**ansible controller- 192.168.136.83**

yum install sshpass git -y

yum install -y https://centos7.iuscommunity.org/ius-release.rpm

yum update -y

yum install -y python3

Reference : <https://dzone.com/articles/kubespray-10-simple-steps-for-installing-a-product>

--> ssh-keygen

(Or)

ssh-keygen -q -t rsa -N '' -f ~/.ssh/id\_rsa 2>/dev/null <<< y >/dev/null

$ echo $?

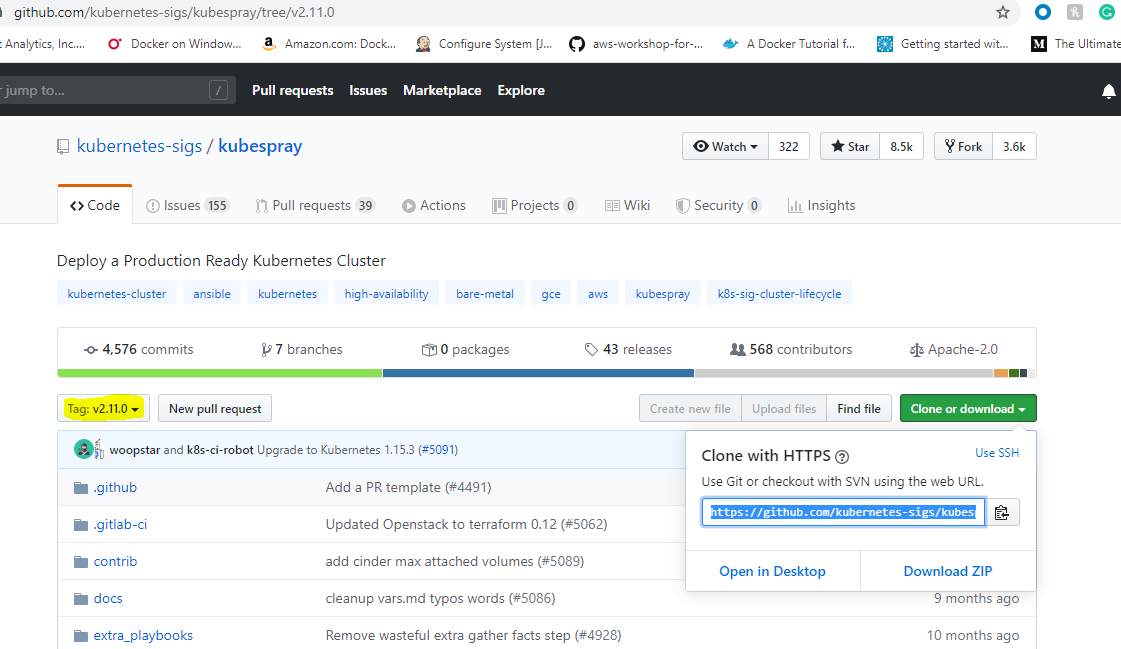
0

**Copy key to all the nodes:**

* ssh-copy-id [root@192.168.136.92](mailto:root@192.168.136.92)
* sshpass -p p@55w0rd ssh-copy-id [root@192.168.136.90](mailto:root@192.168.136.90) -o StrictHostKeyChecking=no

Verify

ssh [root@192.168.136.90](mailto:root@192.168.136.90)



git clone <https://github.com/kubernetes-sigs/kubespray.git>

**Install python 3**

yum install -y https://centos7.iuscommunity.org/ius-release.rpm

yum update

yum install -y python3

cd kubespray

pip3 install -r requirements.txt

* Successfully installed MarkupSafe-1.1.1 PyYAML-5.3.1 ansible-2.9.6 certifi-2020.4.5.1 cffi-1.14.0 chardet-3.0.4 cryptography-2.9.2 hvac-0.10.0 idna-2.9 jinja2-2.11.1 jmespath-0.9.5 netaddr-0.7.19 pbr-5.4.4 pycparser-2.20 requests-2.23.0 ruamel.yaml-0.16.10 ruamel.yaml.clib-0.2.0 six-1.14.0 urllib3-1.25.9

Follow steps: <https://github.com/kubernetes-sigs/kubespray/tree/v2.11.0>

cp -rfp inventory/sample inventory/mycluster

declare -a IPS=([192.168.136.92](mailto:root@192.168.136.92) 192.168.136.90)

CONFIG\_FILE=inventory/mycluster/hosts.yml python3 contrib/inventory\_builder/inventory.py ${IPS[@]}

