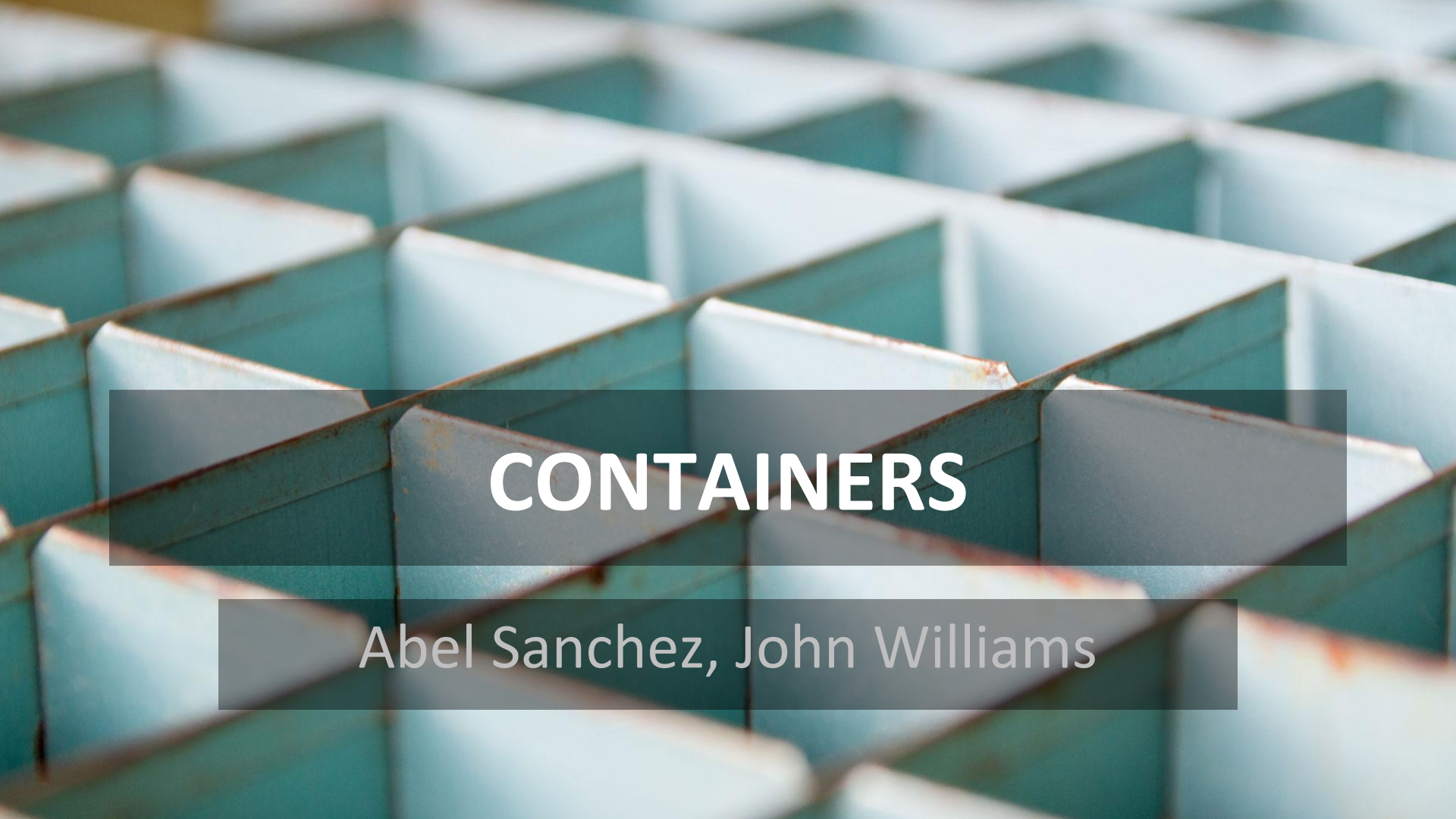


CONTAINERS

Abel Sanchez, John Williams

Setting Up a Machine is Hard Work

APP SERVERS

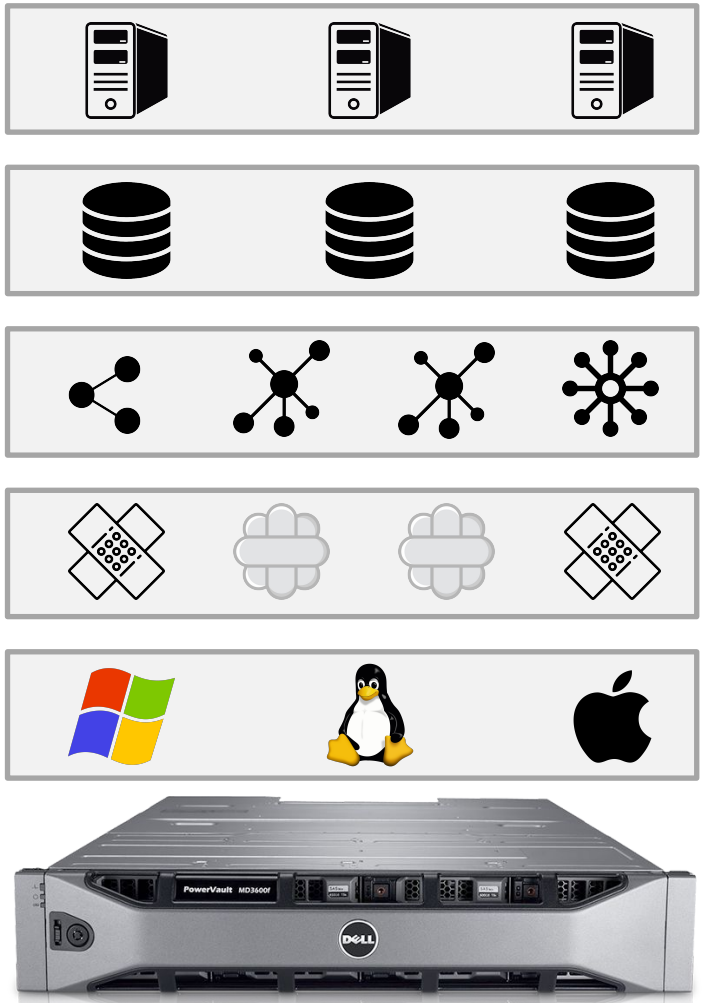
DATA STORE

DEPENDENCIES

PATCHING

OS

COMPUTER



Installation, setup, configuration, admin

Installation, setup, configuration, admin

runtimes, languages, packages, configurations

VM
VM
VMware Fusion File Edit View Virtual Machine Window Help
Windows 10 x64
Recycle Bin
Mike Roy
Most used
Maps
Get Skype
People
Calculator
Alarms & Clock
File Explorer
Settings
Power
All apps
New
Life at a glance
Mail
Microsoft Edge
Photos
Partly Cloudy
77°
85°
75°
Washington,...
Xbox
Cortana
Ask me anything
VMware Fusion

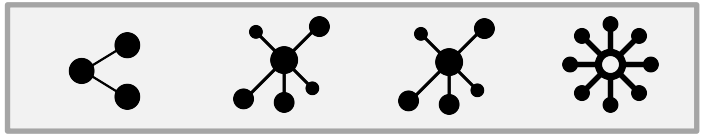
APP SERVERS

Installation, setup, configuration, admin

DATA STORE

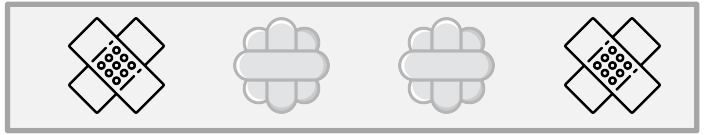
Installation, setup, configuration, admin

