



# FROM PETS TO CATTLE THE WAY OF KUBERNETES

@AGONZALEZERO

jobandtalent  
ENGINEERING

1.

WHY THE TITLE?

2.

CONTAINERS

3.

KUBERNETES CONCEPTS

4.

KUBERNETES ARCHITECTURE

5.

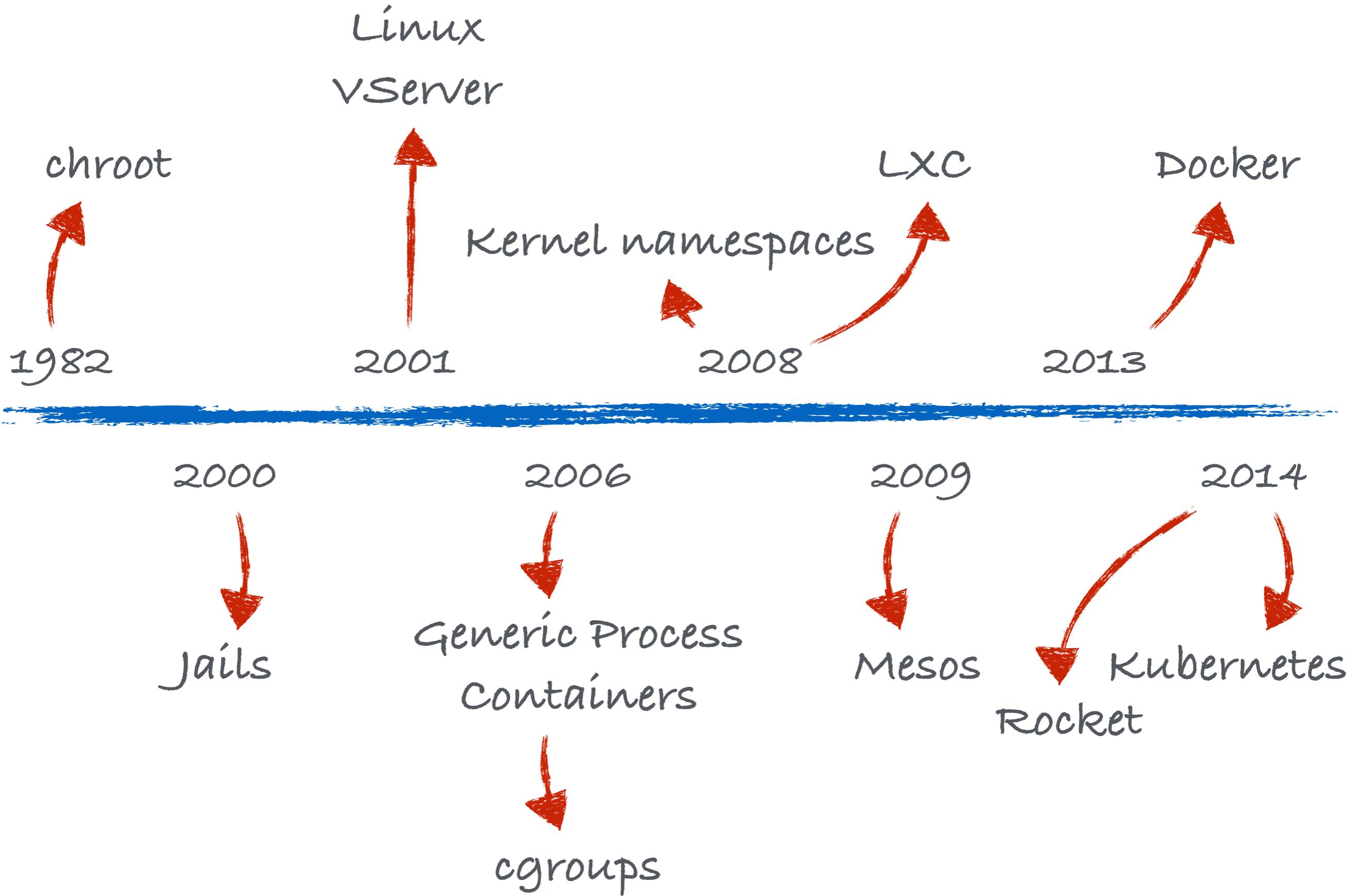
QUESTIONS



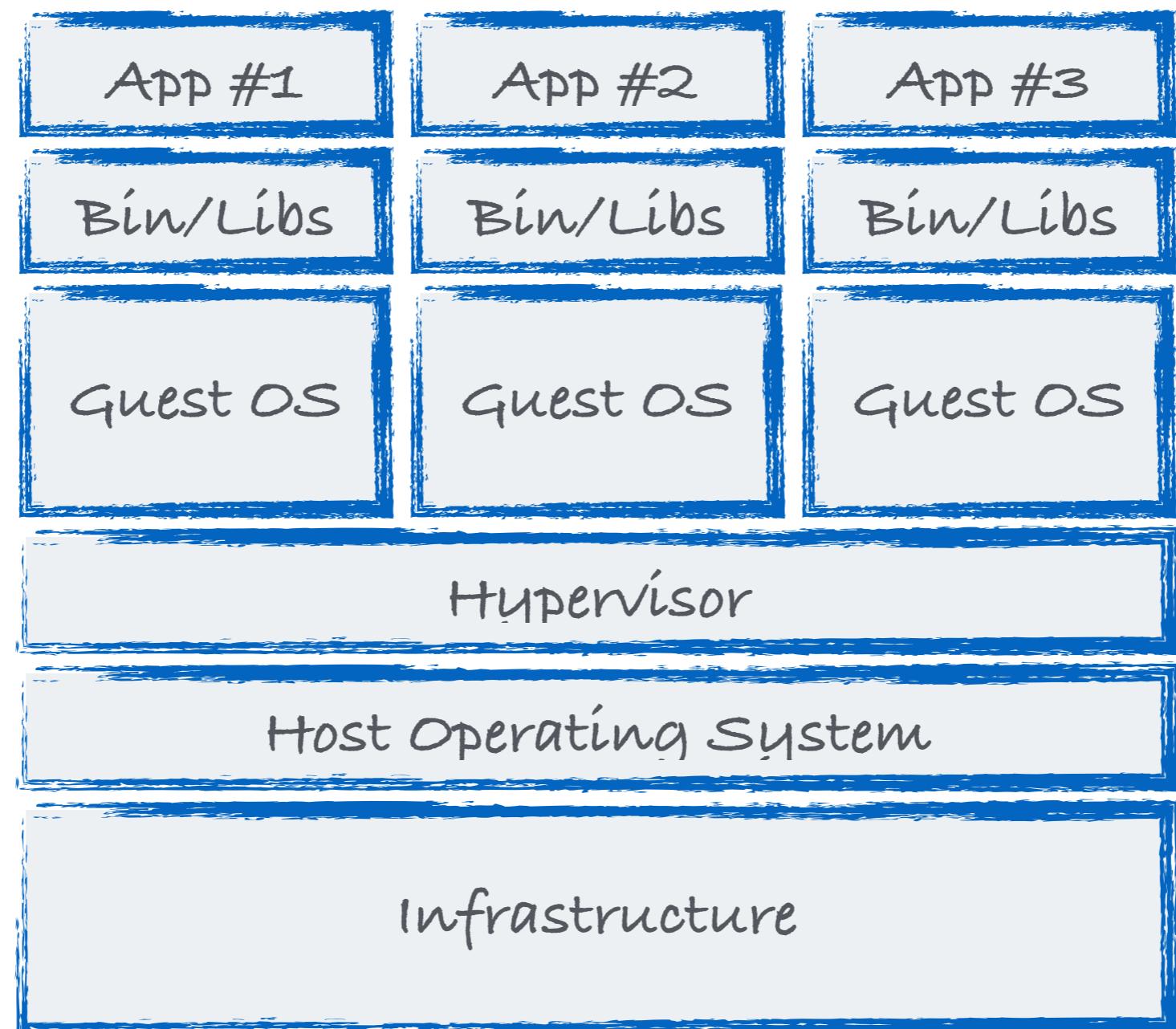


**CONTAINERS**

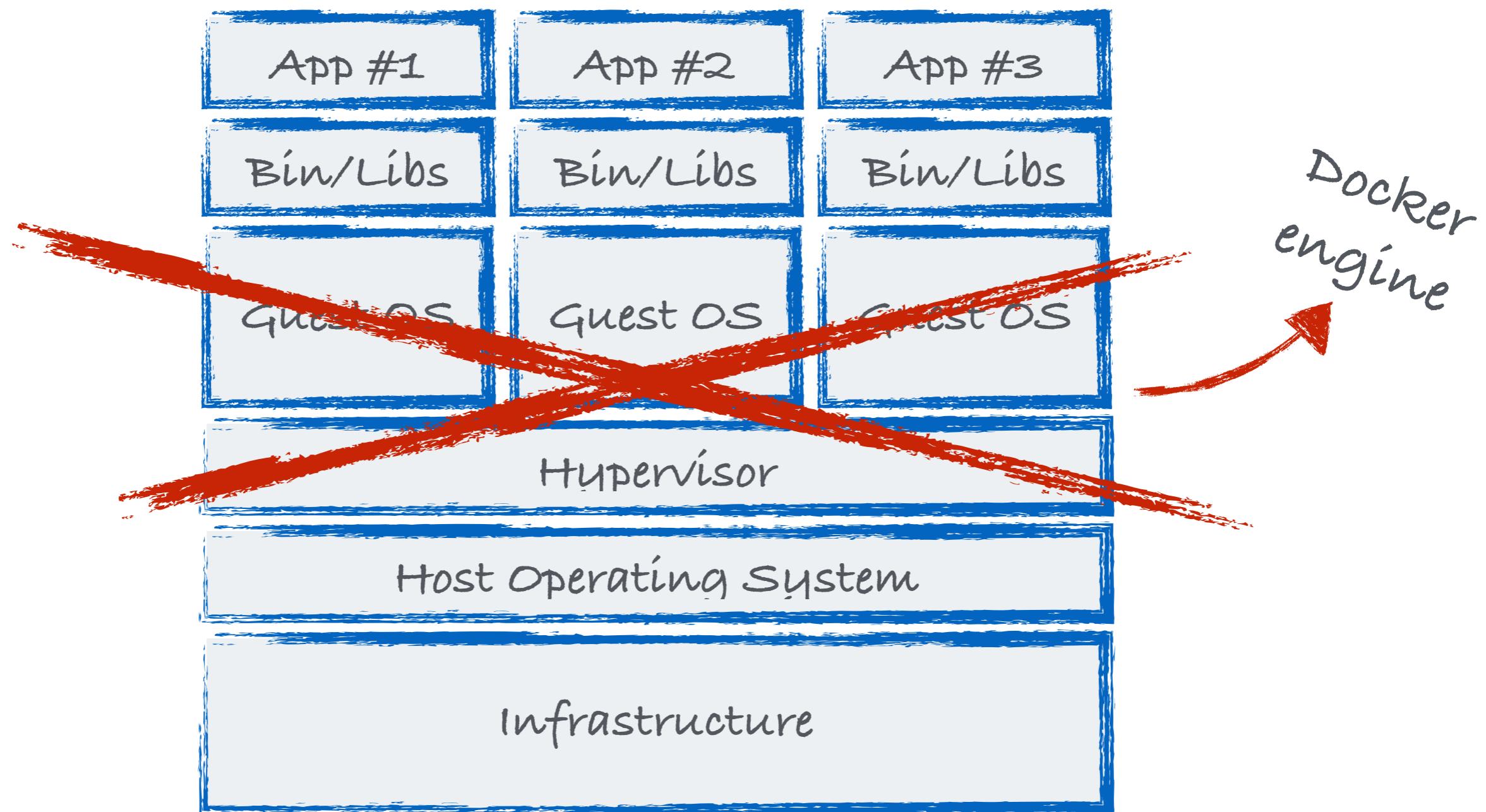




