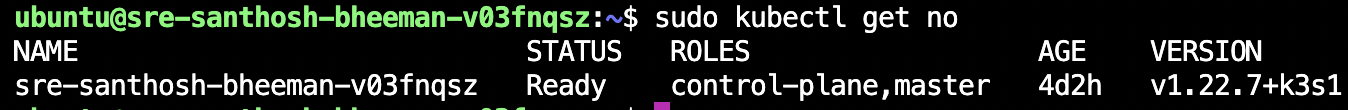
**### Preparation:**

Followed official K3s website to setup k3s cluster and executed the following command

**sudo curl -sfL https://get.k3s.io | sh -**

**sudo kubectl get node**



Then applied the manifest with this following command:

**sudo kubectl apply -f Concatenated.yml**

**sudo kubectl get ns**

**sudo kubectl get po -n uop-metadata**

**### Task:**

Executed the following command to identify the issue

**sudo kubectl get ns**

**sudo kubectl get svc,ing -n uop-metadata**

With the following command understood that there is no **clusterip** service attached to the pod

**sudo kubectl get ep**

And updated the manifest metadata labels and selector as highlighted below to **2003** which is pod version

apiVersion: v1

kind: Service

metadata:

labels:

k8s.utopiamusic.io/app: backend-creative

k8s.utopiamusic.io/ref: dev

**k8s.utopiamusic.io/version: "2002"**

name: backend-creative-dev

namespace: uop-metadata

spec:

ports:

- name: http

port: 80

protocol: TCP

targetPort: 80

selector:

k8s.utopiamusic.io/app: backend-creative

k8s.utopiamusic.io/ref: dev

**k8s.utopiamusic.io/version: "2002"**

sessionAffinity: None

type: ClusterIP

then executed curl for pod ip and ingress ip like this:

**curl 10.43.124.38:80**

**curl 10.166.0.55/echo**

both the commands returned the following response:

{"host":{"hostname":"10.166.0.55","ip":"::ffff:10.42.0.8","ips":[]},"http":{"method":"GET","baseUrl":"","originalUrl":"/","protocol":"http"},"request":{"params":{"0":"/"},"query":{},"cookies":{},"body":{},"headers":{"host":"10.166.0.55","user-agent":"curl/7.68.0","accept":"\*/\*","x-forwarded-for":"10.42.0.1","x-forwarded-host":"10.166.0.55","x-forwarded-port":"80","x-forwarded-prefix":"/echo","x-forwarded-proto":"http","x-forwarded-server":"traefik-56c4b88c4b-thfdk","x-real-ip":"10.42.0.1","accept-encoding":"gzip"}},"environment":{"PATH":"/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin","HOSTNAME":"backend-creative-dev-2003-6d4b6c7c79-4ktg2","NODE\_VERSION":"14.17.1","YARN\_VERSION":"1.22.5","KUBERNETES\_PORT":"tcp://10.43.0.1:443","KUBERNETES\_PORT\_443\_TCP\_PORT":"443","KUBERNETES\_PORT\_443\_TCP\_ADDR":"10.43.0.1","BACKEND\_CREATIVE\_DEV\_SERVICE\_PORT\_HTTP":"80","BACKEND\_CREATIVE\_DEV\_PORT":"tcp://10.43.124.38:80","KUBERNETES\_SERVICE\_HOST":"10.43.0.1","KUBERNETES\_SERVICE\_PORT\_HTTPS":"443","BACKEND\_CREATIVE\_DEV\_SERVICE\_HOST":"10.43.124.38","BACKEND\_CREATIVE\_DEV\_SERVICE\_PORT":"80","BACKEND\_CREATIVE\_DEV\_PORT\_80\_TCP":"tcp://10.43.124.38:80","BACKEND\_CREATIVE\_DEV\_PORT\_80\_TCP\_PROTO":"tcp","KUBERNETES\_SERVICE\_PORT":"443","KUBERNETES\_PORT\_443\_TCP":"tcp://10.43.0.1:443","BACKEND\_CREATIVE\_DEV\_PORT\_80\_TCP\_ADDR":"10.43.124.38","KUBERNETES\_PORT\_443\_TCP\_PROTO":"tcp","BACKEND\_CREATIVE\_DEV\_PORT\_80\_TCP\_PORT":"80","HOME":"/root"}}

