

AWS Solutions Architect Certification Training

support@intellipaat.com - +91-7022374614 - US: 1-800-216-8930 (Toll Free)

DevOps-Module7-Kubernetes-Assignment-5 COMPLETED by Nagesha KS

Please check the following screenshots for each question.

Tasks To Be Performed:

1. Use the previous deployment
2. Deploy an NGINX deployment of 3 replicas
3. Create an NGINX service of type ClusterIP
4. Create an ingress service/ Apache to Apache service/ NGINX to NGINX service

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3:\$case=tags:true%5C.client:false;\$regex=tags:false%5C.client:false

aws Services Search [Alt+S]

N. Virginia Nagesha

EC2 Dashboard

EC2 Global View

Events

Console-to-Code

Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity

Reservations

Images

AMIs

AMI Catalog

Instances (1/3) Info

Last updated 2 minutes ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input checked="" type="checkbox"/>	Nagesha-Kubernetes-Master	i-0f39979ffde4600e0	Running	t2.medium	Initializing	View alarms
<input type="checkbox"/>	Nagesha-Kubernetes-Slave1	i-0586c02cb9af68d08	Running	t2.medium	Initializing	View alarms
<input type="checkbox"/>	Nagesha-Kubernetes-Slave2	i-0308eb99c67921308	Running	t2.medium	Initializing	View alarms

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary Info

Instance ID

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

IPv6 address

-

Public IPv4 address

34.204.9.216 | open address

Instance state

Running

Private IPv4 addresses

172.31.20.58

Public IPv4 DNS

ec2-34-204-9-216.compute-1.amazonaws.com | open address

Activate Windows

Go to Settings to activate Windows.

CloudShell Feedback

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

18:02 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3;\$case=tags:true%5C,client:false;\$regex=tags:false%5C,client:false

aws Services Search [Alt+S] N. Virginia Nagesha

EC2 Dashboard

EC2 Global View

Events

Console-to-Code [Preview](#)

Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity

Reservations [New](#)

Images

AMIs

AMI Catalog

Instances (1/3) info

Last updated 2 minutes ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input type="checkbox"/>	Nagesha-Kubernetes-Master	i-0f39979ffde4600e0	Running	t2.medium	Initializing	View alarms
<input checked="" type="checkbox"/>	Nagesha-Kubernetes-Slave1	i-0586c02cb9af68d08	Running	t2.medium	Initializing	View alarms
<input type="checkbox"/>	Nagesha-Kubernetes-Slave2	i-0308eb99c67921308	Running	t2.medium	Initializing	View alarms

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary info

Instance ID

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

Public IPv4 address

54.227.193.33 [open address](#)

Private IPv4 addresses

172.31.17.17

IPv6 address

-

Instance state

Running

Public IPv4 DNS

ec2-54-227-193-33.compute-1.amazonaws.com | [open address](#)

Activate Windows

Go to Settings to activate Windows.

CloudShell Feedback

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

18:02 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instancescv=3:\$case=tags:true%5C,client:false;\$regex=tags:false%5C,client:false

aws Services Search [Alt+S]

N. Virginia Nagesha

EC2 Dashboard

EC2 Global View

Events

Console-to-Code [Preview](#)

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity

Reservations [New](#)

▼ Images

AMIs

AMI Catalog

Instances (1/3) [Info](#)

Last updated 2 minutes ago

Connect

Instance state ▼

Actions ▼

Launch instances ▼

Find Instance by attribute or tag (case-sensitive)

All states ▼

< 1 >

	Name ↗	Instance ID	Instance state	Instance type	Status check	Alarm status
<input type="checkbox"/>	Nagesha-Kubernetes-Master	i-0f39979ffde4600e0	Running	t2.medium	Initializing	View alarms +
<input type="checkbox"/>	Nagesha-Kubernetes-Slave1	i-0586c02cb9af68d08	Running	t2.medium	Initializing	View alarms +
<input checked="" type="checkbox"/>	Nagesha-Kubernetes-Slave2	i-0308eb99c67921308	Running	t2.medium	Initializing	View alarms +

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

Details Status and alarms Monitoring Security Networking Storage Tags

▼ Instance summary [Info](#)

Instance ID

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

Public IPv4 address

54.234.252.17 | [open address](#)

Private IPv4 addresses

172.31.24.240

IPv6 address

-

Instance state

Running

Public IPv4 DNS

ec2-54-234-252-17.compute-1.amazonaws.com | [open address](#)

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

18:02 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/

Services Search [Alt+S]

N. Virginia Nagesha

```
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

135 updates can be applied immediately.
41 of these updates are standard security updates.
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

Last login: Fri Sep 13 05:38:47 2024 from 10.206.107.27
ubuntu@ip-172-31-20-58:~$ # disable swap
sudo swapoff -a
ubuntu@ip-172-31-20-58:~$ sudo swapoff -a
ubuntu@ip-172-31-20-58:~$ cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf
overlay
br_netfilter
EOF
overlay
br_netfilter
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 PrivateIPs: 172.31.20.58

Activate Windows

CloudShell Feedback

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

18.03 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&i=0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

aws Services Search [Alt+S] N. Virginia Nagesha

