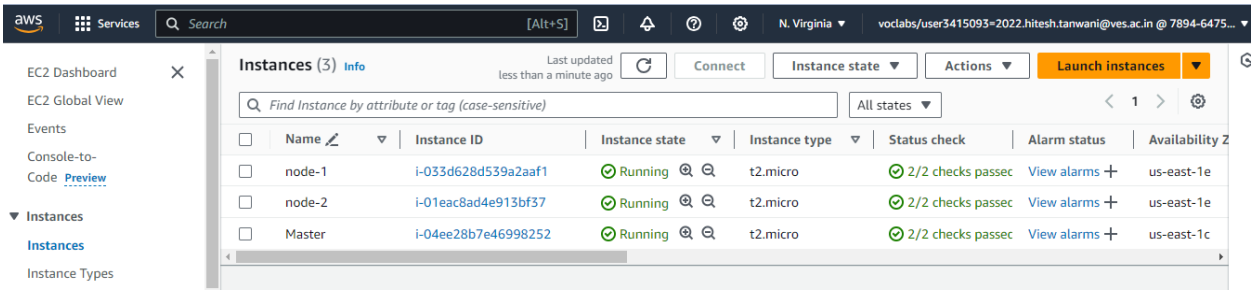
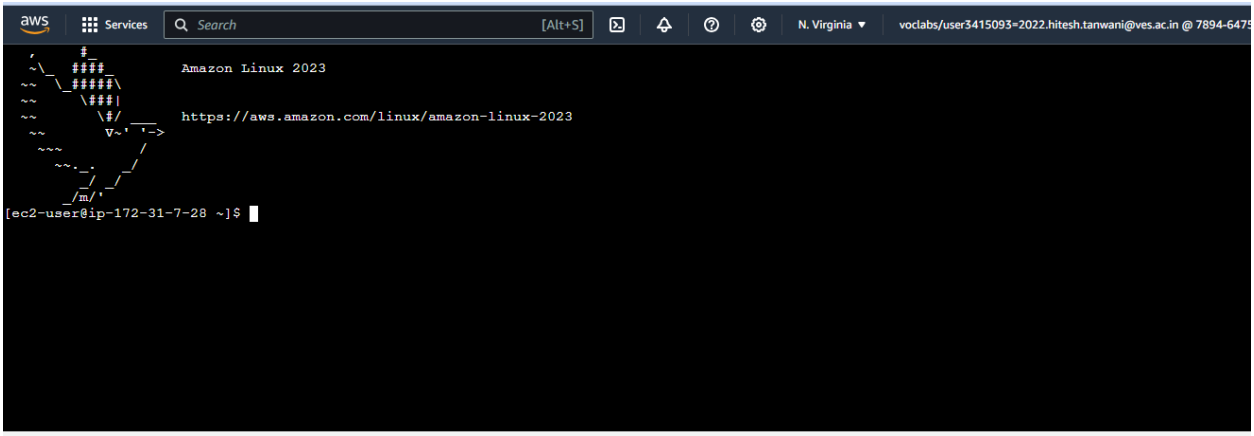
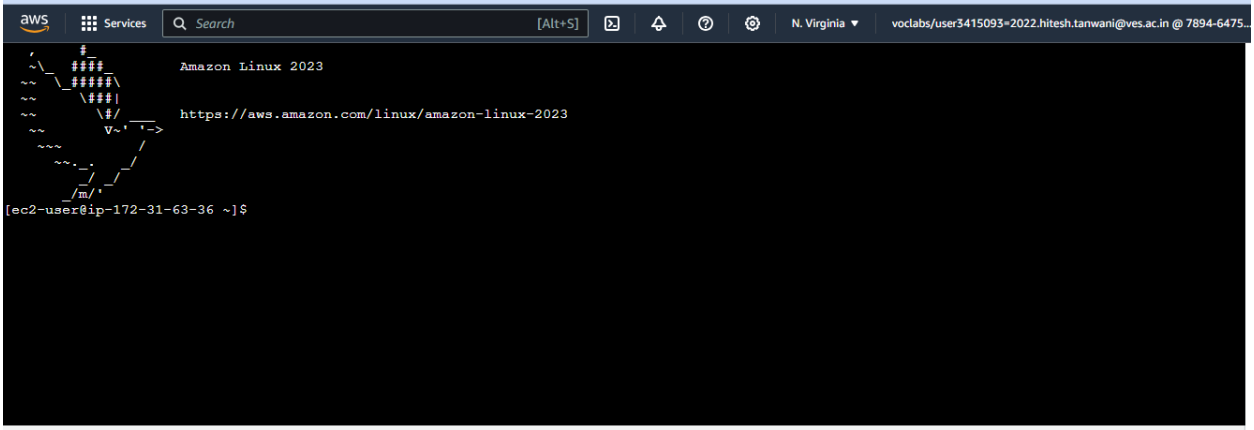
Adv Devops exp 3





