

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 kubectl describe deployment



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
Name:
                            Sat, 11 Apr 2020 20:44:37 +0000
CreationTimestamp:
Labels:
                          u# app=nginx
Annotations:
                             deployment.kubernetes.io/revision: 2 TE
                          kubérnetes.io/change-cause:

www.kubectl deployment.apps/nginx-deployment set image deployment.v1.apps/nginx-deployment nginx=nginx:1.16.1 --record=true
                           u app=nginx
□ 5 desired | 5 updated | 5 total | 5 available | 0 unavailable
StrategyType: RollingUpdate
MinReadySeconds: 0 RollingUpdate
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels: app=nginx
  Containers:
   nginx:
bilmage:
                     nginx:1.16.1
    Port: 80/TCP
Host Port: 0/TCP
Environment: <none>
  Volumes:
                     ⊲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

```
root@kubernetes-master:/home/ubuntu# kubectl describe deployments
Name: ID IMAGE nginx-deployment
Namespace:/home/ubuntu#default/apoff -a
CreationTimestamp: buntu# Sat, 11 Apr 2020 20:44:37 +0000
Labets:-1:/home/ubuntu#app=nginx
Annotations: ome/ubuntu#deployment.kubernetes.io/revision: 3
Selector: L:/home/ubuntu#app=nginx
Replicas: 1:/home/ubuntu#5 desired: 105 updated: | 5 total | 5 available | 0 unavailable
StrategyType: paster (10 RollingUpdate)
MinReadySeconds: etes-mager
RollingUpdateStrategy: 25% max unavailable, 25% max surge 4 time=8.518 ms
Pod Template:
  Labels: app=nginx
  Containers: ster ping statistics --
  mainx:nsmitted, 3 received, 0% packet loss, time 2044ms
   n/Image::x/mdev =nginx:1/:145.27/0.529/0.020 ms
    Port:1:/home/ul80/TCP kubeadm join 10.1.0.109:6443 --token bk4qq9.x3irstlsbkn2o5i4
    Host Port: 34c 0/TCP 3b57b9c92a3c49e27f56b3702be3e77befeb7c
    Environment: 5 <none > 2 join.go:346] [preflight] WARNING: JoinControlPane.controlPlane settings will
    Mounts: not setanone>
  Volumes: unning pranchesaht check
```



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
      containers:
      - name: nginx
        image: nginx:1.14.2
        ports:
        - containerPort: 80
```

kubectl apply -f deployment.yaml

Valide running Pods

kubectl get pods -o wide

AME ker-1:/home/ubuntu#	READY	STATUS	RESTARTS	AGE	IΡ	NODE	NOMINATED NODE	READINESS GATES
ginx-deployment-6b474476c4-2dzsx	1/1	Running	0	93s	10.244.2.31	worker-2	⊲none>	⊲none>
ginx-deployment-6b474476c4-2x64g	1/1	Running	0	248	10.244.2.32	worker-2	⊲none>	⊲none>
ginx-deployment-6b474476c4-64r6g	1/1	Running	0	248	10.244.2.33	worker-2	⊲none>	⊲none>
ginx-deployment-6b474476c4-96tlf	ne jy ys-ma	ੀRunning	0	92s	10.244.3.35	worker-1	⊲none>	⊲none>
ginx-deployment-6b474476c4-gh8cr	(1/1 byt	୍ Runn thg ା	- 0	24s	10.244.2.34	worker-2	⊲none>	⊲none>
ginx-deployment-6b474476c4-jwsz7	0 1/1 9):	$^{ m i}$ Running $^{ m 1}$. † g tl=64 tim	= 24s 2	⁹ 10.244.3.39	worker-1	<none></none>	⊲none>
ginx-deployment-6b474476c4-lx29p	0 1/1 9):	ⁱ Running ²	t g tl=64 tim	= 24s 1	0 10.244.3.3 8	worker-1	<none></none>	⊲none>
ginx-deployment-6b474476c4-m47d6	04/49):	¹ Running ³	† g tl=64 tim	≕95s51	ි 10.244.3.3 3	worker-1	<none></none>	⊲none>
ginx-deployment-6b474476c4-r4s5g	1/1	Running	0	95s	10.244.3.34	worker-1	<none></none>	⊲none>
ginx-deployment-6b474476c4-rl2jr	-1/1	Running	0	24s	10.244.2.35	worker-2	<none></none>	⊲none>
ginx-deployment-6b474476c4-rsh6m	pogyjet l	Running	20 0 14ms	95s	10.244.2.30	worker-2	<none></none>	⊲none>
ginx-deployment-6b474476c4-smk4s	2 9/9 .020	Running	0	24s	10.244.3.36	worker-1	<none></none>	⊲none>
ginx-deployment-6b474476c4-vlx5r	i 1/1 0-1-	☐ Runnting ☐	- g -token bk	4 24s ×	3 10 .244 .3 .37 i	4 worker=113	co znone stoken-ca-c	er znone sh sha256]
ginx-deployment-6b474476c4-wll5j	191 27f5	Running	7 ⊚ pefeb7c	2 4 s	10.244.3.40	worker-1	<none></none>	⊲none>
ginx-deployment-6b474476c4-xxj9t	3 171 [pr	∈ Running ₩	ARMING: Joi	n[24s]r	0 10 . 244 . 2 . 36	Pworker-2	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 e<u>sy1</u>io/ do	Running/	ാ ളi./	16m	10.244.3.34	worker-1	⊲none>	⊲none>
ginx-deployment-6b474476c4-rl2jr	l ig≱ 1t] So	Running	ei g rons occur	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#
```