```
The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-17-17:~$ sudo swapoff -a
ubuntu@ip-172-31-17-17:~$ cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf
overlay
br_netfilter
EOF
ubuntu@ip-172-31-17-17:~$
```

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

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

18:03 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22...

AWS

Services

Search

[Alt+5]

N. Virginia

Nagesha

The list of available updates is more than a week old.
To check for new updates run: `sudo apt update`

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in `/usr/share/doc/*/copyright`.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "`sudo <command>`".
See "`man sudo_root`" for details.

ubuntu@ip-172-31-24-240:~\$ `sudo swapoff -a`
ubuntu@ip-172-31-24-240:~\$ `cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf`
overlay
br_netfilter
EOF
overlay
br_netfilter
ubuntu@ip-172-31-24-240:~\$

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 · PrivateIPs: 172.31.24.240

Activate Windows

Go to Settings to activate Windows.

CloudShell

Feedback

© 2024, Amazon Web Services, Inc. or its affiliates.

Privacy

Terms

Cookie preferences

18:03

13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/?

AWS Services Search [Alt+S] N. Virginia Nagesha

```
Last login: Fri Sep 13 05:38:47 2024 from 18.206.107.27
ubuntu@ip-172-31-20-58:~$ # disable swap
sudo swapoff -a
ubuntu@ip-172-31-20-58:~$ sudo swapoff -a
ubuntu@ip-172-31-20-58:~$ cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf
overlay
br_netfilter
EOF
ubuntu@ip-172-31-20-58:~$ sudo modprobe overlay
ubuntu@ip-172-31-20-58:~$ sudo modprobe br_netfilter
ubuntu@ip-172-31-20-58:~$ # sysctl params required by setup, params persist across reboots
cat <<EOF | sudo tee /etc/sysctl.d/k8s.conf
net.bridge.bridge-nf-call-iptables = 1
net.bridge.bridge-nf-call-ip6tables = 1
net.ipv4.ip_forward = 1
EOF
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIP: 34.204.9.216 PrivateIP: 172.31.20.58

Activate Windows

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

18:04 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

aws Services Search [Alt+S] N. Virginia Nagesha

applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
ubuntu@ip-172-31-17-17:~$ sudo swapoff -a
ubuntu@ip-172-31-17-17:~$ cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf
overlay
br_netfilter
EOF
ubuntu@ip-172-31-17-17:~$ sudo modprobe overlay
ubuntu@ip-172-31-17-17:~$ sudo modprobe br_netfilter
ubuntu@ip-172-31-17-17:~$ # sysctl params required by setup, params persist across reboots
cat <<EOF | sudo tee /etc/sysctl.d/k8s.conf
net.bridge.bridge-nf-call-iptables = 1
net.bridge.bridge-nf-call-ip6tables = 1
net.ipv4.ip_forward = 1
EOF
ubuntu@ip-172-31-17-17:~$
```

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences 18:04 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 |

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22...

aws Services Search [Alt+S] N. Virginia Nagesha

applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
ubuntu@ip-172-31-24-240:~$ sudo swapoff -a
ubuntu@ip-172-31-24-240:~$ cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf
overlay
br_netfilter
EOF
ubuntu@ip-172-31-24-240:~$ sudo modprobe overlay
ubuntu@ip-172-31-24-240:~$ sudo modprobe br_netfilter
ubuntu@ip-172-31-24-240:~$ # sysctl params required by setup, params persist across reboots
cat <<EOF | sudo tee /etc/sysctl.d/k8s.conf
net.bridge.bridge-nf-call-iptables = 1
net.bridge.bridge-nf-call-ip6tables = 1
net.ipv4.ip_forward = 1
EOF
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 | PrivateIPs: 172.31.24.240

Activate Windows
Go to Settings to activate Windows.

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

18:04
13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/

Services Search [Alt+S]

N. Virginia Nagesha

```
kernel.printk = 4 4 1 7
net.ipv6.conf.all.use_tempaddr = 2
net.ipv6.conf.default.use_tempaddr = 2
kernel.kptr_restrict = 1
kernel.sysrq = 176
vm.max_map_count = 1048576
net.ipv4.conf.default.rp_filter = 2
net.ipv4.conf.all.rp_filter = 2
kernel.yama.ptrace_scope = 1
vm.mmap_min_addr = 65536
net.ipv4.neigh.default.gc_thresh2 = 15360
net.ipv4.neigh.default.gc_thresh3 = 16384
net.netfilter.nf_conntrack_max = 1048576
kernel.pid_max = 4194304
net.ipv6.conf.all.use_tempaddr = 0
net.ipv6.conf.default.use_tempaddr = 0
fs.protected_fifos = 1
fs.protected_hardlinks = 1
fs.protected_regular = 2
fs.protected_symlinks = 1
net.bridge.bridge-nf-call-iptables = 1
net.bridge.bridge-nf-call-ip6tables = 1
net.ipv4.ip_forward = 1
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 PrivateIPs: 172.31.20.58

Activate Windows

CloudShell Feedback

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

18:05 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

Services Search [Alt+S]

