

Step 1 - Creating a Deployment

Create a YAML File for a Deployment containing 5 replicas vi deployment.yaml

apiVersion: apps/v1 kind: Deployment metadata: name: nginx-deployment labels: app: nginx spec: replicas: 5 selector: matchLabels: app: nginx template: metadata: labels: app: nginx spec: containers: - name: nginx image: nginx:1.14.2 ports: - containerPort: 80

root@kubernetes-master:/home/ubuntu# vi deployment.yaml root@kubernetes-master:/home/ubuntu# kubectl create -f deployment.yaml deployment.apps/nginx-deployment created

Validate the Deployment and NGINX version 1.14.2 kubectl get deployment

```
oot@kubernetes-master:/home/ubuntu# vi deployment.yaml
oot@kubernetes-master:/home/ubuntu# kubectl create –f deployment.yaml
deployment.deps/maint=redeployment.deployment.deployment.deployment.deployment.deployment.deployment.deployment.deployment.deployments
National READY UP-TO-DATE AVAILABLE AGE
Natinx-deployment 5/5 5 5 9s
root@kubernetes-master:/home/ubuntu# kubectl describe deployments
Selector: app=nginx
Repticas:= master ping 5 desired | 5 updated | 5 total | 5 available | 0 unavailab
StrategyType: tod, 5 re RollingUpdate | 0 tos, time 2044ms
MinReadySeconds: = 0.5100 0.5570.55570.020 ms
 ollingUpdateStrategy: 25% max unavailable, 25% max surge
  od Template:
  Containers:
                            nginx:1.14.2
80/TCP://kube
     Image:
Port:
     Host Port: ase 0/TCP i
     Environment: <none>
  Volumes:
                           √<none>
                          Status Reason
                           True
                                      MinimumReplicasAvailable
```



Step 2 - Update a deployment with NGINX Image 1.16.1

kubectl --record deployment.apps/nginx-deployment set image deployment.v1.apps/nginx-deployment nginx=nginx:1.16.1

Validate the deployment

Kubectl describe deployment

```
root@kubernetes-master:/home/ubuntu# kubectl describe deployments
                               nginx-deployment
default
Name:
CreationTimestamp: 0 Su Sat, 11 Apr 2020 20:44:37 +8000
Labels: 1:/home/ubuntu# app=mginx
Annotations: IMAGE deployment.kubernetes.io/revision: 2<sup>TED</sup>
                               ھ kubectl deployment.apps/nginx-deployment set image deployment.v1.apps/nginx-deployment nginx=nginx:1.16.1 --record=true
                  ome/ubuntu#app=nginx
ome/ubuntu#5 desired | 5 updated | 5 total | 5 available | 0 unavailable
Selector:
StrategyType: me/ubuntu# RollingUpdate
MinReadySeconds: ubuntu# 0 ing kubernetes-master
RollingUpdateStrategy: 25% max unavailable, 25% max surge
 Pod Template:
  Labels: app=nginx
Containers:
   nginx:
                        nginx:1.16.1
80/TCP elved,
     Image:
     Host Port ov 0/TCP
     Environment: <none>
     Mounts:
                        ⊲none>
  onditions:
                      Status Reason
```



Step 3 - Rollback a Deployment

kubectl rollout undo deployment.v1.apps/nginx-deployment

[root@kubernetes-master:/home/ubuntu# kubectl rollout undo deployment.v1.apps/nginx-deployment deployment.apps/nginx-deployment rolled back

Validate version of NGINX Image

kubectl describe deployments



Step 4 - Scale deployment from YAML File, change replica from 5 to 10

vi deployment.yaml

apiVersion: apps/v1 kind: Deployment metadata: name: nginx-deployment labels: app: nginx spec: replicas: 10 selector: matchLabels: app: nginx template: metadata: labels: app: nginx spec: containers: - name: nginx

image: nginx:1.14.2

ports:

