



try
dodker

An underwater scene with various types of coral and seaweed in shades of blue, green, and purple. Bubbles are visible in the upper left. The background is a dark blue gradient.

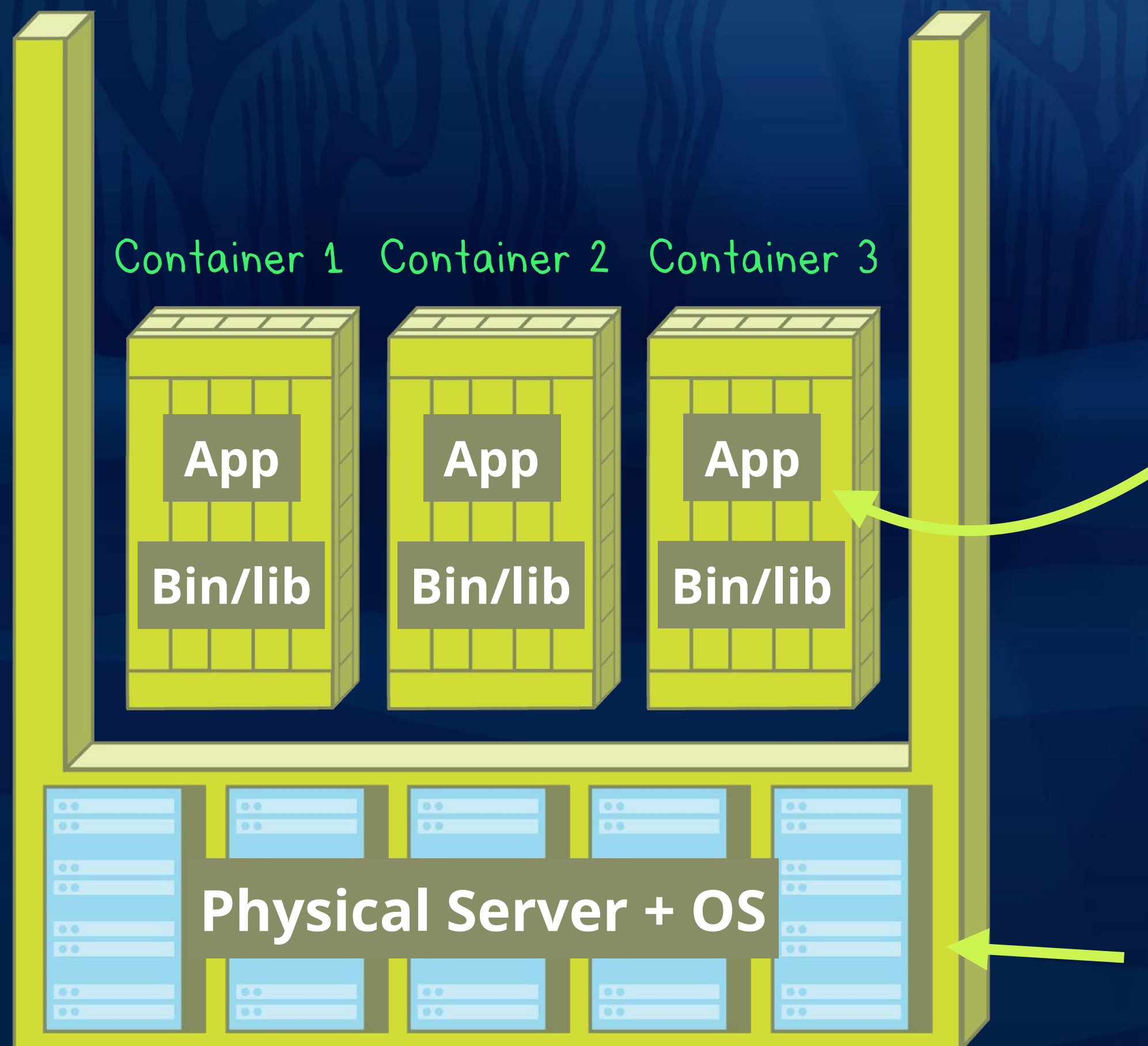
Level 1 – Section 1

Containers & Images

Running Your First Container

What Are Linux Containers?

Linux containers are a way to create isolated environments that can run code while sharing a single operating system.