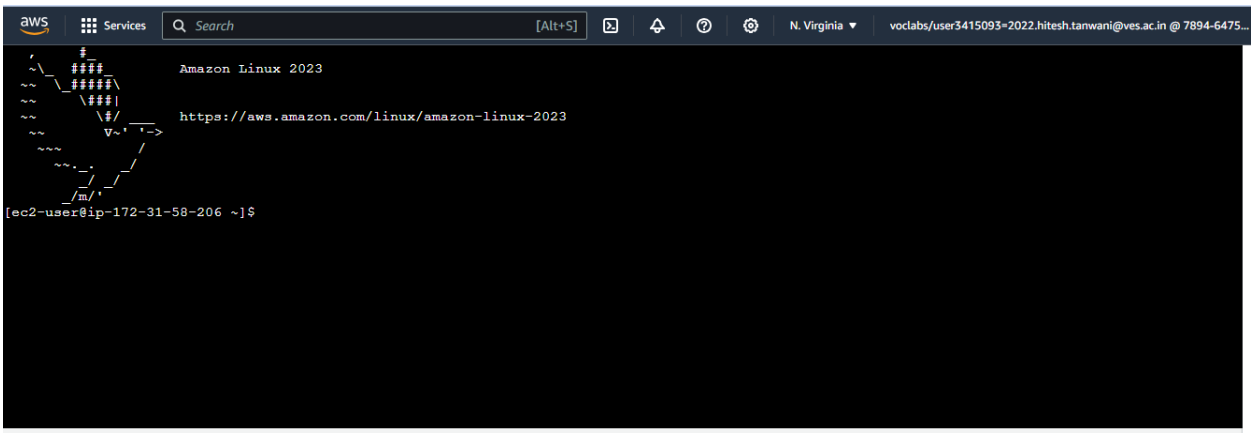
i-04ee28b7e46998252 (Master)

PublicIPs: 3.236.37.200 PrivateIPs: 172.31.7.28



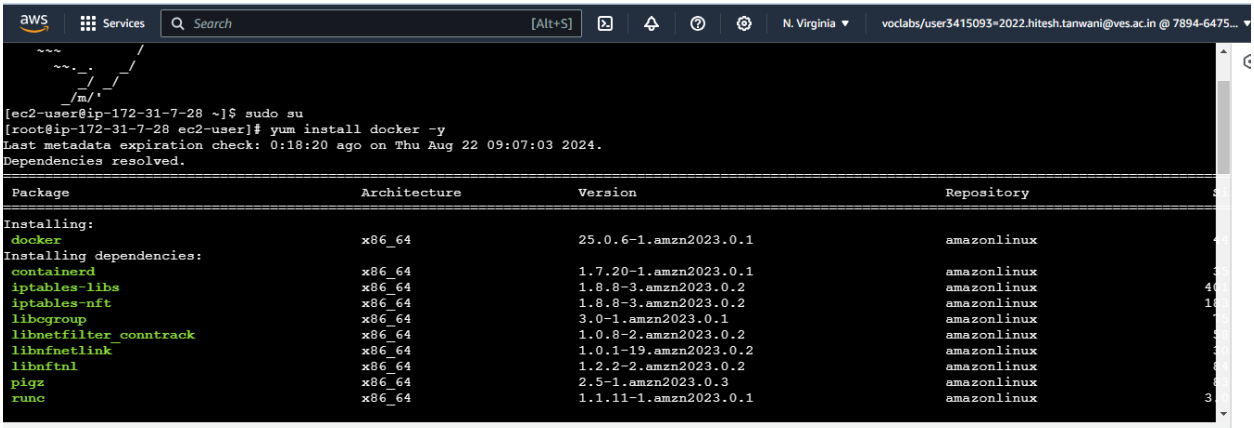
i-033d628d539a2aaf1 (node-1)

