# Scaling Microservices

## Brave new world

**David Gonzalez (@dagonzago)**

# Who am I?

Author of “Developing Microservices with Node.js”

amazon.co.uk Prime

Books

Shop by Department

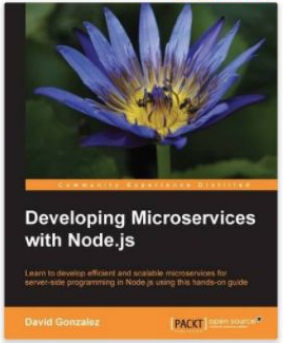
David's Amazon | Today's Deals | Gift Cards & Top Up | Sell | Help

Hello, David
Your Account

Books | Advanced Search | Best Sellers | Top New Releases | Deals in Books | School Books | Textbooks | Books Outlet | Children's Books | Calendars & Diaries

Computing & Internet › Programming › Languages

Look inside




See all 2 images

**Developing Microservices with Node.js** Paperback – 26 Apr 2016

by David Gonzalez (Author)

4 customer reviews

See all formats and editions

| Kindle Edition | Paperback |
|---|---|
| £25.77 | £25.99 Prime |
| Read with Our Free App | 5 Used from £26.27<br>15 New from £25.46 |

**Want it delivered by Thursday, 20 Oct.?** Order within 6 hrs 6 mins and choose **Priority Delivery** at checkout. Details

**Note:** This item is eligible for **click and collect.** Details

**Key Features**

- Real world example explained chapter after chapter with code examples.
- Useful concepts for other languages like Java or PHP
- Easy to follow by people with little to none experience in Node.js
- Node.js Version 0.12.2 and the latest compatible versions of Seneca and PM2

**Book Description**

Read more

# Who am I?

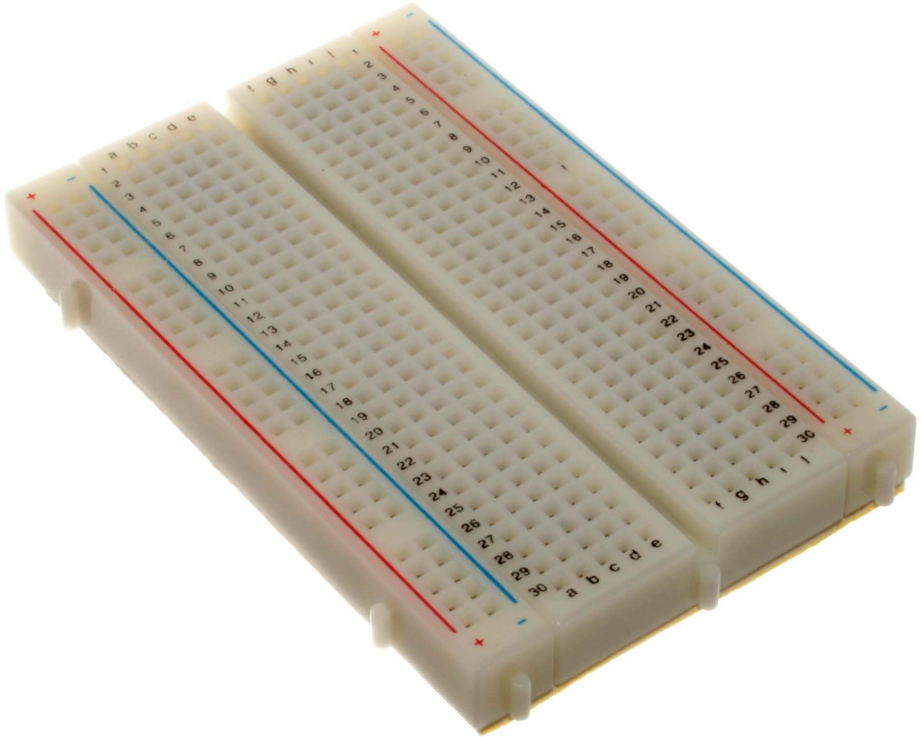
- Technology lover
- Microservices apprentice
- I used to call myself Java Developer…