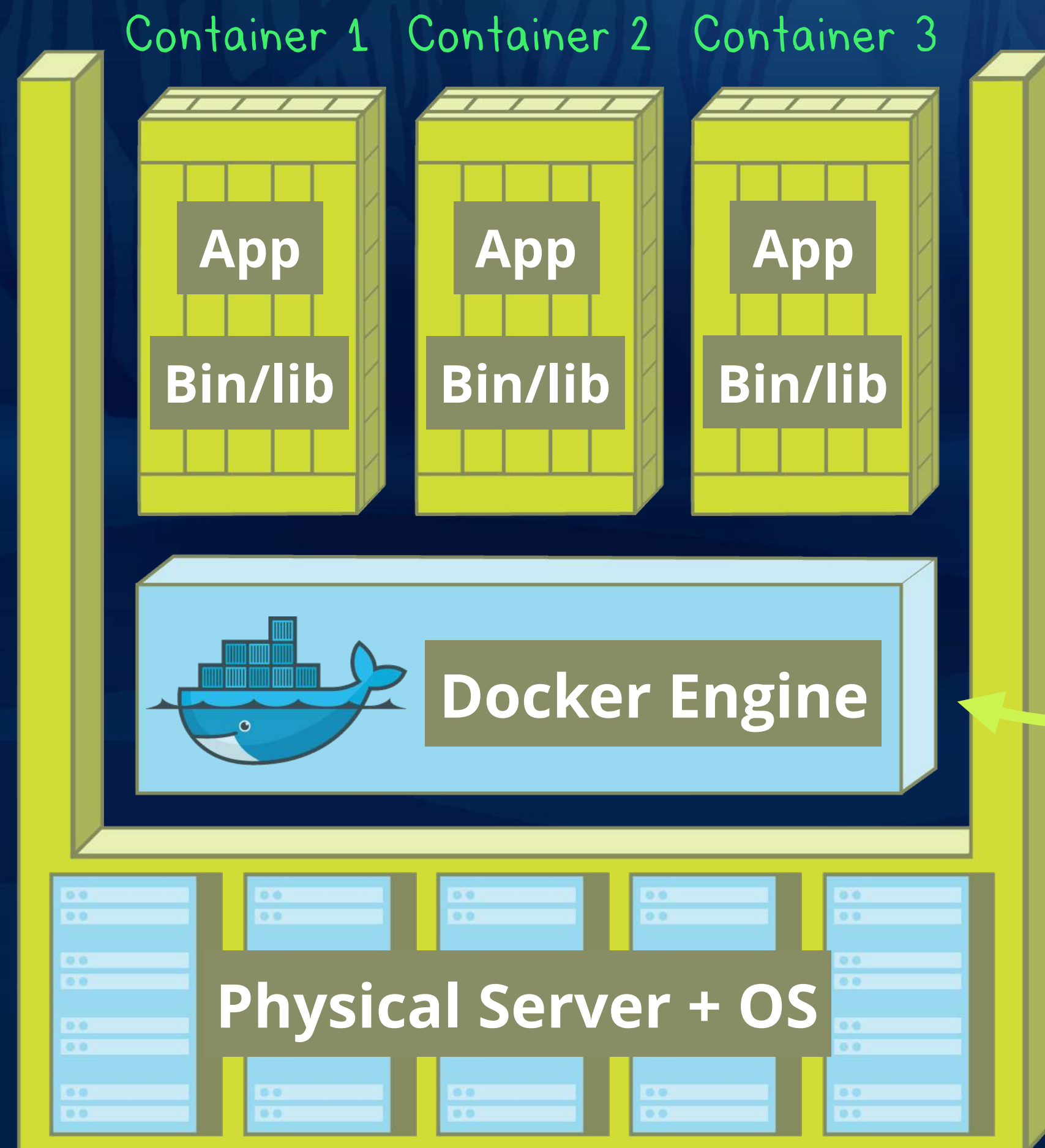
Each container is completely isolated from the others

A computer somewhere - could even be the laptop or desktop computer you're using right now!

Why Docker?

Managing Linux containers is hard.

Docker is a tool that makes it much easier to manage Linux containers.



*Application that manages
containers behind the scenes*

How Can Docker Help Me?

There are many different ways people can use Docker.

Developers

Create contained, controlled dev environment

Share identical dev environment across team

Bug reporting

IT Ops

Testing

Deployment

*This is what
we'll focus on
in this course*

Installing Docker

The simplest way to install Docker is to download one of the official Docker applications.

