Leveraging Kubernetes for Continuous Deployment

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Agenda

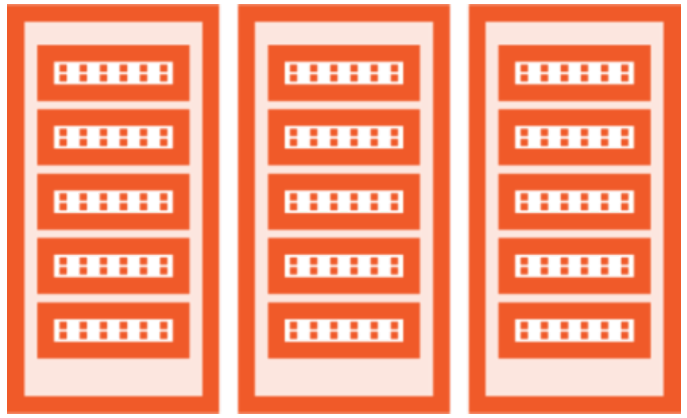
Introduction to Kubernetes

Understanding the prep work

Deploying the CRM app automatically

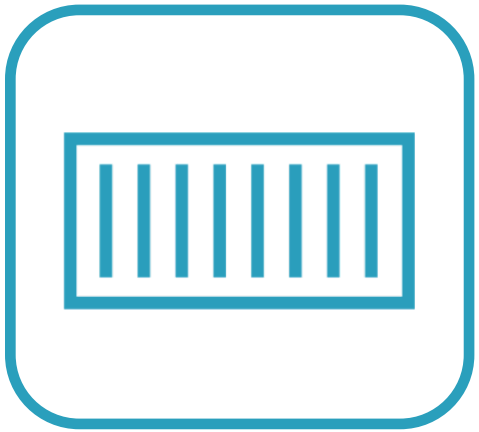
The Kubernetes Cluster

Masters



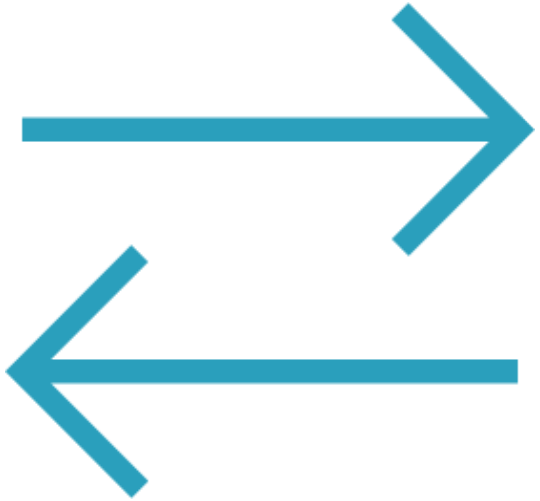
Nodes

Basic Kubernetes Objects



Pod

Label
(not <u>really</u> an object)



Service

Many more are available!

```
---
apiVersion: v1
kind: Pod
metadata:
  name: web
  labels:
    role: web
spec:
  containers:
    - name: web
      image: nickrusso42518/flask
      ports:
        - containerPort: 5000
          protocol: TCP
```