# FORMER ARCHITECTURE



# DOCKER ARCHITECTURE



# DOCKERFILE

```
FROM ubuntu:16.04
MAINTAINER Docker

RUN apt-key adv --keyserver ...
RUN echo "deb http://repo.mongodb.org/...
RUN apt-get update && apt-get install -y mongodb-org

RUN mkdir -p /data/db

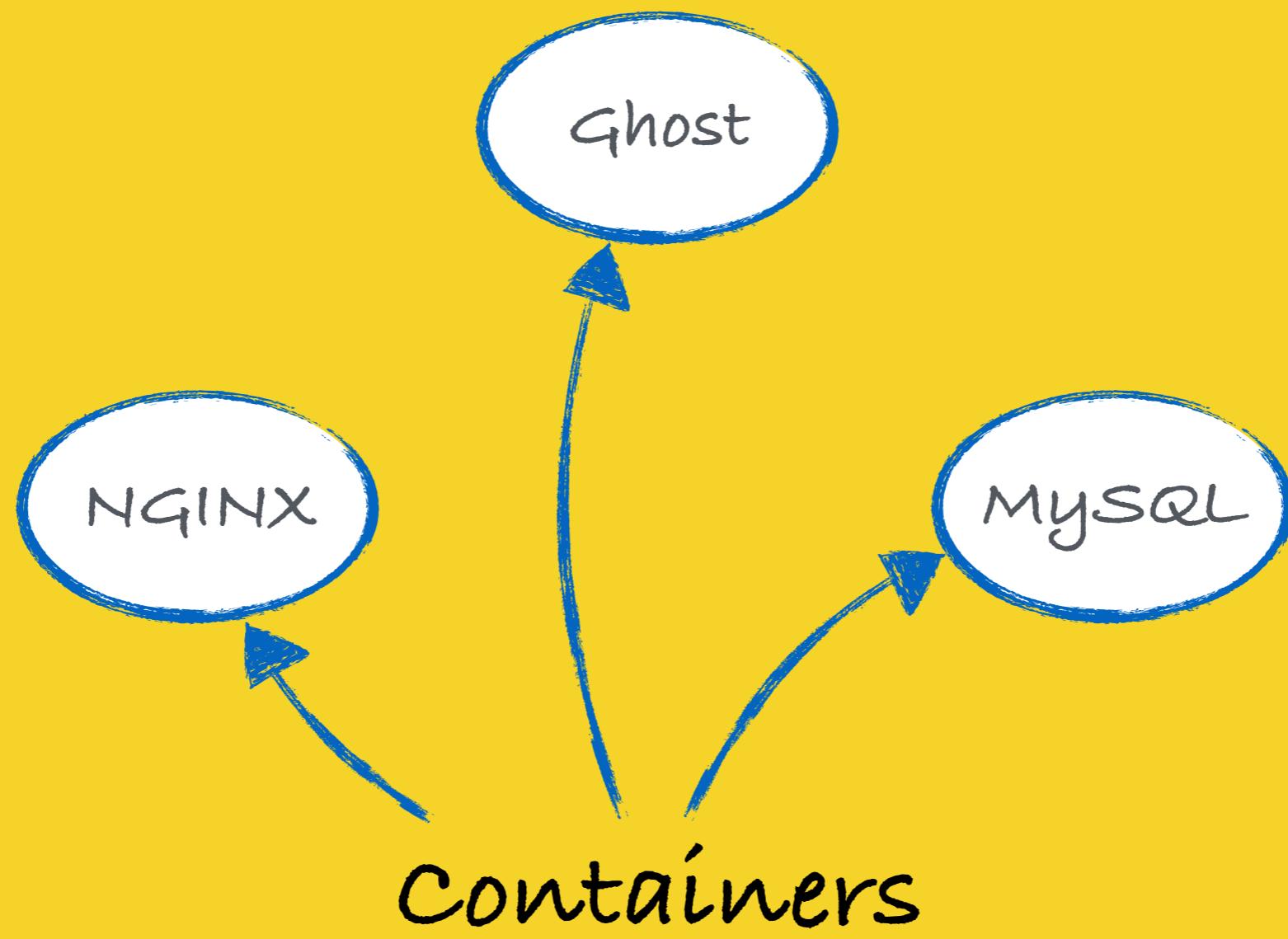
EXPOSE 27017
ENTRYPOINT ["/usr/bin/mongod"]
```

