edX

Kubernetes Resource Types

Kubernetes has five main resource types that can be created and configured using a YAML or a JSON file, or using OpenShift management tools:

Pods
Represent a collection of containers that share resources, such as IP addresses and persistent storage volumes. It is the basic unit of work for Kubernetes.

Services
Define a single IP/port combination that provides access to a pool of pods. By default, services connect clients to pods in a round-robin fashion.

Replication Controllers
A framework for defining pods that are meant to be horizontally scaled. A replication controller includes a pod definition that is to be replicated, and the pods created from it can be scheduled to different nodes.

Persistent Volumes (PV)
Provision persistent networked storage to pods that can be mounted inside a container to store data.

Persistent Volume Claims (PVC)
Represent a request for storage by a pod to Kubernetes.

> ### Note

For this course, the PVs are provisioned on local storage, not on networked storage. This is a valid approach for development purposes, but it is not a recommended approach for a production environment.

Although Kubernetes pods can be created standalone, they are usually created by higher-level resources such as replication controllers.