Deploying a Multi-Service App in Kubernetes

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Me

Lead a team of software engineers
Don’t deploy anything important
Want my users to have a great experience
The Story

Pre-docker web application
Multiple services
Scales horizontally, but the “old” way
Community of users
  • with varying infrastructure
One Machine or Many

Shared Storage
Shared Config and Secrets
How to Scale Services Independently
pulpproject.org

Python Web App
OSS
Manages Repositories of Software
REST API
Not Designed for Container Deployment
Quick Kubernetes Refresh
Kubernetes Node

Machine
Kubernetes Pod

Co-located Containers

Pod

- httpd
- cache

Pod

- DB
Kubernetes ReplicaSet

Scales / Manages Pods

ReplicaSet

Pod

httpd

cache

Pod

httpd

cache
Kubernetes Service

Network Presence for Pods

[Diagram showing a service connected to two pods labeled 'httpd' and 'cache']
Kubernetes Secret

Small Blobs of Sensitive Data
Node
Pod
ReplicaSet
Service
Secret
Dashboard
Storage
How to Manage Configuration Files

Store Config as a Secret
Mount it as a Volume
Symlink to it
Secrets
Deployment
https://github.com/mhrivnak/pulp-k8s

Questions