PublicIPs: 18.210.17.24 PrivateIPs: 172.31.63.36



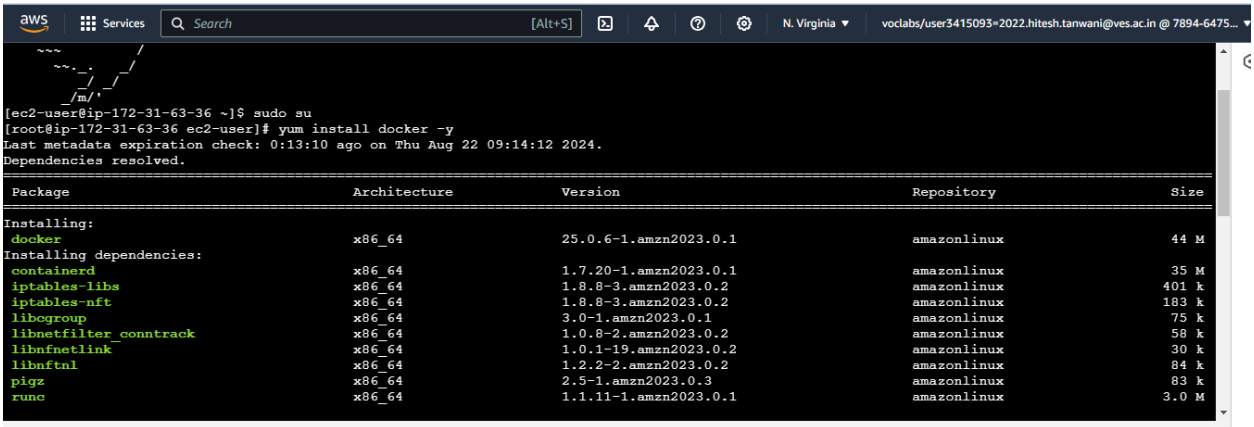
i-01eac8ad4e913bf37 (node-2)

PublicIPs: 54.197.124.43 PrivateIPs: 172.31.58.206



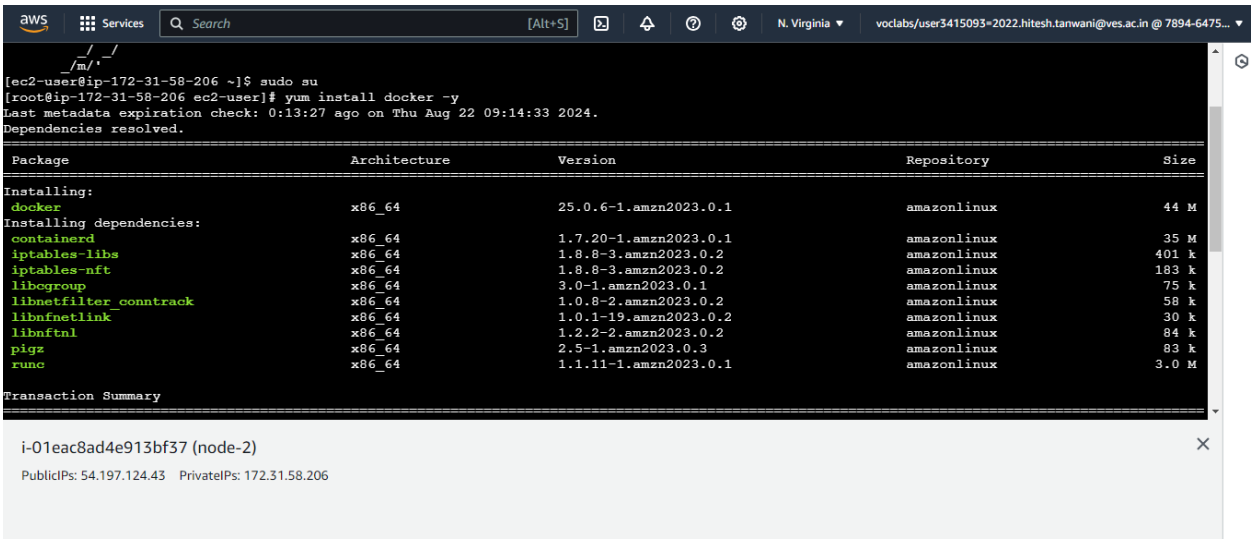
i-04ee28b7e46998252 (Master)

PublicIPs: 3.236.37.200 PrivateIPs: 172.31.7.28



i-033d628d539a2aaf1 (node-1)

PublicIPs: 18.210.17.24 PrivateIPs: 172.31.63.36




```
Complete!
[root@ip-172-31-7-28 ec2-user]# yum install docker -y^C
[root@ip-172-31-7-28 ec2-user]# systemctl start docker
[root@ip-172-31-7-28 ec2-user]#
```

i-04ee28b7e46998252 (Master)

PublicIPs: 3.236.37.200 PrivateIPs: 172.31.7.28

```
Complete!
[root@ip-172-31-63-36 ec2-user]# syaytemctl start docker
bash: syaytemctl: command not found
[root@ip-172-31-63-36 ec2-user]#
```

i-033d628d539a2aaf1 (node-1)