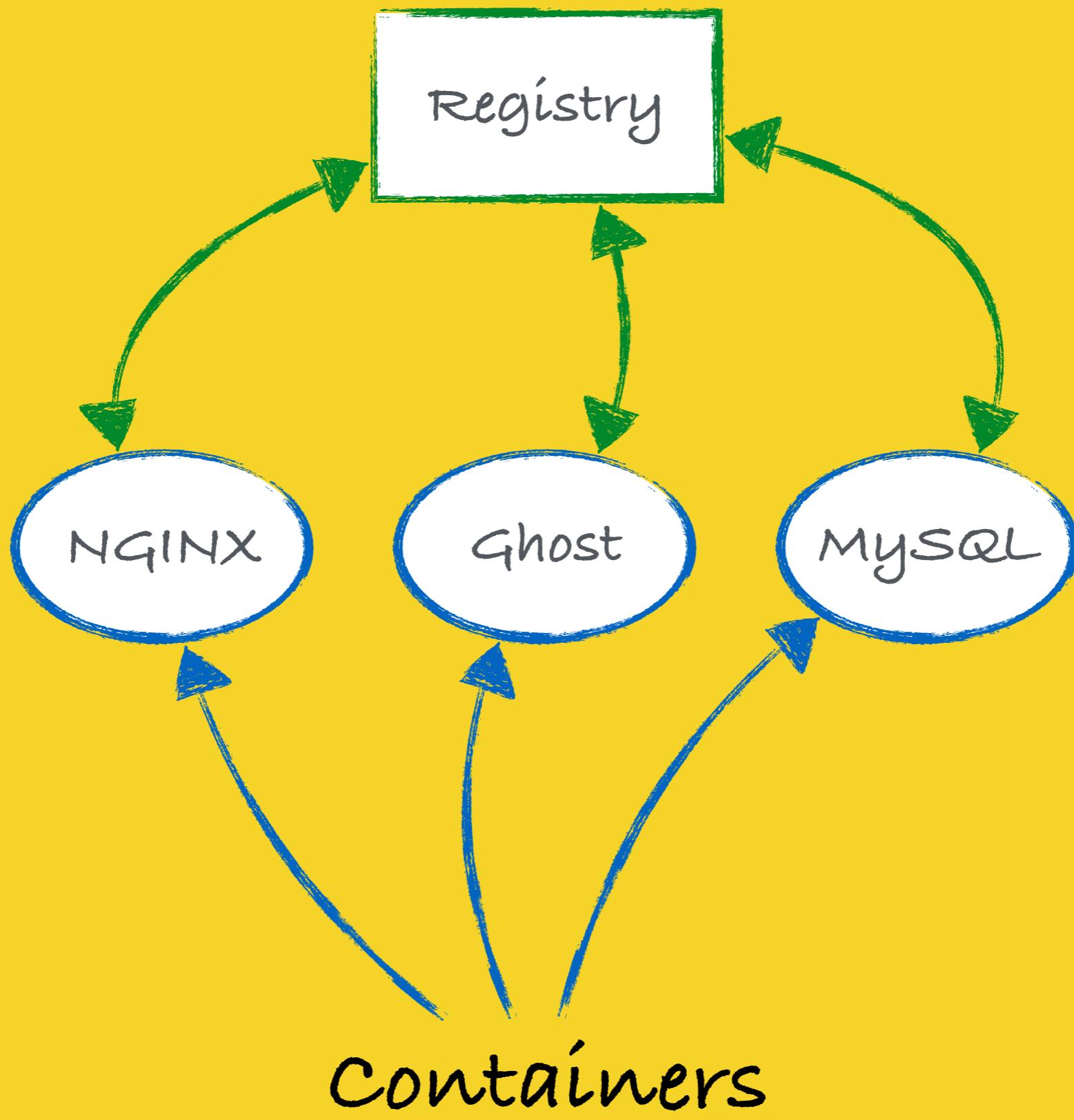
**EXAMPLE**

Ghost

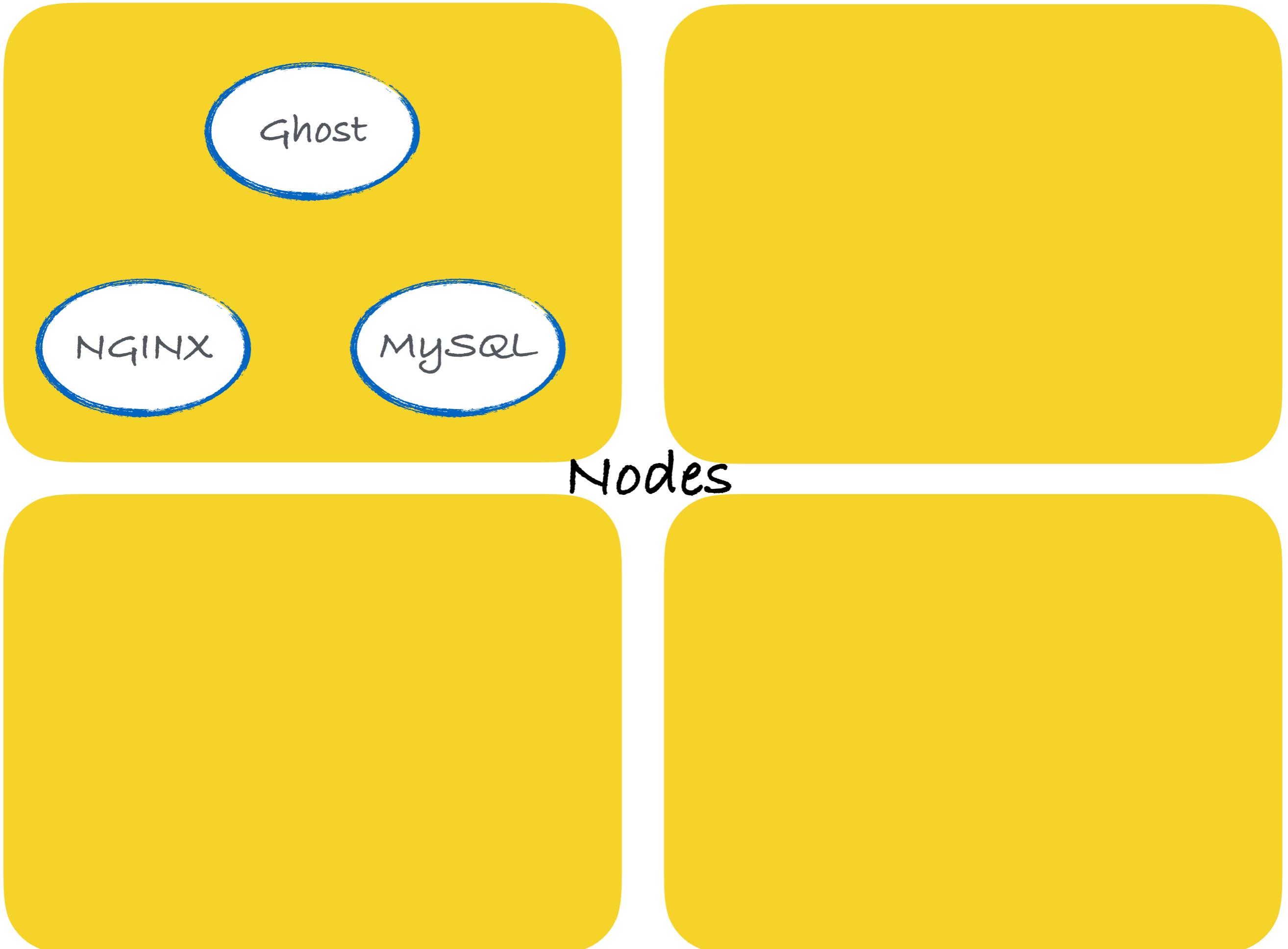
NGINX

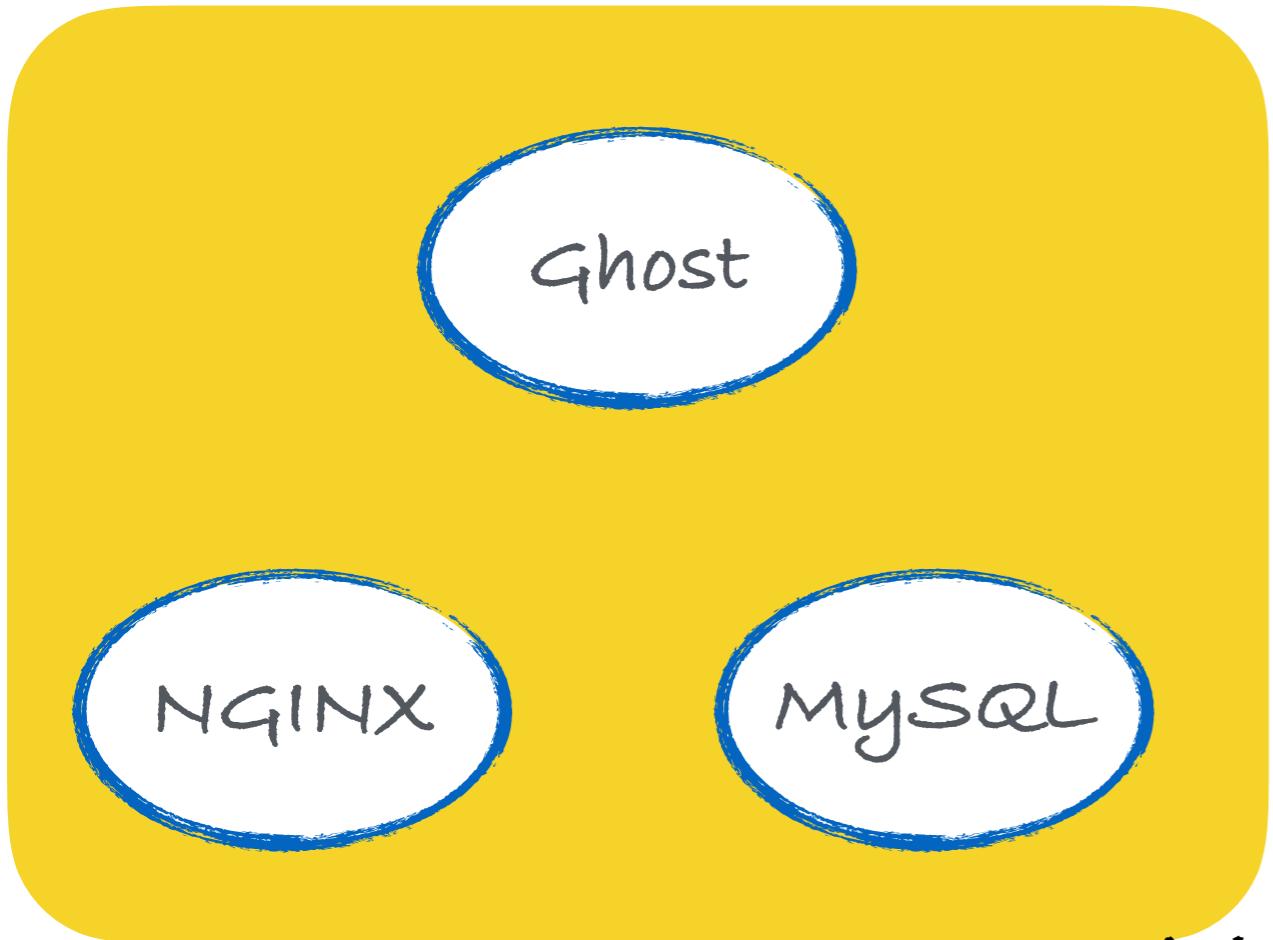
MySQL





Nodes





Nodes





ORCHESTRATION

# ORCHESTRATION

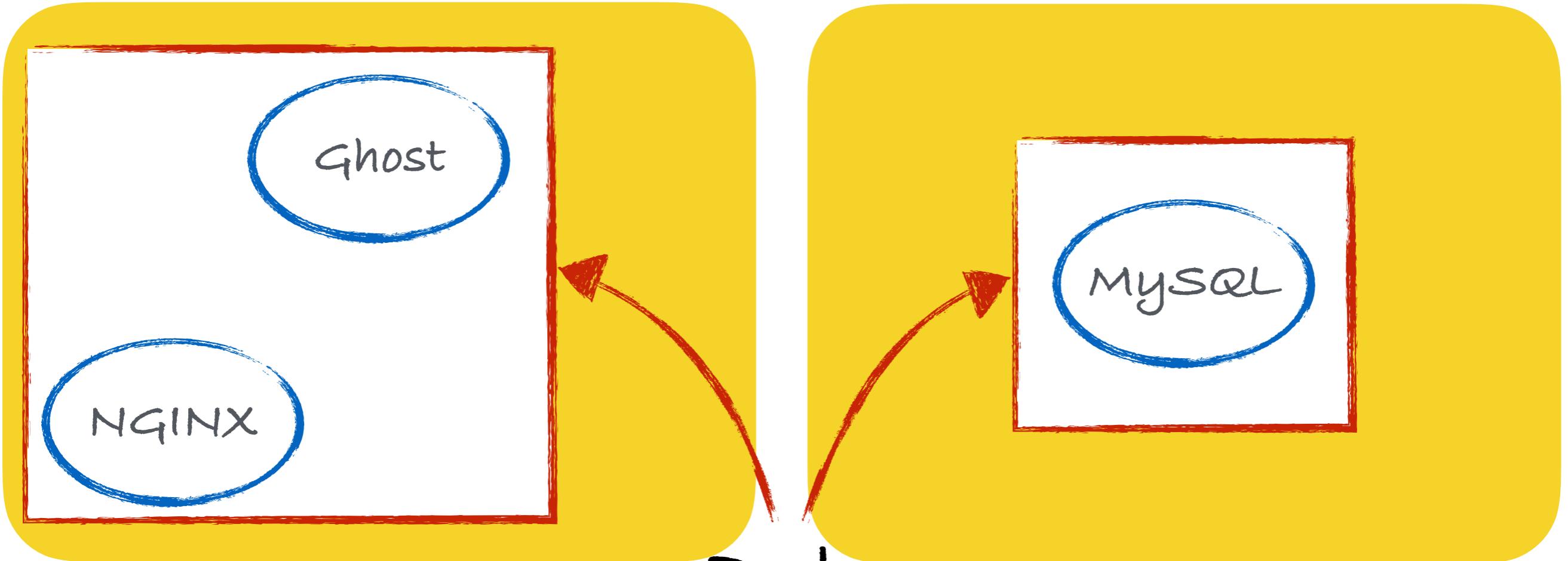
with Kubernetes

“Kubernetes is an open-source system for automating deployment, scaling, and management of containerized applications.”