Applications

Docker for Mac - Community Edition

Docker for Windows - Community Edition

Installation Instructions

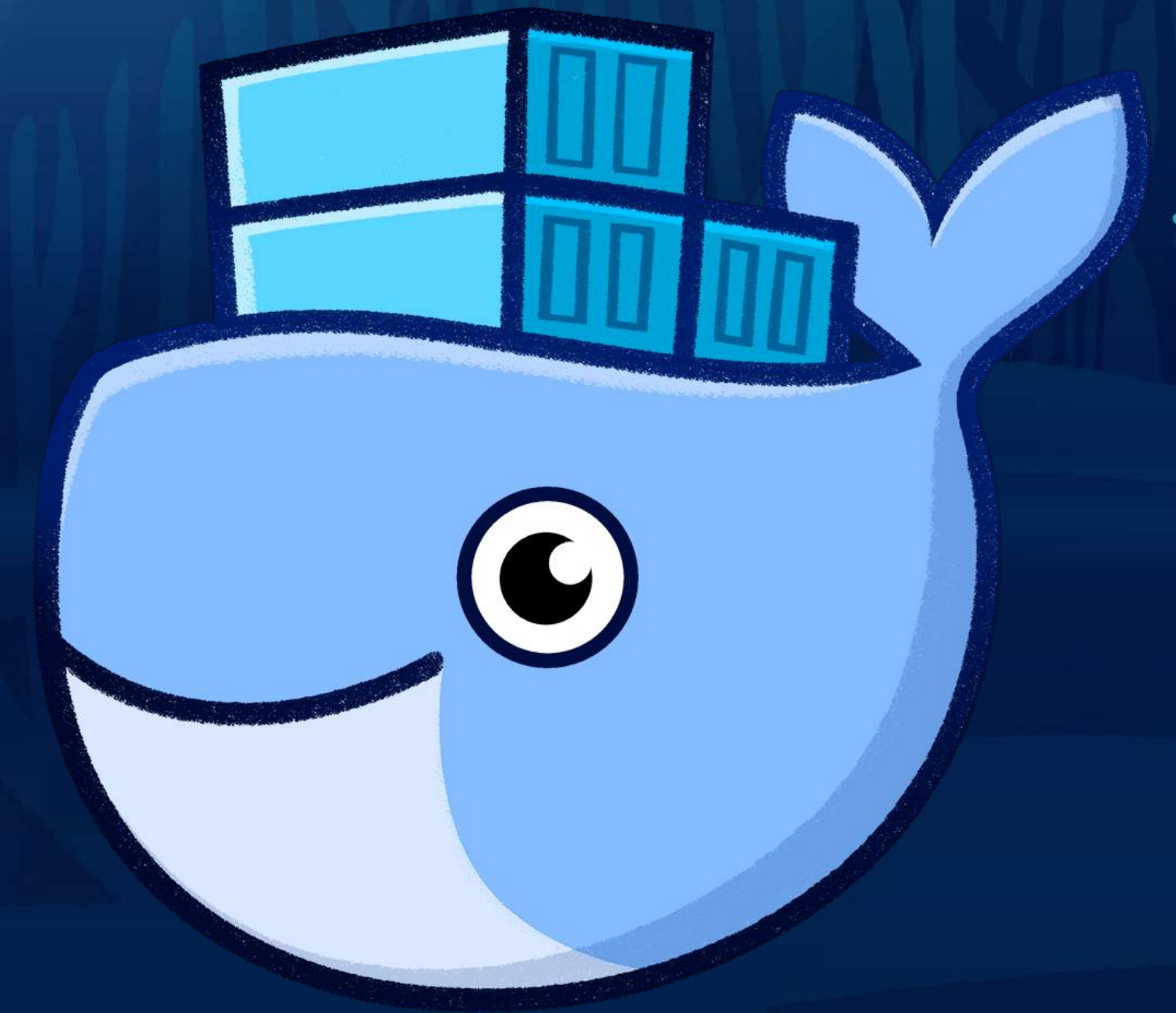
Linux

AWS

Azure

Windows Server

<https://go.codeschool.com/install-docker>



Containers & Images

An image is a blueprint for creating a container.



*Pre-built images
available in Docker
Store (and Docker
Hub)*



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An underwater scene with various coral reefs, seaweed, and bubbles. The background is a deep blue gradient. The coral and seaweed are in shades of green, yellow, and orange. Bubbles are scattered throughout the scene.

