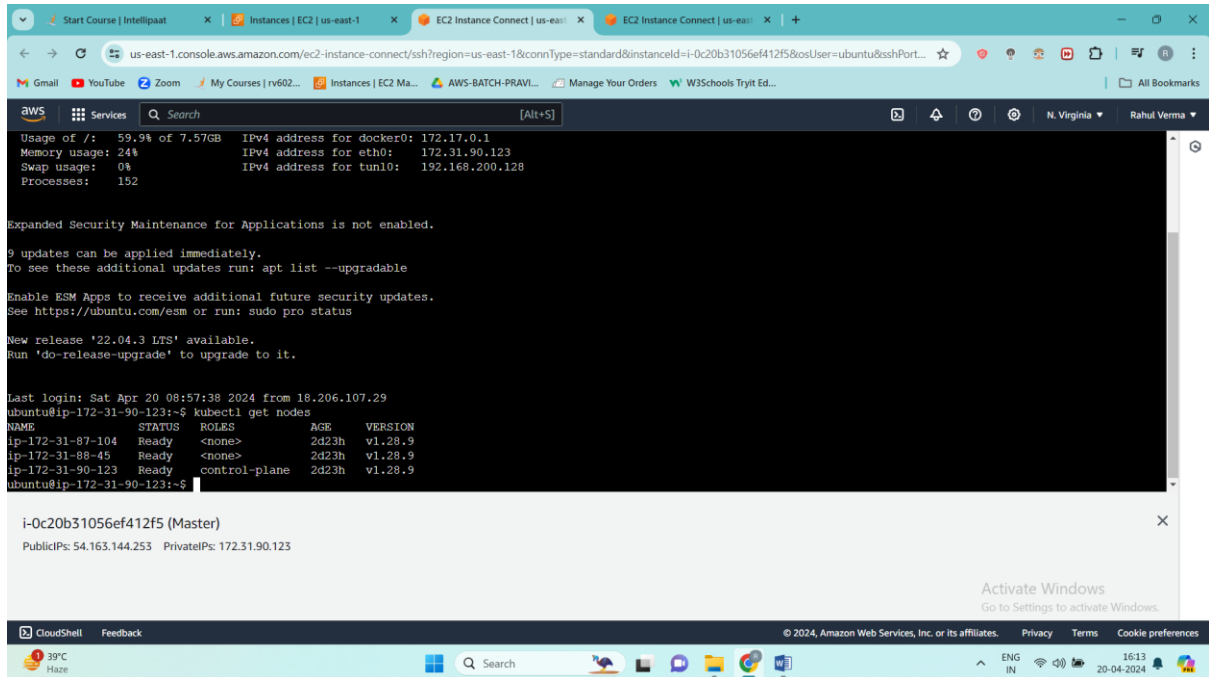


Controlling Cluster from outside

Prerequisite:

1. Master instance (kubectl downloaded) it has 2 slave nodes



```
Usage of /: 59.9% of 7.57GB   IPv4 address for docker0: 172.17.0.1
Memory usage: 24%          IPv4 address for eth0: 172.31.90.123
Swap usage: 0%             IPv4 address for tunl0: 192.168.200.128
Processes: 152

Expanded Security Maintenance for Applications is not enabled.

9 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

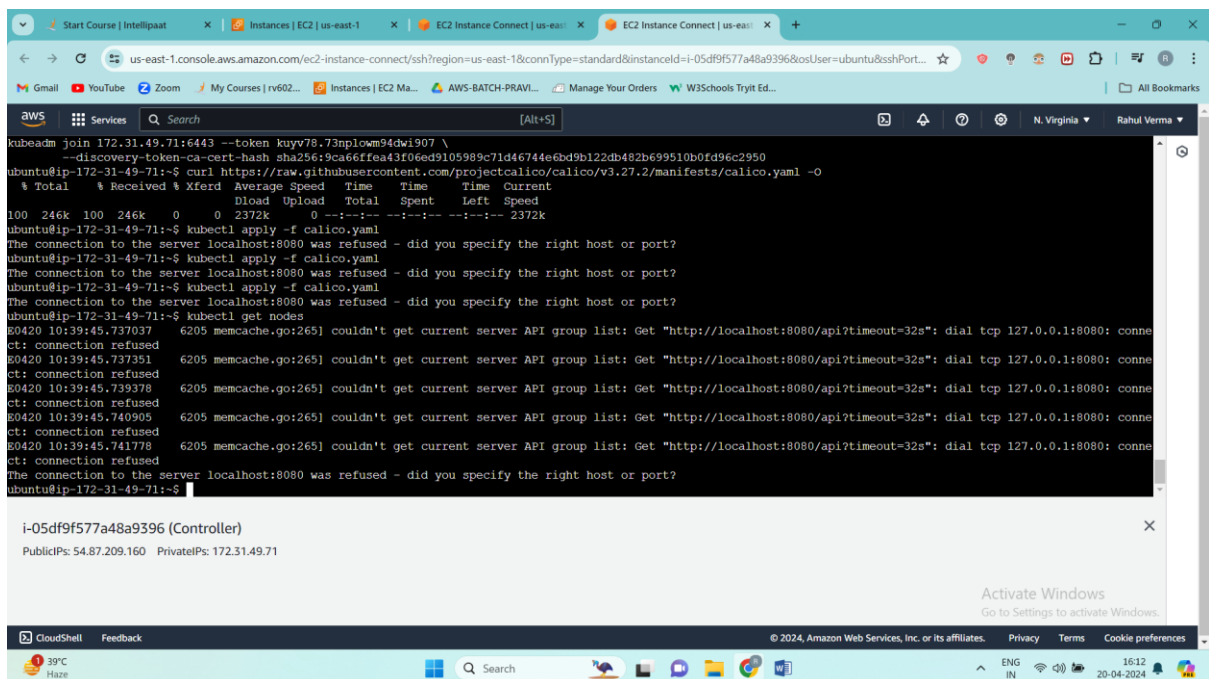
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

New release '22.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Sat Apr 20 08:57:38 2024 from 18.206.107.29
ubuntu@ip-172-31-90-123:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE   VERSION
ip-172-31-87-104                    Ready     <none>    2d23h v1.28.9
ip-172-31-88-45                    Ready     <none>    2d23h v1.28.9
ip-172-31-90-123                    Ready     control-plane 2d23h v1.28.9
ubuntu@ip-172-31-90-123:~$
```

