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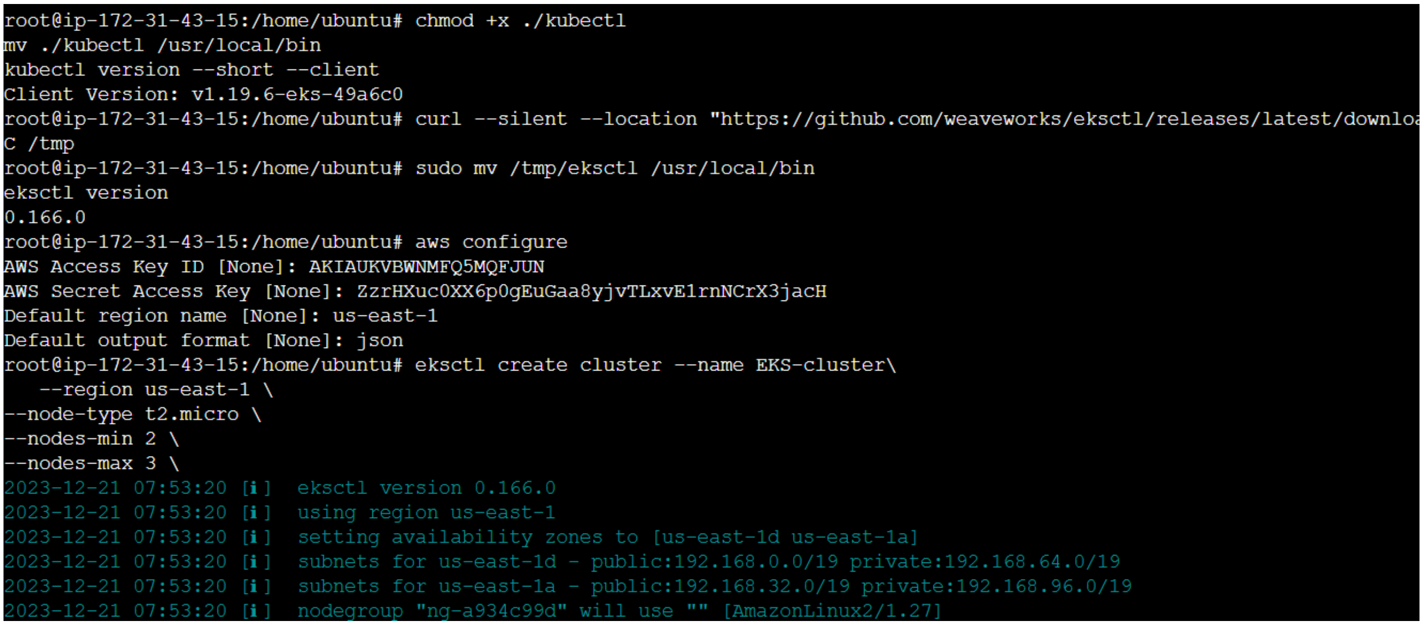
Question:

Create the K8s EKS,further you have to do the deployment of Nginx application.

Solution:

Step :1

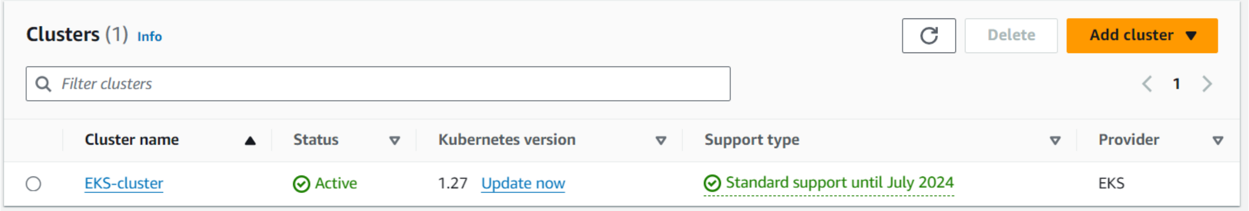
Installing K8s in instance.



```
root@ip-172-31-43-15:/home/ubuntu# chmod +x ./kubectl
mv ./kubectl /usr/local/bin
kubectl version --short --client
Client Version: v1.19.6-eks-49a6c0
root@ip-172-31-43-15:/home/ubuntu# curl --silent --location "https://github.com/weaveworks/eksctl/releases/latest/downloa
C /tmp
root@ip-172-31-43-15:/home/ubuntu# sudo mv /tmp/eksctl /usr/local/bin
eksctl version
0.166.0
root@ip-172-31-43-15:/home/ubuntu# aws configure
AWS Access Key ID [None]: AKIAUKVBWNMFQ5MQFJUN
AWS Secret Access Key [None]: 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
Default region name [None]: us-east-1
Default output format [None]: json
root@ip-172-31-43-15:/home/ubuntu# eksctl create cluster --name EKS-cluster\
   --region us-east-1 \
--node-type t2.micro \
--nodes-min 2 \
--nodes-max 3 \
2023-12-21 07:53:20 [ℹ]  eksctl version 0.166.0
2023-12-21 07:53:20 [ℹ]  using region us-east-1
2023-12-21 07:53:20 [ℹ]  setting availability zones to [us-east-1d us-east-1a]
2023-12-21 07:53:20 [ℹ]  subnets for us-east-1d - public:192.168.0.0/19 private:192.168.64.0/19
2023-12-21 07:53:20 [ℹ]  subnets for us-east-1a - public:192.168.32.0/19 private:192.168.96.0/19
2023-12-21 07:53:20 [ℹ]  nodegroup "ng-a934c99d" will use "" [AmazonLinux2/1.27]
```

