Scheduling

Scheduling is an important concept to understand when using Kubernetes. In this lesson, we will explore some of the factors that influence the process of selecting nodes on which to run pods. This will include node labels, pod taints and tolerations, and resource requests.

Relevant Documentation

- Kubernetes Scheduler
- Taints and Tolerations
- Managing Resources for Containers

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`).

Create a pod with a resource request that is too large to be satisfied.

```
apiVersion: v1
kind: Pod
metadata:
  name: busybox-rr-unreasonable
spec:
  containers:
  - name: busybox
    image: radial/busyboxplus:curl
    command: ["sh", "-c", "while true; do sleep 3600; done"]
    resources:
      requests:
        memory: 64Mi
        cpu: 10000m
```

The pod will remain in the `Pending` state since it cannot be scheduled due to the large resource request.

Create a pod with a more reasonable resource request.

```
apiVersion: v1
kind: Pod
metadata:
  name: busybox-rr-reasonable
spec:
  containers:
  - name: busybox
    image: radial/busyboxplus:curl
    command: ["sh", "-c", "while true; do sleep 3600; done"]
    resources:
      requests:
        memory: 64Mi
        cpu: 250m
```

This pod will be scheduled successfully.