DEPENDENCIES

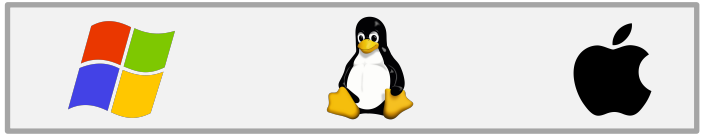


runtimes, languages, packages, configurations

PATCHING



OS

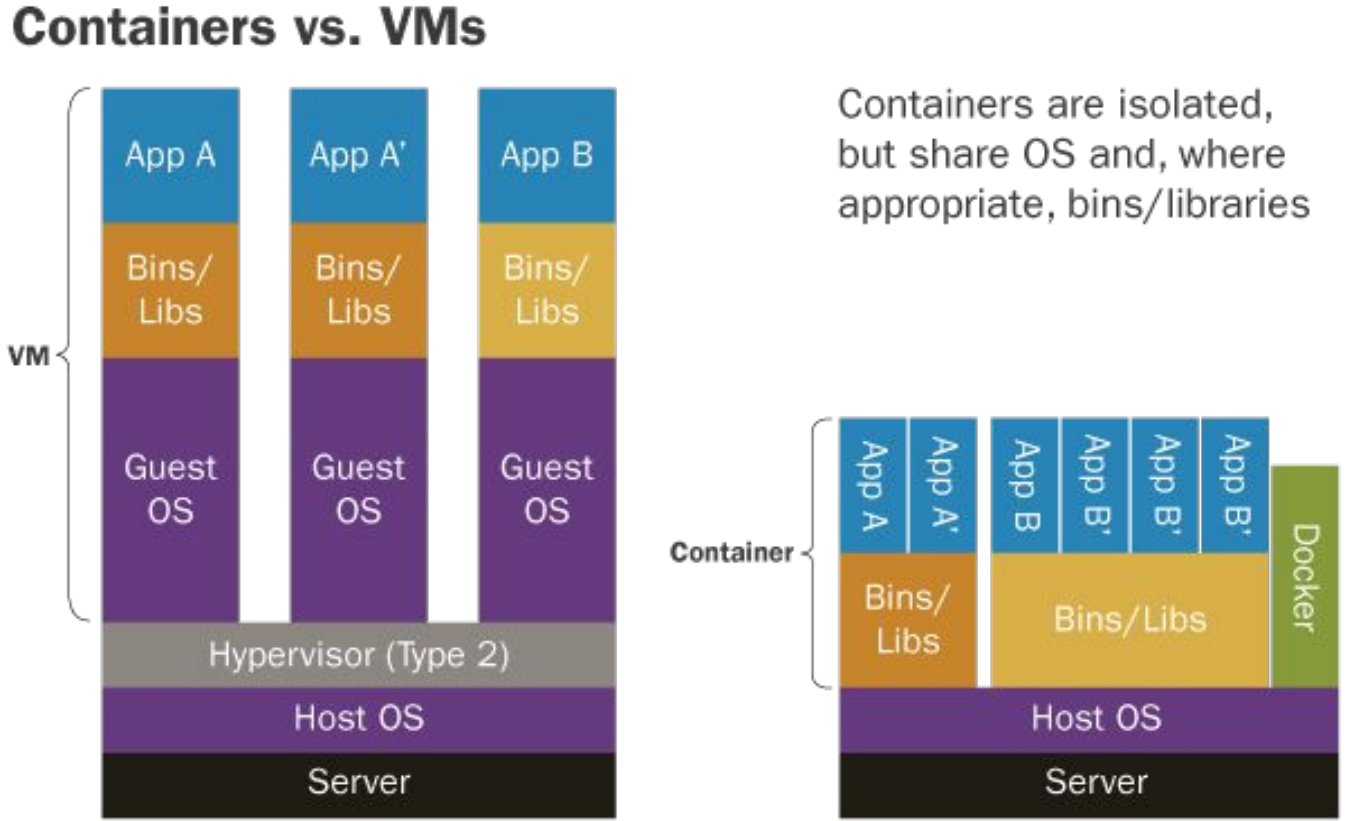


VM SOFTWARE

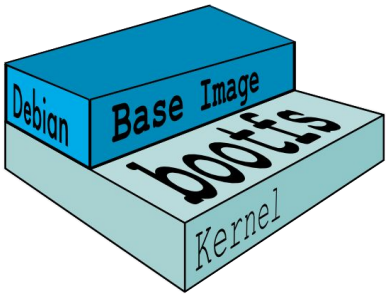
Docker, Why Do We Care?

