

Lab: Blue-Green Deployment

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root@AnushaKubernetes: ~/kubernetes
root@AnushaKubernetes:~# cd ~/kubernetes
root@AnushaKubernetes:~/kubernetes# nano deployment-bluegreen-blue.yml
root@AnushaKubernetes:~/kubernetes# cat -n ~/kubernetes/deployment-bluegreen-blue.yml
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: web-app-blue
5    labels:
6      app: webserver
7  spec:
8    replicas: 4
9    selector:
10     matchLabels:
11       app: webserver
12       ver: blue
13   template:
14     metadata:
15       labels:
16         app: webserver
17         ver: blue
18     spec:
19       containers:
20       - name: webserver-container
21         image: eyesoncloud/web-app:v1
root@AnushaKubernetes:~/kubernetes# kubectl apply -f ~/kubernetes/deployment-bluegreen-blue.yml
deployment.apps/web-app-blue created
root@AnushaKubernetes:~/kubernetes# kubectl get deployment
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
web-app-blue   0/4      4             0           11s
root@AnushaKubernetes:~/kubernetes# kubectl get deploy
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
web-app-blue   4/4      4             4           55s
root@AnushaKubernetes:~/kubernetes# kubectl describe deployment web-app-blue
Name:          web-app-blue
Namespace:     default
```

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root@AnushaKubernetes: ~/kubernetes
Name:          web-app-blue
Namespace:     default
CreationTimestamp: Sun, 18 Aug 2024 08:33:33 +0000
Labels:        app=webserver
Annotations:    deployment.kubernetes.io/revision: 1
Selector:      app=webserver,ver=blue
Replicas:      4 desired | 4 updated | 4 total | 4 available
StrategyType:  RollingUpdate
MinReadySeconds: 0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=webserver
           ver=blue
  Containers:
    webserver-container:
      Image:      eyesoncloud/web-app:v1
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:      <none>
      Volumes:     <none>
      Node-Selectors: <none>
      Tolerations: <none>
Conditions:
  Type           Status  Reason
  ----           -
  Available      True    MinimumReplicasAvailable
  Progressing    True    NewReplicaSetAvailable
OldReplicaSets: <none>
NewReplicaSet:  web-app-blue-7b99bf4cd9 (4/4 replicas created)
Events:
  Type           Reason              Age             From              Message
  ----           -
  Normal         ScalingReplicaSet   70s            deployment-controller Scaled up
p replica set web-app-blue-7b99bf4cd9 to 4
root@AnushaKubernetes:~/kubernetes# nano deployment-bluegreen-service-blue.yml
```

```
root@AnushaKubernetes: ~/kubernetes
ice-blue.yml
root@AnushaKubernetes:~/kubernetes# cat -n ~/kubernetes/deployment-bluegreen-service-blue.yml
1 apiVersion: v1
2 kind: Service
3 metadata:
4   name: np-service
5 spec:
6   type: NodePort
7   selector:
8     app: webserver
9     ver: blue
10  ports:
11  - protocol: TCP
12    port: 80
13    targetPort: 80
14    nodePort: 30010
root@AnushaKubernetes:~/kubernetes# kubectl apply -f ~/kubernetes/deployment-bluegreen-service-blue.yml
service/np-service created
root@AnushaKubernetes:~/kubernetes# kubectl get svc np-service
NAME      TYPE      CLUSTER-IP   EXTERNAL-IP   PORT(S)
np-service NodePort   10.96.28.57   <none>        80:30010/TCP
14s
root@AnushaKubernetes:~/kubernetes# nano deployment-bluegreen-green.yml
root@AnushaKubernetes:~/kubernetes# cat -n ~/kubernetes/deployment-bluegreen-green.yml
1 apiVersion: apps/v1
2 kind: Deployment
3 metadata:
4   name: web-app-green
5   labels:
6     app: webserver
7 spec:
8   replicas: 4
9   selector:
10    matchLabels:
11    app: webserver
12    ver: green
13 template:
14   metadata:
15     labels:
16       app: webserver
17       ver: green
18   spec:
19     containers:
20     - name: webserver-container
21       image: eyesoncloud/web-app:v2
root@AnushaKubernetes:~/kubernetes# kubectl apply -f ~/kubernetes/deployment-bluegreen-green.yml
deployment.apps/web-app-green created
root@AnushaKubernetes:~/kubernetes# kubectl describe deployment web-app-green
Name:                web-app-green
Namespace:            default
CreationTimestamp:    Sun, 18 Aug 2024 08:43:39 +0000
Labels:               app=webserver
Annotations:          deployment.kubernetes.io/revision: 1
Selector:              app=webserver,ver=green
Replicas:             4 desired | 4 updated | 4 total | 2 available | 2 unavailable
StrategyType:         RollingUpdate
MinReadySeconds:      0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=webserver
           ver=green
  Containers:
    webserver-container:
      Image:        eyesoncloud/web-app:v2
      Port:         <none>
      Host Port:    <none>
      Environment:  <none>
      Mounts:       <none>
```