N. Virginia Nagesha

```
kernel.printk = 4 4 1 7
net.ipv6.conf.all.use_tempaddr = 2
net.ipv6.conf.default.use_tempaddr = 2
kernel.kptr_restrict = 1
kernel.sysrq = 176
vm.max_map_count = 1048576
net.ipv4.conf.default.rp_filter = 2
net.ipv4.conf.all.rp_filter = 2
kernel.yama.ptrace_scope = 1
vm.mmap_min_addr = 65536
net.ipv4.neigh.default.gc_thresh2 = 15360
net.ipv4.neigh.default.gc_thresh3 = 16384
net.netfilter.nf_conntrack_max = 1048576
kernel.pid_max = 4194304
net.ipv6.conf.all.use_tempaddr = 0
net.ipv6.conf.default.use_tempaddr = 0
fs.protected_fifos = 1
fs.protected_hardlinks = 1
fs.protected_regular = 2
fs.protected_symlinks = 1
net.bridge.bridge-nf-call-iptables = 1
net.bridge.bridge-nf-call-ip6tables = 1
net.ipv4.ip_forward = 1
ubuntu@ip-172-31-17-17:~$
```

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

CloudShell Feedback

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

18:05 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22

AWS Services Search [Alt+S] N. Virginia Nagesha

```
kernel.printk = 4 4 1 7
net.ipv6.conf.all.use_tempaddr = 2
net.ipv6.conf.default.use_tempaddr = 2
kernel.kptr_restrict = 1
kernel.sysrq = 176
vm.max_map_count = 1048576
net.ipv4.conf.default.rp_filter = 2
net.ipv4.conf.all.rp_filter = 2
kernel.yama.ptrace_scope = 1
vm.mmap_min_addr = 65536
net.ipv4.neigh.default.gc_thresh2 = 15360
net.ipv4.neigh.default.gc_thresh3 = 16384
net.netfilter.nf_conntrack_max = 1048576
kernel.pid_max = 4194304
net.ipv6.conf.all.use_tempaddr = 0
net.ipv6.conf.default.use_tempaddr = 0
fs.protected_fifos = 1
fs.protected_hardlinks = 1
fs.protected_regular = 2
fs.protected_symlinks = 1
net.bridge.bridge-nf-call-iptables = 1
net.bridge.bridge-nf-call-ip6tables = 1
net.ipv4.ip_forward = 1
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows
Go to Settings to activate Windows.

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

18:05
13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | +

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#

AWS Services Search [Alt+S] N. Virginia Nagesha

```
Unpacking libcurl4t64:amd64 (8.5.0-2ubuntu10.3) over (8.5.0-2ubuntu10.1) ...
Preparing to unpack .../libcurl3t64-gnutls_8.5.0-2ubuntu10.3_amd64.deb ...
Unpacking libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) over (8.5.0-2ubuntu10.1) ...
Setting up apt-transport-https (2.7.14build2) ...
Setting up libcurl4t64:amd64 (8.5.0-2ubuntu10.3) ...
Setting up libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) ...
Setting up curl (8.5.0-2ubuntu10.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...
systemctl restart packagekit.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIP: 34.204.9.216 PrivateIP: 172.31.20.58

Activate Windows

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

18:06 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22

Services Search [Alt+S]

N. Virginia Nagesha

```
Unpacking libcurl4t64:amd64 (8.5.0-2ubuntu10.3) over (8.5.0-2ubuntu10.1) ...
Preparing to unpack .../libcurl3t64-gnutls_8.5.0-2ubuntu10.3_amd64.deb ...
Unpacking libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) over (8.5.0-2ubuntu10.1) ...
Setting up apt-transport-https (2.7.14build2) ...
Setting up libcurl4t64:amd64 (8.5.0-2ubuntu10.3) ...
Setting up libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) ...
Setting up curl (8.5.0-2ubuntu10.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...
systemctl restart packagekit.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-17-17:~$
```

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

CloudShell Feedback

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

18:07 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22

aws Services Search [Alt+S] N. Virginia Nagesha

```
Unpacking libcurl4t64:amd64 (8.5.0-2ubuntu10.3) over (8.5.0-2ubuntu10.1) ...
Preparing to unpack .../libcurl3t64-gnutls 8.5.0-2ubuntu10.3 amd64.deb ...
Unpacking libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) over (8.5.0-2ubuntu10.1) ...
Setting up apt-transport-https (2.7.14build2) ...
Setting up libcurl4t64:amd64 (8.5.0-2ubuntu10.3) ...
Setting up libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) ...
Setting up curl (8.5.0-2ubuntu10.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...
systemctl restart packagekit.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows
Go to Settings to activate Windows.

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

18:07
13-09-2024

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/
AWS Services Search [Alt+S] N. Virginia Nagesha

```
Setting up libcurl13t64-gnutls:amd64 (8.5.0-2ubuntu10.3) ...  
Setting up curl (8.5.0-2ubuntu10.3) ...  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...  
Scanning processes...  
Scanning candidates...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
Restarting services...  
systemctl restart packagekit.service  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-20-58:~$ sudo curl -fsSL https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/Release.key | sudo gpg --dearmor -o /etc/apt/  
keyrings/cri-o-apt-keyring.gpg  
echo "deb [signed-by=/etc/apt/keyrings/cri-o-apt-keyring.gpg] https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/ /" | sudo tee /etc/apt/s  
ources.list.d/cri-o.list  
deb [signed-by=/etc/apt/keyrings/cri-o-apt-keyring.gpg] https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/ /  
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)
PublicIPs: 34.204.9.216 · PrivateIPs: 172.31.20.58