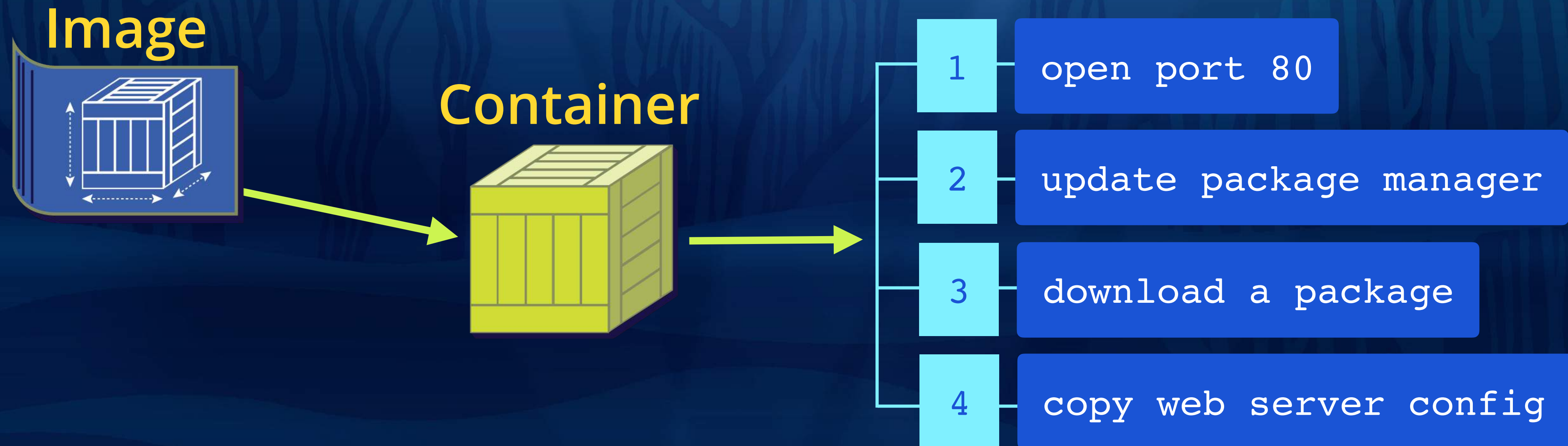
Level 1 – Section 2

Dockerfiles

Automating the Creation of Custom Images

The Problem: Creating Containers Is Clunky

Creating containers from the command line works, but it quickly gets a little clunky the more customization that you need to do.

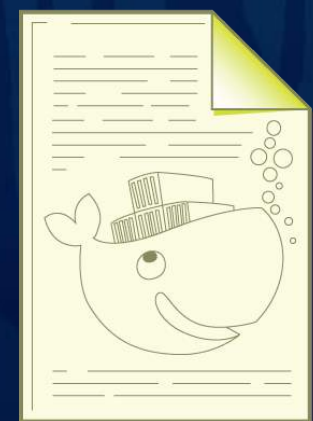


*Each step modifies
the container a
little bit*

*Dockerfiles help make
this process slightly
less manual*

Dockerfiles Help You Create Images

A Dockerfile is a specially formatted text file where you can add a list of instructions that will run and result in a new image that can be used to make a container.



Dockerfile

1

open port 80

2

update package manager

3

download a package

4

copy web server config

Image



Container



*The steps in a
Dockerfile are run
and turned into a
single image*



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An underwater scene with various coral reefs and seaweed. The background is a deep blue gradient. In the foreground, there are large green seaweed-like plants on the left and purple coral structures. In the middle ground, there are blue and orange coral reefs. On the right, there are large blue cylindrical structures resembling coral or sea anemones. The overall lighting is dim, with some light rays filtering through the water.

Level 1 – Section 3

Volumes

Working With Data in Containers

Getting Data Into Containers

If the image you're building a container with doesn't already contain application files, you'll need an extra step to get them into your container.