**But the world has changed**

nearForm

# Let’s compare Real World ™ with Microservices...

# What is this?



# Allows us to...

- Fail quickly
- Recover quickly
- Test integrations with the Real World ™

**It is a playground for ideas**

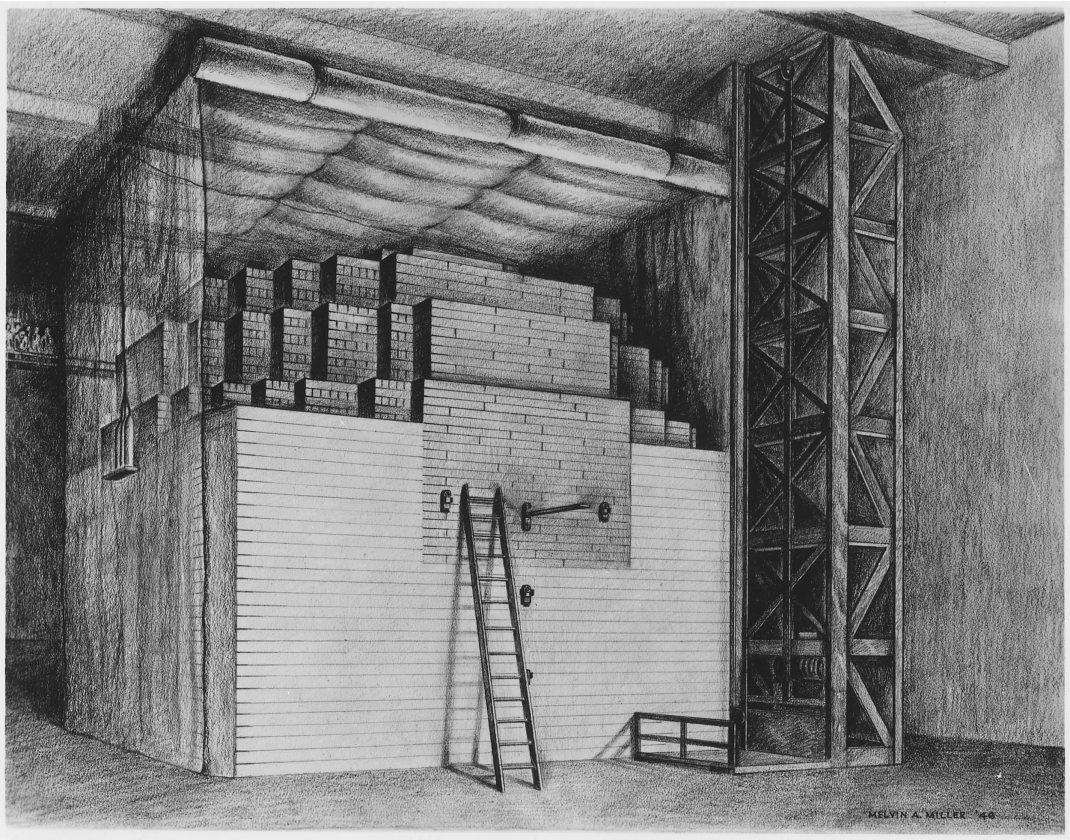
Fail early, fail quickly and, specially...

RECOVER!