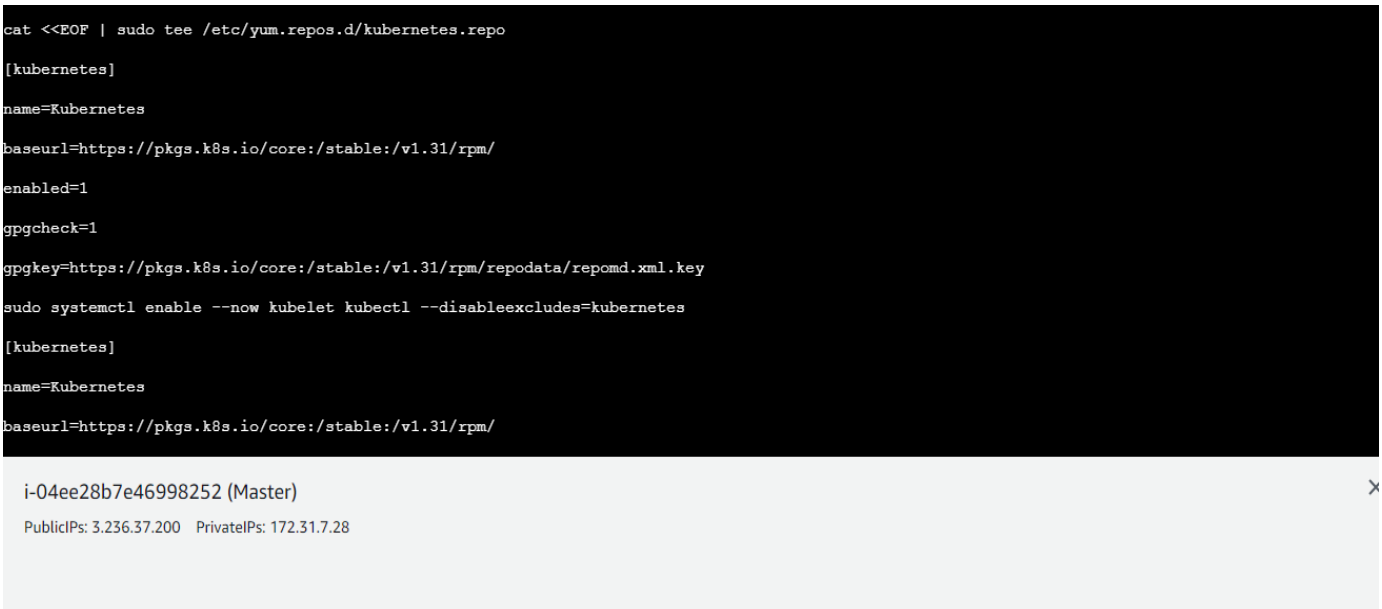
PublicIPs: 18.210.17.24 PrivateIPs: 172.31.63.36

```
Complete!
[root@ip-172-31-58-206 ec2-user]# syatemctl start docker
bash: syatemctl: command not found
[root@ip-172-31-58-206 ec2-user]#
```

i-01eac8ad4e913bf37 (node-2)

PublicIPs: 54.197.124.43 PrivateIPs: 172.31.58.206

```
sudo setenforce 0

sudo sed -i 's/^SELINUX=enforcing$/SELINUX=permissive/'
/etc/selinux/config
cat <<EOF | sudo tee /etc/yum.repos.d/kubernetes.repo

[kubernetes]

name=Kubernetes

baseurl=https://pkgs.k8s.io/core:/stable:/v1.31/rpm/

enabled=1

gpgcheck=1

gpgkey=https://pkgs.k8s.io/core:/stable:/v1.31/rpm/repodata/repomd.xml.key

exclude=kubelet kubeadm kubectl cri-tools kubernetes-cni

EOF

sudo yum install -y kubelet kubeadm kubectl --disableexcludes=kubernetes

sudo systemctl enable --now kubelet
```



```
gpgkey=https://pkgs.k8s.io/core:/stable:/v1.31/rpm/repodata/repomd.xml.key

exclude=kubelet kubeadm kubectl cri-tools kubernetes-cni

Kubernetes                                                                                                    30 kB/s | 6.5 kB     00:00
Dependencies resolved.
================================================================================================================================================
 Package                                 Architecture            Version                                 Repository                        Size
================================================================================================================================================
Installing:
 kubeadm                                 x86_64                  1.31.0-150500.1.1                       kubernetes                        11 M
 kubectl                                 x86_64                  1.31.0-150500.1.1                       kubernetes                        11 M
 kubelet                                 x86_64                  1.31.0-150500.1.1                       kubernetes                        15 M
Installing dependencies:
 conntrack-tools                         x86_64                  1.4.6-2.amzn2023.0.2                    amazonlinux                      208 k
 cri-tools                               x86_64                  1.31.1-150500.1.1                       kubernetes                       6.9 M
 kubernetes-cni                          x86_64                  1.5.0-150500.2.1                        kubernetes                       7.1 M
 libnetfilter_cthelper                   x86_64                  1.0.0-21.amzn2023.0.2                   amazonlinux                       24 k
 libnetfilter_cttimeout                  x86_64                  1.0.0-19.amzn2023.0.2                   amazonlinux                       24 k
 libnetfilter_queue                      x86_64                  1.0.5-2.amzn2023.0.2                    amazonlinux                       30 k
```

i-04ee28b7e46998252 (Master)

