

Kubernetes for Newbies

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Overview

- Containers
 - System Containers vs. Application Containers
- Kubernetes - What is it?
 - Design & Use Cases
- Instantiate a Pod
 - Design & Use Cases
- Deployment
 - Design & Use Cases
- Service
 - Design & Use Cases
- Summary
- Future Topics

Containers - Quick Recap

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System Containers vs. Application Containers

Kubernetes - What is it?

- K8s = Kubernetes
- High level description
- Short history
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Kubernetes - Design & Use Cases

Prep

Ubuntu 18.04

```
$ sudo apt update
```

```
$
```

CentOS 7

```
$ sudo yum check-update
```

```
$
```

Run a K8S Pod

- Most likely use MiniKube
- Consider spinning up a GKE cluster for demo (ACG)
- Demo running a single Pod

K8S Pod - Design & Use Cases

- Discuss how it's built
- Show how it leveraged the underlying container runtime

Run a K8S Deployment

- Demo a Deployment with multiple replicas
- Kill a pod
-

K8S Deployment - Design & Use Cases

Run a K8S Service

- Probably can only do a NodePort on MiniKube
- See what ACG provides for GKE cluster

K8S Service - Design & Use Cases

Summary

Possible Future Discussions

- More Kubernetes
 - ConfigMaps, Secrets, Persistent Volumes
 - Ingress, Gateway
- Other Orchestrators
 - Nomad
- Monitoring
 - Prometheus / Grafana
 - ELK / EFK
- Messaging
 - RabbitMQ / ActiveMQ
- Data Pipelines
 - Airflow / Dagster
- Other ideas welcome!



Backup Slides



Exercise 1 - ...

Setup:

\$

Try:

\$