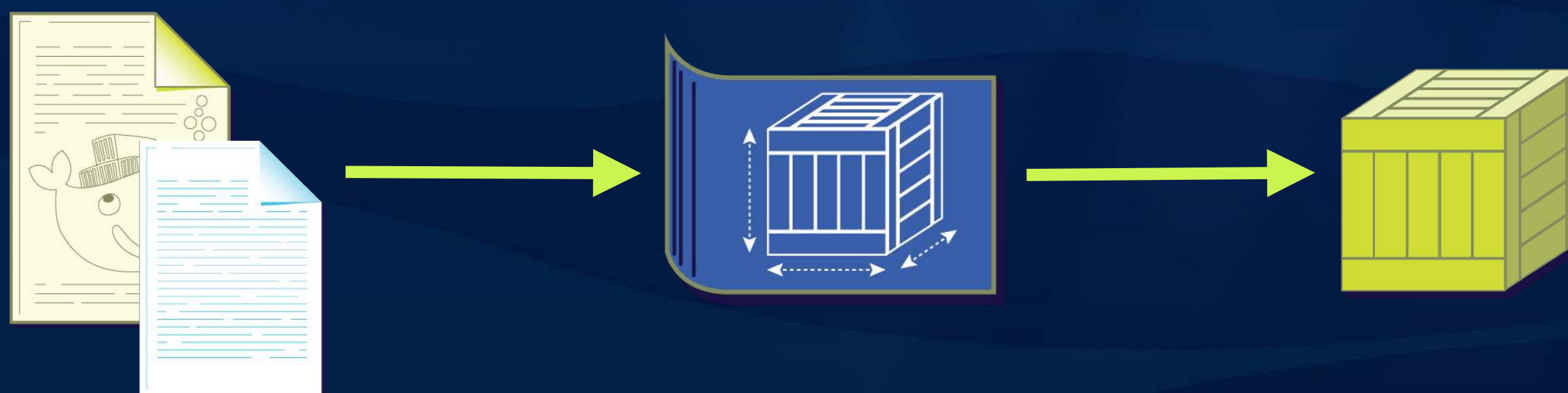
1

Copy a file into a container from the command line



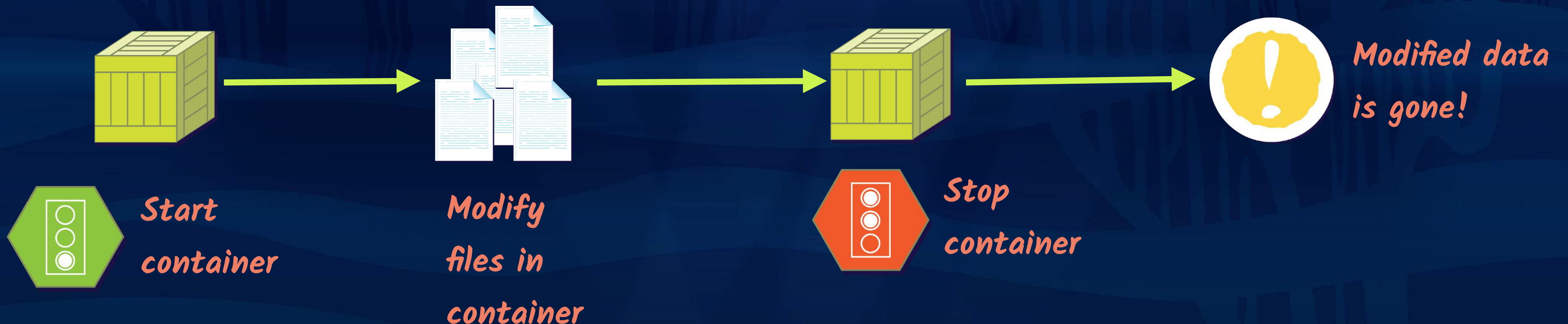
2

Copy a file into an image with instructions in a Dockerfile



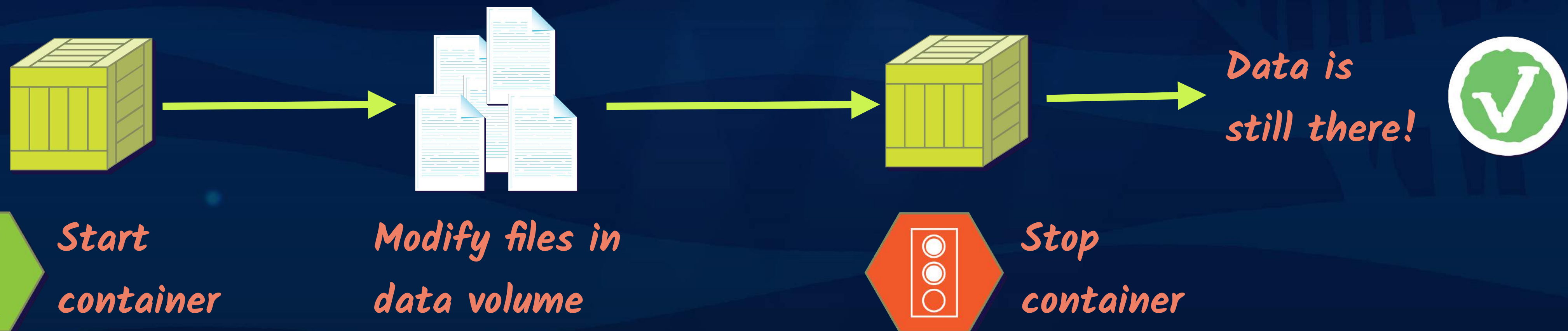
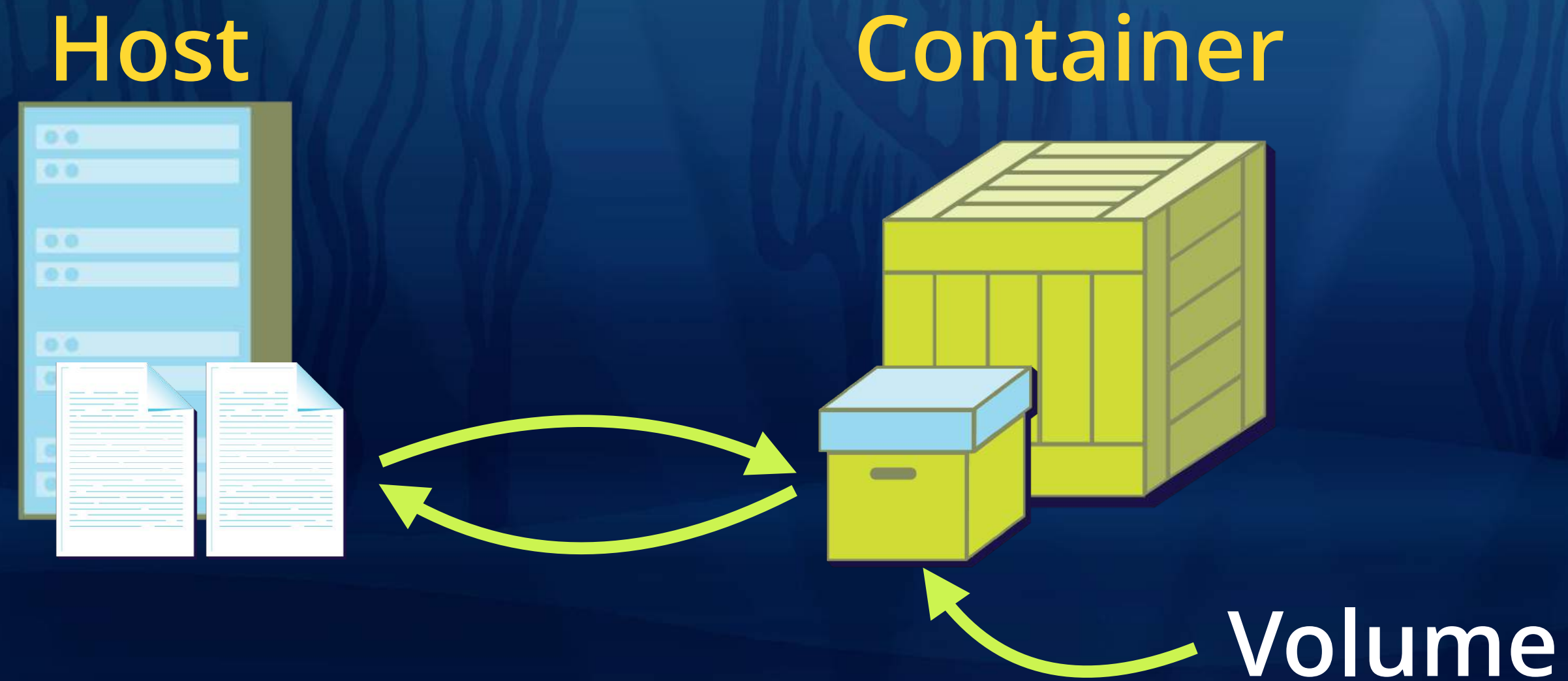
The Problem: Containers Don't Persist Data

Our containers aren't really doing much right now because we don't have a way to get data in them.



The Solution: Data Volumes

Data volumes expose files on your host machine to the container.





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