- https://www.youtube.com/watch?v=El_XpG4haz0

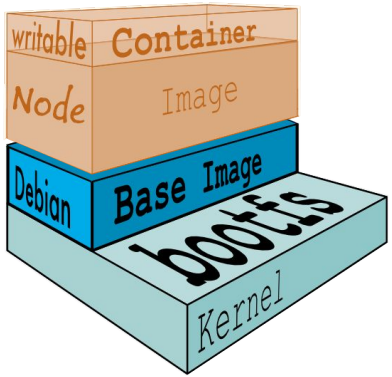
Container vs. VM



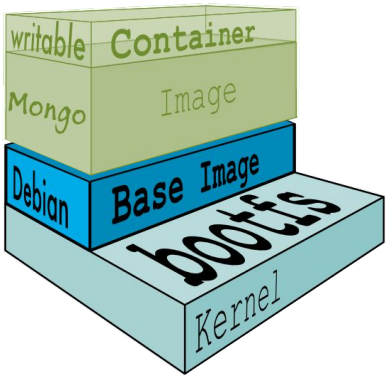
Docker Images



Base Image

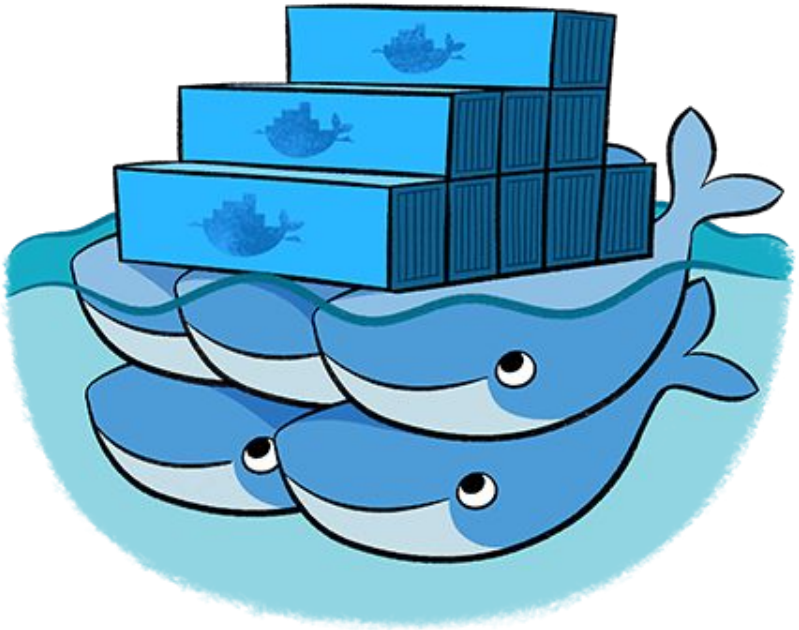


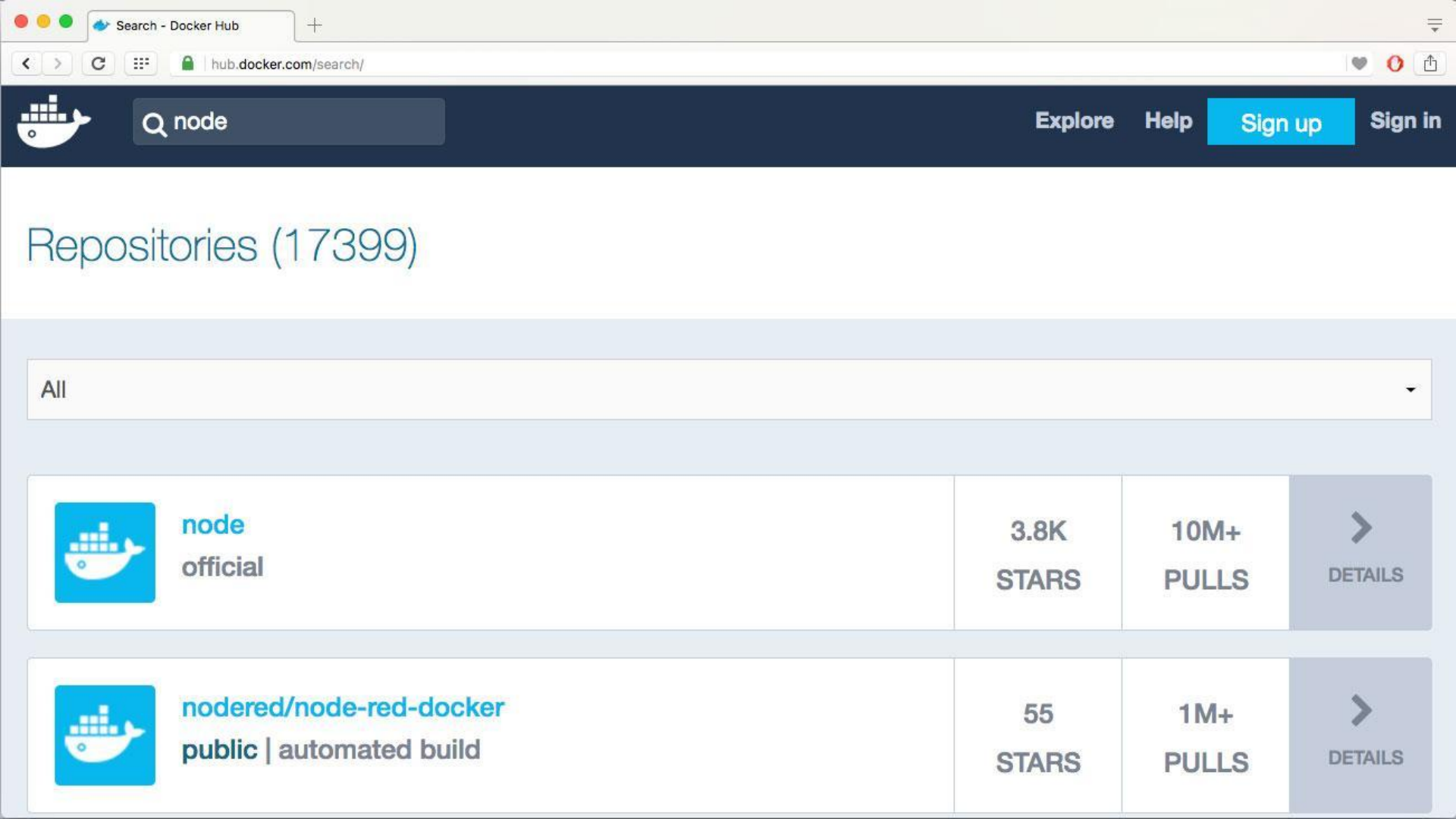
Base Image
Plus
