Actionable docker

Using docker to run packages locally.

Docker let's you do a lot of things, here's my tutorial on the same –

This tutorial is on actionable docker to start packages locally.

Installing Docker

Docker GUI is the easiest way to get off the ground.

You can find instructions to install docker on
https://docs.docker.com/engine/install/

At the end of the installation, you need to make sure you're able to run the
following command -

```
→  ~ docker run hello-world
^[Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
478afc919002: Pull complete
Digest: sha256:d000bc569937abbe195e20322a0bde6b2922d805332fd6d8a68b19f524b7d21d
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (arm64v8)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
```

What are we using docker for?

Docker let's you do a lot of things.

It let's you containerise your applications.

It let's you run other people's code + packages in your machine.

It let's you run common software packages inside a container (For eg - Mongo, Postgres etc)
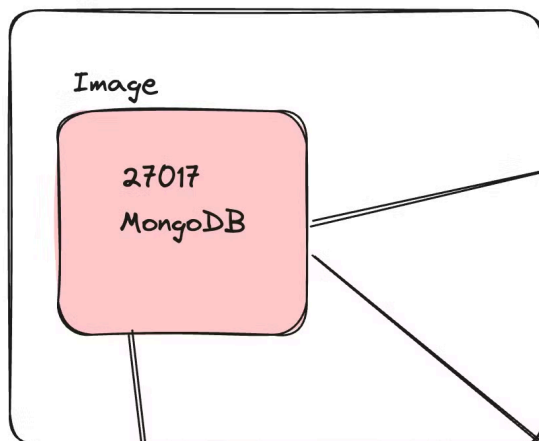
Mac machine

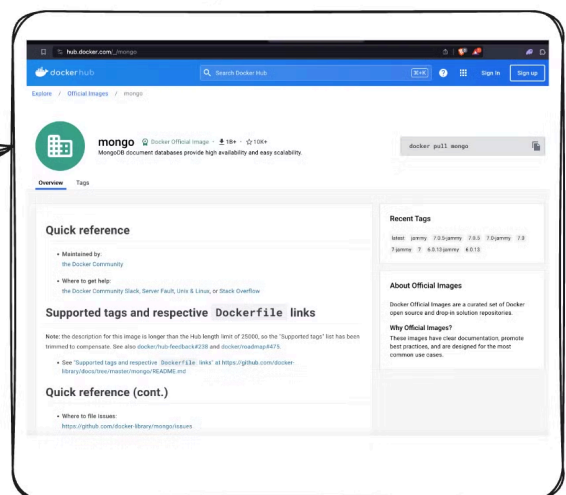## Container

Container

Where can we get packages from?

Just like you can push your code to Github/Gitlab.
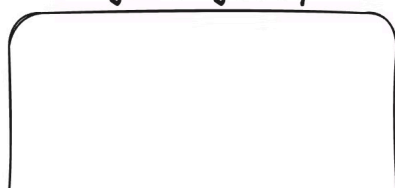
You can push images to docker registries

