PortFolio

Jenkins plugins

* Docker pipeline
* Cloudbees docker build push
* Kubernetes continuous deployment

K8s command

* minikube version # Check if Minikube is installed
* minikube start # Start Minikube
* kubectl get nodes # Check nodes
* kubectl get pods # Check pods in the default namespace
* kubectl get pods --all-namespaces # Check all pods
* kubectl get services # Check services in the default namespace
* kubectl get services --all-namespaces # Check all services

k8s Port forward

* kubectl port-forward service/portfolio-service 30050:80 --address 0.0.0.0 &

Github -> VM -> Linux -> Jenkins -> Docker -> Dockerhub -> Kubernetes ->

Minikube and Jenkins configuration

* sudo cp -r /home/ec2-user/.kube/ /var/lib/jenkins/
* sudo chown -R jenkins:jenkins /var/lib/jenkins/.minikube

update kubeconfig file

default look  
 client-certificate: /home/ec2-user/.minikube/profiles/minikube/client.crt

client-key: /home/ec2-user/.minikube/profiles/minikube/client.key

should change in Jenkins path

sudo nano /var/lib/jenkins/.kube/config

client-certificate: /var/lib/jenkins/.minikube/profiles/minikube/client.crt

client-key: /var/lib/jenkins /.minikube/profiles/minikube/client.key

* sudo -u jenkins kubectl get nodes
* sudo systemctl restart Jenkins

### minikube configuration Step 1: Create the Necessary Directories

1. **Create the .minikube Directory**  
   First, create the .minikube directory for the Jenkins user:

bash

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sudo mkdir -p /var/lib/jenkins/.minikube

**Step 2: Copy the CA Certificate**

1. **Copy the CA Certificate**  
   After ensuring the directory exists, try copying the CA certificate again:

bash

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sudo cp ~/.minikube/ca.crt /var/lib/jenkins/.minikube/ca.crt

**Step 3: Copy Client Certificates**

1. **Copy the Client Certificates**  
   Next, copy the client certificate and key. Again, make sure that the directories and files exist. You can copy them as follows:

bash

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sudo cp ~/.minikube/profiles/minikube/client.crt /var/lib/jenkins/.minikube/client.crt

sudo cp ~/.minikube/profiles/minikube/client.key /var/lib/jenkins/.minikube/client.key

**Step 4: Create the Configuration File**

1. **Create the Configuration File**  
   If you haven't already created the configuration file, you can do that now:

bash

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sudo nano /var/lib/jenkins/.kube/config

Then add the following configuration, making sure to use the correct paths:

yaml

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apiVersion: v1

clusters:

- cluster:

certificate-authority: /var/lib/jenkins/.minikube/ca.crt

server: https://192.168.49.2:8443

name: minikube

contexts:

- context:

cluster: minikube

user: minikube

name: minikube

current-context: minikube

kind: Config

preferences: {}

users:

- name: minikube

user:

client-certificate: /var/lib/jenkins/.minikube/client.crt

client-key: /var/lib/jenkins/.minikube/client.key

**Step 5: Set Permissions**

1. **Set Ownership and Permissions**  
   Finally, set the correct ownership and permissions for the .kube and .minikube directories:

bash

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sudo chown -R jenkins:jenkins /var/lib/jenkins/.kube

sudo chown -R jenkins:jenkins /var/lib/jenkins/.minikube

sudo chmod 700 /var/lib/jenkins/.kube

sudo chmod 600 /var/lib/jenkins/.kube/config

sudo chmod 600 /var/lib/jenkins/.minikube/client.crt

sudo chmod 600 /var/lib/jenkins/.minikube/client.key

**Step 6: Test the Configuration**

1. **Test the Configuration**  
   Now you can test if the Jenkins user can access Minikube:

bash

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sudo -u jenkins kubectl get nodes