Node



Base Image
Plus
Mongo

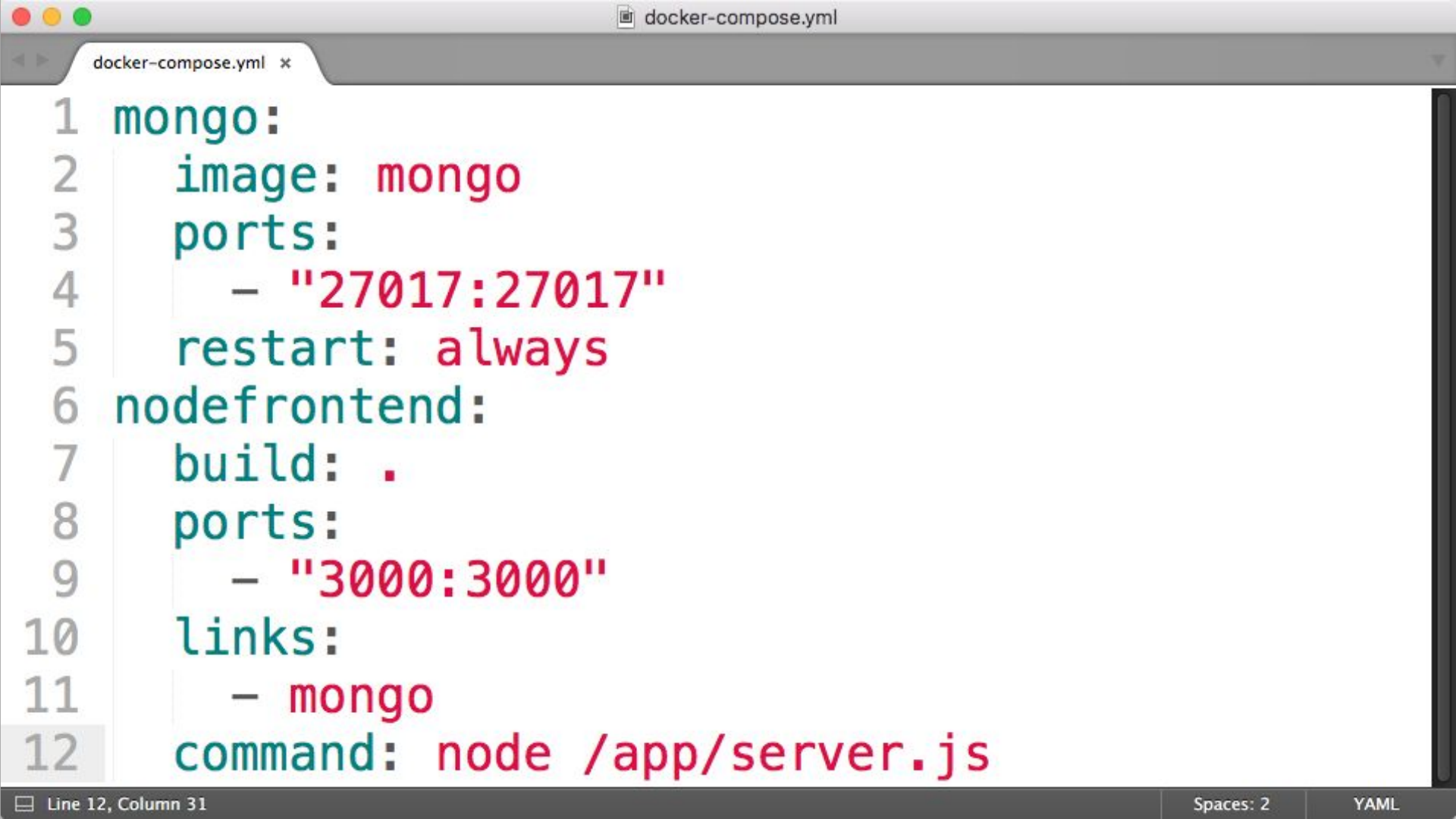
Registry of Images




Search - Docker Hub
hub.docker.com/search/
node
Explore
Help
Sign up
Sign in
Repositories (17399)
All
node
official
3.8K
STARS
10M+
PULLS
DETAILS
nodered/node-red-docker