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9 selector:
10   matchLabels:
11     app: webserver
12     ver: green
13 template:
14   metadata:
15     labels:
16       app: webserver
17       ver: green
18   spec:
19     containers:
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root@AnushaKubernetes:~/kubernetes# kubectl apply -f ~/kubernetes/deployment-bluegreen-green.yml
deployment.apps/web-app-green created
root@AnushaKubernetes:~/kubernetes# kubectl describe deployment web-app-green
Name:                web-app-green
Namespace:            default
CreationTimestamp:    Sun, 18 Aug 2024 08:43:39 +0000
Labels:               app=webserver
Annotations:          deployment.kubernetes.io/revision: 1
Selector:              app=webserver,ver=green
Replicas:             4 desired | 4 updated | 4 total | 2 available | 2 unavailable
StrategyType:         RollingUpdate
MinReadySeconds:      0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=webserver
           ver=green
  Containers:
    webserver-container:
      Image:        eyesoncloud/web-app:v2
      Port:         <none>
      Host Port:    <none>
      Environment:  <none>
      Mounts:       <none>
```

```
root@AnushaKubernetes: ~/kubernetes
Port: <none>
Host Port: <none>
Environment: <none>
Mounts: <none>
Volumes: <none>
Node-Selectors: <none>
Tolerations: <none>
Conditions:
Type          Status Reason
----          -
Available     False  MinimumReplicasUnavailable
Progressing    True   ReplicaSetUpdated
OldReplicaSets: <none>
NewReplicaSet:  web-app-green-6546b5b44f (4/4 replicas created)
Events:
Type          Reason          Age    From          Message
----          -
Normal        ScalingReplicaSet 9s      deployment-controller Scaled up
p replica set web-app-green-6546b5b44f to 4
root@AnushaKubernetes:~/kubernetes# nano deployment-bluegreen-service-green.yml
root@AnushaKubernetes:~/kubernetes# cat -n ~/kubernetes/deployment-bluegreen-service-green.yml
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2  kind: Service
3  metadata:
4    name: np-service
5  spec:
6    type: NodePort
7    selector:
8      app: webserver
9      ver: green
10   ports:
11   - protocol: TCP
12     port: 80
13     targetPort: 80
14     nodePort: 30010
root@AnushaKubernetes:~/kubernetes# kubectl apply -f ~/kubernetes/deployment-bluegreen-service-green.yml
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root@AnushaKubernetes: ~/kubernetes
Type          Reason          Age    From          Message
----          -
Normal        ScalingReplicaSet 9s      deployment-controller Scaled up
p replica set web-app-green-6546b5b44f to 4
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10   ports:
11   - protocol: TCP
12     port: 80
13     targetPort: 80
14     nodePort: 30010
root@AnushaKubernetes:~/kubernetes# kubectl apply -f ~/kubernetes/deployment-bluegreen-service-green.yml
service/np-service configured
root@AnushaKubernetes:~/kubernetes# kubectl get svc np-service
NAME      TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)
np-service NodePort    10.96.28.57    <none>          80:30010/TCP
8m38s
root@AnushaKubernetes:~/kubernetes# kubectl delete -f ~/kubernetes/deployment-bluegreen-blue.yml
deployment.apps "web-app-blue" deleted
root@AnushaKubernetes:~/kubernetes# kubectl delete -f ~/kubernetes/deployment-bluegreen-green.yml
deployment.apps "web-app-green" deleted
root@AnushaKubernetes:~/kubernetes# kubectl delete svc np-service
service "np-service" deleted
root@AnushaKubernetes:~/kubernetes#
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