Training & Certification

KUBERNETES FUNDAMENTALS (LFS258) SUPPORT SIGN OUT

MANAGING STATE WITH DEPLOYMENTS

Managing State with Deployments

Overview

The default controller for a container deployed via **`kubectl run`** command is a Deployment. While we have been working with them already, we will take a closer look at configuration options.

As with other objects, a deployment can be made from a YAML or JSON spec file. When added to the cluster, the controller will create a ReplicaSet and a Pod automatically. The containers, their settings and applications can be modified via an update, which generates a new ReplicaSet, which, in turn, generates new Pods.

The updated objects can be staged to replace previous objects as a block or as a rolling update, which is determined as part of the deployment specification. Most updates can be configured by editing a YAML file and running **`kubectl apply`**. You can also use **`kubectl edit`** to modify the in-use configuration. Previous versions of the ReplicaSets are kept, allowing a rollback to return to a previous configuration.

We will also talk more about labels. Labels are essential to administration in Kubernetes, but are not an API resource. They are user-defined key-value pairs which can be attached to any resource, and are stored in the metadata. Labels are used to query or select resources in your cluster, allowing for flexible and complex management of the cluster.

As a label is arbitrary, you could select all resources used by developers, or belonging to a user, or any attached string, without having to figure out what kind or how many of such resources exist.