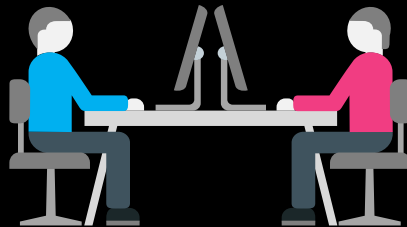# Rolling Updates & Rollbacks
Tasks

DEPLOYMENT STRATEGY: ROLLING UPDATE

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deploy
spec:
  replicas: 4
  selector:
    matchLabels:
      app: nginx-app
  strategy:
    type: RollingUpdate
    rollingUpdate:
      maxSurge: 2
      maxUnavailable: 0
  template:
    metadata:
      labels:
        app: nginx-app
    spec:
      containers:
      - name: nginx-container
        image: nginx:1.18
        ports:
        - containerPort: 80
```

API Version of Resource Type
The kind we are creating

Specify all Metadata like name, labels

Desired number of Pod Instances

Selects Pods using this Selector

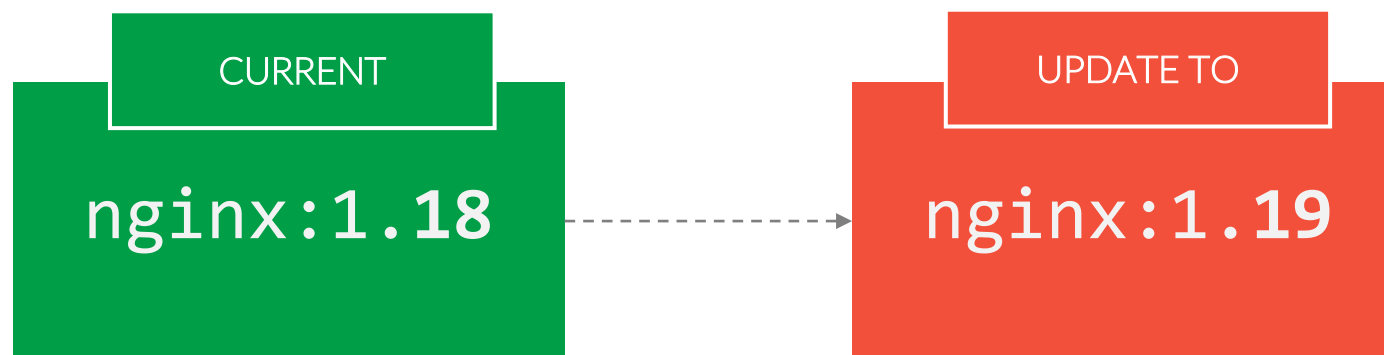Deployment Strategy

Pod Template used for creating new pods

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```
kubectl apply –f nginx-deploy.yaml --record
```

```
deployment.apps/nginx-deploy configured
```

```
kubectl get deploy nginx-deploy
```

```
NAME            READY      UP-TO-DATE    AVAILABLE    AGE    CONTAINERS         IMAGES        SELECTOR
nginx-deploy    4/4        4             4            7s     nginx-container    nginx:1.18    app=nginx-app
```

CURRENT

nginx:1.18

UPDATE TO

nginx:1.19

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KUBERNETES: APPLICATION UPGRADE

APPLICATION UPGRADE

DECLARATIVE

```
vi nginx-deploy.yaml
```

```
. . .
    containers:
     - name: nginx-container
       image: nginx:1.19
. . .
```

```
Kubectl apply -f nginx-deploy.yaml --record
```

IMPERATIVE

```
kubectl set image deploy nginx-deploy nginx-container=nginx:1.19 --record
```

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PERFORMING **ROLLING UPDATE**

```
kubectl set image deploy nginx-deploy nginx-container=nginx:1.91 --record
```

```
deployment.apps/nginx-deploy image updated
```

```
kubectl rollout status deploy nginx-deploy
```

```
Waiting for deployment "nginx-deploy" rollout to finish: 2 out of 4 new replicas have been updated...
```

```
kubectl rollout history deploy nginx-deploy
```

```
deployment.apps/nginx-deploy
REVISION   CHANGE-CAUSE
1          <none>
2          kubectl set image deploy nginx-deploy nginx-container=nginx:1.91 --record=true
```

```
kubectl get deploy nginx-deploy -o wide
```

```
NAME           READY    UP-TO-DATE    AVAILABLE    AGE    CONTAINERS         IMAGES        SELECTOR
nginx-deploy   3/4      2             3            22m    nginx-container    nginx:1.91    app=nginx-app
```

PERFORMING **ROLLBACK**

```
kubectl rollout undo deployment/nginx-deploy
```

```
deployment.apps/nginx-deploy rolled back
```

or

```
kubectl rollout undo deployment nginx-deploy --to-revision=1
```

```
deployment.apps/nginx-deploy rolled back
```

```
kubectl rollout status deployment/nginx-deploy
```

```
deployment "nginx-deploy" successfully rolled out
```

```
kubectl get deploy nginx-deploy -o wide
```

```
NAME            READY    UP-TO-DATE    AVAILABLE    AGE    CONTAINERS          IMAGES        SELECTOR
nginx-deploy    4/4      4             4            25m    nginx-container     nginx:1.18    app=nginx-app
```

PERFORMING (CORRECT) **ROLLING UPDATE**

```
kubectl set image deploy nginx-deploy nginx-container=nginx:1.19 --record
```

```
deployment.apps/nginx-deploy image updated
```

```
kubectl rollout status deploy nginx-deploy
```

```
deployment "nginx-deploy" successfully rolled out
```

```
kubectl get deploy nginx-deploy -o wide
```

```
NAME            READY    UP-TO-DATE    AVAILABLE    AGE      CONTAINERS        IMAGES        SELECTOR
nginx-deploy    4/4      4             4            2m26s    nginx-container   nginx:1.19    app=nginx-app
```

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