PublicIPs: 3.236.37.200 PrivateIPs: 172.31.7.28

```
Complete!
Created symlink /etc/systemd/system/multi-user.target.wants/kubelet.service → /usr/lib/systemd/system/kubelet.service.
[root@ip-172-31-7-28 ec2-user]# yum repolist
repo id                                                repo name
amazonlinux                                            Amazon Linux 2023 repository
kernel-livepatch                                       Amazon Linux 2023 Kernel Livepatch repository
kubernetes                                             Kubernetes
[root@ip-172-31-7-28 ec2-user]#
```

i-04ee28b7e46998252 (Master)

PublicIPs: 3.236.37.200 PrivateIPs: 172.31.7.28

```
kubeadm join 172.31.7.28:6443 --token jtxyp8.du6wm3halz3xjqgw \
        --discovery-token-ca-cert-hash sha256:61ea9c9f0328b4b07c62fa8cebec69ee41003b2d514df331a680c189afddadef
[root@ip-172-31-7-28 ec2-user]# sudo kubeadm init --v=5
I0822 10:05:53.328925   32221 initconfiguration.go:123] detected and using CRI socket: unix:///var/run/containerd/containerd.sock
I0822 10:05:53.331373   32221 interface.go:432] Looking for default routes with IPv4 addresses
I0822 10:05:53.331499   32221 interface.go:437] Default route transits interface "enX0"
I0822 10:05:53.332446   32221 interface.go:209] Interface enX0 is up
I0822 10:05:53.332619   32221 interface.go:257] Interface "enX0" has 2 addresses :[172.31.7.28/20 fe80::68:32ff:fe14:8829/64].
I0822 10:05:53.332742   32221 interface.go:224] Checking addr  172.31.7.28/20.
I0822 10:05:53.332854   32221 interface.go:231] IP found 172.31.7.28
I0822 10:05:53.332976   32221 interface.go:263] Found valid IPv4 address 172.31.7.28 for interface "enX0".
I0822 10:05:53.333088   32221 interface.go:443] Found active IP 172.31.7.28
I0822 10:05:53.333219   32221 kubelet.go:195] the value of KubeletConfiguration.cgroupDriver is empty; setting it to "systemd"
I0822 10:05:53.333349   32221 version.go:192] fetching Kubernetes version from URL: https://dl.k8s.io/release/stable-1.txt
I0822 10:05:53.571997   32221 certs.go:473] validating certificate period for CA certificate
I0822 10:05:53.572424   32221 certs.go:473] validating certificate period for front-proxy CA certificate
[init] Using Kubernetes version: v1.31.0
[preflight] Running pre-flight checks
I0822 10:05:53.587118   32221 checks.go:561] validating Kubernetes and kubeadm version
I0822 10:05:53.587282   32221 checks.go:166] validating if the firewall is enabled and active
I0822 10:05:53.617575   32221 checks.go:201] validating availability of port 6443
```

```
mkdir -p $HOME/.kube
```

```
 mkdir -p $HOME/.kube
  sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config
  sudo chown $(id -u):$(id -g) $HOME/.kube/config
```

```
[root@ip-172-31-7-28 ec2-user]#    mkdir -p $HOME/.kube
  sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config
  sudo chown $(id -u):$(id -g) $HOME/.kube/config
```

```
[ec2-user@ip-172-31-58-206 ~]$ sudo kubeadm join <ip> --token <token> \
--discovery-token-ca-cert-hash <hash>
-bash: syntax error near unexpected token `newline'
[ec2-user@ip-172-31-58-206 ~]$
```

i-01eac8ad4e913bf37 (node-2)

PublicIPs: 54.197.124.43 PrivateIPs: 172.31.58.206

```
[root@ip-172-31-63-36 ec2-user]# sudo kubeadm join <ip>:<port> \
--token <token> \
--discovery-token-ca-cert-hash <hash>
bash: syntax error near unexpected token `newline'
[root@ip-172-31-63-36 ec2-user]#
```