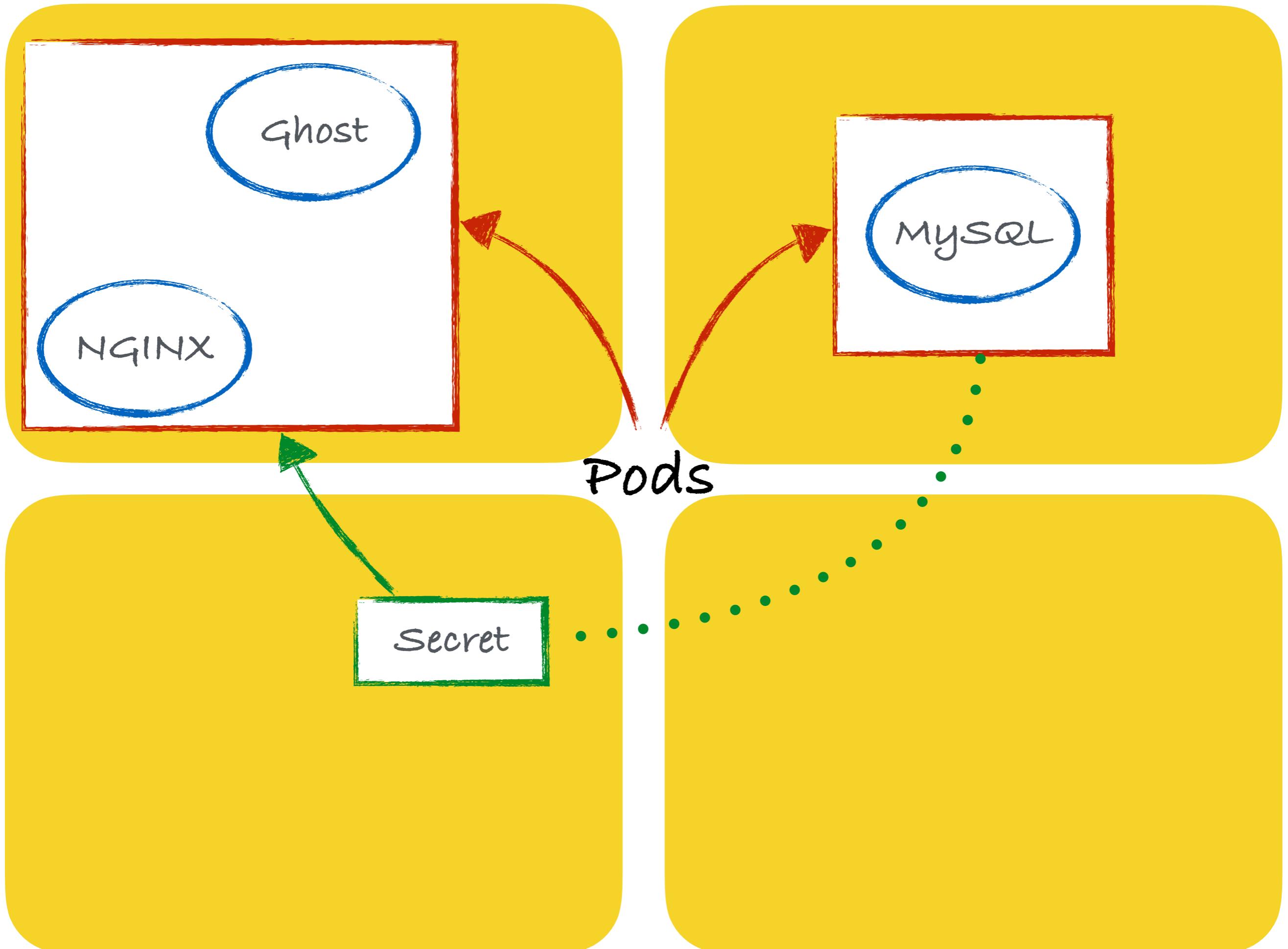
–k8s documentation

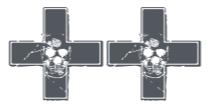
# ORCHESTRATION

- Schedule containers in physicals machines
- Control lifecycle of those containers
- Private network & load balancing
- Horizontal scaling
- Rollouts & rollbacks
- Extras: service discovery, storage, secrets...

