Application Deployment with HELM
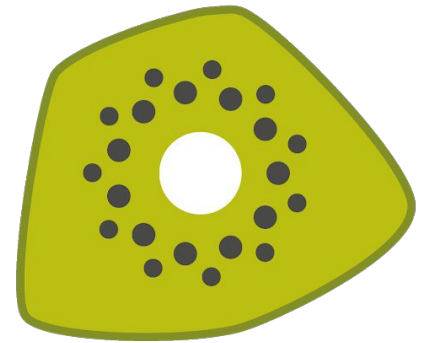
Axel Köhler

axel.koehler@kiwigrid.com
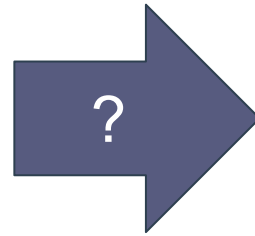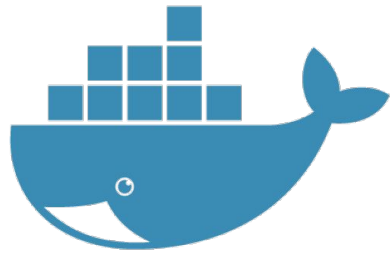
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Agenda

- Motivation
- Disambiguation
- Demonstration

*Basic knowledge about Kubernetes resources and manifest files assumed.*

Motivation

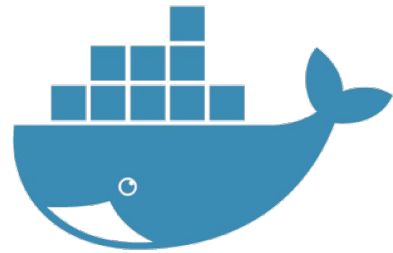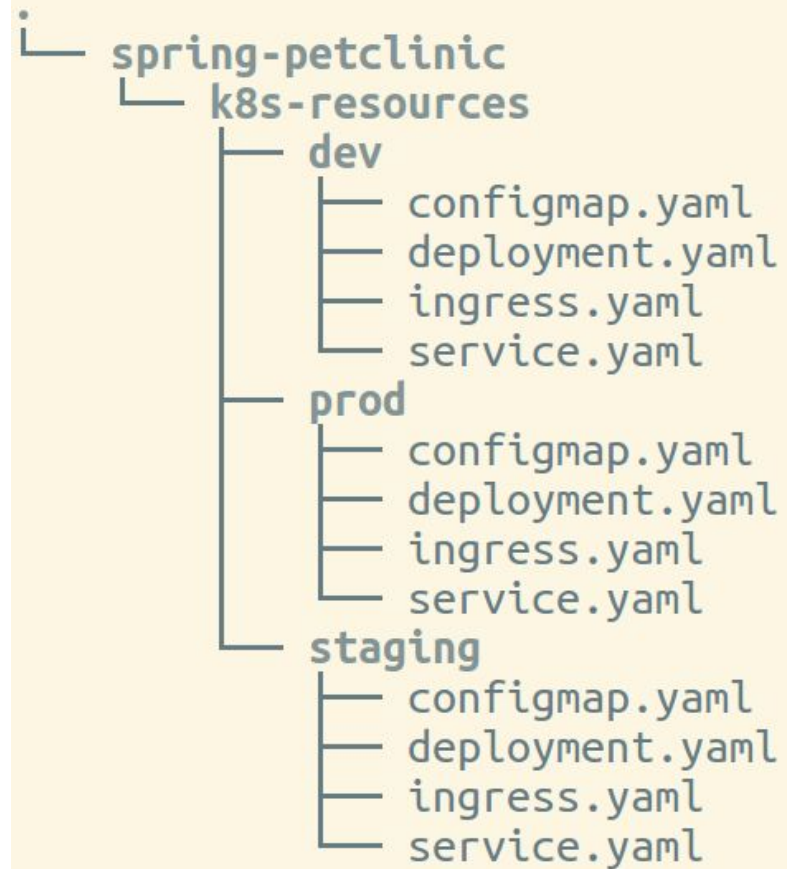# Motivation