**### Code Test:**

**Update the names of vms so they comply with the new namestandard**

Placed the same code inside under **/home/ubuntu/code** named **update\_vm.py**

import requests

import json

import re

############################### UPDATE VM NAME ###############################

r = requests.get('http://10.166.0.55/api/resource/vm', headers={'Authorization': 'Basic Y29kZS10ZXN0Oj9DOGBSNWAhODNsL2Z+VSU+fSVW'})

m=json.loads(r.text)

print(m)

for i in m:

idlist=i['id']

print(type(idlist))

print(str(idlist))

print(type(idlist))

int(idlist)

print(type(idlist))

URL = "http://10.166.0.55/api/resource/vm/" + idlist

print(URL)

idres = requests.get(url=URL, headers={'Authorization': 'Basic Y29kZS10ZXN0Oj9DOGBSNWAhODNsL2Z+VSU+fSVW'})

f=json.loads(idres.text)

text=f['region']

logreg = "^\w{1,2}"

logreg1 = "(?<=-)\w{1}"

logreg2 = "\d{1,2}"

fin = re.findall(logreg,text)

fin1 = re.findall(logreg1,text)

fin2 = re.findall(logreg2,text)

listToStr=""

listToStr += ' '.join([str(elem) for elem in fin])

listToStr += ' '.join([str(elem) for elem in fin1])

listToStr += ' '.join([str(elem) for elem in fin2])

print(listToStr)

sname=f['name']

print(sname)

line = sname

if line.find('dev') > 0:

index = line.find('dev')

if line[index:-3] == "dev":

if line.find(listToStr) > 0:

print("Shortened region update already done")

else:

output\_line = line[:index] + listToStr + '-' + line[index:]

print(type(output\_line))

data = {

"name": output\_line,

"id": f['id'],

"ip": f['ip'],

"region": f['region'],

"labels": {

"dns-zone": f['labels']['dns-zone']

}

}

putres = requests.put(url=URL, json=data, headers={'Content-Type':'application/json', 'Authorization': 'Basic Y29kZS10ZXN0Oj9DOGBSNWAhODNsL2Z+VSU+fSVW'})

print(putres.text)

elif line.find('stage') > 0:

index = line.find('stage')

if line[index:-3] == "stage":

if line.find(listToStr) > 0:

print("Shortened region update already done")

else:

output\_line = line[:index] + listToStr + '-' + line[index:]

print(type(output\_line))

data = {

"name": output\_line,

"id": f['id'],

"ip": f['ip'],

"region": f['region'],

"labels": {

"dns-zone": f['labels']['dns-zone']

}

}

putres = requests.put(url=URL, json=data, headers={'Content-Type':'application/json', 'Authorization': 'Basic Y29kZS10ZXN0Oj9DOGBSNWAhODNsL2Z+VSU+fSVW'})

print(putres.text)

elif line.find('qa') > 0:

index = line.find('qa')

if line[index:-3] == "qa":

if line.find(listToStr) > 0:

print("Shortened region update already done")

else:

output\_line = line[:index] + listToStr + '-' + line[index:]

print(type(output\_line))

data = {

"name": output\_line,

"id": f['id'],

"ip": f['ip'],

"region": f['region'],

"labels": {

"dns-zone": f['labels']['dns-zone']

}

}

putres = requests.put(url=URL, json=data, headers={'Content-Type':'application/json', 'Authorization': 'Basic Y29kZS10ZXN0Oj9DOGBSNWAhODNsL2Z+VSU+fSVW'})

print(putres.text)

elif line.find('prod') > 0:

index = line.find('prod')

if line[index:-3] == "prod":

if line.find(listToStr) > 0:

print("Shortened region update already done")

else:

output\_line = line[:index] + listToStr + '-' + line[index:]

print(type(output\_line))

data = {

"name": output\_line,

"id": f['id'],

"ip": f['ip'],

"region": f['region'],

"labels": {

"dns-zone": f['labels']['dns-zone']

}

}

putres = requests.put(url=URL, json=data, headers={'Content-Type':'application/json', 'Authorization': 'Basic Y29kZS10ZXN0Oj9DOGBSNWAhODNsL2Z+VSU+fSVW'})

print(putres.text)

else:

print("exiting")

**### Running the code test Apiserver**

**sudo kubectl apply -f Concatenated.yml**

Then identified the secret to access api server with following command:

**sudo kubectl get secret -n code-test**

**sudo kubectl describe secret code-test-apiserver-dev-001 -n code-test**

**sudo kubectl get secret code-test-apiserver-dev-001 -n code-test -o jsonpath='{.data}'**

**Created basic authentication base64 encoded password:**

echo “Y29kZS10ZXN0:P0M4YFI1YCE4M2wvZn5VJT59JVY=” | base64

**Invoked Api server with the following curl command**

curl -X GET <http://10>.166.0.55/api/resource/vm -H “Authorization: Basic Y29kZS10ZXN0Oj9DOGBSNWAhODNsL2Z+VSU+fSVW”