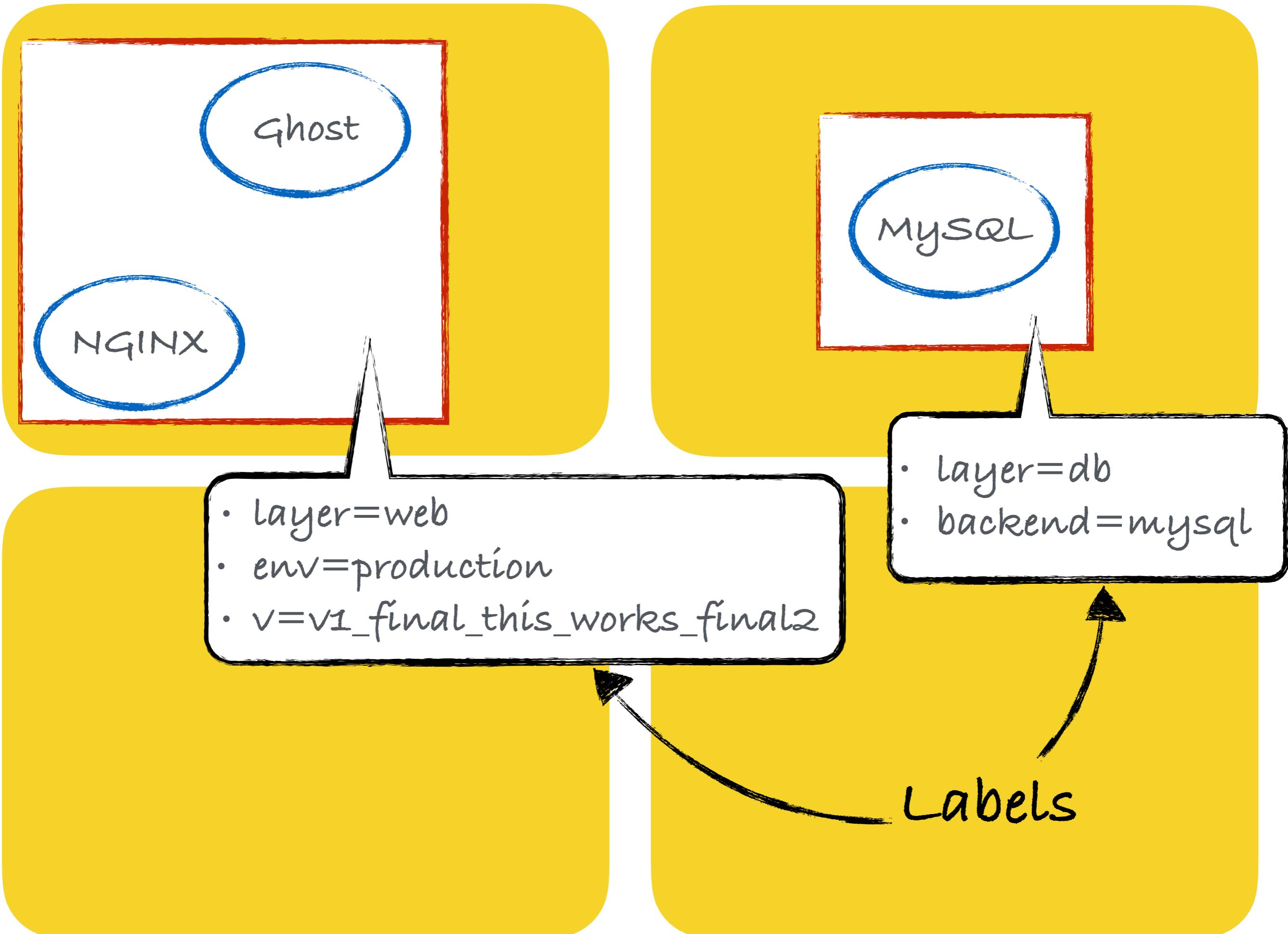


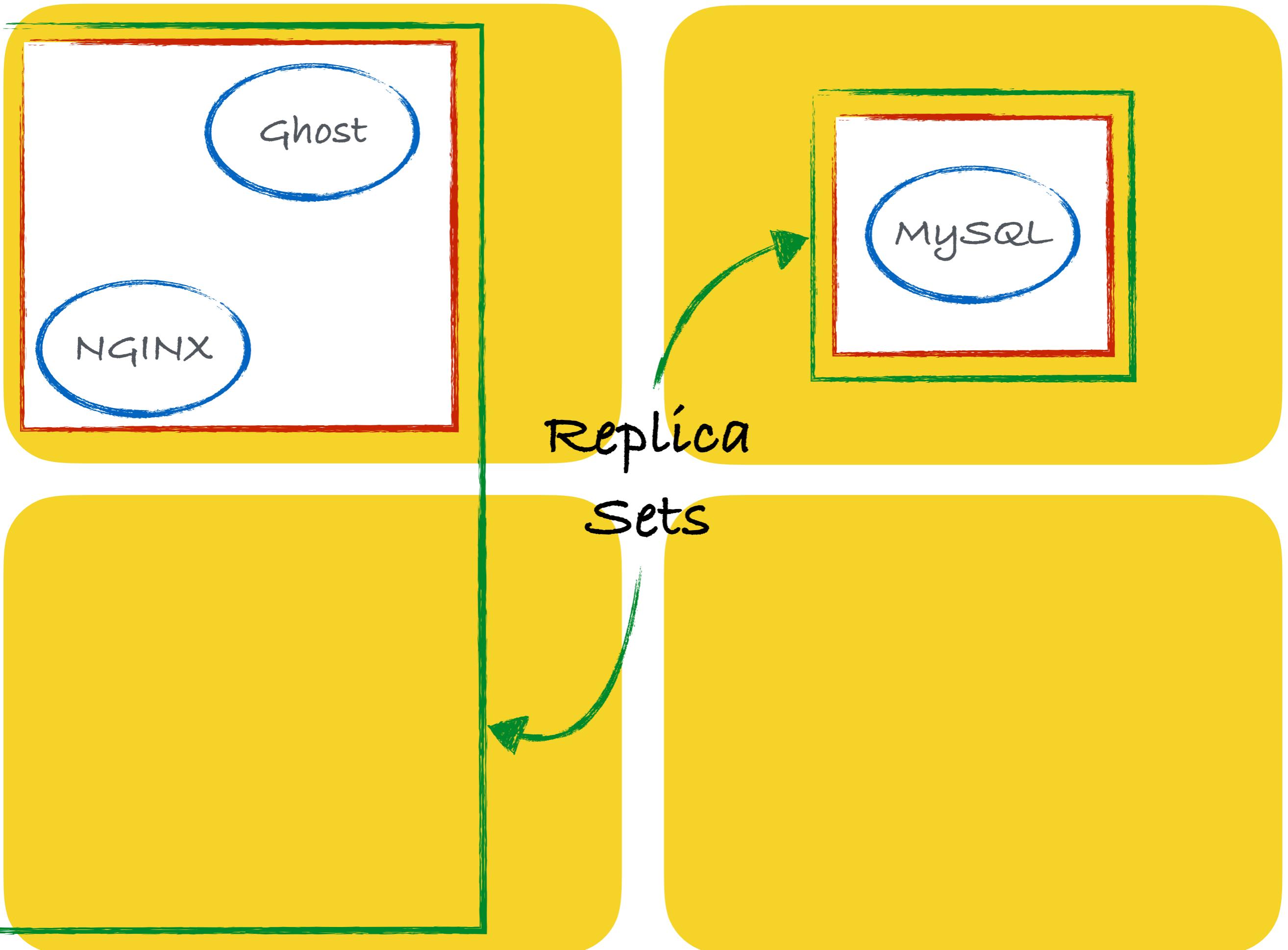
Pods

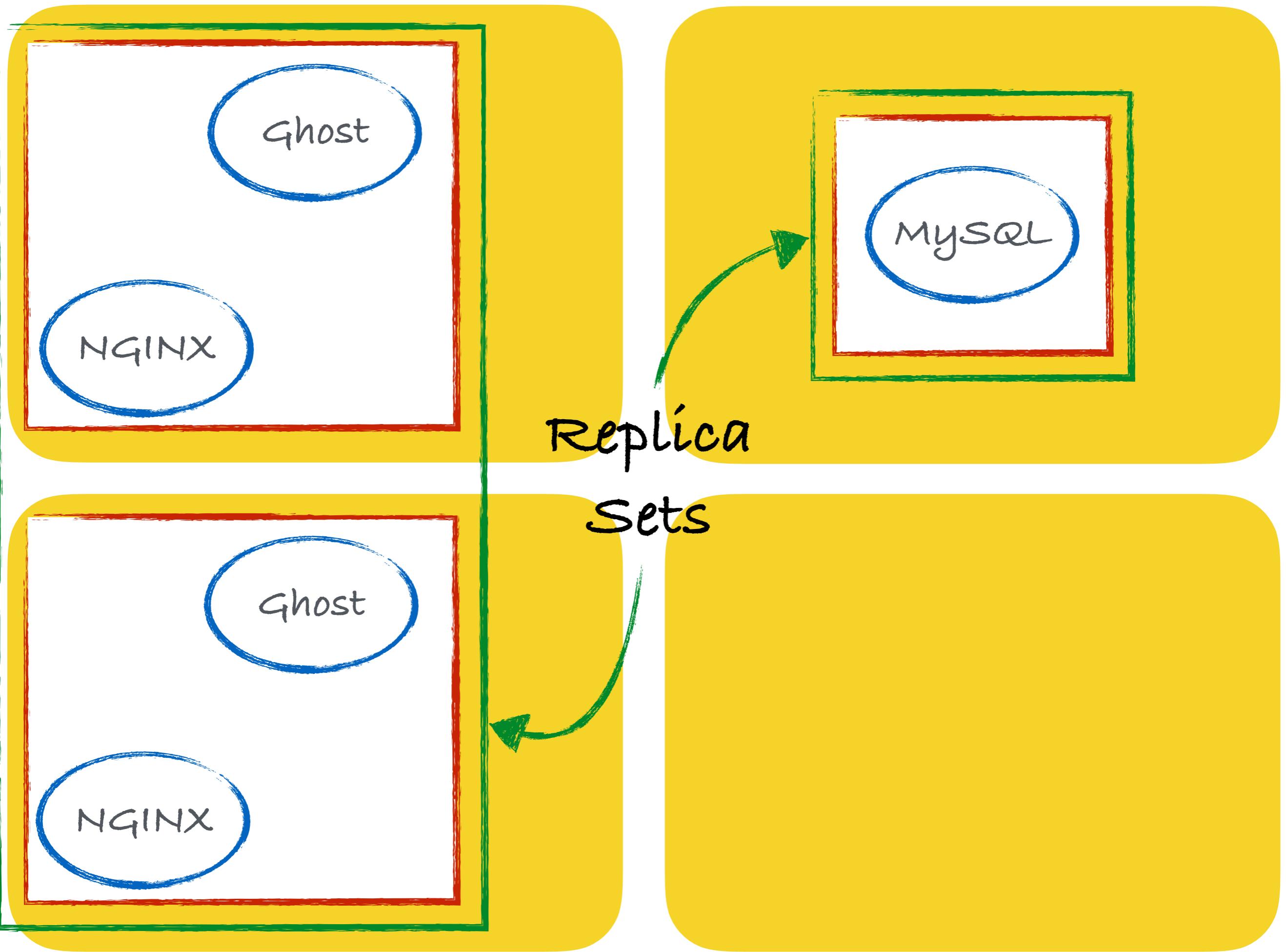




- volumes (persistent and not)!
- ConfigMaps
- LivenessProbe and ReadinessProbe







# REPLICA SET++

- Aut-scalable!

(based on Heapster)

```
graph TD; subgraph LeftStack [ ]; direction TB; L1[Ghost]; L2[NGINX]; end; subgraph RightStack [ ]; direction TB; R1[MySQL]; end;
```

