

Application Deployment with HELM

DecompileD April 2018

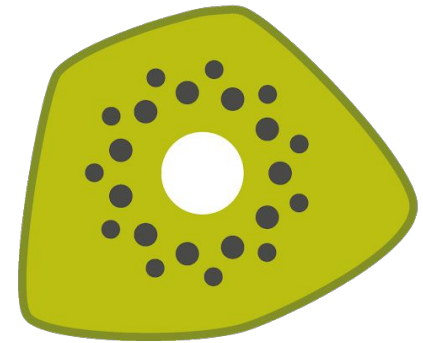
Axel Köhler

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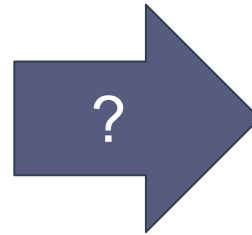
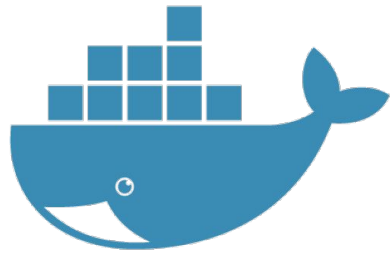
Agenda

- Motivation
- Disambiguation
- Demonstration

Basic knowledge about Kubernetes resources and manifest files assumed.



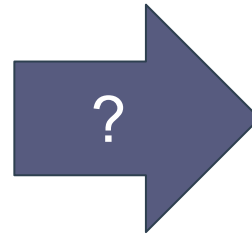
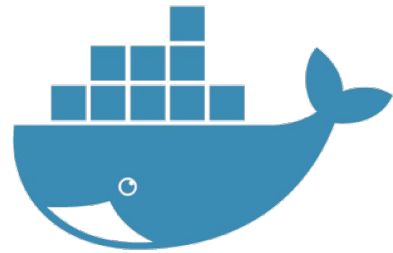
Motivation



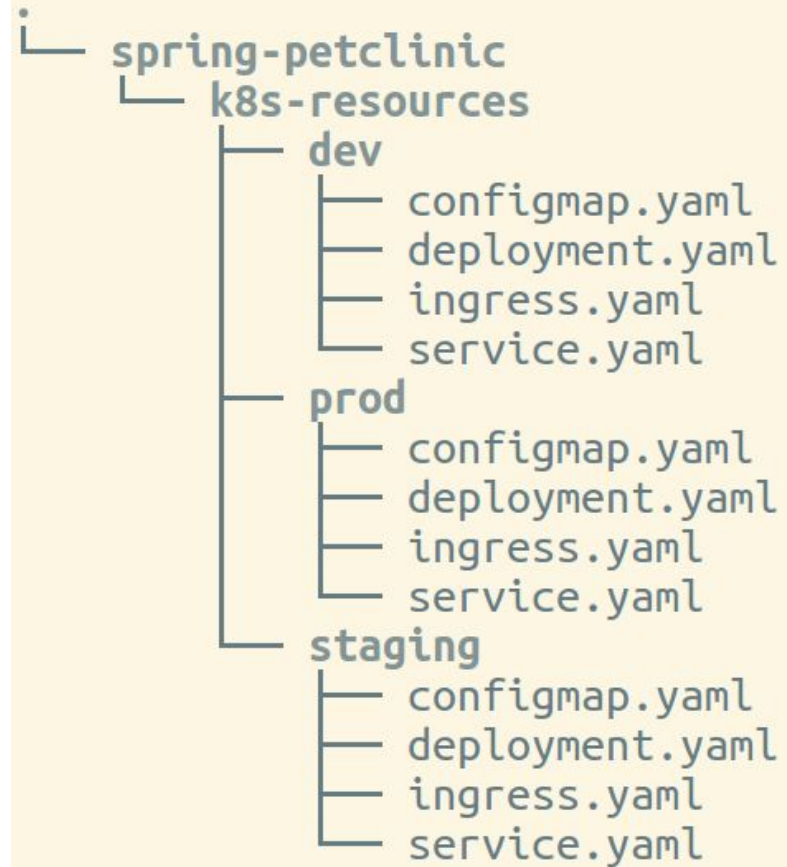
Motivation

```
└─ spring-petclinic
   └─ k8s-resources
      ├── configmap.yaml
      ├── deployment.yaml
      ├── ingress.yaml
      └── service.yaml
```