public | automated build
55
STARS
1M+
PULLS
DETAILS

Dockerfile

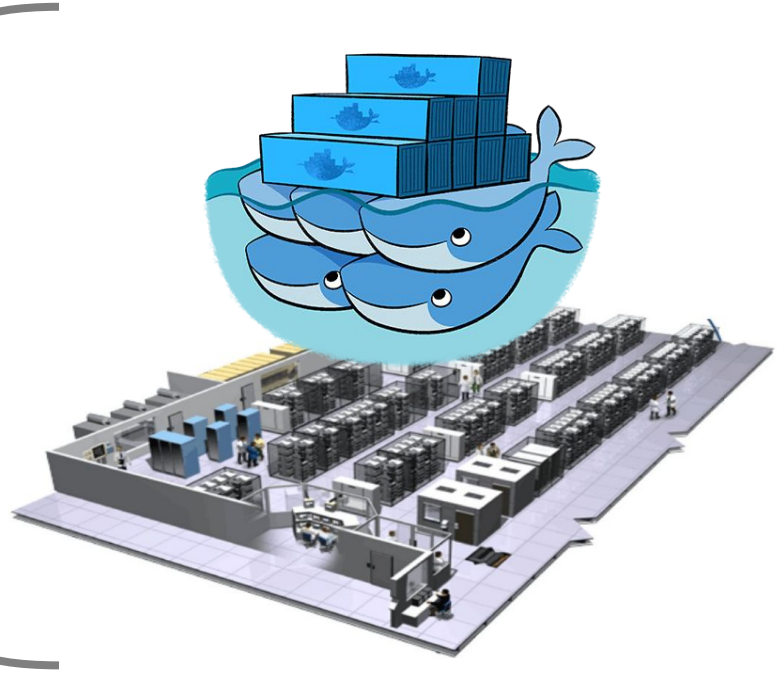
```
1  FROM node:6.5.0
2
3  WORKDIR /app
4
5  RUN npm install nodemon -g
6
7  COPY package.json /app/package.json
8  RUN npm install
9
10 COPY server.js /app
11
12 EXPOSE 3000
```

