# #039 Kubernetes - Deployment Lab 1

# Introduction

this is part 39 from the journey it's a long journey(360 day) so go please check previous parts , and if you need to walk in the journey with me please make sure to follow because I may post more than once in 1 Day but surely I will post daily at least one 😍.

And I will cover lot of tools as we move on.

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# Files for this lab

all the files can be found on the repository of this journey , if you already have it just pull if not clone it.
Files can be found

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# Lab

the way to create deployment is very similar to replicasets instead we just change the kind to deployment.
here is a look at the app_039.yml

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
    name: myapp-deployment

spec:
  template:
    metadata:
      name: first-pod-dec
      labels:
        app: myapp
        type: restapi

    spec:
      containers:
        - name: simple-api
          image: emondek/simple-api:latest

  replicas: 6
  selector:
    matchLabels:
      app: myapp
      type: restapi
```

you can see it's the same we only change kind.

now to create our deployment we also do the same as replicas .

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl create -f app_039.yml
deployment.apps/myapp-deployment created
```

```
kubectl create -f app_039.yml
```

we got a message that our deployment successfully created.

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl get deployments
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
myapp-deployment   6/6     6            6           34s
```

```
kubectl get deployments
```

he can see we have 1 deployment that we created right now.

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl get rs
NAME                          DESIRED   CURRENT   READY   AGE
myapp-deployment-598fc68b8b   6         6         6       52s
myapp-replicaset              6         6         6       7d23h
```

```
kubectl get rs
```

rs here is the shortcut of replicasets (yes we can use shortcuts in kubectl :D )
we can see he take the name of the deployment and give here and id.

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
myapp-deployment-598fc68b8b-cddm2   1/1     Running   0          60s
myapp-deployment-598fc68b8b-fx62f   1/1     Running   0          60s
myapp-deployment-598fc68b8b-lw75s   1/1     Running   0          60s
myapp-deployment-598fc68b8b-r8w8d   1/1     Running   0          60s
myapp-deployment-598fc68b8b-rfjlk   1/1     Running   0          60s
myapp-deployment-598fc68b8b-rgzq7   1/1     Running   0          60s
myapp-replicaset-6f9zm              1/1     Running   1          3d22h
myapp-replicaset-6h2r7              1/1     Running   3          7d23h
myapp-replicaset-b9lxh              1/1     Running   1          3d22h
myapp-replicaset-g6c5f              1/1     Running   3          7d23h
myapp-replicaset-kbgsr              1/1     Running   1          3d22h
myapp-replicaset-wg8sr              1/1     Running   1          3d22h
```

```
kubectl get pods
```

we can see also he create 6 deployments for us (6 is what we specify in yml)

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl describe deployments myapp-deployment
Name:                   myapp-deployment
Namespace:              default
CreationTimestamp:      Thu, 23 Jul 2020 22:51:02 +0300
```

```
kubectl describe deployments myapp-deployment
```

we can describe the deployment using the command above (also we can describe the pod , I talk about it before).
here we got useful information about it as labels Image ports etc...

```
OldReplicaSets:  <none>
NewReplicaSet:   myapp-deployment-598fc68b8b (6/6 replicas created)
Events:
  Type    Reason             Age   From                   Message
  ----    ------             ----  ----                   -------
  Normal  ScalingReplicaSet  86s   deployment-controller  Scaled up replica set myapp-deployment-598fc68b8b to 6
(base) (master)in ~/Documents/DevOpsJourney/app_039
>
```

if we scroll down we see events , those are helpful in case we have errors , so we know where and when problem happens.