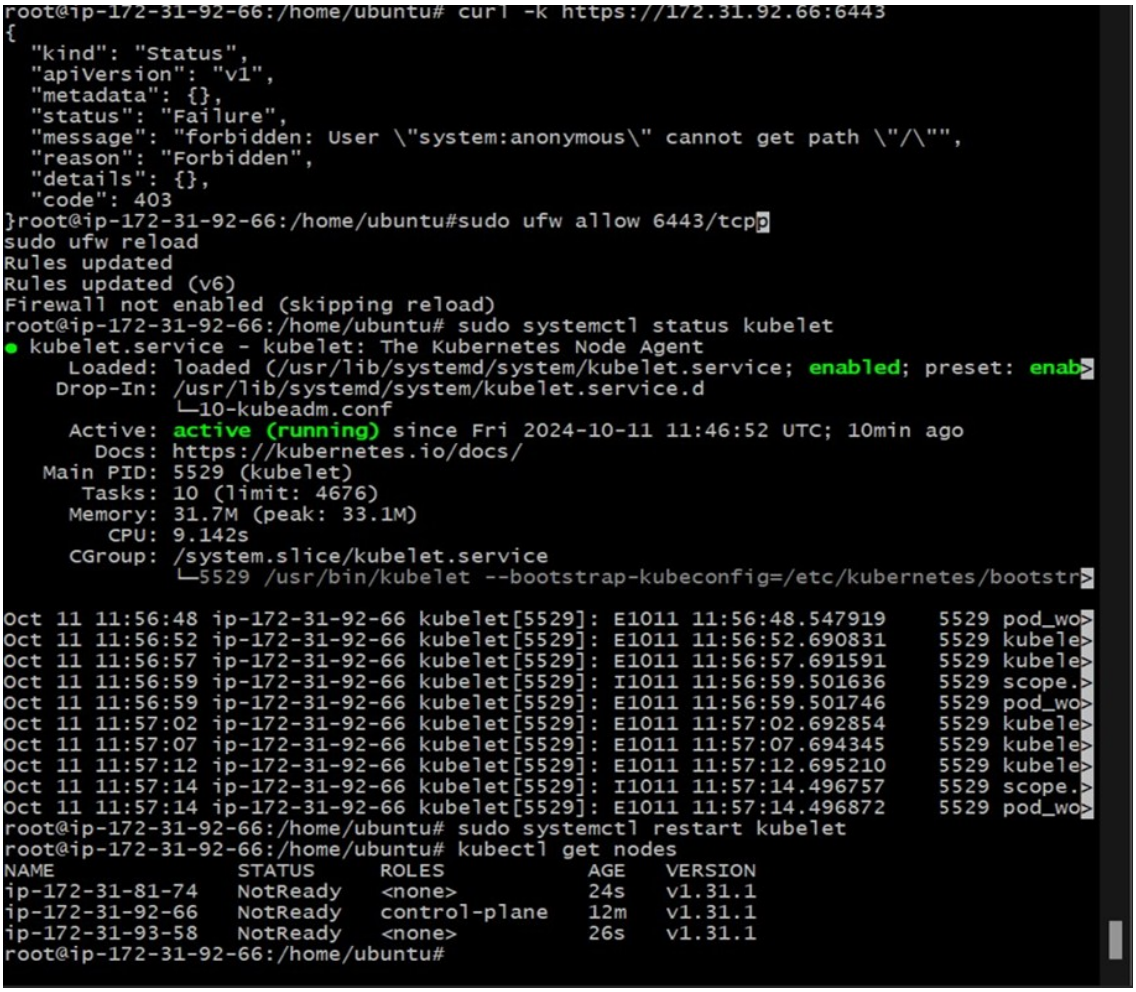
i-033d628d539a2aaf1 (node-1)

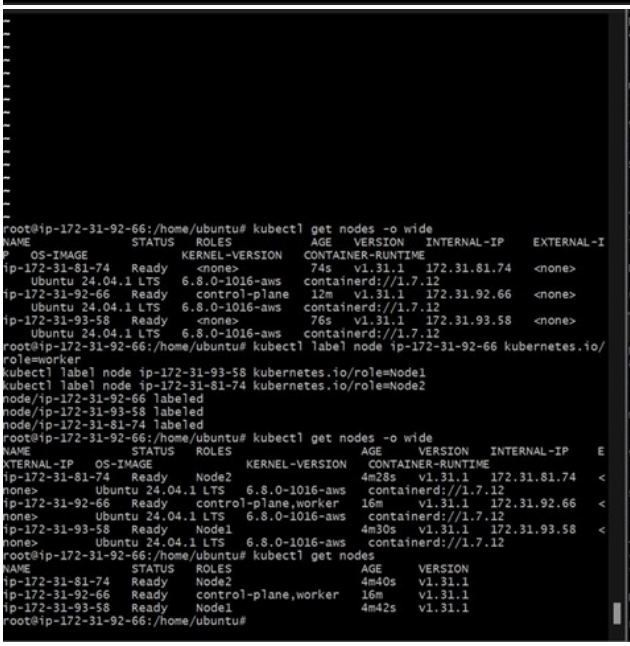
PublicIPs: 18.210.17.24 PrivateIPs: 172.31.63.36

