1. Domain Name - devopsk8s.xyz

2. AWS Account

3. S3 Bucket & Route53 Domain Integration

4. Deploy a Mgmt Server which holds all scripts.

5. KOPS Binary(K8S Cluster Mgmt) & KUBECTL Binary(K8S Cluster Ops)

6. SSH Public & Private Keys

7. AWS CLI and AWS Access/Secret Key

kops create cluster --name=devopsk8s.xyz --state=s3://devopsk8s.xyz --zones=us-east-1a --node-count=2 --node-size=t2.micro --master-size=t2.small --master-volume-size 20 --node-volume-size 10 --dns-zone=devopsk8s.xyz –yes

kops create cluster --name=revanth.store --state=s3://revanth.bittu --zones=us-east-1a --node-count=3 --node-size=t2.micro --master-size=t2.medium --master-volume-size 15 --node-volume-size 10 --dns-zone=revanth.store --yes

kops edit cluster --state s3://revanth.bittu

kops get cluster --state s3://revanth.bittu

kops validate cluster --state s3://revanth.bittu

kops get ig --name=revanth.store --state=s3://revanth.bittu

kops edit ig --name=revanth.store control-plane-ap-northeast-1a --state s3://revanth.bittu

kops edit ig --name=revanth.store nodes-ap-northeast-1a --state s3://revanth.bittu

kops update cluster --name revanth.store --yes --state s3://revanth.bittu

kops rolling-update cluster --name revanth.store --yes --state s3:// revanth.bittu

kops delete cluster --name=revanth.store --state=s3://revanth.bittu --yes

=========================================================================

**MINIKUBE:**

sudo apt-get update && sudo apt-get install -y apt-transport-https

curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | sudo apt-key add -

echo "deb https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee -a /etc/apt/sources.list.d/kubernetes.list

sudo apt-get update

sudo apt-get install -y kubectl conntrack

curl https://get.docker.com | bash

curl -Lo minikube https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64 && chmod +x minikube

sudo mv minikube /usr/local/bin

set NO\_PROXY=localhost,127.0.0.1,10.96.0.0/12,192.168.99.1/24,192.168.39.0/24

minikube start --vm-driver=none

========================================================================

list clusters with: kops get cluster

\* edit this cluster with: kops edit cluster revanth.store

\* edit your node instance group: kops edit ig --name=revanth.store nodes-ap-northeast-1a

\* edit your control-plane instance group: kops edit ig --name=revanth.store control-plane-ap-northeast-1a

=================================================================================================================================================

validate cluster: kops validate cluster --wait 10m

\* list nodes: kubectl get nodes --show-labels

\* ssh to a control-plane node: ssh -i ~/.ssh/id\_rsa ubuntu@api.revanth.store

\* the ubuntu user is specific to Ubuntu. If not using Ubuntu please use the appropriate user based on your OS.

\* read about installing addons at: https://kops.sigs.k8s.io/addons.

**Kubectl install on aws linux**

cat <<EOF | sudo tee /etc/yum.repos.d/kubernetes.repo

[kubernetes]

name=Kubernetes

baseurl=https://packages.cloud.google.com/yum/repos/kubernetes-el7-\$basearch

enabled=1

gpgcheck=1

gpgkey=https://packages.cloud.google.com/yum/doc/rpm-package-key.gpg

EOF

sudo yum install -y kubectl

**kops install commands:**

curl -Lo kops https://github.com/kubernetes/kops/releases/download/$(curl -s https://api.github.com/repos/kubernetes/kops/releases/latest | grep tag\_name | cut -d '"' -f 4)/kops-linux-amd64

chmod +x kops

sudo mv kops /usr/local/bin/kops

**helm install**

curl -fsSL -o get\_helm.sh https://raw.githubusercontent.com/helm/helm/main/scripts/get-helm-3

chmod 700 get\_helm.sh

./get\_helm.sh

**Kubectl service expose command:**

kubectl expose pod revanth --port=8000 --target-port=80 --type=NodePort

**kubectl expose rc nginx --port=8000 --target-port=80 --type=NodePort**

**kubectl create service clusterip(type of service) revanth(servicename)—tcp=localport:targetport(9000:90)**

**rolling update :**

**kubectl rolling-update revanth(existing service) revanth1(newservice) --image=imagename:vesrsion**

**kubernetes yaml validator**

<https://validkube.com/?utm_campaign=INF%2002-22%20Validkube&utm_source=Kunal%20>

**minikube-installation script for ubuntu**

#!/bin/bash

sudo apt-get update -y

sudo apt-get install apt-transport-https ca-certificates curl gnupg-agent software-properties-common -y

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -

sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb\_release -cs) stable"

sudo apt-get update -y

sudo apt-get install docker-ce docker-ce-cli containerd.io –y

sudo snap install hello-world

snap install kubectl –classic

kubectl version –client

curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube\_latest\_amd64.deb

sudo dpkg -i minikube\_latest\_amd64.deb

minikube start --force

windows lab password

MztN$DkJU2CqbpPV5SWw;koOk@&sLF\*L