Step:2

Cluster creation after installing cluster in CLI.



○	Cluster name ▲	Status	Kubernetes version	Support type	Provider
○	EKS-cluster	✓ Active	1.27 Update now	✓ Standard support until July 2024	EKS

Step:3

Code for Ngnix deployment.

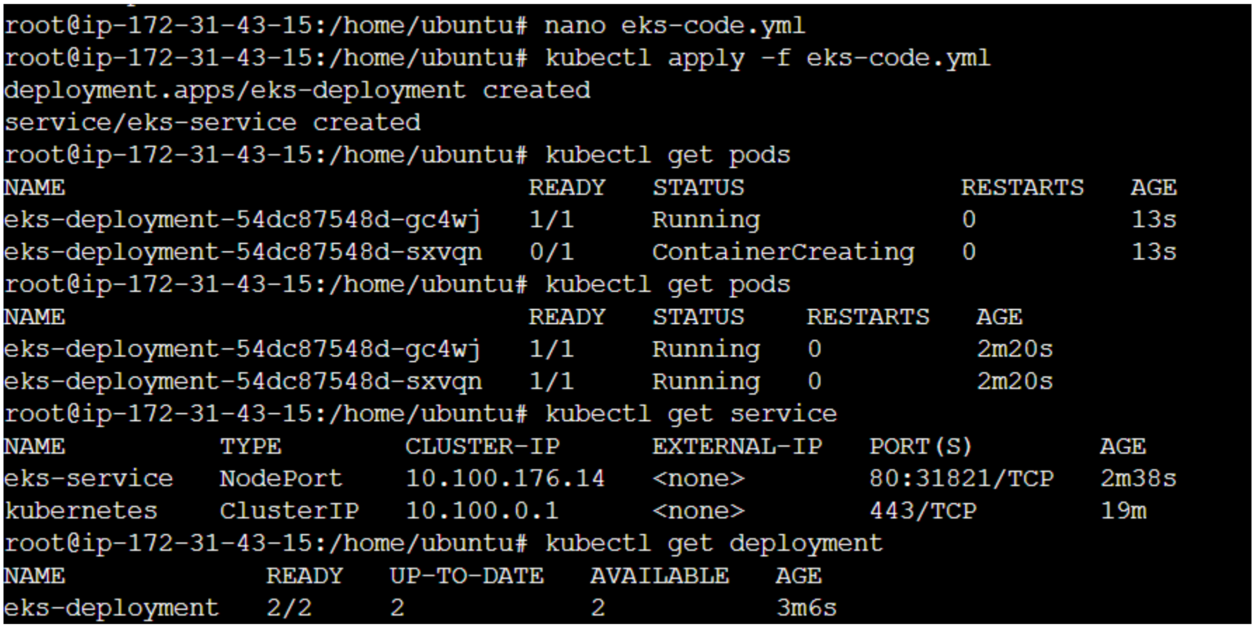
Deployment Code:

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: eks-deployment
spec:
  replicas: 2
  selector:
    matchLabels:
      app: myapp
  template:
    metadata:
      labels:
        app: myapp
    spec:
      containers:
      - name: myapp
        image: nginx
        ports:
        - containerPort: 80