- containerPort: 80

Valide running Pods

Kubectl get pods -o wide

root@kubernetes-master:/home/ubuntu	i# kubect	l get pods	s –o wide					
NAME:ker-1:/home/ubuntu#	READY	STATUS	RESTARTS	AGE	IP	NODE	NOMINATED NODE	READINESS GATES
nginx-deployment-6b474476c4-2dzsx	1/1	Running	0	93s	10.244.2.31	worker-2	<none></none>	<none></none>
nginx-deployment-6b474476c4-2x64g	1/1	Running	0	24s	10.244.2.32	worker-2	⊲none>	⊲none>
nginx-deployment-6b474476c4-64r6g	1/1	Running	0	24s	10.244.2.33	worker-2	⊲none>	⊲none>
nginx-deployment-6b474476c4-96tlf	n ejy ys−ma	^{:1} Rünning	0	92s	10.244.3.35	worker-1	<none></none>	⊲none>
nginx-deployment-6b474476c4-gh8cr	(1/1 byt	Running	- 0	24s	10.244.2.34	worker-2	<none></none>	<none></none>
nginx-deployment-6b474476c4-jwsz7	0 1/1 9):	$^{ m i}$ Running $^{ m 1}$	† g tl=64 tim	24s2	⁹ 10.244.3.39	worker-1	<none></none>	<none></none>
nginx-deployment-6b474476c4-lx29p	0 1/1 9):	ⁱ Running ²	† g tl=64 tim	24s 1	0 10.244.3.3 8	worker-1	<none></none>	<none></none>
nginx-deployment-6b474476c4-m47d6	0 1/1 9):	i Running 3	t g :l=64 tim	95s 1	ੇ 10.244.3.33	worker-1	⊲none>	<none></none>
nginx-deployment-6b474476c4-r4s5g	1/1	Running	0	95s	10.244.3.34	worker-1	<none></none>	<none></none>
nginx-deployment-6b474476c4-rl2jr	1/1	Running	0	24s	10.244.2.35	worker-2	<none></none>	<none></none>
nginx-deployment-6b474476c4-rsh6m	p ogy jet li	Running	20 0 14ms	95s	10.244.2.30	worker-2	<none></none>	<none></none>
nginx-deployment-6b474476c4-smk4s	2 9/4 .020	Running	0	24s	10.244.3.36	worker-1	<none></none>	<none></none>
nginx-deployment-6b474476c4-vlx5r	in /4 0-1-1	Running	- g -token bk	4 24s ×	3 10 .244 .3 .37 i	i4 worker=1is	:co znone stoken-ca-c	erandnesh sha256]
nginx-deployment-6b474476c4-wll5j	C 191 27f5	Running	7 ⊚ pefeb7c	24s	10.244.3.40	worker-1	⊲none>	<none></none>
nginx-deployment-6b474476c4-xxj9t	3 1/1 [pr	Running	AR∰NING: Joi	n 24s r	10124412136	^{lP} worker±2 i	ng anorie √ be ignor	ed ⊲none > control



Step 5 - Scale deployment from Kubectl

kubectl scale deployment.v1.apps/nginx-deployment —replicas=15 Kubectl get deployments

```
root@kubernetes-master:/home/ubuntu# kubect! scale deployment.v1.apps/nginx-deployment --replicas=15
deployment.apps/nginx-deployment scaled): icmp_seq=1 ttl=64 time=0.529 ms
root@kubernetes-master:/home/ubuntu# kubect! get deployments time=0.510 ms
NAME from kubernet READY to UP_TO_DATE 09 AVAILABLE q= AGE L=64 time=0.513 ms
nginx-deployment 15/15 15 15 19m
```

Validate running pods

Kubectl get pods -o wide

AMEts transmitted, 3 received, 0%	OREADY LO	STATUSE	2 RESTARTS	AGE	IP	NODE	NOMINATED NODE	READINESS GATES
ginx-deployment-6b474476c4-2dzsx 5	2 9/21 .020	Running	0	16m	10.244.2.31	worker-2	⊲none>	⊲none>
ginx-deployment-6b474476c4-2x64g	i r<u>1/4</u>0.1. 0	Running	- g -token bk4	15m×	10.244.2.32	¹worker±2is	co znone s token-ca-ce	r ⊲none sh sha256]
ginx-deployment-6b474476c4-64r6g	0 191 27f56	Running	7 % pefeb7c	15m	10.244.2.33	worker-2	⊲none>	⊲none>
ginx-deployment-6b474476c4-96tlf	3 1/1 [pre	Running	AM⊘NING: Join	16m r	10.244.3.35	worker-1	ng ≳none √ be ignore	d -none > control
jinx-deployment-6b474476c4-gh8cr	1/1	Running	0	15m	10.244.2.34	worker-2	⊲none>	⊲none>
ginx-deployment-6b474476c4-m47d6	1/1	Running	0	16m	10.244.3.33	worker-1	⊲none>	⊲none>
ginx-deployment-6b474476c4-mdpsc	: 1/1 tecte	Running	fa g ' as the D	17s	10.244.3.42	worker-1	me ≼none ≯driver is "	≲none ⊳d". Plea
ginx-deployment-6b474476c4-r4s5g	t egy 1io/do	Running/	ാ ളi./	16m	10.244.3.34	worker-1	⊲none>	⊲none>
ginx-deployment-6b474476c4-rl2jr	l ig≱ 1t] So	Running	ei g rons occun	15m	10.244.2.35	worker-2	<none></none>	⊲none>
ginx-deployment-6b474476c4-rsh6m	rm y mes-ku	Running	f j g:/etc/kub	16 mete	10.244.2.30 m	worker-2	<id>i⊲none></id>	⊲none>
ginx-deployment-6b474476c4-swxcv	i₁ş/1 in us	Running	0	17s	10.244.3.44	worker-1	⊲none>	⊲none>
ginx-deployment-6b474476c4-tbds5	rr 19/1 es-pk	Running	: g/etc/kuber	17s	10.244.3.45	worker-1	ି ⊲none>	⊲none>
ginx-deployment-6b474476c4-vw4f4	o igyi , you	Running	ng check non	-17s ା	10.244.3.41	worker-1	⊲none>	⊲none>
ginx-deployment-6b474476c4-xxj9t =	x epyi te wi	Running	om g higher	15m	10.244.2.36	worker-2	<none></none>	⊲none>
ginx-deployment-6b474476c4-z9mnz	1 2/154.86	Running	c lo nsed by re	17s	10.244.3.43	worker-1	⊲none>	⊲none>
oot@kubernetes-master:/home/ubuntu	ı#							

Step 6 - Delete Deployment

Kubectl delete deployment nginx-deployment

```
root@kubernetes-master:/home/ubuntu# kubectl delete deployment nginx-deployment deployment deleted 117.228 closed by remote host root@kubernetes-master:/home/ubuntu#
```