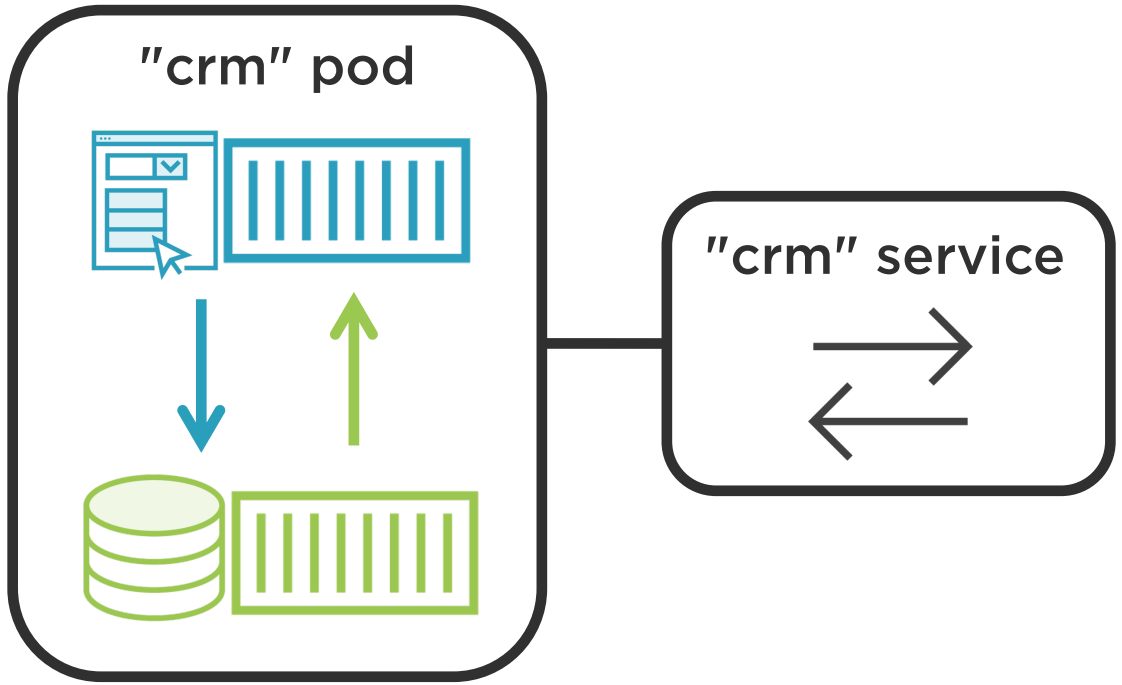
- apiVersion, kind, metadata, spec are all required fields
- Specify key/value "labels"
- Specify list of containers (usually 1)
- Specify exposed ports

```
---
apiVersion: v1
kind: Service
metadata:
  name: web
spec:
  type: NodePort
  ports:
    - port: 5000
      nodePort: 30001
      protocol: TCP
  selector:
    role: web
```

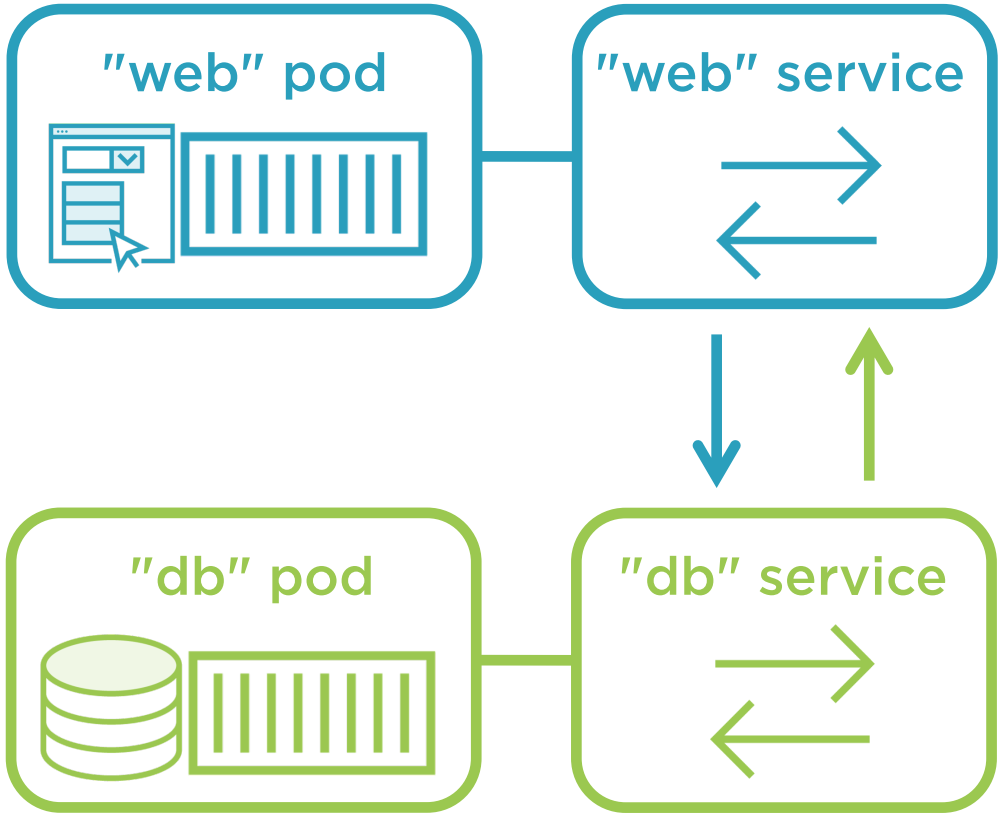
- apiVersion, kind, metadata, spec are all required fields
- Expose port 30001 on the node
- Match pods with "role: web"

