Assignment 1:

Technically the difference between RC and Replaics set is the “matchlabel” selector type.

In RC we have only one selector i.e app:kubia , so system will acquired all POD labels “app;kubia”

However in Repliacset we have “matchlables”. Matchlabels tells what PODs deployment will be applied to. It will not apply on all pods creted with same image, instead it will be selective based on matchlabel which PODs have same labels, only on those POD it will select and work.

* TO use kubectl apply:

kubectl apply (-f FILENAME | -k DIRECTORY) [options]

kubectl apply -f will be used when we create PODs with help of a file.

[root@ip-172-31-28-61 05-services]# kubectl apply -f kubia-replicaset.yaml

**replicaset.apps/kubia created**

* Access POD with POD ip and port

Graphical user interface, text, application, chat or text message

Description automatically generated

To create service :

[root@ip-172-31-28-61 05-services]# kubectl apply -f kubia-svc.yaml

service/kubia2 created

[root@ip-172-31-28-61 05-services]# kubectl get svc

NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE

kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 2m7s

kubia2 ClusterIP 10.99.10.99 <none> 80/TCP 7s

[root@ip-172-31-28-61 05-services]#

* Kubia svc will attach service only to pods name: kubia

[root@ip-172-31-28-61 05-services]# cat kubia-svc.yaml

apiVersion: v1

kind: Service

metadata:

name: kubia2

spec:

clusterIP: 10.99.10.99

ports:

- port: 80

targetPort: 8080

**selector:**

**app: kubia**

[root@ip-172-31-28-61 05-services]#

* Since the PODS created with sepc app:kubia by replicaset.yaml file, serive will be atched to those PODs as selector is label app:kubia in kubia-svc.yaml.

[root@ip-172-31-28-61 05-services]# cat kubia-replicaset.yaml

apiVersion: apps/v1

kind: ReplicaSet

metadata:

name: kubia

spec:

replicas: 3

selector:

**matchLabels:**

**app: kubia**

template:

metadata:

**labels:**

**app: kubia**

spec:

containers:

- name: kubia

image: luksa/kubia

[root@ip-172-31-28-61 05-services]# kubectl get po --show-labels

NAME READY STATUS RESTARTS AGE LABELS

kubia-7pgq8 1/1 Running 0 41m **app=kubia**

kubia-drnwd 1/1 Running 0 41m app=kubia

kubia-khzc9 1/1 Running 0 41m app=kubia

* Now the service will inturn contact a POD. Each time it will select different POD created by same replicaset randomly.

NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE

kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 9m43s

kubia2 ClusterIP 10.99.10.99 <none> 80/TCP 7m43s

[root@ip-172-31-28-61 05-services]# curl 10.99.10.99

**You've hit kubia-khzc9**

[root@ip-172-31-28-61 05-services]# kubectl get po

NAME READY STATUS RESTARTS AGE

kubia-7pgq8 1/1 Running 0 39m

kubia-drnwd 1/1 Running 0 39m

**kubia-khzc9** 1/1 Running 0 39m

[root@ip-172-31-28-61 05-services]#

* I changed the label from kubia to neha. Observed a new replaicaset POD was creted instead. Also the curl operation was not able to access the POD whose label was changed.

[root@ip-172-31-28-61 05-services]# kubectl get po --show-labels

NAME READY STATUS RESTARTS AGE LABELS

kubia-7pgq8 1/1 Running 0 41m app=kubia

kubia-drnwd 1/1 Running 0 41m app=kubia

kubia-khzc9 1/1 Running 0 41m app=kubia

[root@ip-172-31-28-61 05-services]# kubectl label po kubia-7pgq8 app=neha --overwrite

pod/kubia-7pgq8 labeled

[root@ip-172-31-28-61 05-services]# curl 10.99.10.99

You've hit kubia-drnwd

[root@ip-172-31-28-61 05-services]#

[root@ip-172-31-28-61 05-services]# curl 10.99.10.99

You've hit kubia-drnwd

[root@ip-172-31-28-61 05-services]# curl 10.99.10.99

You've hit kubia-drnwd

[root@ip-172-31-28-61 05-services]# kubectl get po --show-labels

NAME READY STATUS RESTARTS AGE LABELS

**kubia-7pgq8 1/1 Running 0 44m app=neha**

kubia-drnwd 1/1 Running 0 44m app=kubia

kubia-khzc9 1/1 Running 0 44m app=kubia

kubia-v9xbc 1/1 Running 0 34s app=kubia

[root@ip-172-31-28-61 05-services]# curl 10.99.10.99

You've hit kubia-v9xbc

[root@ip-172-31-28-61 05-services]# curl 10.99.10.99

You've hit kubia-drnwd

[root@ip-172-31-28-61 05-services]# curl 10.99.10.99

You've hit kubia-drnwd

[root@ip-172-31-28-61 05-services]#