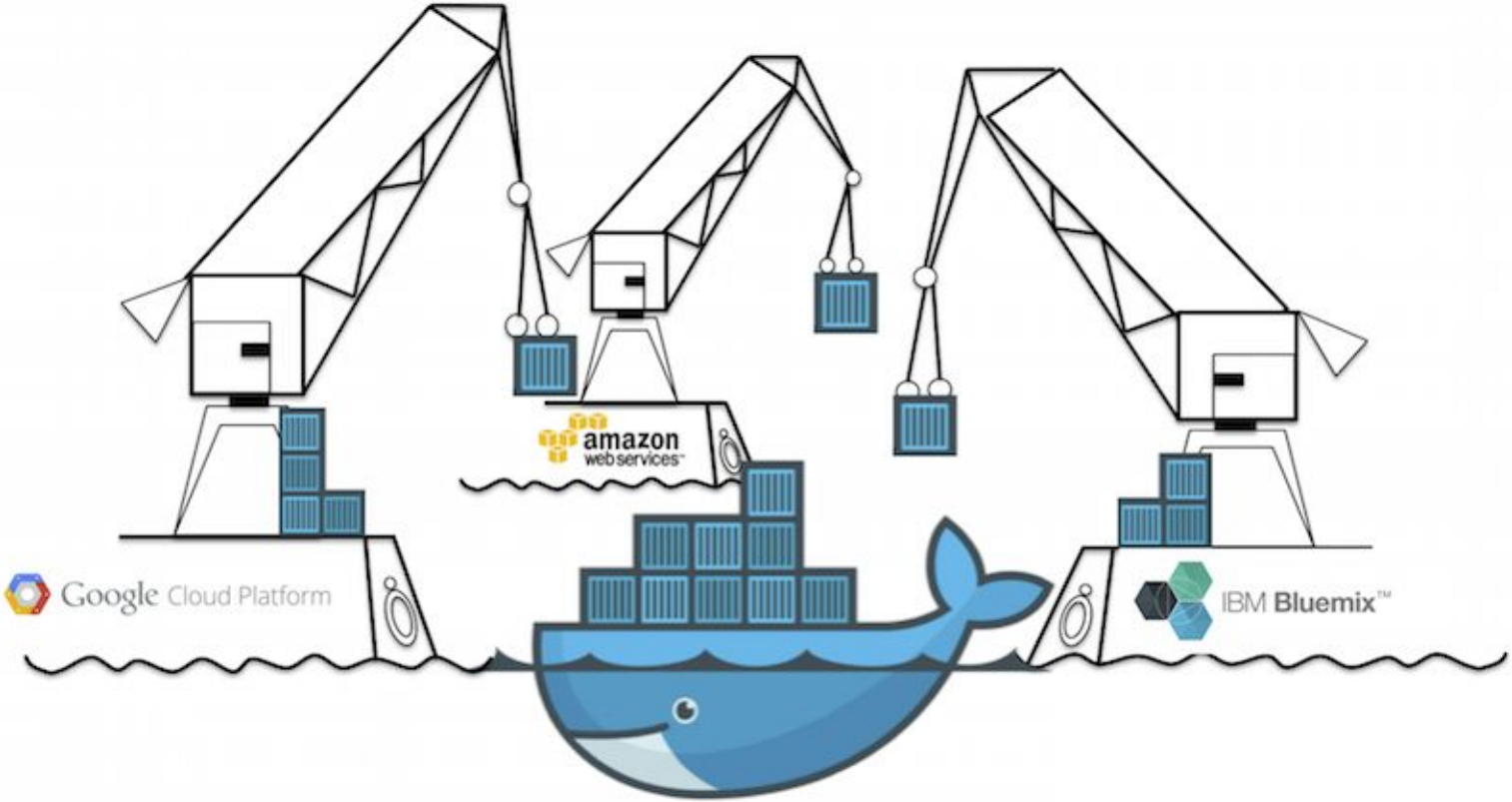

docker-compose.yml
docker-compose.yml
mongo:
image: mongo
ports:
- "27017:27017"
restart: always
nodefrontend:
build: .
ports:
- "3000:3000"
links:
- mongo
command: node /app/server.js
Line 12, Column 31
Spaces: 2
YAML