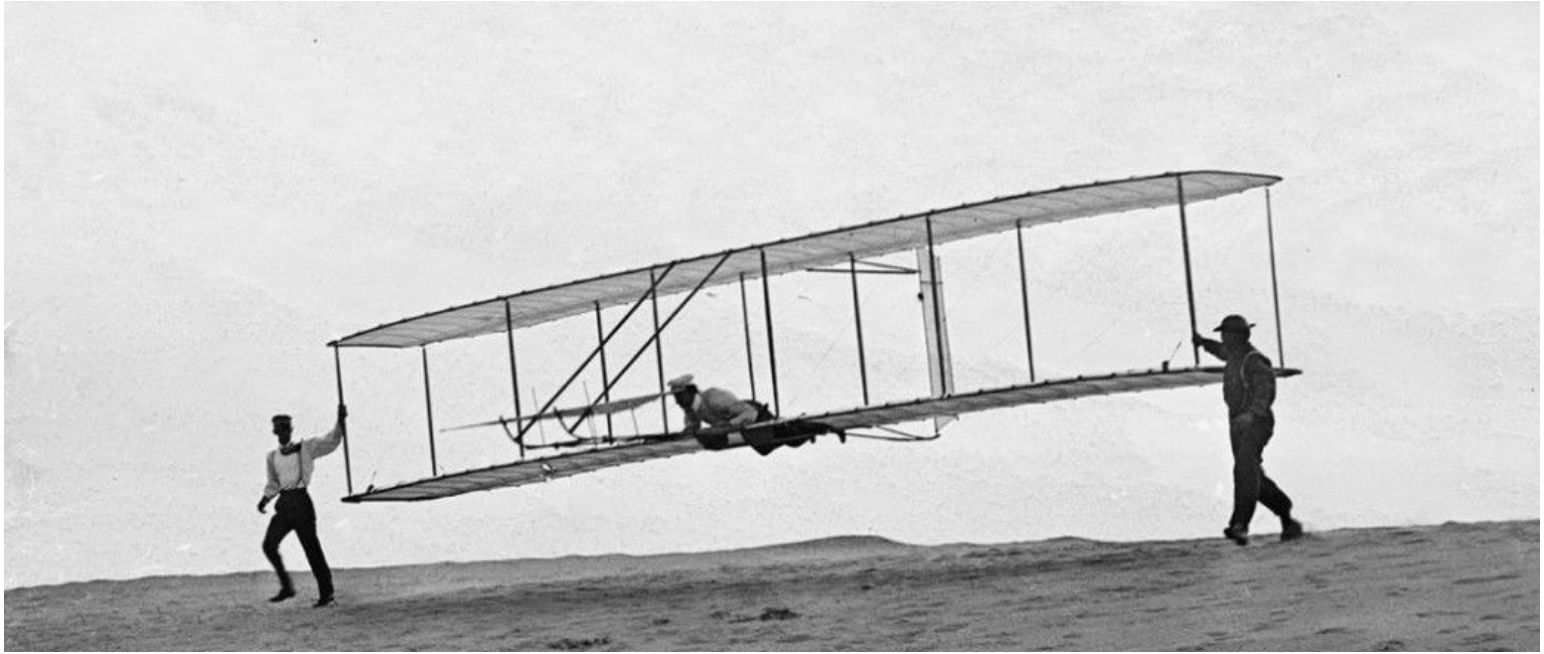
# Prototyping

It is the easiest way

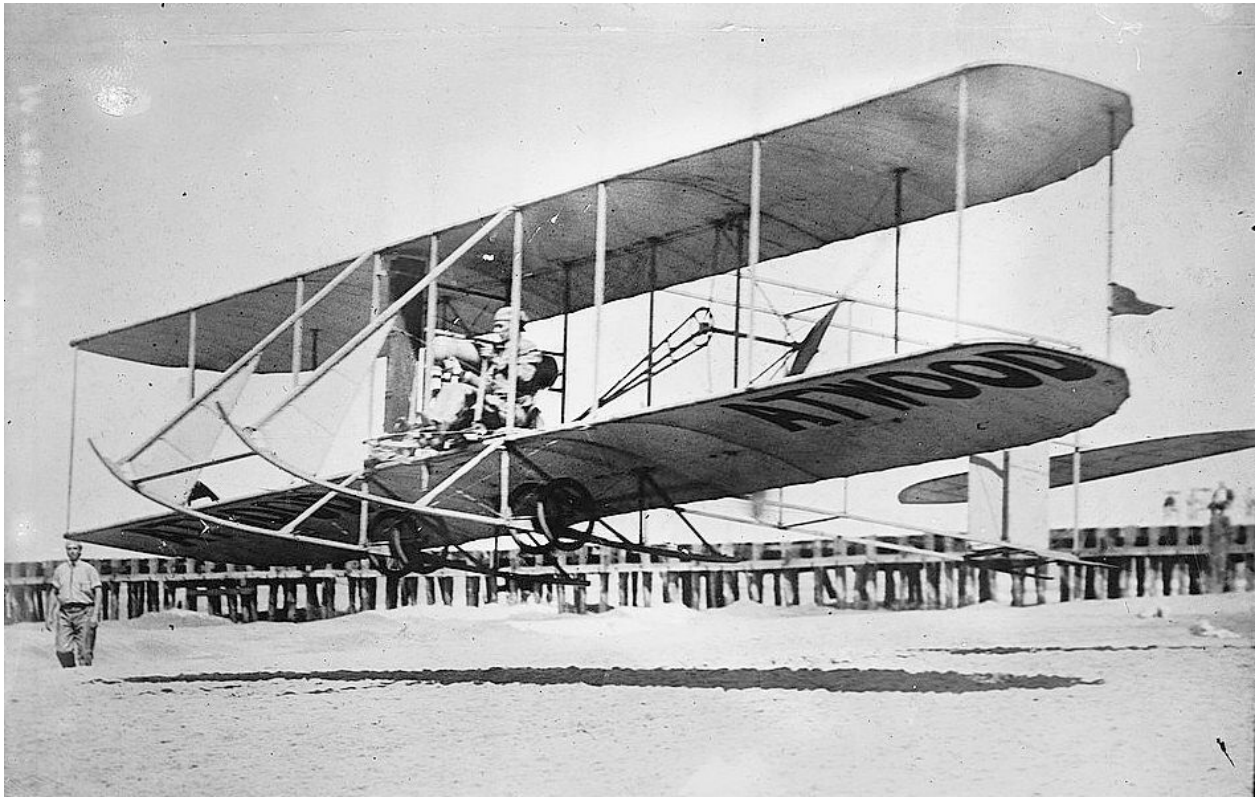
of reducing risks.



# What is this?



# And this?



# What about this?

# Continuous I+D

- Deliver constant value

- *“An artifact that flights, does not need an engine but it might already have the space for it for the first flight.”* ***David Gonzalez, 2 hours ago when panicking about this presentation***