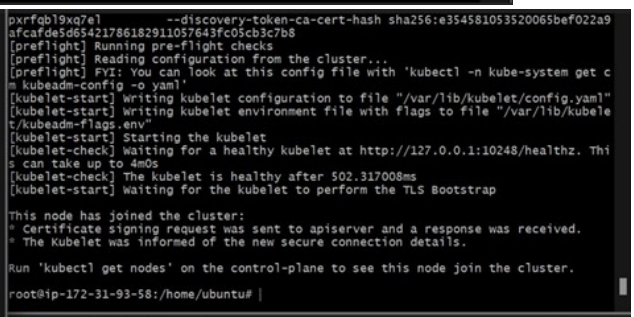
```
[root@ip-172-31-7-28 ec2-user]# kubectl get nodes
NAME                          STATUS     ROLES           AGE   VERSION
ip-172-31-7-28.ec2.internal   NotReady   control-plane   14m   v1.31.0
[root@ip-172-31-7-28 ec2-user]# kubectl get nodes
NAME                          STATUS     ROLES           AGE   VERSION
ip-172-31-7-28.ec2.internal   NotReady   control-plane   15m   v1.31.0
[root@ip-172-31-7-28 ec2-user]#
```

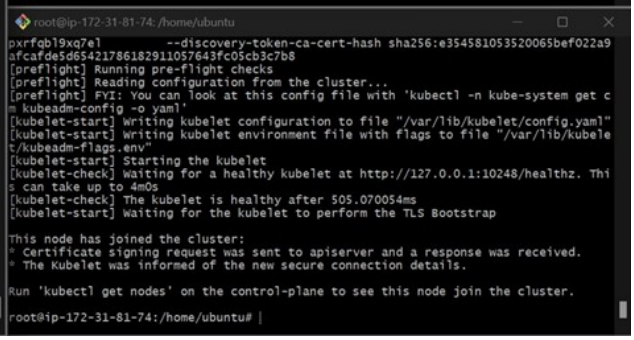
i-04ee28b7e46998252 (Master)

PublicIPs: 3.236.37.200 PrivateIPs: 172.31.7.28


root@ip-172-31-92-66:/home/ubuntu# curl -k https://172.31.92.66:6443
{
"kind": "Status",
"apiVersion": "v1",
"metadata": {},
"status": "Failure",
"message": "forbidden: User \"system:anonymous\" cannot get path \"/\"",
"reason": "Forbidden",
"details": {},
"code": 403
}root@ip-172-31-92-66:/home/ubuntu#sudo ufw allow 6443/tcp
sudo ufw reload
Rules updated
Rules updated (v6)
Firewall not enabled (skipping reload)
root@ip-172-31-92-66:/home/ubuntu# sudo systemctl status kubelet
kubelet.service - kubelet: The Kubernetes Node Agent
Loaded: loaded (/usr/lib/systemd/system/kubelet.service; enabled; preset: enab
Drop-In: /usr/lib/systemd/system/kubelet.service.d
└10-kubeadm.conf
Active: active (running) since Fri 2024-10-11 11:46:52 UTC; 10min ago
Docs: https://kubernetes.io/docs/
Main PID: 5529 (kubelet)
Tasks: 10 (limit: 4676)
Memory: 31.7M (peak: 33.1M)
CPU: 9.142s
CGroup: /system.slice/kubelet.service
└5529 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstr
Oct 11 11:56:48 ip-172-31-92-66 kubelet[5529]: E1011 11:56:48.547919 5529 pod_wo
Oct 11 11:56:52 ip-172-31-92-66 kubelet[5529]: E1011 11:56:52.690831 5529 kubele
Oct 11 11:56:57 ip-172-31-92-66 kubelet[5529]: E1011 11:56:57.691591 5529 kubele
Oct 11 11:56:59 ip-172-31-92-66 kubelet[5529]: I1011 11:56:59.501636 5529 scope.
Oct 11 11:56:59 ip-172-31-92-66 kubelet[5529]: E1011 11:56:59.501746 5529 pod_wo
Oct 11 11:57:02 ip-172-31-92-66 kubelet[5529]: E1011 11:57:02.692854 5529 kubele
Oct 11 11:57:07 ip-172-31-92-66 kubelet[5529]: E1011 11:57:07.694345 5529 kubele
Oct 11 11:57:12 ip-172-31-92-66 kubelet[5529]: E1011 11:57:12.695210 5529 kubele
Oct 11 11:57:14 ip-172-31-92-66 kubelet[5529]: I1011 11:57:14.496757 5529 scope.
Oct 11 11:57:14 ip-172-31-92-66 kubelet[5529]: E1011 11:57:14.496872 5529 pod_wo
root@ip-172-31-92-66:/home/ubuntu# sudo systemctl restart kubelet
root@ip-172-31-92-66:/home/ubuntu# kubectl get nodes
NAME STATUS ROLES AGE VERSION
ip-172-31-81-74 NotReady <none> 24s v1.31.1
ip-172-31-92-66 NotReady control-plane 12m v1.31.1
ip-172-31-93-58 NotReady <none> 26s v1.31.1
root@ip-172-31-92-66:/home/ubuntu#


