

Kubernetes project

Deploy an EKS cluster called playground-cluster with 3 nodes in us-west-2

[illegible][illegible]

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23767@LAPTOP-458419VS MINGW64 ~/Desktop/AWS-COURSES/git-github/github-repository/K8s (master)
$ kubectl get service
NAME      TYPE      CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
kubernetes ClusterIP  10.100.0.1     <none>         443/TCP    22m
```

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$ kubectl get pods -n kube-system | grep kubelet
NAME                                READY   STATUS    RESTARTS   AGE
kubelet-deployment-6d8c575d9-5q1g1 1/1     Running    0           4641s
kubelet-deployment-6d8c575d9-wm8r   1/1     Running    0           4641s

$ kubectl describe pod kubelet-deployment-6d8c575d9-5q1g1 -n kube-system
Name:         kubelet
Namespace:    kube-system
Labels:       component=kubelet
Annotations:  provider=kubernetes
Selector:     {}
Type:         ClusterIP
IP Family Policy: SingleStack
IP Families:  IPv4
IP:           10.100.0.1
Port:         10250/tcp
TargetPort:   443/TCP
HostPort:     443/TCP
Subdomain:    102.168.163.17/443, 102.168.96.226/443
ServiceAffinity: None
Events:
  Type: Warning, Reason: NodeNotReady, Message: kubelet has died on node kubelet-deployment-6d8c575d9-5q1g1

```

```

Events:
  Type    Reason      Age   From                  Message
  ----    -
Normal    Scheduled   16m   default-scheduler     Successfully assigned default/apache-deployment-6d6c57b5b9-shglk to ip-192-168-11-127.us-west-2.compute.internal
Normal    Pulling     16m   kubelet                Pulling image "justo01/justin_apache_image:v1.0.1"
Normal    Pulled      16m   kubelet                Successfully pulled image "justo01/justin_apache_image:v1.0.1" in 24.45s (24.45s including waiting). Image size: 19970908 bytes.
Normal    Created     16m   kubelet                Created container apache-container
Normal    Started     16m   kubelet                Started container apache-container

Name:         apache-deployment-6d6c57b5b9-unh9r
Namespace:    default
Priority:      0
Service Account: default
Node:         ip-192-168-19-188.us-west-2.compute.internal/192.168.19.188
Start Time:   Sat, 24 Aug 2024 05:24:34 -0400
Labels:       app=apache
              pod-template-hash=6d6c57b5b9
Annotations:  none
Status:       Running
IP:           192.168.42.101
IPs:          IP: 192.168.42.101
Controlled By: ReplicaSet/apache-deployment-6d6c57b5b9
Containers:
  apache-container:
    Container ID:   containerd://5671430d6e3129b1b0b29a848937ed15906c7f60efc987cf61627c3ca38c83c
    Image:          justo01/justin_apache_image:v1.0.1
    Image ID:       docker.io/justo01/justin_apache_image@sha256:4b4851a482amd1bec36ba393f8f7af2ac2c6ef07f6d3412bccc9a60e1ea
    Port:          80/TCP
    Host Port:     0/TCP
    State:          Running
                    Started: Sat, 24 Aug 2024 05:24:49 -0400
    Ready:          True
    Restart Count:  0
    Environment:    none
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-gkx78 (ro)
Conditions:
  Type              Status
  PodReadyToStartContainers  True
  Initialized        True
  Ready              True
  ContainersReady    True
  PodScheduled       True
Volumes:
  kube-api-access-gkx78:
    Type:              Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds: 3600
    ConfigMapName:       kube-root-ca.crt
    ConfigMapOptional:    
    DownwardAPI:         True
  QoS Class:           BestEffort
  Node-Selectors:      
  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   16m   default-scheduler     Successfully assigned default/apache-deployment-6d6c57b5b9-unh9r to ip-192-168-19-188.us-west-2.compute.internal
Normal    Pulling     16m   kubelet                Pulling image "justo01/justin_apache_image:v1.0.1"
Normal    Pulled      16m   kubelet                Successfully pulled image "justo01/justin_apache_image:v1.0.1" in 24.46s (24.46s including waiting). Image size: 19970908 bytes.
Normal    Created     16m   kubelet                Created container apache-container
Normal    Started     16m   kubelet                Started container apache-container

```

Create a deployment for apache application with 2 replicas of the pod

```

237@NLPTOP-43841905 MINGW64 ~/Desktop/AWS-COURSES/git-github/github-repository/k8s (master)
$ kubectl get service
NAME      TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
k8s-service  LoadBalancer  10.100.22.220    afd80dbda9404199a4a8bb5aafab42a-1419943033.us-west-2.elb.amazonaws.com  80:30245/TCP    2m10s
kubernetes  ClusterIP     10.100.0.1       <none>            443/TCP          40m

```

Create a Load Balancer service to expose our apache application on port 80

ad5d0dbda9404199a4a8bb5aafab42a-1419943033.us-west-2.elb.amazonaws.com

Hello, here our first docker image running apache server !!!

Create a GITHUB repository called kubernetes-apache-webapp and upload Dockerfile with all the kubernetes manifest

<https://github.com/Justoaws>