# Review and change parameters under ``inventory/mycluster/group\_vars``

cat inventory/mycluster/group\_vars/all/all.yml

cat inventory/mycluster/group\_vars/k8s-cluster/k8s-cluster.yml

# Deploy Kubespray with Ansible Playbook - run the playbook as root

# The option `--become` is required, as for example writing SSL keys in /etc/,

# installing packages and interacting with various systemd daemons.

# Without --become the playbook will fail to run!

ansible-playbook -i inventory/mycluster/hosts.yml --become --become-user=root cluster.yml

Tuesday 12 May 2020 17:08:47 +0530 (0:00:00.134) 0:02:17.081 \*\*\*\*\*\*\*\*\*\*\*

TASK [kubernetes/preinstall : Stop if even number of etcd hosts] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

fatal: [node1]: FAILED! => {

"assertion": "groups.etcd|length is not divisibleby 2",

"changed": false,

"evaluated\_to": false,

"msg": "Assertion failed"

}

fatal: [node2]: FAILED! => {

"assertion": "groups.etcd|length is not divisibleby 2",

"changed": false,

"evaluated\_to": false,

"msg": "Assertion failed"

}

## upgrade

ansible-playbook -i inventory/mycluster/hosts.yml --become --become-user=root upgrade-cluster.yml

kubectl run nginx --image nginx --replicas 3

Reset:

ansible-playbook -i inventory/mycluster/hosts.yml remove-node.yml --flush-cache

ansible-playbook -i inventory/mycluster/hosts.yml reset.yml –flush-cache

issues:

<https://medium.com/@sarangrana/getting-started-with-kubernetes-part-3-kubespray-on-premise-installation-guide-90194f08be4e>

ansible-playbook -i inventory/mycluster/hosts.yml reset.yml

[root@HYD-DEVOPSNFS01 kubespray]# yum install haproxy

vi /etc/haproxy/haproxy.cfg

https://github.com/kubernetes-sigs/kubespray/blob/master/docs/ha-mode.md

|  |
| --- |
| frontend kubernetes-apiserver-https  bind 192.168.136.83:443  bind 127.0.0.1:443  mode tcp  option tcplog  default\_backend kubernetes-apiserver-https  backend kubernetes-apiserver-https  mode tcp  option tcplog  option tcp-check  balance roundrobin  default-server inter 10s downinter 5s rise 2 fall 2 slowstart 60s maxconn 250 maxqueue 256 weight 100  server k8s-api-1 192.168.136.88:6443 check  server k8s-api-2 192.168.136.103:6443 check |

or

<https://icicimov.github.io/blog/kubernetes/Kubernetes-cluster-step-by-step-Part5/>

setenforce 0

|  |
| --- |
| listen kubernetes-apiserver-https  bind <VIP>:8383  mode tcp  option log-health-checks  timeout client 3h  timeout server 3h  server master1 <IP1>:6443 check check-ssl verify none inter 10000  server master2 <IP2>:6443 check check-ssl verify none inter 10000  balance roundrobin |

Note: That's an example config managed elsewhere outside of Kubespray.

Systemctl restart haproxy

And the corresponding example global vars for such a "cluster-aware" external LB with the cluster API access modes configured in Kubespray:

apiserver\_loadbalancer\_domain\_name: "my-apiserver-lb.example.com"

loadbalancer\_apiserver:

address: <VIP>

***Addition of Node***

Update hosts.ini [add a node in hosts.ini] and run below command.

ansible-playbook -i inventory/mycluster/hosts.ini scale.yml –flush-cache

*ansible-playbook -i inventory/mycluster/hosts.ini cluster.yml*

***Deletion of Node***

It supports two ways to select the nodes:  
Use — extra-vars “node=<nodename>,<nodename2>” to select the node you want to delete.

ansible-playbook -i inventory/mycluster/hosts.ini remove-node.yml -b -v \ --private-key=~/.ssh/private\_key \ --extra-vars "node=nodename,nodename2"

or  
Use — limit nodename,nodename2 to select the node

ansible-playbook -i inventory/mycluster/hosts.ini remove-node.yml -b -v \ --private-key=~/.ssh/private\_key \ --limit “nodename,nodename2" Ex. :   
ansible-playbook -i inventory/mycluster/hosts.ini remove-node.yml -b -v --private-key=~/.ssh/private\_key --extra-vars "node=node2"

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*8

<https://kubespray.io/#/docs/ha-mode>