---
apiVersion: v1
kind: Service
metadata:
  name: eks-service
spec:
  type: NodePort
  selector:
    app: myapp
  ports:
  - port: 80
    targetPort: 80
```

Step:4

Applying the deployment.

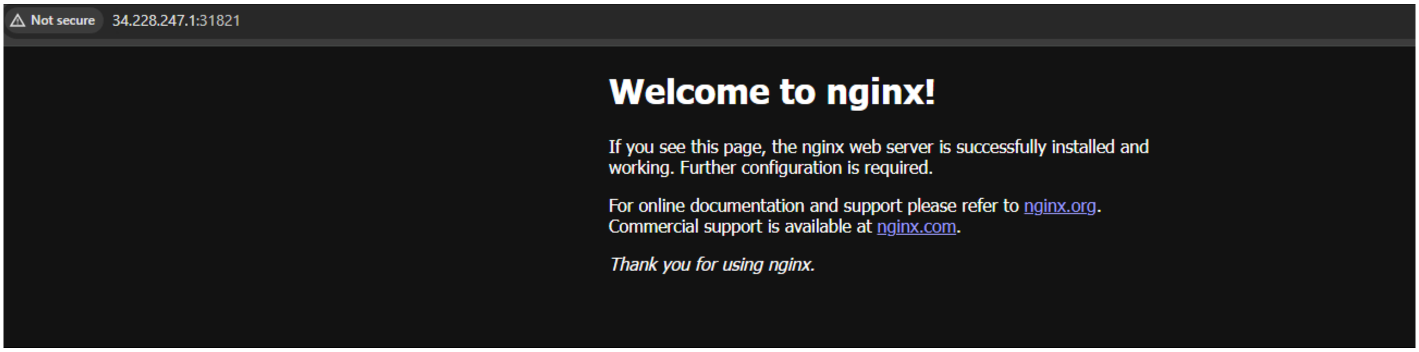


```
root@ip-172-31-43-15:/home/ubuntu# nano eks-code.yml
root@ip-172-31-43-15:/home/ubuntu# kubectl apply -f eks-code.yml
deployment.apps/eks-deployment created
service/eks-service created
root@ip-172-31-43-15:/home/ubuntu# kubectl get pods
NAME                              READY   STATUS              RESTARTS   AGE
eks-deployment-54dc87548d-gc4wj   1/1     Running             0          13s
eks-deployment-54dc87548d-sxvqn   0/1     ContainerCreating   0          13s
root@ip-172-31-43-15:/home/ubuntu# kubectl get pods
NAME                              READY   STATUS    RESTARTS   AGE
eks-deployment-54dc87548d-gc4wj   1/1     Running   0          2m20s
eks-deployment-54dc87548d-sxvqn   1/1     Running   0          2m20s
root@ip-172-31-43-15:/home/ubuntu# kubectl get service
NAME          TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)        AGE
eks-service   NodePort    10.100.176.14   <none>        80:31821/TCP   2m38s
kubernetes    ClusterIP   10.100.0.1      <none>        443/TCP        19m
root@ip-172-31-43-15:/home/ubuntu# kubectl get deployment
NAME             READY   UP-TO-DATE   AVAILABLE   AGE
eks-deployment   2/2     2            2           3m6s
```

Step: 5

Output.

Node-1 output:



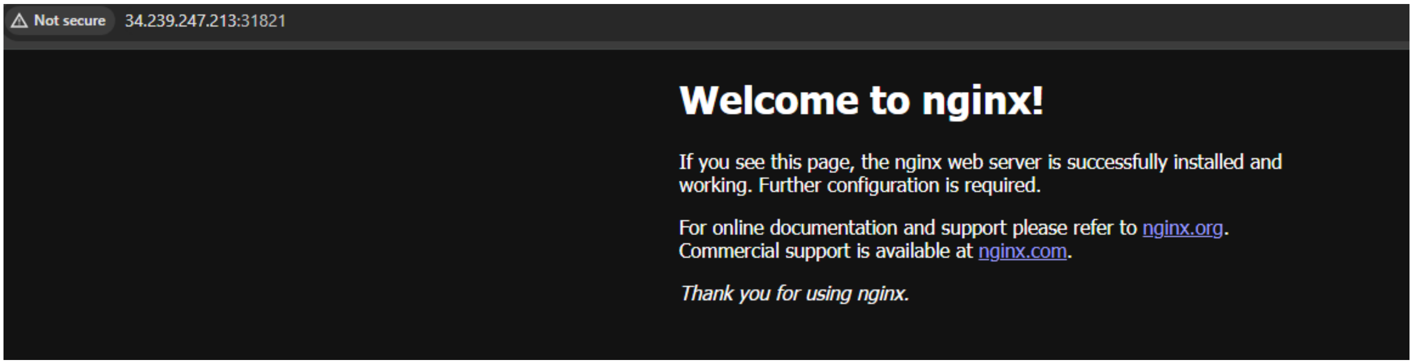
Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Node-2 output:



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

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Thank you for using nginx.