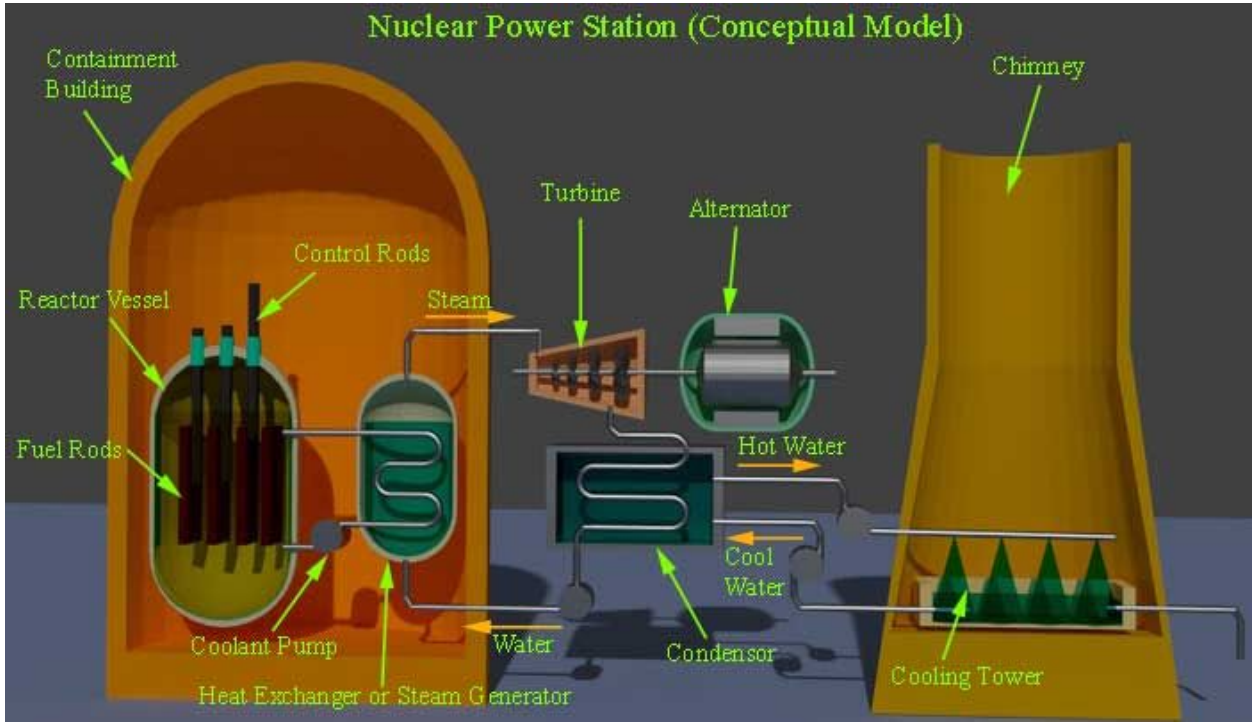
- Liksov substitution

# Microservices

- Allow us to fail quickly:
  - Small pieces that are easier to iterate..
- Allows us to prototype:
  - Build ideas as quickly as possible (sketchy plane)
- Allow us to test integrations with the Real System ™
  - Sketchy code can be deployed in a sandbox and tested against real working components.

SMALL > BIG

# Microservices



# Microservices

- Allow us to prototype quickly
- Allow us to **crash**.
- Well defined interfaces are the key:

*It is safe to assume that a plane will always have wings and engines*

# Microservices without automation...

- Time consuming ops
- Prone to failure (show me your calculator!)
- Hard to manage (mudball effect)
- One click deployments philosophy is a must to be agile

# Microservices without automation...

# Automation



# Automation

- Not microservices oriented
- Infrastructure provisioning
- Not good for deployments (better use Capistrano or Fabric)
- Hard to master and very far from each other (segmentation)

# Containers

# Containers

- It does not matter how bizarre your app is, a container always can encapsulate it

- Lightweight (not a real VM, just few layers)

- Easy to master

# Containers

What if our system needs to span across several machines due to lack of resources (AKA cluster your app)?

# Containers

# kubernetes

# Kubernetes

- Provides containers orchestration across several machines

- Common building blocks for describing systems

- Fault recovery (up to a certain level)

