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POD DESIGN  
> UPDATING  
A  
DEPLOYMENT

In

Progress

Mark  
Complete

## Updating a Deployment

Here are some handy examples related to updating a Kubernetes Deployment:

- **Creating a deployment, checking the rollout status and history:**

In the example below, we will first **create** a simple deployment and inspect the **rollout status** and the **rollout history**:

```
controlplane $ kubectl create
deployment nginx --
image=nginx:1.16
deployment.apps/nginx created
```

```
controlplane $ kubectl rollout
status deployment nginx
Waiting for deployment "nginx"
rollout to finish: 0 of 1 updated
replicas are available...
deployment "nginx" successfully
rolled out
```

```
controlplane $
```

```
controlplane $ kubectl rollout
history deployment nginx
deployment.apps/nginx
REVISION  CHANGE-CAUSE
1          <none>
```

```
controlplane $
```

- **Using the --revision flag:**

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Here revision 1 is the first version where the deployment was created.

You can check the status of each revision individually by using the **- -revision flag**:

```
controlplane $ kubectl rollout
history deployment nginx --
revision=1
deployment.apps/nginx with
revision #1
Pod Template:
Labels:      app=nginx
pod-template-hash=78449c65d4
Containers:
nginx:
Image:      nginx:1.16
Port:      <none>
Host Port:  <none>
Environment: <none>
Mounts:     <none>
Volumes:
```

```
controlplane $
```

- **Using the - -record flag:**

You would have noticed that the **“change-cause”** field is empty in the rollout history output. We can use the **- -record flag** to save the command used to create/update a deployment against the revision number.

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```
ontrolplane $ kubectl set image
deployment nginx nginx=nginx:1.17
--record
Flag --record has been
deprecated, --record will be
removed in the future
deployment.apps/nginx image
updated
```

```
ontrolplane $
```

```
ontrolplane $ kubectl rollout
history deployment nginx
deployment.apps/nginx
REVISION  CHANGE-CAUSE
1          <none>
2          kubectl set image
deployment nginx nginx=nginx:1.17
--record=true
```

```
ontrolplane $
```

You can now see that the **change-cause** is recorded for the revision 2 of this deployment.

Lets make some more changes. In the example below, we are editing the deployment and changing the image from **nginx:1.17** to **nginx:latest** while making use of the **--record** flag.

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```
controlplane $ kubectl edit
deployments.apps/nginx --record
Flag --record has been
deprecated, --record will be
removed in the future
deployment.apps/nginx edited
```

```
controlplane $ kubectl rollout
history deployment/nginx
deployment.apps/nginx
REVISION  CHANGE-CAUSE
1          <none>
2          kubectl set image
deployment/nginx nginx=nginx:1.17
--record=true
3          kubectl edit
deployments.apps/nginx --
record=true
```

```
controlplane $ kubectl rollout
history deployment/nginx --
revision=3
deployment.apps/nginx with
revision #3
Pod Template:
  Labels:      app=nginx
              pod-template-
hash=787f54657b
  Annotations:
kubernetes.io/change-cause:
kubectl edit deployments.apps
nginx --record=true
Containers:
  nginx:
    Image:      nginx
    Port:      <none>
    Host Port:  <none>
    Environment: <none>
    Mounts:     <none>
Volumes:

controlplane $
```

- **Undo a change:**

Lets now rollback to the previous revision:

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```
controlplane $ kubectl edit
deployments.apps/nginx --record
Flag --record has been
deprecated, --record will be
removed in the future
deployment.apps/nginx edited
```

```
controlplane $ kubectl rollout
history deployment/nginx
deployment.apps/nginx
REVISION  CHANGE-CAUSE
1          <none>
2          kubectl set image
deployment/nginx nginx=nginx:1.17
--record=true
3          kubectl edit
deployments.apps/nginx --
record=true
```

```
controlplane $ kubectl rollout
history deployment/nginx --
revision=3
deployment.apps/nginx with
revision #3
Pod Template:
  Labels:      app=nginx
              pod-template-
hash=787f54657b
  Annotations:
kubernetes.io/change-cause:
kubectl edit deployments.apps
nginx --record=true
Containers:
  nginx:
    Image:      nginx
    Port:      <none>
    Host Port:  <none>
    Environment: <none>
    Mounts:     <none>
  Volumes:
```

```
controlplane $ kubectl describe
deployments/nginx | grep -i
image:
  Image:      nginx:1.17

controlplane $
```

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With this, we have rolled back to the previous version of the deployment with the **image = nginx:1.17**.

```
controlplane $ kubectl rollout
history deployment nginx --
revision=1
deployment.apps/nginx with
revision #1
Pod Template:
  Labels:      app=nginx
              pod-template-
hash=78449c65d4
Containers:
  nginx:
    Image:      nginx:1.16
    Port:       <none>
    Host Port:  <none>
    Environment: <none>
    Mounts:     <none>
Volumes:
```

```
controlplane $ kubectl rollout
undo deployment nginx --to-
revision=1
deployment.apps/nginx rolled back
```

To rollback to specific revision we will use the `--to-revision` flag. With `--to-revision=1`, it will be rolled back with the first image we used to create a deployment as we can see in the `rollout history` output.

```
controlplane $ kubectl describe
deployments. nginx | grep -i
image:
Image: nginx:1.16
```