**Note:** I was not able to update DNS name of VM because the id’s were different, but tried alternate methods for which the code is under **/home/ubuntu/code** named **update\_vm\_dns.py**

**After executing the python script got the following json response upon invoking the above curl command:**

[

{

"name": "quintuple-dc2e2f43-usn2-dev-vm",

"id": "1889",

"ip": "10.10.13.96",

"region": "us-north2",

"labels": {

"dns-zone": "example.org"

}

},

{

"name": "stunned-ec4acec6-afs3-qa-vm",

"id": "1811",

"ip": "10.10.8.102",

"region": "africa-south3",

"labels": {

"dns-zone": "example.net"

}

},

{

"name": "pretzel-f5ec663c-usn3-prod-vm",

"id": "1375",

"ip": "10.10.2.94",

"region": "us-north3",

"labels": {

"dns-zone": "example.com"

}

},

{

"name": "frays-e0bb93fa-afs2-prod-vm",

"id": "1190",

"ip": "10.10.15.99",

"region": "africa-south2",

"labels": {

"dns-zone": "example.org"

}

},

{

"name": "payday-3360d154-euc1-qa-vm",

"id": "1669",

"ip": "10.10.12.138",

"region": "eu-central1",

"labels": {

"dns-zone": "example.net"

}

},

{

"name": "coffee-fcc5c1c3-euw3-qa-vm",

"id": "1393",

"ip": "10.10.9.143",

"region": "eu-west3",

"labels": {

"dns-zone": "example.com"

}

},

{

"name": "conical-7770843b-afn2-dev-vm",

"id": "1660",

"ip": "10.10.15.15",

"region": "africa-north2",

"labels": {

"dns-zone": "example.com"

}

},

{

"name": "goofy-b8213836-usw1-dev-vm",

"id": "1699",

"ip": "10.10.13.59",

"region": "us-west1",

"labels": {

"dns-zone": "example.org"

}

},

{

"name": "linked-e207a626-afw1-dev-vm",

"id": "1516",

"ip": "10.10.10.184",

"region": "africa-west1",

"labels": {

"dns-zone": "example.net"

}

},

{

"name": "smudge-e153696e-usn2-stage-vm",

"id": "1263",

"ip": "10.10.10.173",

"region": "us-north2",

"labels": {

"dns-zone": "example.com"

}

},

{

"name": "tableful-948b5565-usn1-prod-vm",

"id": "1368",

"ip": "10.10.3.250",

"region": "us-north1",

"labels": {

"dns-zone": "example.com"

}

},

{

"name": "trekker-49b66151-eun1-qa-vm",

"id": "1615",

"ip": "10.10.3.33",

"region": "eu-north1",

"labels": {

"dns-zone": "example.org"

}

},

{

"name": "denim-92db12e8-eun2-dev-vm",

"id": "1028",

"ip": "10.10.9.160",

"region": "eu-north2",

"labels": {

"dns-zone": "example.org"

}

},

{

"name": "kilometer-eb80b27c-eue3-prod-vm",

"id": "1864",

"ip": "10.10.8.240",

"region": "eu-east3",

"labels": {

"dns-zone": "example.net"

}

},

{

"name": "imminent-aa2474a2-euc2-dev-vm",

"id": "1348",

"ip": "10.10.5.79",

"region": "eu-central2",

"labels": {

"dns-zone": "example.com"

}

},

{

"name": "stomp-90ea1770-usn1-stage-vm",

"id": "1848",

"ip": "10.10.8.116",

"region": "us-north1",

"labels": {

"dns-zone": "example.org"

}

},

{

"name": "monogram-4716d577-euc3-dev-vm",

"id": "1590",

"ip": "10.10.3.40",

"region": "eu-central3",

"labels": {

"dns-zone": "example.net"

}

},

{

"name": "monogamy-03aab55a-usc2-stage-vm",

"id": "1090",

"ip": "10.10.4.220",

"region": "us-central2",

"labels": {

"dns-zone": "example.net"

}

},

{

"name": "dance-06126802-euc1-dev-vm",

"id": "1929",

"ip": "10.10.3.112",

"region": "eu-central1",

"labels": {

"dns-zone": "example.com"

}

},

{

"name": "creamlike-6b41094f-eus3-dev-vm",

"id": "1919",

"ip": "10.10.7.204",

"region": "eu-south3",

"labels": {

"dns-zone": "example.org"

}

}

]