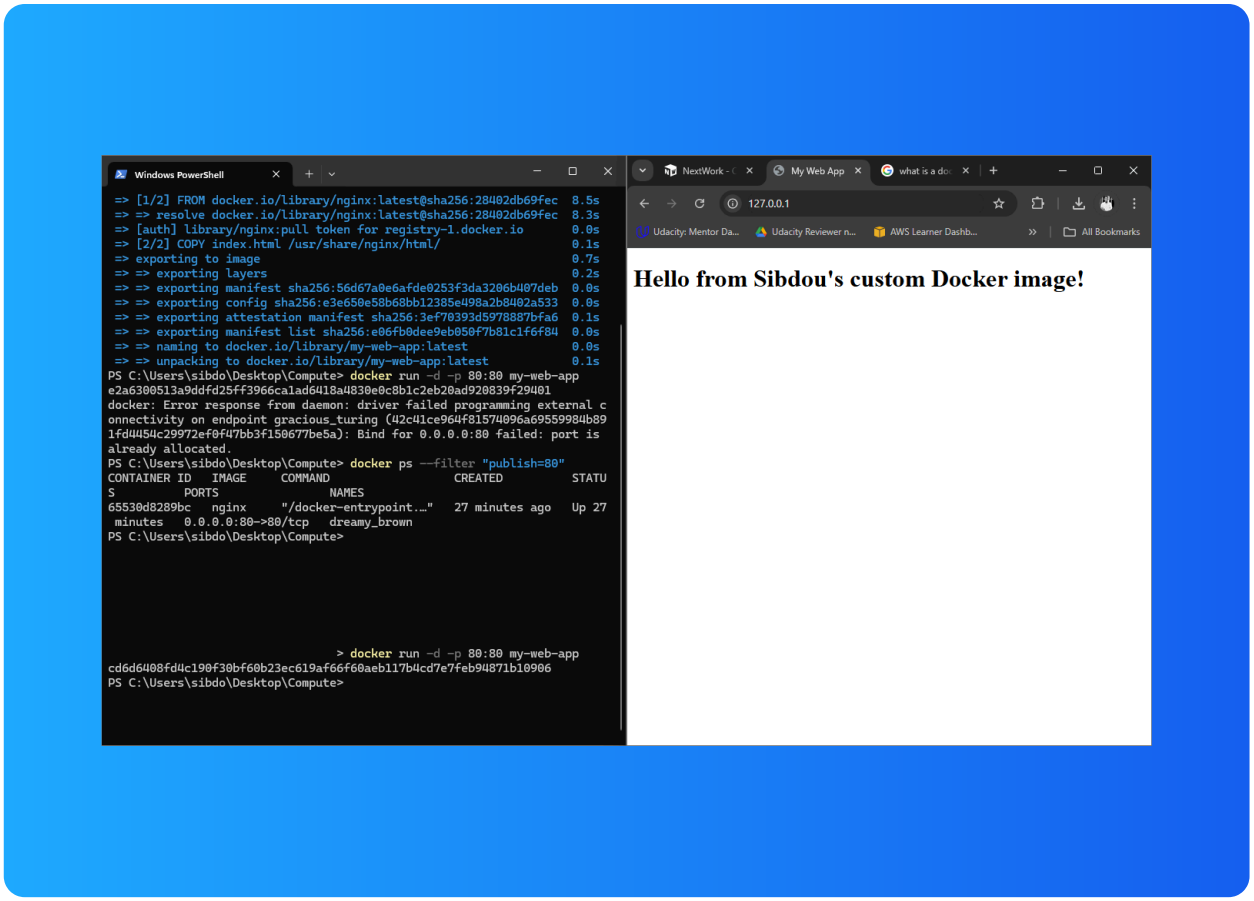
Running My Custom Image

There was an error when I ran my custom image because another container was already using port 80. I resolved this by stopping the containing useing port 80.

In this example, the container image is the blueprint created from the Dockerfile, containing Nginx and the `index.html` file. The container is the running instance of that image, serving the `index.html` content on port 80.