Ghost

NGINX

```
graph TD; subgraph LeftStack [ ]; direction TB; L1[Ghost]; L2[NGINX]; end; subgraph RightStack [ ]; direction TB; R1[MySQL]; end;
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MySQL

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Ghost

NGINX

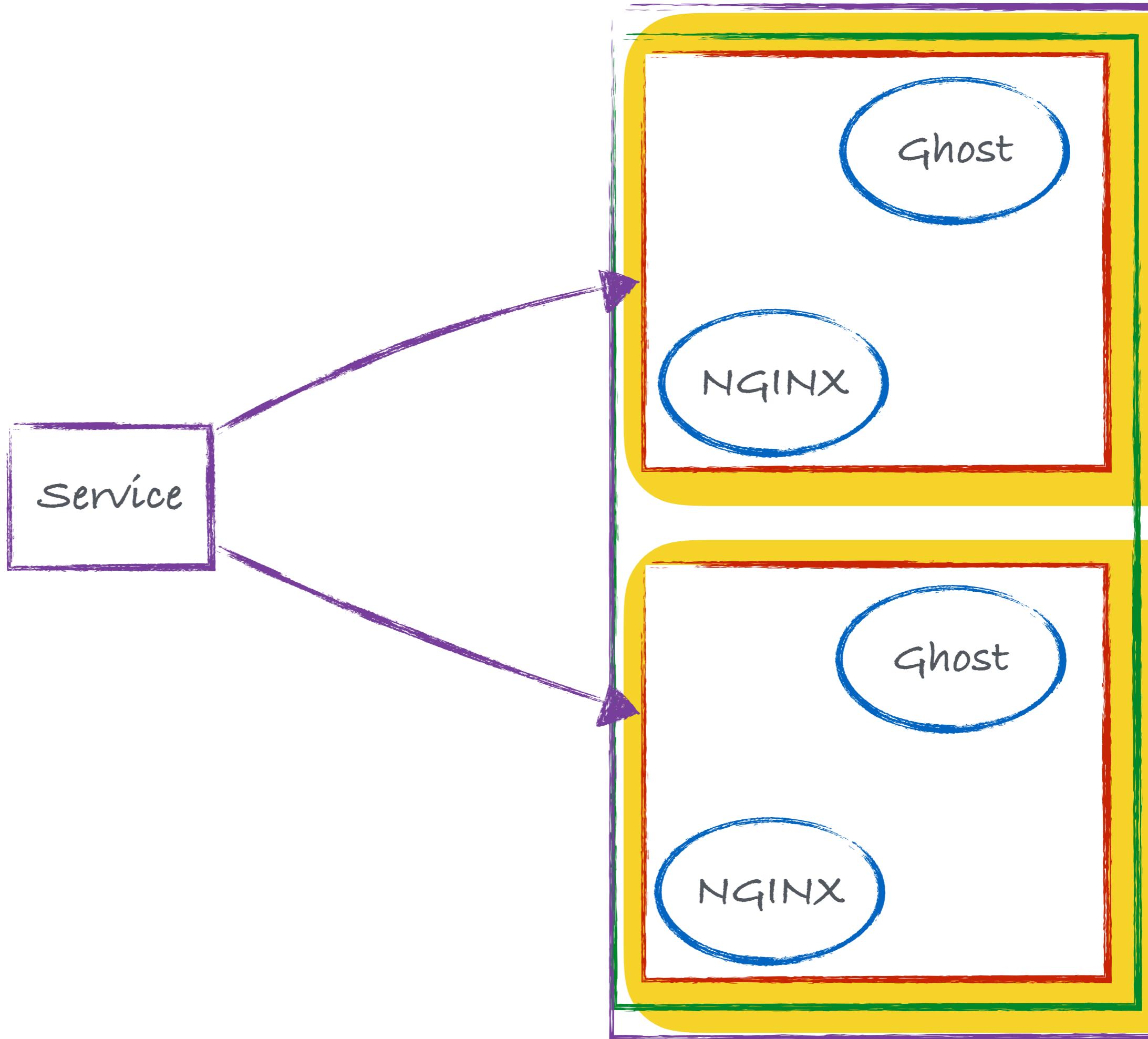