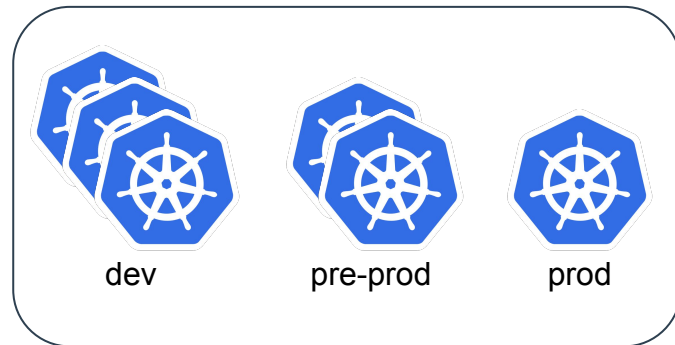
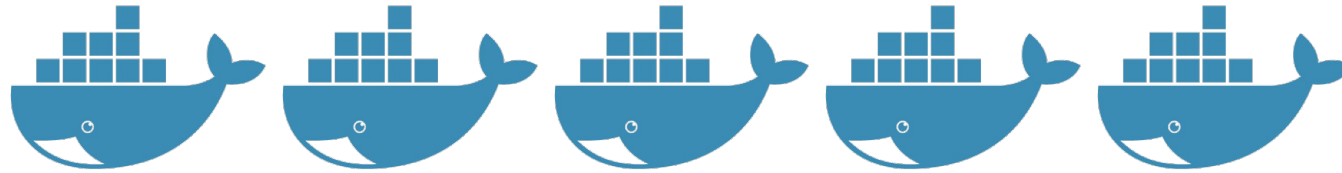
Motivation



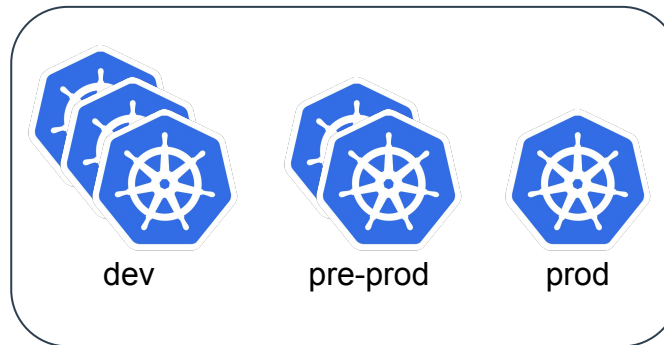
Motivation



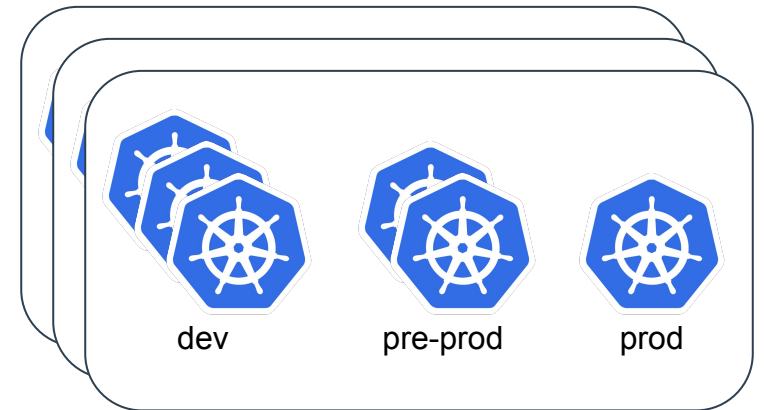
Motivation



Customer A



Customer B



...



DOCS



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.



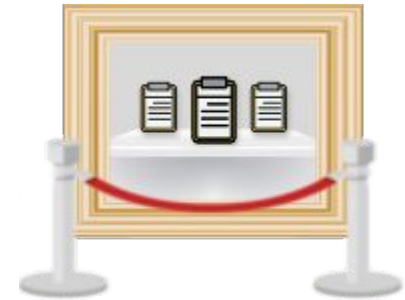
Disambiguation - Release

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



Disambiguation - Repository

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



Demonstration

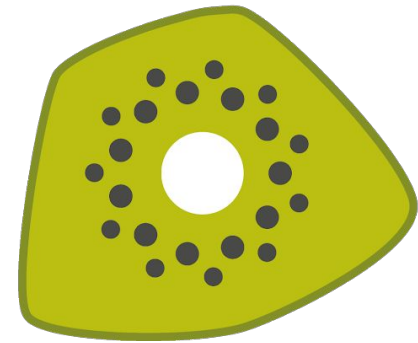
- Basic Chart structure and fundamental HELM commands
- HELM chart for Spring PetClinic
 - <https://github.com/axdotl/spring-petclinic-helm>
- Chart dependencies



Demo

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!

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Backup Slides

Disambiguation - Tiller

Tiller is the in-cluster component of Helm. It interacts directly with the Kubernetes API server to install, upgrade, query, and remove Kubernetes resources.



Resources

- <https://docs.helm.sh/related/>
- <https://github.com/axdotl/spring-petclinic-helm>

HAPPY HELMING



SpongeBob SquarePants vector trace by kawaii. ©Nickelodeon