Motivation

dev

staging

prod

Motivation

```
i
 └── spring-petclinic
      └── k8s-resources
           ├── dev
           │    ├── configmap.yaml
           │    ├── deployment.yaml
           │    ├── ingress.yaml
           │    └── service.yaml
           ├── prod
           │    ├── configmap.yaml
           │    ├── deployment.yaml
           │    ├── ingress.yaml
           │    └── service.yaml
           └── staging
                ├── configmap.yaml
                ├── deployment.yaml
                ├── ingress.yaml
                └── service.yaml
```
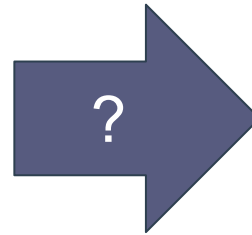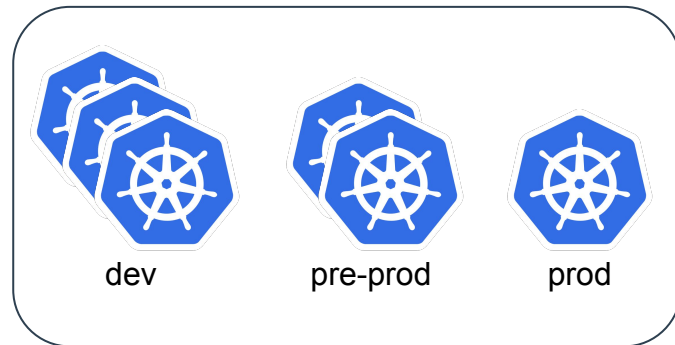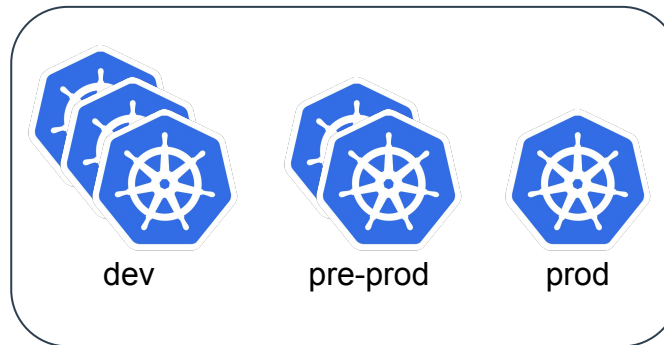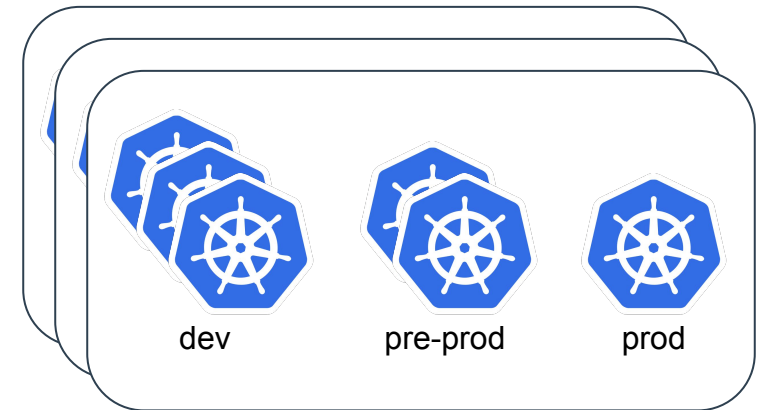
Motivation

Customer A

Customer B

...

The package manager for Kubernetes

Helm is the best way to find, share, and use software built for Kubernetes.

Disambiguation - Chart

Charts are HELM packages that bundles manifest files.

Charts can be stored on disk, or fetched from remote chart repositories.

Image: https://helm.sh/assets/images/helm-logo.svg

Disambiguation - Release

When a chart is installed, Tiller (the HELM server-side component) creates a release to track that installation.

Image: https://helm.sh/assets/images/helm-logo.svg

Disambiguation - Repository

HELM charts may be stored on dedicated HTTP servers
called chart repositories.

Image: https://raw.githubusercontent.com/kubernetes-helm/chartmuseum/master/logo.png
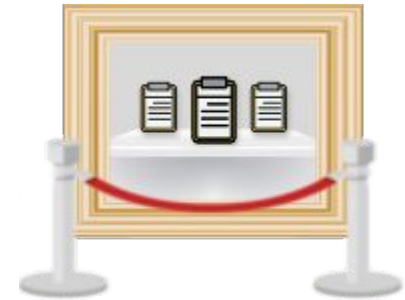
Demonstration

- Basic Chart structure and fundamental HELM commands
- HELM chart for Spring PetClinic
  - https://github.com/axdotl/spring-petclinic-helm
- Chart dependencies

Image: https://github.com/spring-projects/spring-petclinic/blob/master/src/main/resources/static/resources/images/pets.png

Demo

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Wrap-Up

- Every app/ service provides a HELM chart
  - Chart version = Docker image version = project version
  - Facilitates by https://github.com/kiwigrid/helm-maven-plugin

- "Umbrella" charts for solutions (requirements.yaml)

- Private Charts are stored in ChartMuseum
  - Two instances: Snapshots, Stable
  - ChartMuseum will be replaced by Artifactory
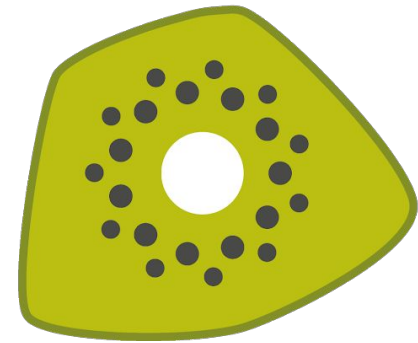
Happy Helming!

We're hiring!

https://kiwigrid-jobs.personio.de

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