



**KubeCon**



**CloudNativeCon**

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# One Chart to Rule Them All

## Continuous Deployment with Helm at Ticketmaster

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# About Us

- Mike

- Two years of production experience with Kubernetes
- Helm charts contributor & maintainer
- CNCF Ambassador; DevOps Days Madison co-organizer

- Raphael

- Open Source enthusiast (maintain Sanic, python web framework)
- Fairly new to Kubernetes
- First-time presenter!

# Agenda

- Intro to Helm
- Ticketmaster clusters
- Webservice chart
- Deployment with GitLab CI
- Questions

# Intro to Helm

- Helm = client, Tiller = server
- Rendering engine
  - go-template
- Package/application manager
  - apt, yum, apk
- Release manager

# Ticketmaster clusters

- Fifteen total
  - Hybrid (AWS & on-prem)
  - Multi-region (us-east-1, us-west-2, phx, ash)
  - Multi-environment (nonprod, prod, prodpci, etc.)
- One namespace per team
  - Managed through Git pull requests
  - Role-Based Access Control (RBAC) via Active Directory groups
  - ResourceQuota
  - Tiller per namespace
- Ingress
  - AWS: alb-ingress-controller
  - On-prem: nginx-ingress-controller

# Webservice chart

- v1: forked & customized by teams as needed
  - Pro
    - tuned to specific team/application needs
  - Cons
    - no common API/best practices
    - difficult to update when cluster functionality changed
- v2: maintained by Kubernauts & shared across teams
  - Pros
    - common API & shared best practices
    - updated via Git pull requests as cluster functionality changes
  - Con
    - lots of knobs & dials

# Deployment with GitLab CI

- Runners execute code in containers
- Example minimal CI/CD pipeline
  - Run tests
  - Build application
  - Build container image
  - Push image to registry
  - Deploy application image using webservice chart
- Ticketmaster CI/CD generator
- Example is here: <https://github.com/r0fls/hello-kubecon>

# Resources

- Helm charts repo: <https://github.com/kubernetes/charts>
- Slack
  - #charts
  - #helm-dev
  - #helm-users
  - #sig-apps
  - #wg-app-def
- Contact
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