

[Guvi Task]

Day 3 - Kubernetes - Pods & Services

TASK: Pods and Services in Kubernetes Deployment

```
aws Services Q Search [Alt+S] Mumbai Sumit_aws_11
2024-08-03 18:34:32 [i] waiting for at least 2 node(s) to become ready in "ng-bc417ff"
2024-08-03 18:34:32 [i] nodegroup "ng-bc417ff" has 2 node(s)
2024-08-03 18:34:32 [i] node "ip-192-168-16-41.ap-south-1.compute.internal" is ready
2024-08-03 18:34:32 [i] node "ip-192-168-46-13.ap-south-1.compute.internal" is ready
2024-08-03 18:34:32 [✓] created 1 managed nodegroup(s) in cluster "demo"
2024-08-03 18:34:32 [i] kubectl command should work with "/home/ubuntu/.kube/config", try 'kubectl get nodes'
2024-08-03 18:34:32 [✓] EKS cluster "demo" in "ap-south-1" region is ready
ubuntu@ip-172-31-15-144:~$
ubuntu@ip-172-31-15-144:~$
ubuntu@ip-172-31-15-144:~$ kubectl get nodes
NAME                                STATUS    ROLES    AGE    VERSION
ip-192-168-16-41.ap-south-1.compute.internal Ready    <none>   12m    v1.30.2-eks-1552ad0
ip-192-168-46-13.ap-south-1.compute.internal Ready    <none>   12m    v1.30.2-eks-1552ad0
ubuntu@ip-172-31-15-144:~$
ubuntu@ip-172-31-15-144:~$
ubuntu@ip-172-31-15-144:~$ mkdir appl
ubuntu@ip-172-31-15-144:~$ cd appl
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$ vi pod.yaml
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$ ls
pod.yaml
ubuntu@ip-172-31-15-144:~/appl$ kubectl create -f pod.yaml
error: error validating "pod.yaml": error validating data: apiVersion not set; if you choose to ignore these errors, turn validation off with -
-validate=false

i-018038ec3278ac878 (EKS-demo)
PublicIPs: 52.66.152.221 PrivateIPs: 172.31.15.144

aws Services Q Search [Alt+S] Mumbai Sumit_aws_11
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$ vi pod.yaml
ubuntu@ip-172-31-15-144:~/appl$ kubectl create -f pod.yaml
pod/nginx-pod created
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$ kubectl get all
NAME                READY    STATUS    RESTARTS    AGE
pod/nginx-pod       1/1      Running    0            83s

NAME                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
service/kubernetes  ClusterIP   10.100.0.1     <none>          443/TCP    35m
ubuntu@ip-172-31-15-144:~/appl$ kubectl get pod
NAME                READY    STATUS    RESTARTS    AGE
nginx-pod           1/1      Running    0            3m5s
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$ kubectl describe pod nginx-pod
Name:               nginx-pod
Namespace:          default
Priority:            0
Node:               ip-192-168-16-41.ap-south-1.compute.internal/192.168.16.41
Start Time:         Sat, 03 Aug 2024 18:58:59 +0000
Labels:             app=nginx
                   tier=dev
```

```
aws Services Q Search [Alt+S] Mumbai Sumit_aws_11

Initialized      True
Ready            True
ContainersReady  True
PodScheduled     True
Volumes:
  kube-api-access-8p5n9:
    Type:      Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds: 3607
    ConfigMapName: kube-root-ca.crt
    ConfigMapOptional: <nil>
    DownwardAPI: true
QoS Class:      BestEffort
Node-Selectors: <none>
Tolerations:    node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
                node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events:
  Type     Reason      Age   From          Message
  ----     -
Normal    Scheduled   6m40s default-scheduler Successfully assigned default/nginx-pod to ip-192-168-16-41.ap-south-1.compute.internal
Normal    Pulling     6m39s kubelet        Pulling image "nginx"
Normal    Pulled      6m31s kubelet        Successfully pulled image "nginx" in 8.185s (8.185s including waiting). Image size: 70985377 bytes
Normal    Created     6m31s kubelet        Created container nginx-container
Normal    Started     6m31s kubelet        Started container nginx-container
ubuntu@ip-172-31-15-144:~/appl$
```

i-018038ec3278ac878 (EKS-demo)