Every Week: 2 Billion Containers

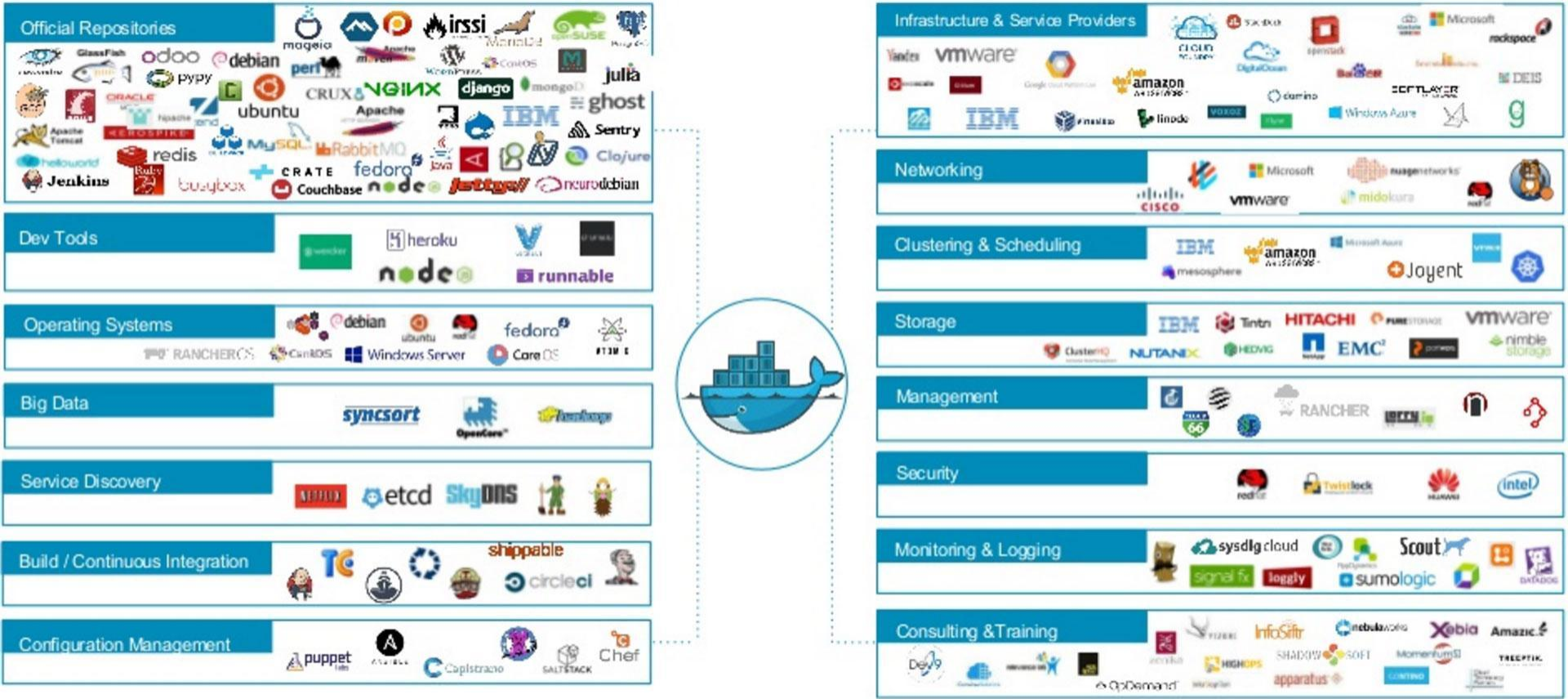
Google

(internally)




amazon
web services
Google Cloud Platform
IBM Bluemix™

Docker Ecosystem



Active Learning

Install Docker

- https://www.docker.com

Storage

- The JS stack story vs enterprise computing
- Slides at
  - http://onexi.org/abel/19_data_stores/slides.html

Docker Exercise #1

- al-mongo
  - Node application plus dockerized mongo database
  - https://github.com/onexi/ex-mongo
- Steps
  - `$ docker-compose up`
  - `$ npm install`

Docker Exercise #2

- al-mongonode
  - Dockerized node application plus mongo database
  - https://github.com/onexi/ex-mongonode
- Steps
  - `$ docker-compose up`

Docker Exercise #3

- al-mongoflask
  - Dockerized python, flask application, plus mongo database
  - https://github.com/onexi/ex-mongoflask

Deleting Containers/Images

- Deleting containers
  - `$ docker rm $(docker ps -aq)`
- Deleting images
  - `$ docker rmi $(docker images -q)`