Jenkins on Kubernetes

By Marky Jackson

Who is Marky Jackson

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Agenda

This presentation will cover the following

- A light (very light) Kubernetes and Kubernetes-plugin introduction
- Code Walk through
- Demo
- Closing

What is Kubernetes

- Kubernetes or K8s, was a project spun out of Google as an open source next-gen container scheduler designed with the lessons learned from developing and managing Borg and Omega
- It abstracts away the underlying hardware of the nodes and provides a uniformed interface for applications to be both deployed and consume the shared pool of resources
- Why Jenkins in Kubernetes
    - Scalability
    - Containerization
    - Infrastructure as Code (IAC)

What is the Kubernetes-Plugin

- Allows Running Dynamic Agents in a Kubernetes Cluster
- Lowering Cost
- Integration with Infrastructure as Code
- More details can be found here: https://github.com/jenkinsci/kubernetes-plugin

Demo

Let's move to the demo

- Assumptions
  - You will have a running Kubernetes cluster
  - You will have kubectl installed
  - You have cloned the code repository noted below

Code location: https://github.com/markyjackson-taulia/jenkinsci-on-kubernetes

Note: For this demo I will be using minikube running Kubernetes version v1.18 but this can be run on any type of running Kubernetes cluster

If you would like to try this demo and have kind installed, just run: `kind create cluster --image=kindest/node:v1.18.0@sha256:0e20578828edd939d25eb98496a685c76c98d54084932f76069f886ec315d694`

Demo

What Did We Learn?

- Kubernetes allows for an robust way to provide Jenkins Scalability
- Ability to run many more build plans in parallel
- Ability to automatically replacing corrupted Jenkins instances
- Ability to automatically spin up and remove agent based on need, which saves costs

Q&A

Thank You