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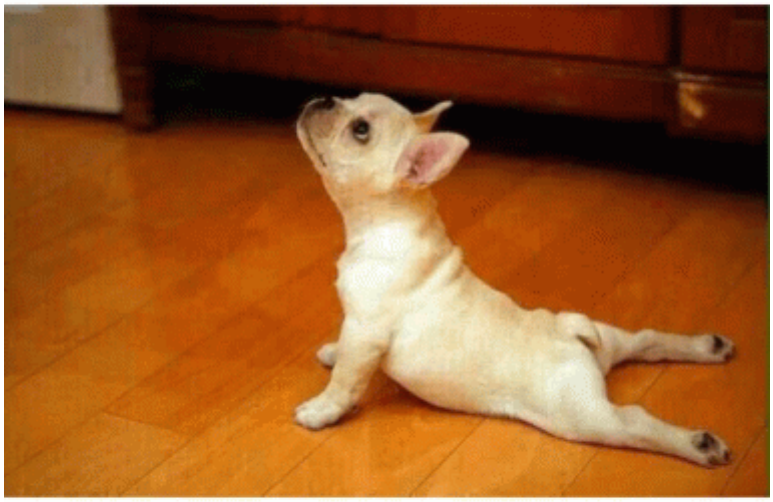
# Take a stretch



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# Back to lab

now to see what versions I made in deployment (history) We type

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl rollout history deployment/myapp-deployment
deployment.apps/myapp-deployment
REVISION  CHANGE-CAUSE
1         <none>
```

```
kubectl rollout history deployment/myapp-deployment
```

we can see CHANGE-CAUSE is  because I didn't record what I edit when I create the deployment.
Record is important (like git commit) to get information about what I do in these version in case I need to go back to it later.
let's delete our deployment and made new one with record

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl delete deployments myapp-deployment
deployment.apps "myapp-deployment" deleted
```

```
kubectl delete deployments myapp-deployment
```

he will delete all the things related to it , replicas , pods and history.

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl get pods
NAME                                READY   STATUS        RESTARTS   AGE
myapp-deployment-598fc68b8b-bqxm2   0/1     Terminating   0          7m35s
myapp-deployment-598fc68b8b-dnlqv   0/1     Terminating   0          7m35s
myapp-deployment-598fc68b8b-jrpqb   0/1     Terminating   0          7m35s
myapp-deployment-598fc68b8b-jtgmb   0/1     Terminating   0          7m35s
myapp-deployment-598fc68b8b-prp2j   0/1     Terminating   0          7m35s
myapp-deployment-598fc68b8b-w4hbh   0/1     Terminating   0          7m35s
myapp-replicaset-6f9zm              1/1     Running       1          3d23h
myapp-replicaset-6h2r7              1/1     Running       3          7d23h
myapp-replicaset-b9lxh              1/1     Running       1          3d23h
myapp-replicaset-g6c5f              1/1     Running       3          7d23h
myapp-replicaset-kbgsr              1/1     Running       1          3d23h
myapp-replicaset-wg8sr              1/1     Running       1          3d23h
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl get pods
NAME                    READY   STATUS    RESTARTS   AGE
myapp-replicaset-6f9zm   1/1     Running   1          3d23h
myapp-replicaset-6h2r7   1/1     Running   3          7d23h
myapp-replicaset-b9lxh   1/1     Running   1          3d23h
myapp-replicaset-g6c5f   1/1     Running   3          7d23h
myapp-replicaset-kbgsr   1/1     Running   1          3d23h
myapp-replicaset-wg8sr   1/1     Running   1          3d23h
(base) (master)in ~/Documents/DevOpsJourney/app_039
>
```

```
kubectl get pods
```

if we get the pods we see they start to terminate then deleted.

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl create -f app_039.yml --record
deployment.apps/myapp-deployment created
```

```
kubectl create -f app_039.yml --record
```

We recreate it with --record

```
(base) (master)in ~/Documents/DevOpsJourney/app_039
> kubectl rollout history deployment/myapp-deployment
deployment.apps/myapp-deployment
REVISION  CHANGE-CAUSE
1         kubectl create --filename=app_039.yml --record=true
```

```
kubectl rollout history deployment/myapp-deployment
```

We can see in the History we have the record of what we do in this REVISION 1.
That's it for this one see ya in lab 2 :)