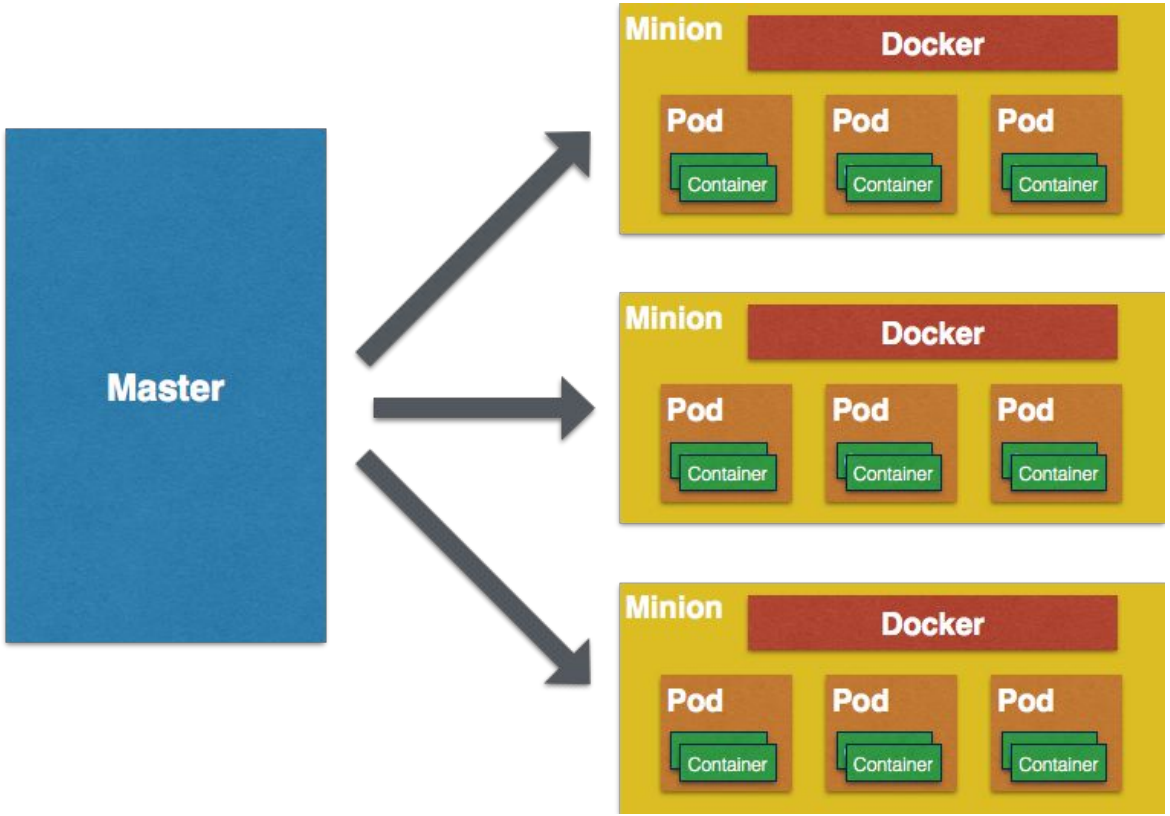
# Kubernetes

- Very early days

- Google Cloud Platform Container Engine

- Clever Setup: Google upgrades master, you look after your nodes

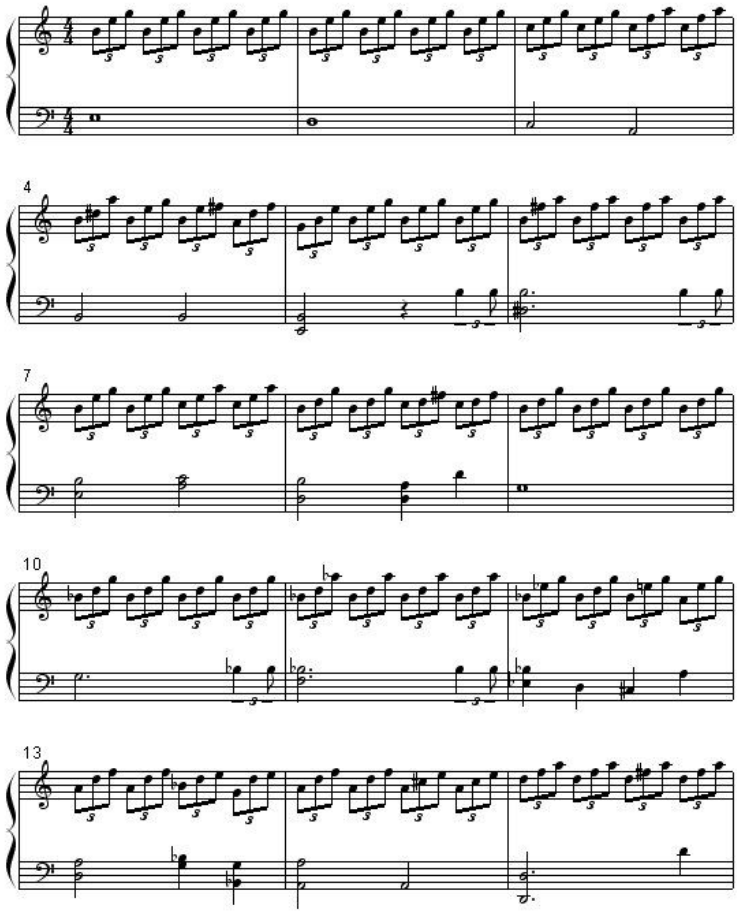
# Kubernetes Physical Infrastructure



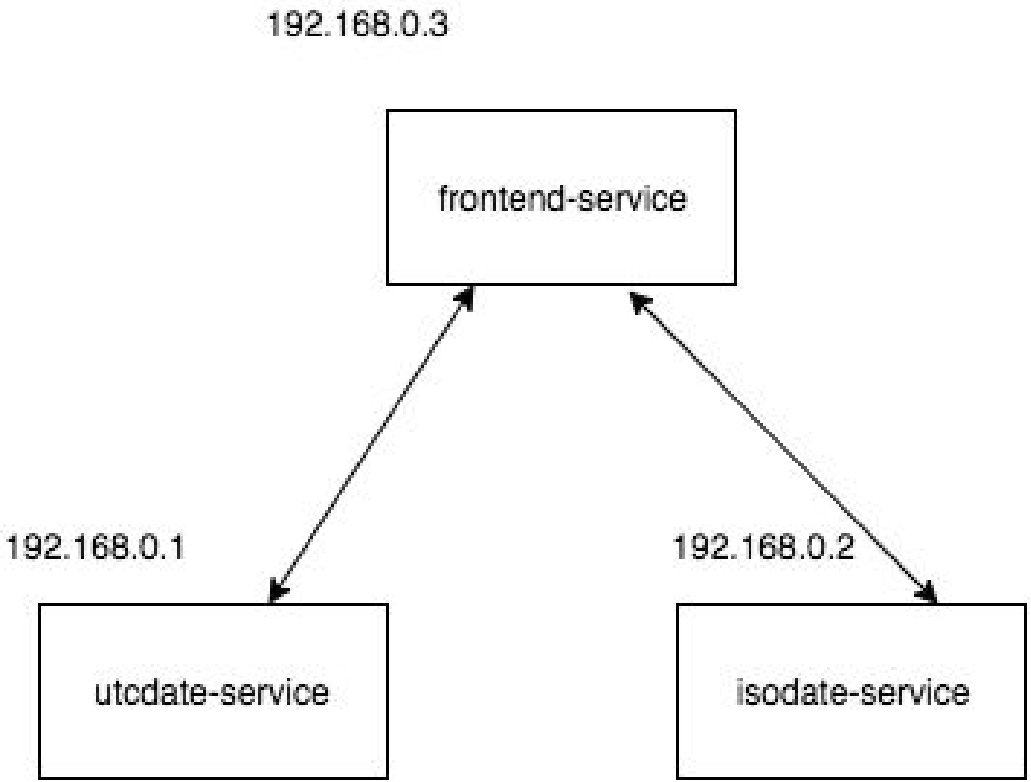