i-0c20b31056ef412f5 (Master)
PublicIPs: 54.163.144.253 PrivateIPs: 172.31.90.123

2. Controller instance (kubectl downloaded) nothing is attached.



```
kubeadm join 172.31.49.71:6443 --token kuyv78.73nplowm94dw1907 \
--discovery-token-ca-cert-hash sha256:9ca66ffea43f06ed9105989c71d46744e6bd9b122db482b699510b0fd96c2950
ubuntu@ip-172-31-49-71:~$ curl https://raw.githubusercontent.com/projectcalico/calico/v3.27.2/manifests/calico.yaml -O
% Total % Received % Xferd Average Speed Time Time Time
Load Upload Total Spent Left Speed
100 246k 100 246k 0 0 2372k 0 --:--:-- --:--:-- --:--:-- 2372k
ubuntu@ip-172-31-49-71:~$ kubectl apply -f calico.yaml
The connection to the server localhost:8080 was refused - did you specify the right host or port?
ubuntu@ip-172-31-49-71:~$ kubectl apply -f calico.yaml
The connection to the server localhost:8080 was refused - did you specify the right host or port?
ubuntu@ip-172-31-49-71:~$ kubectl apply -f calico.yaml
The connection to the server localhost:8080 was refused - did you specify the right host or port?
ubuntu@ip-172-31-49-71:~$ kubectl get nodes
6205 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api?timeout=32s": dial tcp 127.0.0.1:8080: connec
ct: connection refused
6205 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api?timeout=32s": dial tcp 127.0.0.1:8080: connec
ct: connection refused
6205 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api?timeout=32s": dial tcp 127.0.0.1:8080: connec
ct: connection refused
6205 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api?timeout=32s": dial tcp 127.0.0.1:8080: connec
ct: connection refused
6205 memcache.go:265] couldn't get current server API group list: Get "http://localhost:8080/api?timeout=32s": dial tcp 127.0.0.1:8080: connec
ct: connection refused
The connection to the server localhost:8080 was refused - did you specify the right host or port?
ubuntu@ip-172-31-49-71:~$
```

i-05df9f577a48a9396 (Controller)
PublicIPs: 54.87.209.160 PrivateIPs: 172.31.49.71

Operation 1: Create a cluster and unrelated host with kubectl installed. Then from your cluster master extract the config file

