App Configuration in Kubernetes

Application configuration is a necessary part of any infrastructure. In this lesson, we will discuss how to configure applications running on Docker Kubernetes Service. We will talk about ConfigMaps and secrets, and how to use them to expose configuration data to our containers.

Relevant Documentation

- ConfigMaps
- Secrets

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.

Create a ConfigMap:

```
apiVersion: v1
kind: ConfigMap
metadata:
  name: my-configmap
data:
  key1: important data
  key2.txt: |
    Another value
    multiple lines
    more lines
```

Create a secret:

```
apiVersion: v1
kind: Secret
metadata:
  name: my-secret
type: Opaque
data:
  username: dXNlcgo=
  password: ZG9ja2VyCg==
```

Create a pod that uses the configuration data from the ConfigMap and secret:

```
apiVersion: v1
kind: Pod
metadata:
  name: my-configured-pod
spec:
  restartPolicy: Never
  containers:
  - name: busybox
    image: busybox
    command: ["sh", "-c", "echo \"ConfigMap environment variable: $CONFIGMAPVAR\" && echo \"Secret
    environment variable: $SECRETVAR\" && echo \"The ConfigMap mounted file is: $(cat /etc/configmap/
    key2.txt)\" && echo \"The Password is:\" $(cat /etc/secret/password)"]
    env:
    - name: CONFIGMAPVAR
      valueFrom:

        configMapKeyRef:
```

```
          name: my-configmap
          key: key1
    - name: SECRETVAR
      valueFrom:
        secretKeyRef:
          name: my-secret
          key: username
    volumeMounts:
    - name: configmap-vol
      mountPath: /etc/configmap
    - name: secret-vol
      mountPath: /etc/secret
  volumes:
  - name: configmap-vol
    configMap:
      name: my-configmap
  - name: secret-vol
    secret:
      secretName: my-secret
```

Click on the **my-configured-pod** pod.

Click the **Log** icon near the upper right.

We should see our configuration data printed to the log, both from the ConfigMap and the secret, like so:

```
ConfigMap environment variable: important data

Secret environment variable: user


The ConfigMap mounted file is:Another value

multiple lines

more lines

The Password is: docker
```