Mac machine

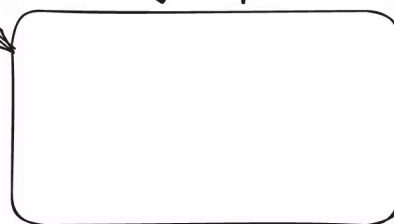Dockerhub

Image

27017
MongoDB

Google registry

AWS registry

Common commands to know

1. docker run

2. docker ps

3. docker kill

Running an image

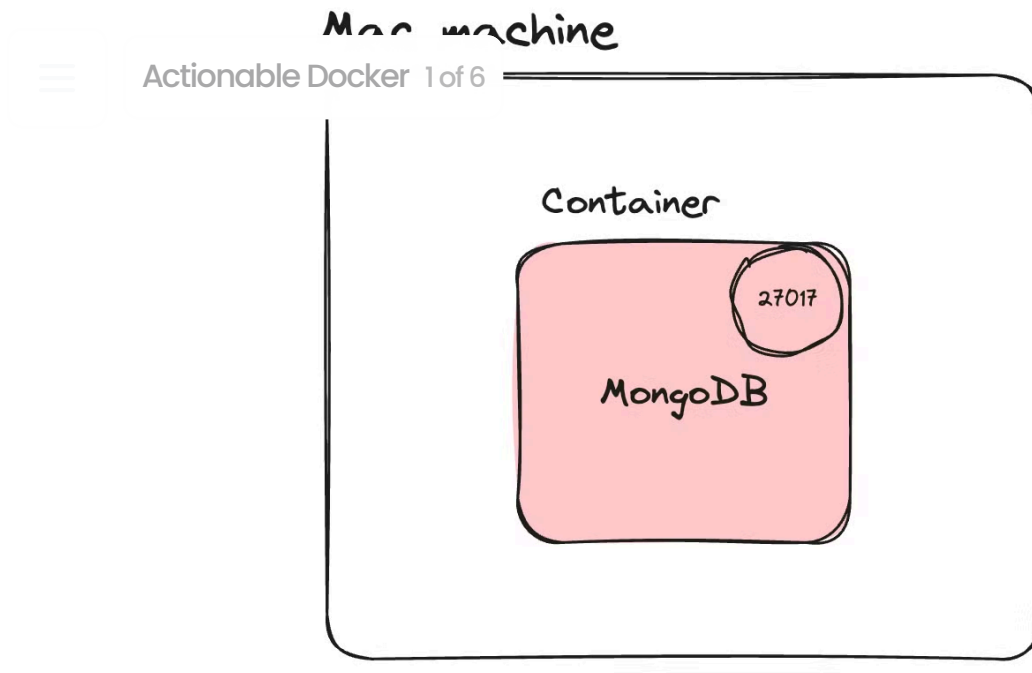### 1. Running a simple image

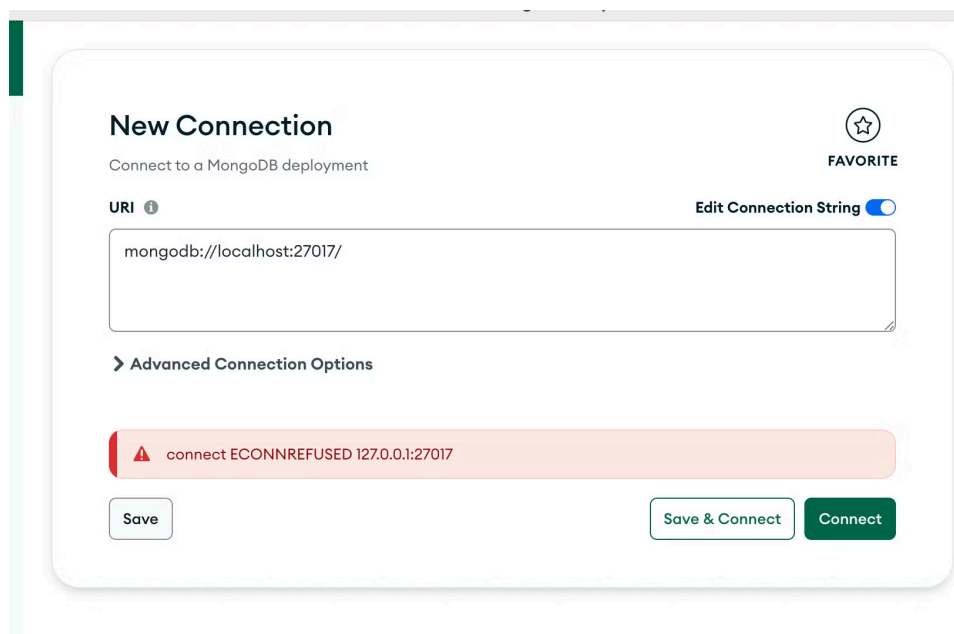Let's say you wan't to run MongoDB locally
https://hub.docker.com/_/mongo

```
docker run mongo
```

Mac machine

Container

27017

MongoDB

You will notice you can't open it in   MongoDB Compass   .

