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BASIC KUBERNETES PART 2

- GET A PRODUCTION-READY APPLICATION.

QUICK RECAP

- Kubernetes Architecture
 - Etcd
 - API Server
 - Controller Management
 - Scheduler
 - Kubelet
 - Kubeproxy?
- Objects we used to get a application properly deployed
 - Pods -> Abstraction of containers
 - Services -> Communication
 - Ingress -> Route traffic into cluster
 - ConfigMaps -> External configuration
 - Secrets -> External configuration
 - Volumes -> Data persistence
 - Deployments -> Pod blue prints and replication
 - Statefulsets -> Pod blue prints and replication

OVERVIEW

K8S MANAGEMENT TOOLS

- Kubectl
- Kompose
- Minikube
- Kustomize
- Helm
- k9s

NAMESPACES

- What are namespaces?
- Using and creating them

MULTI CONTAINER PODS

- Cross container interaction
- Init containers

DRAINING NODES

- Safely Draining a node
- Ignoring daemon sets
- Uncordon

RBAC & SERVICE ACCOUNTS

Schools want something that's easy to adopt and simple to use for their students

NETWORKING

- Network model
- CNI Plugin
- DNS

KUBECTL

- What is kubectl?
- Most used commands

K8S RESOURCES MANAGEMENT

- Kubectl top
- Managing containers resources
- Probes, what are they and when to use
- Self Healing

HPA

- Setup
- Using it

K8S MANAGEMENT TOOLS

KUBECTL

asda

MINIKUBE

asd

HELM

asd

KOMPOSE

asda

KOSTOMIZE

asda

K9S

asda

DRAINING NODES

WHY WOULD YOU USE THIS?

HANDS-ON

WHEN DO I NEED TO USE --FORCE
AND WHY

IGNORING DAEMON SETS?

UNCORDON

KUBECTL

KUBECTL GET

HANDS-ON

KUBECTL DESCRIBE

KUBECTL CREATE

KUBECTL APPLY

KUBECTL DELETE

KUBECTL EXEC

KUBECTL EXPLAIN

KUBECTL LOGS

NAMESPACES

WHAT ARE NAMESPACES?

HANDS-ON

RBAC AND SERVICE ACCOUNTS

HANDS-ON

KUBERNETES RESOURCES MANAGEMENT

KUBECTL TOP

MANAGING CONTAINER RESOURCES

PROBES

SELF-HEALING

LIFECYCLE HOOKS

HANDS-ON

MULTI CONTAINER PODS

CROSS-CONTAINER INTERACTIONS

INIT CONTAINERS

HANDS-ON

HORIZONTAL POD AUTO-SCALE (HPA)

SETUP

USING IT

NETWORKING

NETWORK MODEL

CNI PLUGIN

DNS

HANDS-ON



LET'S GET OUR HANDS DIRTY

UNIQUE

Only curriculum specifically dedicated to helping both schools and students

FIRST TO MARKET

First beautifully designed tool that's both stylish and focused on STEM education

AUTHENTIC

Designed with the help and input of students and teachers in STEM field