

Deployments

Deployments give us the ability to do many useful things in Kubernetes. In this lesson, we will discuss deployments. We will examine how they can be used to manage rolling deployments and scale applications.

Relevant Documentation

- [Deployments](#)

Lesson Reference

Access UCP in a browser at `https://<UCP_SERVER_PUBLIC_IP>`.

We can create Kubernetes objects in UCP by navigating to **Kubernetes** > **+ Create**. Make sure to use the default namespace throughout this exercise.

Make sure to view the `default` Namespace (**Kubernetes** > **Namespaces**, then click **Set Context** next to `default`).

Creating Deployments

Create a deployment:

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
spec:
  replicas: 3
  selector:
    matchLabels:
      app: nginx
  template:
    metadata:
      labels:
        app: nginx
    spec:
      containers:
        - name: nginx
          image: nginx:1.19.1
          ports:
            - containerPort: 80
```

Wait for the deployment status to turn green. Note that the deployment automatically creates an accompanying ReplicaSet.

Navigate to **Kubernetes** > **Pods**. Note that the Deployment automatically created three pods.

Scaling

Navigate to **Kubernetes** > **Controllers** > **nginx-deployment**. Click the gear icon to edit the deployment.

Change the *replicas* value to **5** and click **Save**. This will scale up the deployment to five replicas. After a few moments, two additional pods will be automatically created.

Rolling Updates

Navigate to **Kubernetes** > **Controllers** > **nginx-deployment**. Click the gear icon to edit the Deployment.

Change the *image* for the container to `nginx:1.19.2` and click **Save**.

Quickly navigate to **Kubernetes > Controllers**.

We should be able to watch the rolling update process take place here. We will notice a new ReplicaSet. Watch the statuses of the two ReplicaSets. We will see the new ReplicaSet gradually replace the old one, with the old ReplicaSet removing its pods as the new ReplicaSet's pods become available.