Choose a Design

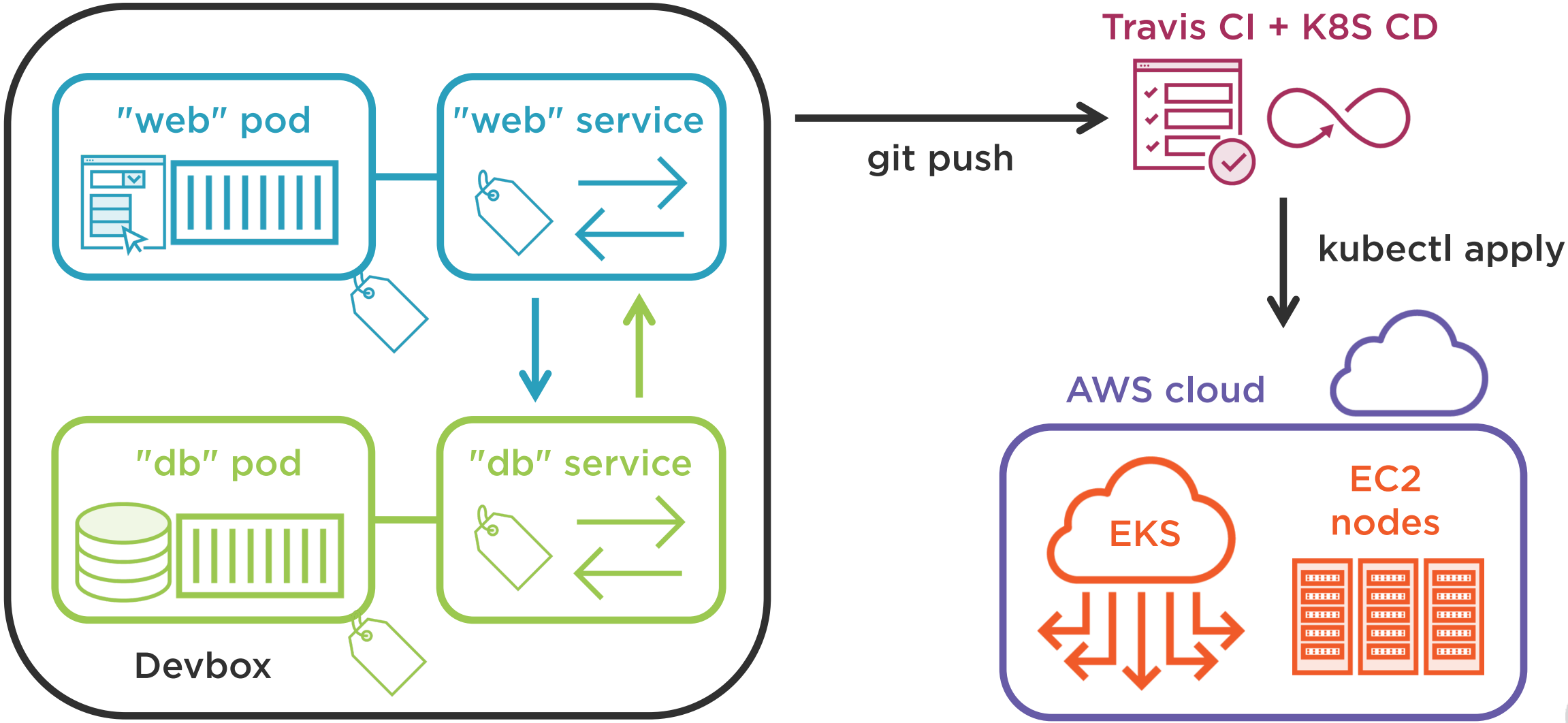
Multi-container pod



One container per pod



What We Will Build



Demo

Getting ready for Kubernetes CD

Demo

Travis CI + Kubernetes CD in action

Summary

Application evaluation and improvement

CI pipeline and test management

CD using Kubernetes

Thank you!