Activate Windows
Go to Settings to activate Windows.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences 18:08 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

Services Search [Alt+S]

N. Virginia Nagesha

```
Setting up libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) ...
Setting up curl (8.5.0-2ubuntu10.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...
systemctl restart packagekit.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-17-17:~$ sudo curl -fsSL https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/Release.key | sudo gpg --dearmor -o /etc/apt/
keyrings/cri-o-apt-keyring.gpg
echo "deb [signed-by=/etc/apt/keyrings/cri-o-apt-keyring.gpg] https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/ /" | sudo tee /etc/apt/s
ources.list.d/cri-o.list
deb [signed-by=/etc/apt/keyrings/cri-o-apt-keyring.gpg] https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/ /
ubuntu@ip-172-31-17-17:~$
```

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

CloudShell Feedback

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

18:08 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22

Services Search [Alt+5] N. Virginia Nagesha

```
Setting up libcurl3t64-gnutls:amd64 (8.5.0-2ubuntu10.3) ...
Setting up curl (8.5.0-2ubuntu10.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...
systemctl restart packagekit.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-24-240:~$ sudo curl -fsSL https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/Release.key | sudo gpg --dearmor -o /etc/apt
/keyrings/cri-o-apt-keyring.gpg
echo "deb [signed-by=/etc/apt/keyrings/cri-o-apt-keyring.gpg] https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/ /" | sudo tee /etc/apt/s
ources.list.d/cri-o.list
deb [signed-by=/etc/apt/keyrings/cri-o-apt-keyring.gpg] https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/ /
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows
Go to Settings to activate Windows.

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

18:08
13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | +

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/... ☆ ⬇ Ⓜ ⋮

aws Services 🔍 Search [Alt+S] ⓧ 🔔 ⓘ ⚙️ N. Virginia Nagesha

```
0 upgraded, 1 newly installed, 0 to remove and 130 not upgraded.
Need to get 19.8 MB of archives.
After this operation, 76.1 MB of additional disk space will be used.
Get:1 https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb cri-o 1.31.0~dev-160.1 [19.8 MB]
Fetched 19.8 MB in 0s (51.9 MB/s)
Selecting previously unselected package cri-o.
(Reading database ... 67745 files and directories currently installed.)
Preparing to unpack .../cri-o_1.31.0~dev-160.1_amd64.deb ...
Unpacking cri-o (1.31.0~dev-160.1) ...
Setting up cri-o (1.31.0~dev-160.1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 · PrivateIPs: 172.31.20.58

Activate Windows

CloudShell Feedback

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

18:09 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | +

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

0 upgraded, 1 newly installed, 0 to remove and 130 not upgraded.
Need to get 19.8 MB of archives.
After this operation, 76.1 MB of additional disk space will be used.
Get:1 https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb cri-o 1.31.0~dev-160.1 [19.8 MB]
Fetched 19.8 MB in 0s (59.6 MB/s)
Selecting previously unselected package cri-o.
(Reading database ... 67745 files and directories currently installed.)
Preparing to unpack .../cri-o 1.31.0~dev-160.1_amd64.deb ...
Unpacking cri-o (1.31.0~dev-160.1) ...
Setting up cri-o (1.31.0~dev-160.1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-17-17:~\$

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)
PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences 18:09 13-09-2024

Instances | EC2 | us-east-1 | X | EC2 Instance Connect | us-east-1 | X | EC2 Instance Connect | us-east-1 | X | EC2 Instance Connect | us-east-1 | X

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22...

aws Services Search [Alt+S] N. Virginia Nagesha

```
0 upgraded, 1 newly installed, 0 to remove and 130 not upgraded.
Need to get 19.8 MB of archives.
After this operation, 76.1 MB of additional disk space will be used.
Get:1 https://pkgs.k8s.io/updates:/cri-o/prerelease:/main/deb cri-o 1.31.0-dev-160.1 [19.8 MB]
Fetched 19.8 MB in 1s (29.4 MB/s)
Selecting previously unselected package cri-o.
(Reading database ... 67745 files and directories currently installed.)
Preparing to unpack .../cri-o_1.31.0-dev-160.1_amd64.deb ...
Unpacking cri-o (1.31.0-dev-160.1) ...
Setting up cri-o (1.31.0-dev-160.1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows
Go to Settings to activate Windows.

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

18:09
13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#

aws Services Search [Alt+S]

N. Virginia Nagesha

```
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 https://prod-odn.packages.k8s.io/repositories/isv:/kubernetes:/addons:/cri-o:/prerelease:/main/deb InRelease
Hit:5 https://prod-odn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.29/deb InRelease
Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
jq is already the newest version (1.7.1-3build1).
jq set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 133 not upgraded.
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 PrivateIPs: 172.31.20.58

Activate Windows

CloudShell Feedback

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

18:12 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

Services

Search

[Alt+S]

N. Virginia

Nagesha

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.

Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease

Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease

Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease

Hit:4 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/addons:/cri-o:/prerelease:/main/deb InRelease

Hit:5 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.29/deb InRelease

Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease

Reading package lists... Done

Reading package lists... Done

Building dependency tree... Done

Reading state information... Done

jq is already the newest version (1.7.1-3build1).

jq set to manually installed.

0 upgraded, 0 newly installed, 0 to remove and 133 not upgraded.

ubuntu@ip-172-31-17-17:~\$

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

CloudShell Feedback

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

18:12 13-09-2024

Instances | EC2 | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22

Services Search [Alt+S]

N. Virginia Nagesha

```
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:5 https://prod-odn.packages.k8s.io/repositories/iam:/kubernetes:/addons:/cri-o:/prerelease:/main/deb InRelease
Hit:6 https://prod-odn.packages.k8s.io/repositories/iam:/kubernetes:/core:/stable:/v1.29/deb InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
jq is already the newest version (1.7.1-3build1).
jq set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 133 not upgraded.
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows
Go to Settings to activate Windows.

CloudShell Feedback

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

18:13
13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#

aws Services Search [Alt+S]

N. Virginia Nagesha

```
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 https://prod-cdn.packages.k8s.io/repositories/iasv/kubernetes/addons/cni-plugins/prerelease/main/deb InRelease
Hit:5 https://prod-cdn.packages.k8s.io/repositories/iasv/kubernetes/core/stable/v1.29/deb InRelease
Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
jq is already the newest version (1.7.1-3build1).
jq set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 133 not upgraded.
ubuntu@ip-172-31-20-58:~$ sudo systemctl enable --now kubelet
sudo systemctl start kubelet
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

Public IPs: 34.204.9.216 Private IPs: 172.31.20.58

Activate Windows

CloudShell Feedback

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

18:13 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

aws Services Search [Alt+S] N. Virginia Nagesha

```
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/addons:/cri-o:/prerelease:/main/deb InRelease
Hit:5 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.29/deb InRelease
Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
jq is already the newest version (1.7.1-3build1).
jq set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 133 not upgraded.
ubuntu@ip-172-31-17-17:~$ sudo systemctl enable --now kubelet
sudo systemctl start kubelet
ubuntu@ip-172-31-17-17:~$
```

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

CloudShell Feedback

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

18:14 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22

Services Search [Alt+S] N. Virginia Nagesha

```
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:5 https://prod-odn.packages.k8s.io/repositories/isv/kubernetes/addons:/cri-o:/prerelease:/main/deb InRelease
Hit:6 https://prod-odn.packages.k8s.io/repositories/isv/kubernetes/core:/stable:/v1.29/deb InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
jq is already the newest version (1.7.1-3build1).
jq set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 133 not upgraded.
ubuntu@ip-172-31-24-240:~$ sudo systemctl enable --now kubelet
sudo systemctl start kubelet
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows
Go to Settings to activate Windows.

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

18:14
13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

+

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/

us-east-1

Services

Search

[Alt+5]

N. Virginia

Nagesha

[addons] Applied essential addon: CoreDNS

[addons] Applied essential addon: kube-proxy

Your Kubernetes control-plane has initialized successfully!

To start using your cluster, you need to run the following as a regular user:

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

Alternatively, if you are the root user, you can run:

```
export KUBECONFIG=/etc/kubernetes/admin.conf
```

You should now deploy a pod network to the cluster.

Run "kubectl apply -f [podnetwork].yaml" with one of the options listed at:

<https://kubernetes.io/docs/concepts/cluster-administration/addons/>

Then you can join any number of worker nodes by running the following on each as root:

```
kubeadm join 172.31.20.58:6443 --token r12e1e.18ghoe7i4tle28x9 \
--discovery-token-ca-cert-hash sha256:a0405ceabcb70961e119ed09069073d6f4bd70cd74feb98937de0cf1a94d38ee
```

ubuntu@ip-172-31-20-58:~\$

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 · PrivateIPs: 172.31.20.58

Activate Windows

CloudShell

Feedback

© 2024, Amazon Web Services, Inc. or its affiliates.

Privacy

Terms

Cookie preferences

18:15

13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#

aws Services Search [Alt+S] N. Virginia Nagesha

```
customresourcedefinition.apiextensions.k8s.io/caliconodestatuses.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/clusterinformations.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/felixconfigurations.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/globalnetworkpolicies.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/globalnetworksets.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/hostendpoints.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ipamblocks.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ipamconfigs.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ipamhandles.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ippools.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ippreservations.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/kubecontrollersconfigurations.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/networkpolicies.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/networksets.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/tiers.crd.projectcalico.org created
clusterrole.rbac.authorization.k8s.io/calico-kube-controllers created
clusterrole.rbac.authorization.k8s.io/calico-node created
clusterrole.rbac.authorization.k8s.io/calico-cni-plugin created
clusterrolebinding.rbac.authorization.k8s.io/calico-kube-controllers created
clusterrolebinding.rbac.authorization.k8s.io/calico-node created
clusterrolebinding.rbac.authorization.k8s.io/calico-cni-plugin created
daemonset.apps/calico-node created
deployment.apps/calico-kube-controllers created
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 PrivateIPs: 172.31.20.58

