Distributed computing

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Contents

Part I

Ansible

Chapter 1

Ansible

1.1 Introduction

1.1.1 Introduction

basically send scripts for remote computer to run. installed on users pc, not destination.

set up things like users, apt commands etc

configured in playbooks

/etc/ansible/hosts

ansible command

ansible-inventory command

ansible-playbook command

1.1.2 Module: apt

1.1.3 Module: git_config

1.1.4 Module: git

1.1.5 Module: template

Part II

Kubernetes

Chapter 2

Kubernetes

2.1 Introduction

2.1.1 Introduction

Pods are collections of docker containers. Can be just one docker container or more

Nodes are where pods are deployed. Could be one node, or more.

Cluster is a collection of nodes

2.1.2 Kubernetes (k8s)

2.1.3 minikube

Developed by developers of k8s.

2.1.4 k3s

Developed by Rancher

```
systemctl status k3s
systemctl stop k3s
systemctl start k3s
```

2.1.5 microk8s

Developed by Canonical.

Might need to change firewall rules

`https://ubuntu.com/tutorials/install-a-local-kubernetes-with-microk8s#2-deploying-microk8s`

If need to hard reset

```
sudo microk8s reset --destroy-storage
sudo microk8s kubectl delete --all deployments --namespace=foo
```

Enable things. Registry allows the use of local Docker builds.

sudo microk8s enable dns dashboard storage registry

check all running

```
microk8s kubectl get all --all-namespaces
```

read off ip of dashboard. go to https://ip:443

get token

```
sudo microk8s config
```

Enable loadbalancer. Separate as asks questions.

```
sudo microk8s enable metallb
```

Run dashboard. Go to IP and port for service/kubernetes-dashboard.

```
sudo microk8s dashboard-proxy
```

2.1.6 Kompose

using kompose to convert docker-compose file to kubernetes file First convert the docker compose file to a kubernetes file.

```
kompose --file docker-compose.yml --build convert
```

But change image name to local

```
spec:
  containers:
  - image: localhost:32000/homepage-nodejs
```

Part III

Amazon Web Services

Chapter 3

Amazon Web Services (aws)

3.1 Introduction

3.1.1 Introduction