New Connection
Connect to a MongoDB deployment

FAVORITE

URI ⓘ

Edit Connection String 🔵

mongodb://localhost:27017/

❯ Advanced Connection Options

⚠ connect ECONNREFUSED 127.0.0.1:27017

Save

Save & Connect   Connect

Adding a port mapping

The reason is that you haven't added a   port mapping

```
docker run  -p 27017:27017 mongo
```
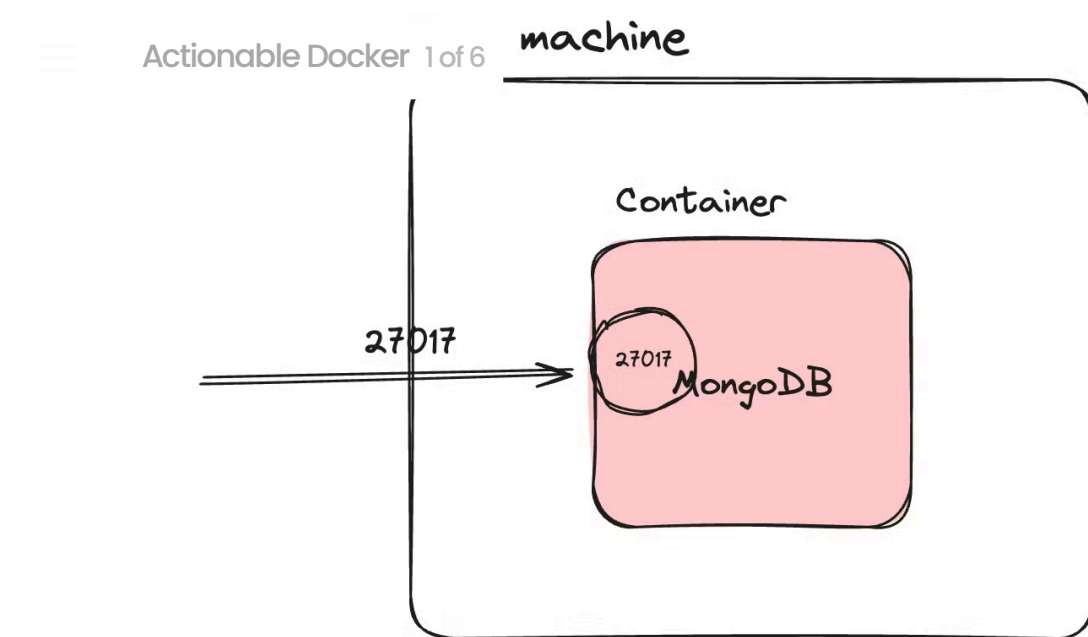
Starting in detached mode

Adding `-d` will ensure it starts in the background

```
docker run -d -p 27017:27017 mongo
```

Inspecting a container

```
docker ps
```

This will show you all the containers you are running.

Stopping a container

Common packages

Mongo

docker run -d -p 27017:27017 mongo

Postgres

docker run -e POSTGRES_PASSWORD=mysecretpassword -d -p 5432:5432 pos

The connection string for this postgres would be

postgresql://postgres:mysecretpassword@localhost:5432/postgres

▼ Code to test it out

```
// Import the pg library
const { Client } = require('pg');

// Define your connection string (replace placeholders with your actual dat
const connectionString = 'postgresql://postgres:mysecretpassword@localh

// Create a new client instance with the connection string
const client = new Client({
  connectionString: connectionString
});

// Connect to the database
client.connect(err => {
  if (err) {
    console.error('connection error', err.stack);
  } else {
    console.log('connected to the database');
  }
});

// Run a simple query (Example: Fetching the current date and time from Po
client.query('SELECT NOW()', (err, res) => {
  if (err) {
    console.error(err);
  } else {
    console.log(res.rows[0]);
```

```
      }

        // Close the connection )

      client.end();
    });
```

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