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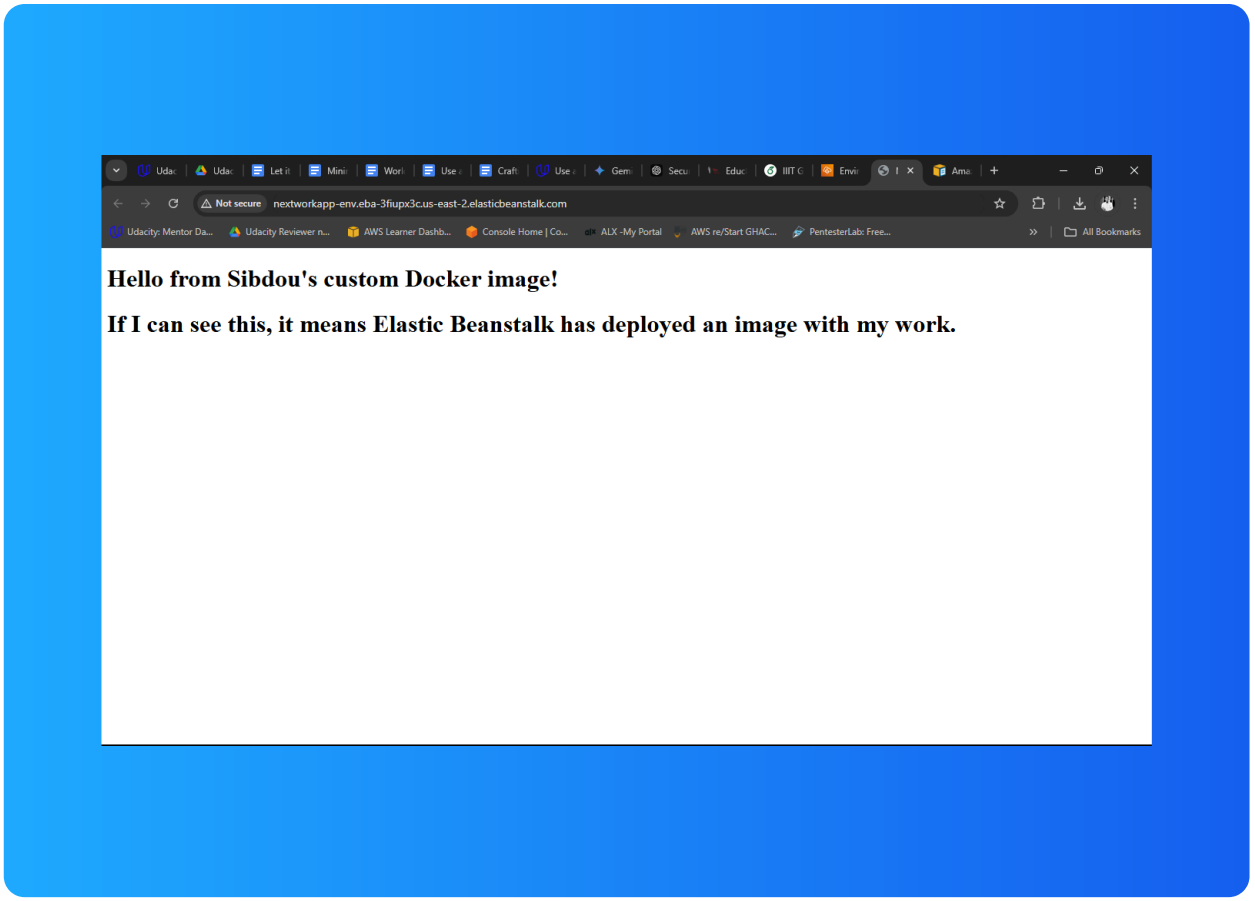
Elastic Beanstalk

Elastic Beanstalk is a fully managed service by AWS that simplifies deploying and scaling web applications and services. It automatically handles infrastructure provisioning, load balancing, and monitoring, allowing developers to focus on coding.

Deploying my custom image with Elastic Beanstalk took me almost an hour and half.



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