Activate Windows

CloudShell Feedback

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

18:16 13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

aws Services Search [Alt+S] N. Virginia Nagesha

```
ubuntu@ip-172-31-17-17:~$ sudo systemctl start kubelet
ubuntu@ip-172-31-17-17:~$ sudo kubeadm reset pre-flight checks
W0913 12:46:57.644254 4025 preflight.go:56] [reset] WARNING: Changes made to this host by 'kubeadm init' or 'kubeadm join' will be reverted.
[reset] Are you sure you want to proceed? [y/N]: y
[preflight] Running pre-flight checks
W0913 12:47:06.564365 4025 removeetcdmember.go:106] [reset] No kubeadm config, using etcd pod spec to get data directory
[reset] Deleted contents of the etcd data directory: /var/lib/etcd
[reset] Stopping the kubelet service
[reset] Unmounting mounted directories in "/var/lib/kubelet"
[reset] Deleting contents of directories: [/etc/kubernetes/manifests /var/lib/kubelet /etc/kubernetes/pki]
[reset] Deleting files: [/etc/kubernetes/admin.conf /etc/kubernetes/super-admin.conf /etc/kubernetes/kubelet.conf /etc/kubernetes/bootstrap-kubelet.conf /etc/kubernetes/controller-manager.conf /etc/kubernetes/scheduler.conf]

The reset process does not clean CNI configuration. To do so, you must remove /etc/cni/net.d

The reset process does not reset or clean up iptables rules or IPVS tables.
If you wish to reset iptables, you must do so manually by using the "iptables" command.

If your cluster was setup to utilize IPVS, run ipvsadm --clear (or similar)
to reset your system's IPVS tables.

The reset process does not clean your kubeconfig files and you must remove them manually.
Please, check the contents of the $HOME/.kube/config file.
ubuntu@ip-172-31-17-17:~$
```

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows
Go to Settings to activate Windows.

CloudShell Feedback

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

18:17
13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22

aws

Services

Search

[Alt+S]

N. Virginia

Nagesha

```
sudo systemctl start kubelet
ubuntu@ip-172-31-24-240:~$ sudo kubeadm reset pre-flight checks
W0913 12:47:17.731606 4017 preflight.go:56] [reset] WARNING: Changes made to this host by 'kubeadm init' or 'kubeadm join' will be reverted.
[reset] Are you sure you want to proceed? [y/N]: y
[preflight] Running pre-flight checks
W0913 12:47:21.132502 4017 removeetcdmember.go:106] [reset] No kubeadm config, using etcd pod spec to get data directory
[reset] Deleted contents of the etcd data directory: /var/lib/etcd
[reset] Stopping the kubelet service
[reset] Unmounting mounted directories in "/var/lib/kubelet"
[reset] Deleting contents of directories: [/etc/kubernetes/manifests /var/lib/kubelet /etc/kubernetes/pki]
[reset] Deleting files: [/etc/kubernetes/admin.conf /etc/kubernetes/super-admin.conf /etc/kubernetes/kubelet.conf /etc/kubernetes/bootstrap-kub
elet.conf /etc/kubernetes/controller-manager.conf /etc/kubernetes/scheduler.conf]

The reset process does not clean CNI configuration. To do so, you must remove /etc/cni/net.d

The reset process does not reset or clean up iptables rules or IPVS tables.
If you wish to reset iptables, you must do so manually by using the "iptables" command.

If your cluster was setup to utilize IPVS, run ipvsadm --clear (or similar)
to reset your system's IPVS tables.

The reset process does not clean your kubeconfig files and you must remove them manually.
Please, check the contents of the $HOME/.kube/config file.
ubuntu@ip-172-31-24-240:~$
```

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows

Go to Settings to activate Windows.

CloudShell Feedback

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

18:17 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

ChatGPT

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0586c02cb9af68d08&osUser=ubuntu&sshPort=22...

Services

Search

[Alt+S]

N. Virginia

Nagesha

System information as of Fri Sep 13 13:10:26 UTC 2024

System load: 0.18 Processes: 143
Usage of /: 44.7% of 6.71GB Users logged in: 0
Memory usage: 11% IPv4 address for enx0: 172.31.17.17
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

135 updates can be applied immediately.
38 of these updates are standard security updates.
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

Last login: Fri Sep 13 12:30:34 2024 from 18.206.107.27

ubuntu@ip-172-31-17-17:~\$ sudo su

kubeadm join 172.31.20.58:6443 --token r12ele.18ghos7i4tle28x9 \

--discovery-token-ca-cert-hash sha256:a0405ceabcb70961e119ed09069073d6f4bd70cd74feb98937de0cfla94d38ee --v=5

root@ip-172-31-17-17:/home/ubuntu#

root@ip-172-31-17-17:/home/ubuntu#

i-0586c02cb9af68d08 (Nagesha-Kubernetes-Slave1)

PublicIPs: 54.227.193.33 PrivateIPs: 172.31.17.17

Activate Windows

Go to Settings to activate Windows.

