Lab 5

Nginx Server Deployment using Kubernetes

1. Create a folder

$ mkdir nginx\_kube\_example

$ cd nginx\_kube\_example

1. Create the yaml file in the editor of your choice which will be used to deploy nginx pod

$ vi nginx\_pod.yaml

apiVersion: extensions/v1beta1

kind: Deployment

metadata:

generation: 1

labels:

run: nginx

name: nginx

namespace: default

spec:

progressDeadlineSeconds: 600

replicas: 1

revisionHistoryLimit: 10

selector:

matchLabels:

run: nginx

strategy:

rollingUpdate:

maxSurge: 1

maxUnavailable: 1

type: RollingUpdate

template:

metadata:

labels:

run: nginx

spec:

containers:

- image: nginx

imagePullPolicy: Always

name: nginx

ports:

- containerPort: 80

resources: {}

terminationMessagePath: /dev/termination-log

terminationMessagePolicy: File

dnsPolicy: ClusterFirst

restartPolicy: Always

schedulerName: default-scheduler

securityContext: {}

terminationGracePeriodSeconds: 30

1. Create the nginx pod using kubectl

$ kubectl create -f nginx\_pod.yaml

1. In the above pod creation process, we have created two replicas of the nginx pod and its details can be listed as follow

$ kubectl get pods

NAME READY REASON RESTARTS AGE

nginx-karne 1/1 Running 0 14s

nginx-mo5ug 1/1 Running 0 14s

$ kubectl get deploy

CONTROLLER CONTAINER(S) IMAGE(S) SELECTOR REPLICAS

nginx nginx nginx app=nginx 2

$ docker ps

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

1d3f9cedff1d nginx:latest "nginx -g 'daemon of 41 seconds ago Up 40 seconds k8s\_nginx.6171169d\_nginx-karne\_default\_5d5bc813-3166-11e5-8256-ecf4bb2bbd90\_886ddf56

0b2b03b05a8d nginx:latest "nginx -g 'daemon of 41 seconds ago Up 40 seconds

1. Deploy the nginx service using yaml file in order to expose the nginx pod on the host port “82”

$ vi nginx\_service.yaml

apiVersion: v1

kind: Service

metadata:

labels:

name: nginxservice

name: nginxservice

spec:

ports:

# The port that this service should serve on.

- port: 82

# Label keys and values that must match in order to receive traffic for this service.

selector:

app: nginx

type: LoadBalancer

1. Create the nginx service using kubectl

$kubectl create -f nginx\_service.yaml

services/nginxservice

1. The nginx service can be listed as follow

$ kubectl get services

NAME LABELS SELECTOR IP(S) PORT(S)

kubernetes component=apiserver,provider=kubernetes <none> 192.168.3.1 443/TCP

nginxservice name=nginxservice app=nginx 192.168.3.43 82/TCP

Now the nginx server test page can be accessed on the following URL; [http://127.0.0.1:82](http://127.0.0.1:82/)

1. Now we will delete the nginx pod and service

$ kubectl delete service nginxservice

$ kubectl delete rc nginx