Kubectl Deployment using Kubeadm:

We need 2 Ubuntu 16.04 machines.

On 2/2 nodes apply security group having all traffic opened.

On Master: (You should be logged in as root)

1. sudo apt-get update -y
2. sudo apt-get install -y apt-transport-https
3. curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | apt-key add
4. vi /etc/apt/sources.list.d/kubernetes.list
    a. deb http://apt.kubernetes.io/ kubernetes-xenial main
5. sudo apt-get update -y
6. sudo apt-get install -y docker.io
7. sudo apt-get install -y kubelet kubeadm kubectl kubernetes-cni

Lets initialize the cluster master node using kubeadm init

8. kubeadm init
    a. kubeadm init --ignore-preflight-errors=NumCPU

Copy the complete line containing word (token will diff for everybody)

kubeadm join --token 844a02.ed299ddcbe17430a 172.31.49.128:6443 --discovery-token-ca-cert-hash sha256:17463c630785dd8685fdd7531389382ce302644db6c329197e20e271aab0bf32

To Run kubectl utility perform following action on master node

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

Installing CNI Network

1. sysctl net.bridge.bridge-nf-call-iptables=1
2. export kubever=$(kubectl version | base64 | tr -d '\n')
3. kubectl apply -f "https://cloud.weave.works/k8s/net?k8s-version=$kubever"

On Worker Node : (You should be logged in as root)

1. sudo apt-get update -y
2. sudo apt-get install -y apt-transport-https
3. curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | apt-key add
4. vi /etc/apt/sources.list.d/kubernetes.list
5. deb http://apt.kubernetes.io/ kubernetes-xenial main
6. sudo apt-get update -y
7. sudo apt-get install -y docker.io
8. sudo apt-get install -y kubelet kubeadm kubectl kubernetes-cni

Join the worker node to the Cluster

9. kubeadm join --token 844a02.ed299ddcbe17430a 172.31.49.128:6443 --discovery-token-ca-cert-hash sha256:17463c630785dd8685fdd7531389382ce302644db6c329197e20e271aab0bf32

Check that the second node has joined the cluster and ready.

kubectl get nodes (Status of all the node should be ready)

If Token Expired

https://stackoverflow.com/questions/47126779/join-cluster-after-init-token-expired

kubeadm token create --print-join-command

----------Installation of kubectl from Remote Machine----------

Note – You should be logged in as root

1. apt-get update -y
2. curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | apt-key add
3. vi /etc/apt/sources.list.d/kubernetes.list
    a. deb http://apt.kubernetes.io/ kubernetes-xenial main
4. sudo apt-get install -y kubectl

To Run kubectl utility perform following action on remote/jenkins node

1. mkdir -p $HOME/.kube
2. **Copy /etc/kubernetes/admin.conf from master to $HOME/.kube/config**
3. sudo chown $(id -u):$(id -g) $HOME/.kube/config