#OLD REPLICATION CONTROLLER

apiVersion: v1

kind: ReplicationController

metadata:

name: create

spec:

replicas: 2

selector:

app: create

template:

metadata:

name: create

labels:

app: create

spec:

containers:

- name: create

image: sreeharshav/rollingupdate:v2

ports:

- containerPort: 80

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apiVersion: apps/v1

kind: Deployment

metadata:

name: nginx-deployment

labels:

app: nginx

spec:

replicas: 3

selector:

matchLabels:

app: nginx

template:

metadata:

labels:

app: nginx

spec:

containers:

- name: nginx

image: sreeharshav/k8srlp:v2

ports:

- containerPort: 80

livenessProbe:

initialDelaySeconds: 10

periodSeconds: 5

httpGet:

path: /

port: 80

ku set image deployment nginx-deployment nginx=sreeharshav/testcontainer:v1

kubectl rollout history deployment/nginx-deployment

kubectl rollout undo deployment/nginx-deployment --to-revision=2

ku set image deployment nginx-deployment nginx=sreeharshav/testcontainer:v1 --record

kubectl apply -f deploy.yaml --record

root@ip-10-1-1-107:~# kubectl rollout history deployment/nginx-deployment

deployment.apps/nginx-deployment

REVISION CHANGE-CAUSE

1 <none>

4 <none>

5 <none>

6 kubectl set image deployment nginx-deployment nginx=sreeharshav/testcontainer:v1 --record=true

Annotation will also be added in the Resource YAML as below:

kubernetes.io/change-cause: kubectl set image deployment nginx-deployment nginx=sreeharshav/testcontainer:v1

https://learnk8s.io/kubernetes-rollbacks

CMD ["sh","-c","mkdir -p ~/my/new/directory/ && cd ~/my/new/directory && touch new.file"]

CANARY:

kubectl set image deployment hello name=sreeharshav/rollingupdate:v3

kubectl rollout pause deployment hello

kubectl rollout resume deployment kubia

LABELS:

ku get pods --show-labels # List pods using Labels

ku label pod create-g5wn8 app=create1 # Change label of a pod which will force RC or RS to abandon the pod and create new POD.

ku label pod -l app=create1 app=create --overwrite # CHange the label to origin label and additional PODs are deleted by RC or RS.

ROLLINGUPDATE:

Deplo below yaml using echo ‘code’ | kubectl apply -f -

Change the image name from v1 to v5 and apply using echo ‘code’ | kubectl apply -f -

To pause : kubectl rollout pause deployment nginx-deployment

To Resume: kubectl rollout resume deployment nginx-deployment

apiVersion: apps/v1

kind: Deployment

metadata:

name: nginx-deployment

labels:

app: nginx

spec:

minReadySeconds: 20

replicas: 8

selector:

matchLabels:

app: nginx

strategy:

rollingUpdate:

maxSurge: 0

#maxUnavailable: 2

#maxUnavailable: 25%

type: RollingUpdate

template:

metadata:

labels:

app: nginx

spec:

containers:

- name: nginx

image: sreeharshav/testcontainer:v4

ports:

- containerPort: 80

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kind: Service

apiVersion: v1

metadata:

name: myservice

spec:

selector:

app: nginx

type: NodePort

ports:

- name: name-of-the-port

port: 8000

targetPort: 80

<https://kubernetes.io/docs/concepts/workloads/controllers/deployment/#max-surge>

##### **Max Unavailable**

For example, when this value is set to 30%, the old ReplicaSet can be scaled down to 70% of desired Pods immediately when the rolling update starts. Once new Pods are ready, old ReplicaSet can be scaled down further, followed by scaling up the new ReplicaSet, ensuring that the total number of Pods available at all times during the update is at least 70% of the desired Pods.

##### **Max Surge**

For example, when this value is set to 30%, the new ReplicaSet can be scaled up immediately when the rolling update starts, such that the total number of old and new Pods does not exceed 130% of desired Pods. Once old Pods have been killed, the new ReplicaSet can be scaled up further, ensuring that the total number of Pods running at any time during the update is at most 130% of desired Pods.

Rolling update without deployment:

1. It will be a manul update from one image to other image.

2. New RC will be created and old RC will be deleted.

3. Roll back needs to change again to the old image.

4. Overall manual process and RC rolling-update is deprecated.

Deployment Advanages:

1. It uses replicasets and replicasets automatically performs the rolling updates.

2. Rollback is easy as we can record the deployments.

3. We can use liveness and readiness probes to improve application availability.

4. We can pause & resume the deployment which useful Canary update.