root@ip-172-31-92-66:/home/ubuntu# kubectl get nodes -o wide
NAME STATUS ROLES AGE VERSION INTERNAL-IP EXTERNAL-I
P OS-IMAGE KERNEL-VERSION CONTAINER-RUNTIME
ip-172-31-81-74 Ready <none> 74s v1.31.1 172.31.81.74 <none>
Ubuntu 24.04.1 LTS 6.8.0-1016-aws containerd://1.7.12
ip-172-31-92-66 Ready control-plane 12m v1.31.1 172.31.92.66 <none>
Ubuntu 24.04.1 LTS 6.8.0-1016-aws containerd://1.7.12
ip-172-31-93-58 Ready <none> 76s v1.31.1 172.31.93.58 <none>
Ubuntu 24.04.1 LTS 6.8.0-1016-aws containerd://1.7.12
root@ip-172-31-92-66:/home/ubuntu# kubectl label node ip-172-31-92-66 kubernetes.io/
role=worker
kubectl label node ip-172-31-93-58 kubernetes.io/role=Node1
kubectl label node ip-172-31-81-74 kubernetes.io/role=Node2
node/ip-172-31-92-66 labeled
node/ip-172-31-93-58 labeled
node/ip-172-31-81-74 labeled
root@ip-172-31-92-66:/home/ubuntu# kubectl get nodes -o wide
NAME STATUS ROLES AGE VERSION INTERNAL-IP E
XTERNAL-IP OS-IMAGE KERNEL-VERSION CONTAINER-RUNTIME
ip-172-31-81-74 Ready Node2 4m28s v1.31.1 172.31.81.74 <
none> Ubuntu 24.04.1 LTS 6.8.0-1016-aws containerd://1.7.12
ip-172-31-92-66 Ready control-plane,worker 16m v1.31.1 172.31.92.66 <
none> Ubuntu 24.04.1 LTS 6.8.0-1016-aws containerd://1.7.12
ip-172-31-93-58 Ready Node1 4m30s v1.31.1 172.31.93.58 <
none> Ubuntu 24.04.1 LTS 6.8.0-1016-aws containerd://1.7.12
root@ip-172-31-92-66:/home/ubuntu# kubectl get nodes
NAME STATUS ROLES AGE VERSION
ip-172-31-81-74 Ready Node2 4m40s v1.31.1
ip-172-31-92-66 Ready control-plane,worker 16m v1.31.1
ip-172-31-93-58 Ready Node1 4m42s v1.31.1
root@ip-172-31-92-66:/home/ubuntu#


pxrfqb19xq7el --discovery-token-ca-cert-hash sha256:e354581053520065bef022a9
afcafde5d65421786182911057643fc05cb3c7b8
[preflight] Running pre-flight checks
[preflight] Reading configuration from the cluster...
[preflight] FYI: You can look at this config file with 'kubectl -n kube-system get c
m kubeadm-config -o yaml'
[kubelet-start] Writing kubelet configuration to file "/var/lib/kubelet/config.yaml"
[kubelet-start] Writing kubelet environment file with flags to file "/var/lib/kubele
t/kubeadm-flags.env"
[kubelet-start] Starting the kubelet
[kubelet-check] Waiting for a healthy kubelet at http://127.0.0.1:10248/healthz. Thi
s can take up to 4m0s
[kubelet-check] The kubelet is healthy after 502.317008ms
[kubelet-start] Waiting for the kubelet to perform the TLS Bootstrap
This node has joined the cluster:
* Certificate signing request was sent to apiserver and a response was received.
* The Kubelet was informed of the new secure connection details.
Run 'kubectl get nodes' on the control-plane to see this node join the cluster.
root@ip-172-31-93-58:/home/ubuntu#


root@ip-172-31-81-74: /home/ubuntu
pxrfqb19xq7el --discovery-token-ca-cert-hash sha256:e354581053520065bef022a9
afcafde5d65421786182911057643fc05cb3c7b8
[preflight] Running pre-flight checks
[preflight] Reading configuration from the cluster...
[preflight] FYI: You can look at this config file with 'kubectl -n kube-system get c
m kubeadm-config -o yaml'
[kubelet-start] Writing kubelet configuration to file "/var/lib/kubelet/config.yaml"
[kubelet-start] Writing kubelet environment file with flags to file "/var/lib/kubele
t/kubeadm-flags.env"
[kubelet-start] Starting the kubelet
[kubelet-check] Waiting for a healthy kubelet at http://127.0.0.1:10248/healthz. Thi
s can take up to 4m0s
[kubelet-check] The kubelet is healthy after 505.070054ms
[kubelet-start] Waiting for the kubelet to perform the TLS Bootstrap
This node has joined the cluster:
* Certificate signing request was sent to apiserver and a response was received.
* The Kubelet was informed of the new secure connection details.
Run 'kubectl get nodes' on the control-plane to see this node join the cluster.
root@ip-172-31-81-74:/home/ubuntu#