CloudShell Feedback

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

1841

13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | ChatGPT

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0308eb99c67921308&osUser=ubuntu&sshPort=22

AWS Services Search [Alt+S] N. Virginia Nagesha

System information as of Fri Sep 13 13:10:36 UTC 2024

System load: 0.11 Processes: 144

Usage of /: 44.7% of 6.71GB Users logged in: 0

Memory usage: 12% IPv4 address for enx0: 172.31.24.240

Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

135 updates can be applied immediately.

38 of these updates are standard security updates.

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

Last login: Fri Sep 13 12:30:45 2024 from 18.206.107.28

ubuntu@ip-172-31-24-240:~\$ sudo su

kubeadm join 172.31.20.58:6443 --token r12e1e.18ghoe7i4tle28x9 \

--discovery-token-ca-cert-hash sha256:a0405ceabcb70961e119ed09069073d6f4bd70cd74feb98937de0cfla94d38ee --v=5

root@ip-172-31-24-240:/home/ubuntu#

i-0308eb99c67921308 (Nagesha-Kubernetes-Slave2)

PublicIPs: 54.234.252.17 PrivateIPs: 172.31.24.240

Activate Windows

Go to Settings to activate Windows.

CloudShell Feedback

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

18:41 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

ChatGPT

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/

aws Services Search [Alt+S]

N. Virginia Nagesha

```
ubuntu@ip-172-31-20-58:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE   VERSION
ip-172-31-17-17                     Ready    <none>   3m50s v1.29.0
ip-172-31-20-58                     Ready    control-plane 25m   v1.29.0
ip-172-31-24-240                    Ready    <none>   3m50s v1.29.0
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 PrivateIPs: 172.31.20.58

Activate Windows
Go to Settings to activate Windows.

CloudShell Feedback

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

18:41
13-09-2024

Instances | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1 | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#

aws Services Search [Alt+S] N. Virginia Nagesha

```
GNU nano 7.2 ingress
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: minimal-ingress
  annotations:
    nginx.ingress.kubernetes.io/rewrite-target: /
spec:
  ingressClassName: nginx-example
  rules:
  - http:
      paths:
      - path: /nginx
        pathType: Prefix
        backend:
          service:
            name: my-service
            port:
              number: 80
```

Help Write Out Where Is Cut Read 18 lines Execute Location Undo Set Mark To Bracket
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)
PublicIPs: 34.204.9.216 PrivateIPs: 172.31.20.58

Activate Windows
Go to Settings to activate Windows.

CloudShell Feedback ID 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences 18:46 13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

+

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f39979ffde4600e0&osUser=ubuntu&sshPort=22#/

aws

Services

Search

[Alt+S]

N. Virginia

Nagesha

```
ubuntu@ip-172-31-20-58:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE   VERSION
ip-172-31-17-17                    Ready     <none>    3m50s v1.29.0
ip-172-31-20-58                    Ready     control-plane 25m   v1.29.0
ip-172-31-24-240                  Ready     <none>    3m50s v1.29.0
ubuntu@ip-172-31-20-58:~$ sudo nano ingress
ubuntu@ip-172-31-20-58:~$ sudo nano ingress
ubuntu@ip-172-31-20-58:~$ sudo nano ingress
ubuntu@ip-172-31-20-58:~$ sudo nano ingress.yaml
ubuntu@ip-172-31-20-58:~$ ls
ingress
ubuntu@ip-172-31-20-58:~$ kubectl apply -f ingress
ingress.networking.k8s.io/minimal-ingress created
ubuntu@ip-172-31-20-58:~$ kubectl get ing
NAME            CLASS    HOSTS    ADDRESS    PORTS    AGE
minimal-ingress  nginx-example  *              80        26s
ubuntu@ip-172-31-20-58:~$
```

i-0f39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIPs: 34.204.9.216 PrivateIPs: 172.31.20.58

Activate Windows
Go to Settings to activate Windows.

CloudShell

Feedback

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

18:49
13-09-2024

Instances | EC2 | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-Of39979ffde4600e0&osUser=ubuntu&sshPort=22#/

aws

Services

Search

[Alt+S]

N. Virginia

Nagesha

```
ubuntu@ip-172-31-20-58:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE   VERSION
ip-172-31-17-17                     Ready    <none>   3m50s v1.29.0
ip-172-31-20-58                     Ready    control-plane 25m   v1.29.0
ip-172-31-24-240                    Ready    <none>   3m50s v1.29.0
ubuntu@ip-172-31-20-58:~$ sudo nano ingress
ubuntu@ip-172-31-20-58:~$ sudo nano ingress
ubuntu@ip-172-31-20-58:~$ sudo nano ingress
ubuntu@ip-172-31-20-58:~$ sudo nano ingress.yaml
ubuntu@ip-172-31-20-58:~$ ls
ingress
ubuntu@ip-172-31-20-58:~$ kubectl apply -f ingress
ingress.networking.k8s.io/minimal-ingress created
ubuntu@ip-172-31-20-58:~$ kubectl get ing
NAME          CLASS          HOSTS          ADDRESS          PORTS          AGE
minimal-ingress  nginx-example  *              80              26s
ubuntu@ip-172-31-20-58:~$
ubuntu@ip-172-31-20-58:~$
ubuntu@ip-172-31-20-58:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE   VERSION
ip-172-31-17-17                     Ready    <none>   12m   v1.29.0
ip-172-31-20-58                     Ready    control-plane 34m   v1.29.0
ip-172-31-24-240                    Ready    <none>   12m   v1.29.0
ubuntu@ip-172-31-20-58:~$
```

i-Of39979ffde4600e0 (Nagesha-Kubernetes-Master)

PublicIP: 34.204.9.216 PrivateIP: 172.31.20.58

Activate Windows

Go to Settings to activate Windows.

CloudShell

Feedback

© 2024, Amazon Web Services, Inc. or its affiliates.

Privacy

Terms

Cookie preferences

18:30

13-09-2024

Kubernetes Commands

installing kubernetes cluster

Kubeadm Installation Guide

This guide outlines the steps needed to set up a Kubernetes cluster using kubeadm.

Pre-requisites

Ubuntu OS

t2.medium instance type or higher

AWS Setup

Make sure all traffic is allowed on all instance

Execute on Both "Master" & "Worker Node"

Run the following commands on both the master and worker nodes to prepare them for kubeadm.

=====

disable swap