# Kubernetes Logical Building Blocks

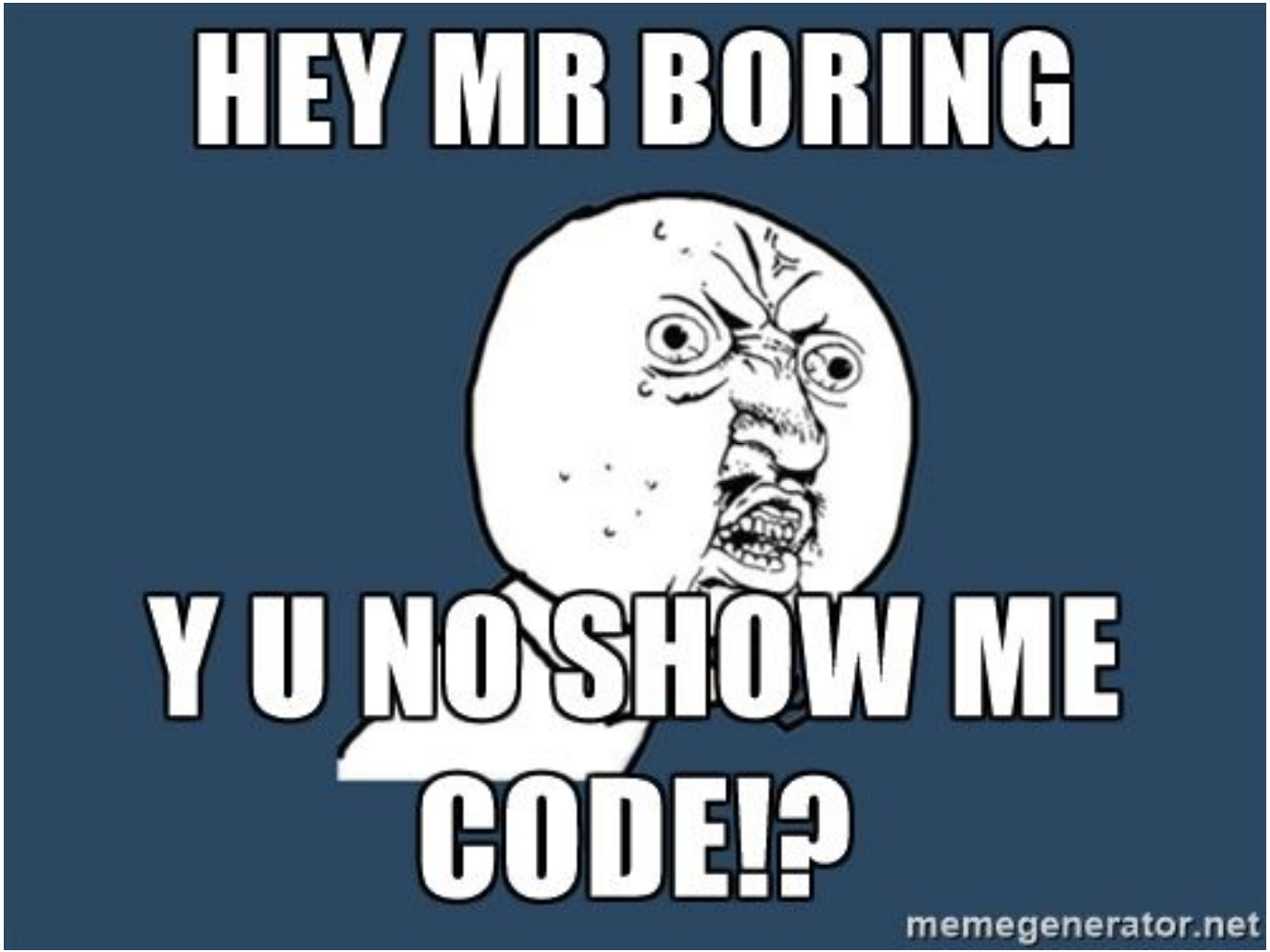
- Container
- Pod
- Service
- Replication Controller (Replica Set)
- Deployments
- PetSets
- Ingress
- ...

# Let’s play



# Example


192.168.0.3
frontend-service
192.168.0.1
192.168.0.2
utcdate-service
isodate-service


HEY MR BORING
Y U NO SHOW ME
CODE!?
memegenerator.net


I'M OUTTA BULLET POINTS...
ANY QUESTIONS?

# Thanks!

@dagonzago -> Twitter

https://github.com/dgonzalez

david.gonzalez@nearform.com