Bo lontum
Mini-Project. On Kubernetes

Prerequisites:

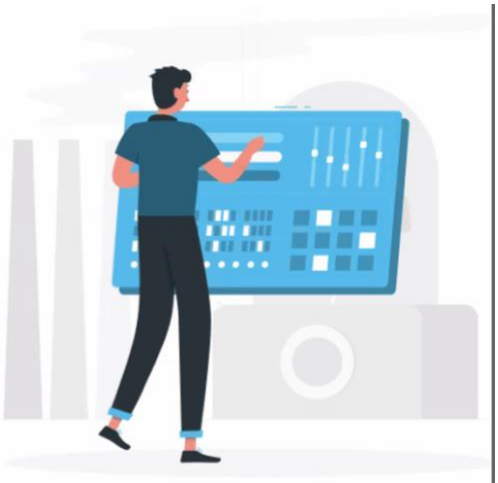
- Containerize *(Dockerize)* our usual lovely apache application.
- Push the Docker image to your DockerHub account.

Kubernetes:

- Deploy an EKS cluster call **playground-cluster** with 3 nodes in **us-west-2.**
- Create a **Deployment** for our apache application with two (5) replica of your pod.
- Create a **Load Balancer service** to expose our apache application on port 80.
- Create a GITHUB repository call **kubernetes-apache-webapp** and upload your Dockerfile alongside with all your Kubernetes manifest files.

Submission:

- Your github repo link
- Screenshot of command ***kubectl describe service*** and ***kubectl describe pod***
- Screenshot of your app running



1. Screenshot of command Kubectl describe service

```
Namespace:                default
Labels:                   <none>
Annotations:              <none>
Selector:                 app=apache
Type:                     LoadBalancer
IP Family Policy:         SingleStack
IP Families:              IPv4
IP:                       10.100.54.227
IPs:                      10.100.54.227
LoadBalancer Ingress:     a008072efb6ca4d4c97cb285b1aeb9be-685188742.us-west-2.elb.amazonaws.com
Port:                     <unset>  80/TCP
TargetPort:               80/TCP
NodePort:                 <unset>  31646/TCP
Endpoints:                192.168.20.190:80,192.168.24.186:80,192.168.42.144:80 + 2 more...
Session Affinity:         None
External Traffic Policy:  Cluster
Events:
  Type    Reason                Age    From                Message
  ----    ------                ----   ----                -------
  Normal  EnsuringLoadBalancer  3m41s  service-controller  Ensuring load balancer
  Normal  EnsuredLoadBalancer   3m38s  service-controller  Ensured load balancer


Name:              kubernetes
Namespace:         default
Labels:            component=apiserver
                   provider=kubernetes
Annotations:       <none>
Selector:          <none>
Type:              ClusterIP
IP Family Policy:  SingleStack
IP Families:       IPv4
IP:                10.100.0.1
IPs:               10.100.0.1
Port:              https  443/TCP
TargetPort:        443/TCP
Endpoints:         192.168.109.244:443,192.168.162.232:443
Session Affinity:  None
Events:            <none>
users-MacBook-Pro:kubernetes-apache-webapp user$
```

2. Screenshot of kubectl describe Pods

```
    Image ID:       docker.io/lontumb/bo_apache_image_docker_kute@sha256:b97076f3eccb43995352f820bc73801ca84540e8ff4bc480d5b8f99f2
ff1ff77
    Port:           80/TCP
    Host Port:      0/TCP
    State:          Running
      Started:      Wed, 14 Aug 2024 19:37:04 -0400
    Ready:          True
    Restart Count:  0
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-kkzrl (ro)
Conditions:
  Type                        Status
  PodReadyToStartContainers   True
  Initialized                 True
  Ready                       True
  ContainersReady             True
  PodScheduled                True
Volumes:
  kube-api-access-kkzrl:
    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  7m     default-scheduler  Successfully assigned default/apache-deployment-c776c99ff-q7v66 to ip-192-168-84-17
4.us-west-2.compute.internal
  Normal  Pulling    6m59s  kubelet            Pulling image "lontumb/bo_apache_image_docker_kute:v1.0.0"
  Normal  Pulled     6m46s  kubelet            Successfully pulled image "lontumb/bo_apache_image_docker_kute:v1.0.0" in 13.674s (
13.674s including waiting). Image size: 199554658 bytes.
  Normal  Created    6m46s  kubelet            Created container apache-container
  Normal  Started    6m46s  kubelet            Started container apache-container
users-MacBook-Pro:kubernetes-apache-webapp user$
```

Screenshot of the app running