```
sudo swapoff -a
```

Create the .conf file to load the modules at bootup

```
cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf
```

```
overlay
```

```
br_netfilter
```

```
EOF
```

```
sudo modprobe overlay
```

```
sudo modprobe br_netfilter
```

sysctl params required by setup, params persist across reboots

```
cat <<EOF | sudo tee /etc/sysctl.d/k8s.conf
```

```
net.bridge.bridge-nf-call-iptables = 1
```

```
net.bridge.bridge-nf-call-ip6tables = 1
```

```
net.ipv4.ip_forward      = 1
EOF
```

Apply sysctl params without reboot

```
sudo sysctl --system
```

Install CRIO Runtime

```
sudo apt-get update -y
```

```
sudo apt-get install -y software-properties-common curl apt-transport-https ca-certificates gpg
```

```
sudo curl -fsSL https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/Release.key | sudo gpg --dearmor -o /etc/apt/keyrings/cri-o-apt-keyring.gpg
```

```
echo "deb [signed-by=/etc/apt/keyrings/cri-o-apt-keyring.gpg] https://pkgs.k8s.io/addons:/cri-o:/prerelease:/main/deb/ /" | sudo tee /etc/apt/sources.list.d/cri-o.list
```

```
sudo apt-get update -y
```

```
sudo apt-get install -y cri-o
```

```
sudo systemctl daemon-reload
```

```
sudo systemctl enable crio --now
```

```
sudo systemctl start crio.service
```

```
echo "CRI runtime installed successfully"
```

Add Kubernetes APT repository and install required packages

```
curl -fsSL https://pkgs.k8s.io/core:/stable:/v1.29/deb/Release.key | sudo gpg --dearmor -o /etc/apt/keyrings/kubernetes-apt-keyring.gpg
```

```
echo 'deb [signed-by=/etc/apt/keyrings/kubernetes-apt-keyring.gpg] https://pkgs.k8s.io/core:/stable:/v1.29/deb/ /' | sudo tee /etc/apt/sources.list.d/kubernetes.list
```

```
sudo apt-get update -y
```

```
sudo apt-get install -y kubelet="1.29.0-*" kubectl="1.29.0-*" kubectl="1.29.0-*"
```

```
sudo apt-get update -y
```

```
sudo apt-get install -y jq
```

```
sudo systemctl enable --now kubelet
```

```
sudo systemctl start kubelet
```

Execute ONLY on "Master Node"

```
sudo kubeadm config images pull
```

```
sudo kubeadm init
```

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

```
sudo cp -i /etc/kubernetes/admin.conf "$HOME"/.kube/config
```

```
sudo chown "$(id -u)": "$(id -g)" "$HOME"/.kube/config
```

Network Plugin = calico

```
kubectrl apply -f https://raw.githubusercontent.com/projectcalico/calico/master/manifests/calico.yaml
```

Execute on ALL of your Worker Node's

1. Perform pre-flight checks

```
sudo kubeadm reset pre-flight checks
```

2. Paste the join command you got from the master node and append `--v=5` at the end but first use sudo su command to become root (avoid using sudo your-token).

```
sudo su
```

```
<your-token --v=5>
```

```
sudo su
```

```
kubeadm join 172.31.20.58:6443 --token r12e1e.18ghos7i4tle28x9 \
```

```
--discovery-token-ca-cert-hash sha256:a0405ceabcb70961e119ed09069073d6f4bd70cd74feb98937de0cf1a94d38ee --v=5
```

Verify Cluster Connection

****On Master Node:****

```
kubectrl get nodes
```

```
sudo nano ingress
```

```
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: minimal-ingress
  annotations:
    nginx.ingress.kubernetes.io/rewrite-target: /
spec:
  ingressClassName: nginx-example
  rules:
  - http:
      paths:
      - path: /nginx
        pathType: Prefix
        backend:
          service:
            name: my-service
            port:
              number: 80
```

sudo nano ingress

edit the script mention paths

path:/nginx

mention service:

name: my-service

kubectl apply -f ingress.yaml

ingress.networking.k8s.io/minimal-ingress created

kubectl get ing

kubectl get nodes