PublicIPs: 52.66.152.221 PrivateIPs: 172.31.15.144

```
aws Services Q Search [Alt+S] Mumbai Sumit_aws_11

apiVersion: v1
kind: Pod
metadata:
  name: nginx-pod
  labels:
    app: nginx
    tier: dev
spec:
  containers:
  - name: nginx-container
    image: nginx
```

-- INSERT -- 12,1 All

i-018038ec3278ac878 (EKS-demo)

PublicIPs: 52.66.152.221 PrivateIPs: 172.31.15.144

```
aws Services Q Search [Alt+S] Mumbai Sumit_aws_11
Normal Pulling 6m39s kubelet Pulling image "nginx"
Normal Pulled 6m31s kubelet Successfully pulled image "nginx" in 8.185s (8.185s including waiting). Image size: 70985377 bytes.
Normal Created 6m31s kubelet Created container nginx-container
Normal Started 6m31s kubelet Started container nginx-container
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$ vi deploy.yaml
ubuntu@ip-172-31-15-144:~/appl$ kubectl create -f deploy.yaml
deployment.apps/nginx-deploy created
ubuntu@ip-172-31-15-144:~/appl$ kubectl get all
NAME                                READY   STATUS    RESTARTS   AGE
pod/nginx-deploy-77cd89c769-vln8d   0/1     Pending   0           30s
pod/nginx-deploy-77cd89c769-w56b4   0/1     Pending   0           30s
pod/nginx-deploy-77cd89c769-xmbp2   1/1     Running   0           30s
pod/nginx-pod                        1/1     Running   0           25m

NAME                                TYPE          CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
service/kubernetes                  ClusterIP     10.100.0.1   <none>        443/TCP   59m

NAME                                READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/nginx-deploy        1/3     3             1           30s

NAME                                DESIRED   CURRENT   READY   AGE
replicaset.apps/nginx-deploy-77cd89c769 3         3         1       30s
ubuntu@ip-172-31-15-144:~/appl$
```

i-018038ec3278ac878 (EKS-demo)

PublicIPs: 52.66.152.221 PrivateIPs: 172.31.15.144

```
aws Services Q Search [Alt+S] Mumbai Sumit_aws_11
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deploy
spec:
  replicas: 3
  selector:
    matchLabels:
      app: web
  template:
    metadata:
      labels:
        app: web
    spec:
      containers:
        - name: mycontainer
          image: nginx:1.7.9
          ports:
            - containerPort: 80
~
~
~
"deploy.yaml" 21L, 315B 1,13 All
```

i-018038ec3278ac878 (EKS-demo)

PublicIPs: 52.66.152.221 PrivateIPs: 172.31.15.144

aws
Services
Q Search
[Alt+S]
Mumbai
Sumit_aws_11

```

ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$ kubectl get deploy
NAME          READY  UP-TO-DATE  AVAILABLE  AGE
nginx-deploy  1/3    3           1           5m36s
ubuntu@ip-172-31-15-144:~/appl$ kubectl get all
NAME                                READY  STATUS    RESTARTS  AGE
pod/nginx-deploy-77cd89c769-vln8d  0/1    Pending   0          6m36s
pod/nginx-deploy-77cd89c769-w56b4  0/1    Pending   0          6m36s
pod/nginx-deploy-77cd89c769-xmbp2  1/1    Running   0          6m36s
pod/nginx-pod                      1/1    Running   0          31m

NAME          TYPE        CLUSTER-IP  EXTERNAL-IP  PORT(S)  AGE
service/kubernetes  ClusterIP  10.100.0.1  <none>       443/TCP  65m

NAME          READY  UP-TO-DATE  AVAILABLE  AGE
deployment.apps/nginx-deploy  1/3    3           1           6m36s

NAME                                DESIRED  CURRENT  READY  AGE
replicaset.apps/nginx-deploy-77cd89c769  3        3        1      6m36s
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$
ubuntu@ip-172-31-15-144:~/appl$

```

i-018038ec3278ac878 (EKS-demo)
PublicIPs: 52.66.152.221 PrivateIPs: 172.31.15.144