LI

```
cd .kube/
```

cat config

now copy the entire commands

The screenshot shows a terminal window with the following output:

```

aws
Services
Search
[Alt+S]

-rw-rw-r-- 1 ubuntu ubuntu    151 Apr 19 07:24 pod1.yaml
-rw-rw-r-- 1 ubuntu ubuntu    313 Apr 19 10:45 rc.yaml
-rw-rw-r-- 1 ubuntu ubuntu    140 Apr 19 11:47 serr.yaml
-rw-rw-r-- 1 ubuntu ubuntu    258 Apr 20 07:44 taint.yaml
-rw-rw-r-- 1 ubuntu ubuntu    463 Apr 19 14:03 vol.yaml
ubuntu@ip-172-31-90-123:~$ cd .kube/
ubuntu@ip-172-31-90-123:~/.kube$ cat config
clusters:
- cluster:
    certificate-authority-data: LS0tLS1CRUdJTiB0dWVJUSUzQjQ0Rm90L0t0ck1jSURCVENkQWY0Y2F3S0U3B201J0h0c0tn2RbHwMeWt3RFFZ3ktvWkloDMNQVFFTEjRQXkdGEVUTUJFR0E0cVUURQXhNS2EzVm
    laWEP1WlHS0G6QWVGDZb5TKRME1UY3hNVE1TURWYUz3MhpOREwTVrVE1URTBNNRFZhtUJVeApFekF3QmdQvKjBTVRDxQxWW1WewJtVjBawE13Z2dFau1BMEd0U3FHU01MORRRUJUBUVBGTJRQkR3QXdn20VLCKFV
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dc9vGSEMTVMVXkZtkaUz2XYVUJJoLdZwGVBWUg2R014L091KXW6WmWdZBuaTFack1tHbYc2tQvYwUzVjBxPqCnE3a3R0TGZM20Z0Rc1GRD1MDR121hoTew4eWEwaE1Zdtd0W11VQWx0b1Y0enpKSI2Ea0hmaljd
    bcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV1llyc9DS19hC9h1qmFXVGS40E1tW5z3RHVZNFAReF1Udg4L3kzeUjVmo1a3QdeFTbDRK3GS5Y2tYfWep0M0NwV112dm9N3VSQ3ZGUmhXcWhjSms5bDRNcK
    dcv9LXWQgmZemUN0Dde1R1CEmZR2JIMXZVFNvEwHwVrcnOh1C2VobngSMHhddC91VEVXhApZw1YTFKZKPVK1EVLXkdApaaH8UpOLR3BteKheoem1YndvR2V0UkZrVWYQcWnQKFBFZ2KXVJZTtUBORExVWHEd0
    SUJBUUNXndGj1FbTb5tTXhAYjJiOm1Z2Zn6a0xM22cxV
```

Operation 2: now go back to your Controller instance

```
mkdir .kube
```

11

```
cd .kube/
```

```
sudo nano config
```

paste those commands from master instance

save and exit (ctrl+s & ctrl+x)

The screenshot shows a web browser window with multiple tabs. The active tab is titled "us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-05df9f577a48a9396&osUser=ubuntu&sshPort...". The browser's address bar shows the URL. Below the browser window, a terminal window is open, displaying the output of the "nano config" command. The terminal shows the following content:

```
GNU nano 4.8 config Modified
apiVersion: v1
clusters:
- cluster:
  certificate-authority-data: LS0tLS1CRUdJTiBDRVJUSUZJQ0FURSB0LS0tck1JSURCVENDQWUyZDZ0F3SUJBZ01JUHc0TmZRBHpMeWt3RFFZSktyWklodmNOQVFFTEJRQXdGVEVUTUJFR0ExVUUKQXhNS2EzVmlh
  server: https://172.31.90.123:6443
  name: kubernetes
contexts:
- context:
  cluster: kubernetes
  user: kubernetes-admin
  name: kubernetes-admin@kubernetes
current-context: kubernetes-admin@kubernetes
kind: Config
preferences: {}
users:
- name: kubernetes-admin
  user:
    client-certificate-data: LS0tLS1CRUdJTiBDRVJUSUZJQ0FURSB0LS0tck1JSURCVENDQWUyZDZ0F3SUJBZ01JFyOWN6eVhuYUV3RFFZSktyWklodmNOQVFFTEJRQXdGVEVUTUJFR0ExVUUKQXhNS2EzVmlh
    client-key-data: LS0tLS1CRUdJTiBDRVJUSUZJQ0FURSB0LS0tck1JSURCVENDQWUyZDZ0F3SUJBZ01JFyOWN6eVhuYUV3RFFZSktyWklodmNOQVFFTEJRQXdGVEVUTUJFR0ExVUUKQXhNS2EzVmlh

Get Help  Write Out  Where Is  Cut Text  Justify  Cur Pos  Undo  Mark Text  To Bracket  Previous
Exit  Read File  Replace  Paste Text  To Spell  Go To Line  Redo  Copy Text  Where Was  Next

i-05df9f577a48a9396 (Controller)
PublicIPs: 54.87.209.160  PrivateIPs: 172.31.49.71

Activate Windows
Go to Settings to activate Windows.

CloudShell  Feedback  © 2024, Amazon Web Services, Inc. or its affiliates.  Privacy  Terms  Cookie preferences
```

Now type

cd ..

and now type

kubectl get nodes

The screenshot shows a terminal window with the following output:

```
ubuntu@ip-172-31-49-71:~/.kube$ sudo nano config
ubuntu@ip-172-31-49-71:~/.kube$ cd ..
ubuntu@ip-172-31-49-71:~$ kubectl get nodes
```

NAME	STATUS	ROLES	AGE	VERSION
ip-172-31-87-104	Ready	<none>	2d23h	v1.28.9
ip-172-31-88-45	Ready	<none>	2d23h	v1.28.9
ip-172-31-90-123	Ready	control-plane	2d23h	v1.28.9

```
ubuntu@ip-172-31-49-71:~$
```