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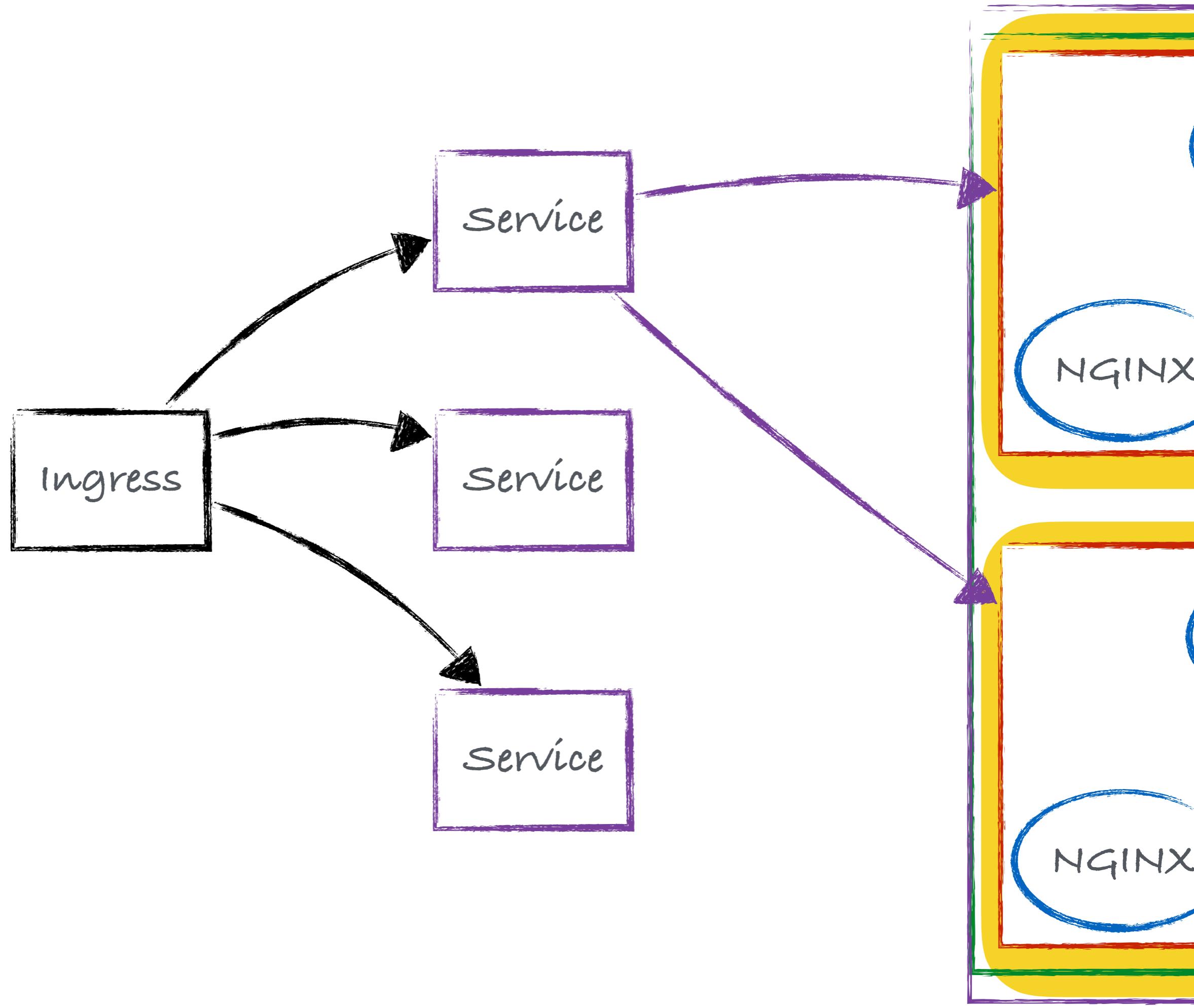
Deployment

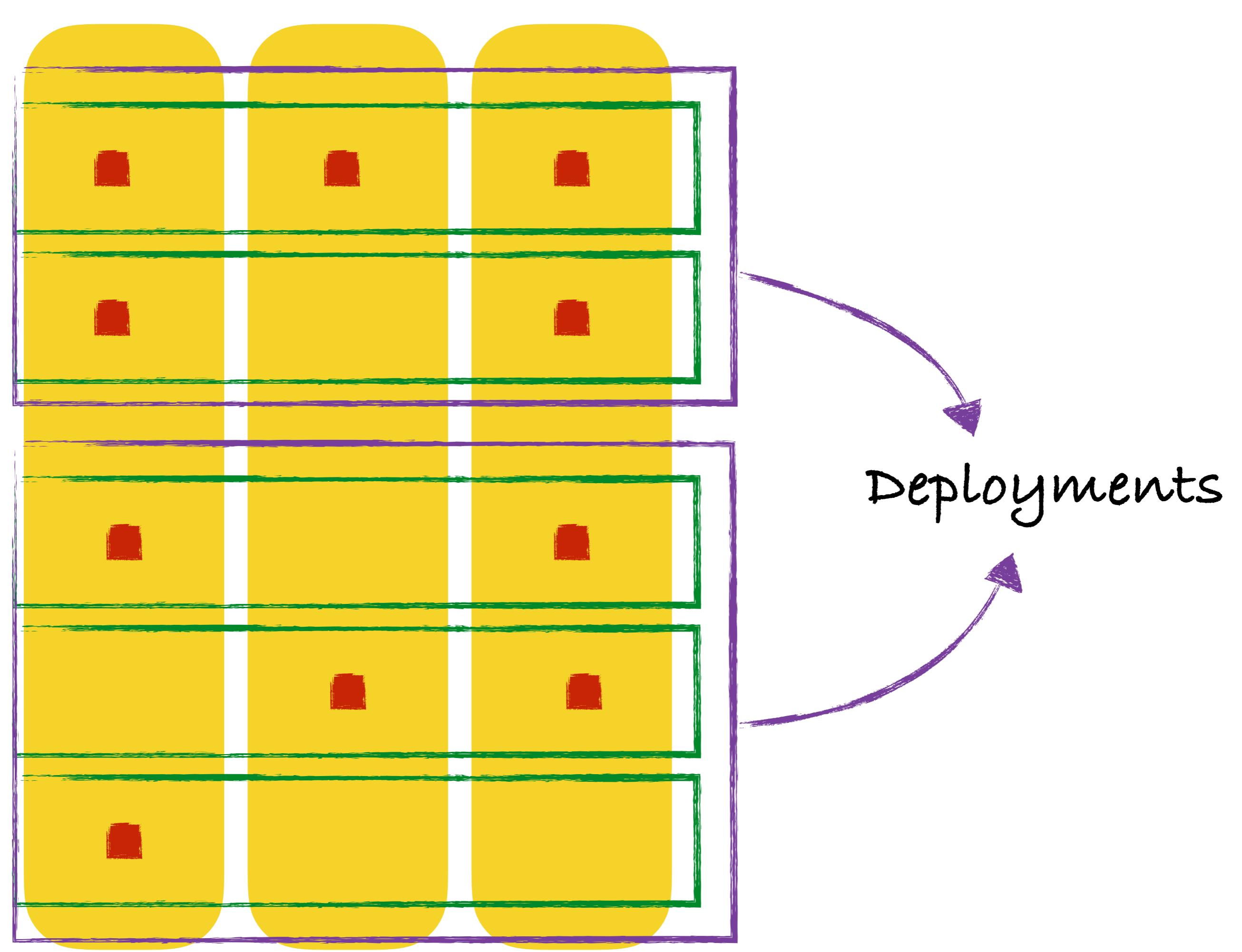
# SHAKA

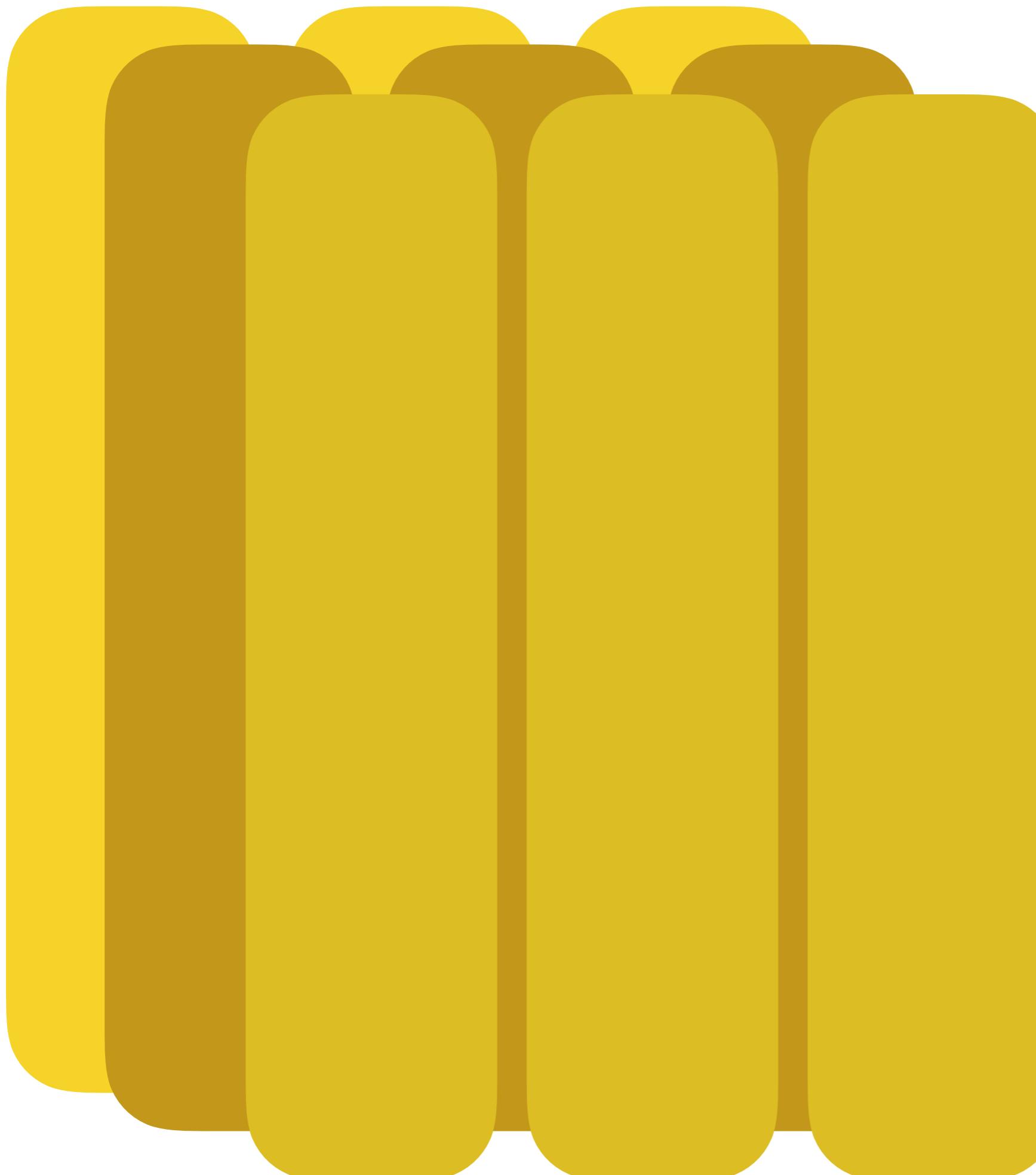


CALIFORNIA COUNTY  
**COME ON, COME ON...**







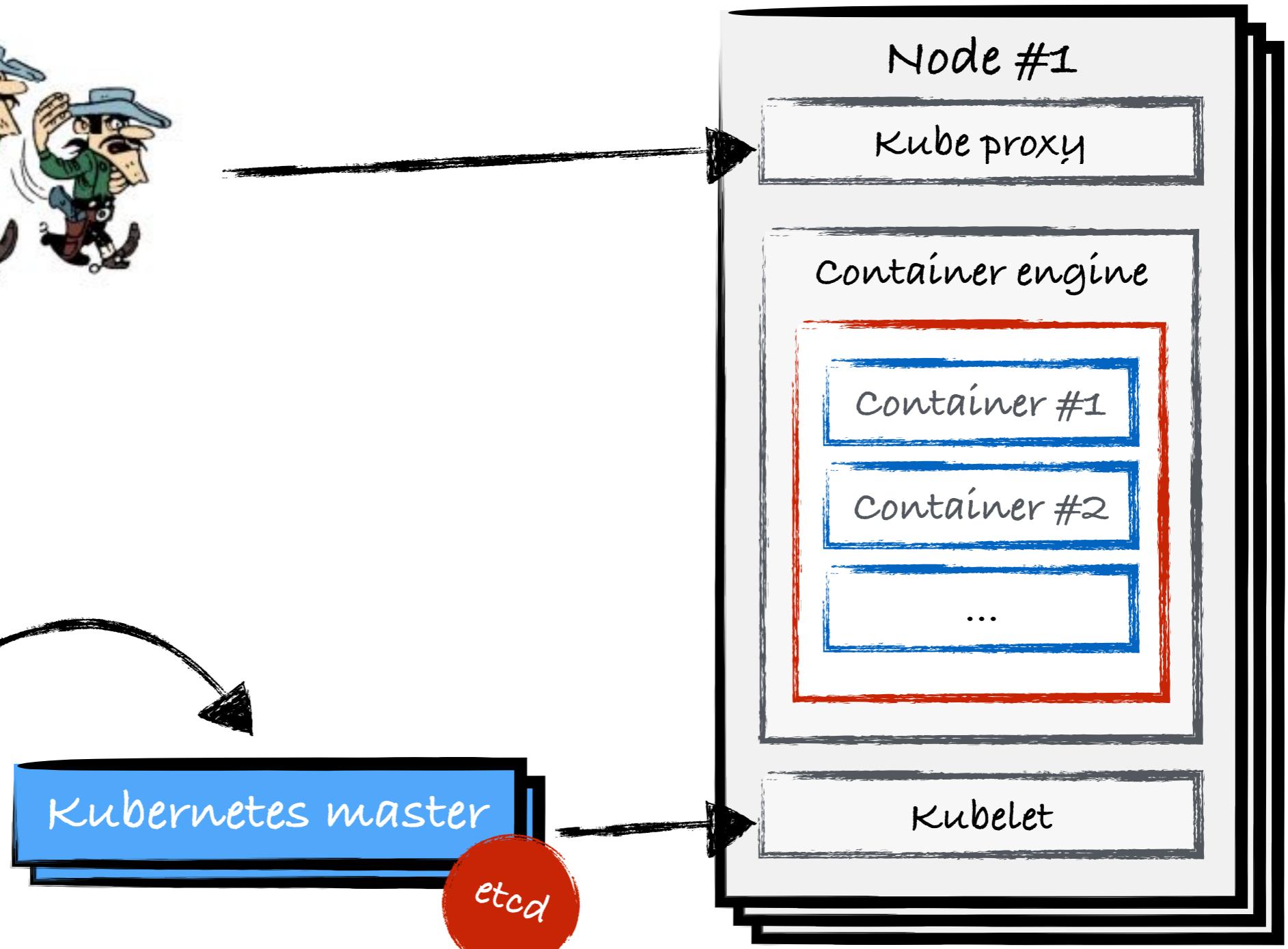


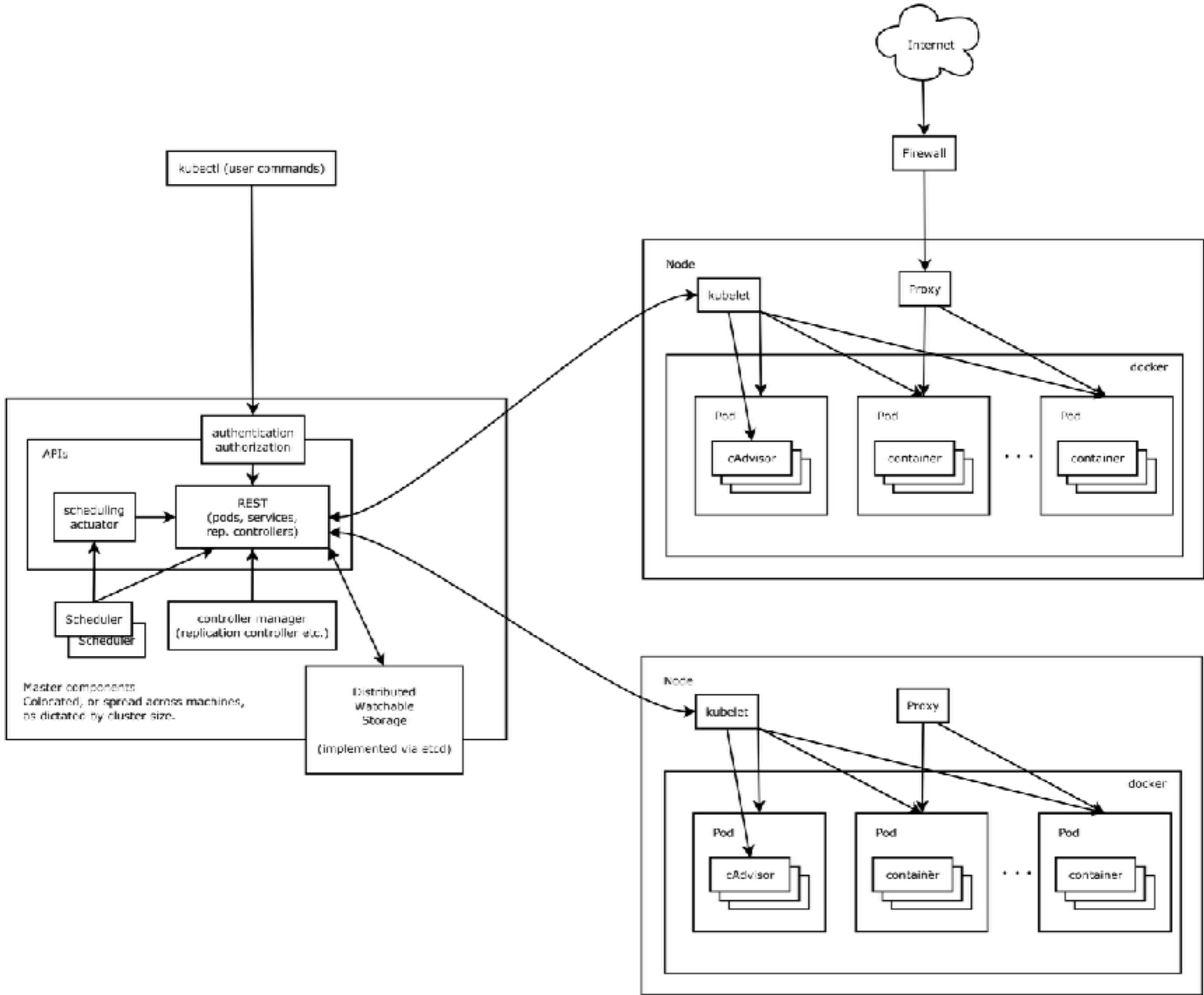
Namespaces



# SPECIAL PETS/CASES

- DaemonSet
- PetSet





# YAMLS

```
apiVersion: extensions/v1beta1
kind: Deployment
metadata:
  name: ghost
  labels:
    k8s-app: "ghost"
spec:
  replicas: 1
  template:
    metadata:
      labels:
        k8s-app: "ghost"
    spec:
      containers:
        - name: "nginx"
...
...
```

SWEET END

jobs

&

Scheduled jobs



THANKS!

@AGONZALEZRO