#create 2 ec2 instance with ssh port and 6443 port open in both

ssh -i ansible.pem ec2-user@ip-addr

after logging set host names in both

sudo su –

apt-get update

hostnamectl set-hostname master

hostnamectl set-hostname worker

apt-get install containerd

apt-get install docker.io

#to allow signin key

```
sudo apt-get install curl
curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | sudo apt-key add
sudo apt-add-repository "deb http://apt.kubernetes.io/ kubernetes-xenial main"
sudo apt-get install kubeadm kubelet kubectl
sudo swapoff –a
```

In master node run the following

kubeadm init --pod-network-cidr=192.169.0.0/16

mkdir -p $HOME/.kube

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

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

kubectl apply -f https://github.com/flannel-io/flannel/releases/latest/download/kube-flannel.yml

sudo kubeadm token create --print-join-command

#use the token to add node into cluster

sudo kubeadm join 172.31.32.95:6443 --token cjg9s8.e1ko8jtkm167us5q --discovery-token-ca-cert-hash sha256:d98a8654f6a549fb63f3782584c97da0b4e496ba800c139835e79bac59d20810

In master node create a dockerfile with html website code

vi Dockerfile

```
FROM nginx
COPY index.html /root/docker
```

save

```
docker build -t  web .
```

```
docker images
```

```yaml
#create pvc for mangodb
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: mongodb-pvc
  labels:
    app: web
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 5Gi
  storageClassName: gp2
```

```
kubectl apply -f pvc.yaml
```

```
vi app.yaml
```

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: web
  namespace: default
spec:
  replicas: 1
  selector:
    matchLabels:
      app: web
  template:
    labels:
      app: web
    metadata: null
    spec:
      containers:
      - image: web
        imagePullPolicy: Never
        name: web
      - env:
        - name: MONGO_INITDB_ROOT_USERNAME
```

```yaml
    value: Mongo
- name: MONGO_INITDB_ROOT_PASSWORD
  value: Mongo
image: mongo
imagePullPolicy: Always
name: mongo
ports:
- containerPort: 27017
  name: mongo
volumeMounts:
- mountPath: /data/db
  name: mongodb
volumes:
- name: mongodb
  persistentVolumeClaim:
    claimName: mongodb-pvc
```