

Introduction to Containers, Kubernetes, and OpenShift

Module 4 Glossary: The Kubernetes Ecosystem

Term	Definition
Build	The process of transforming inputs into a resultant object.
BuildConfig	An OpenShift-specific object that defines the process for a build to follow. The BuildConfig is the blueprint, and the build is an instance of that blueprint put into action.
Configuration Change	A trigger that causes a new build to run when a new BuildConfig resource is created.
CRDs	“Custom Resource Definitions” in addition to built-in resources like Deployments and Pods. Additional resources can be created to extend the Kubernetes API. CRDs are new endpoints in the Kubernetes API that store a collection of API objects.
Image Change	A trigger to build when a new version of an image when it is available. For example, if an application is built using a Node.js base image, that image will be updated as security fixes are released and other updates occur. When base images are updated so that the code always contains the latest security fixes, the image change trigger automates a build to rebuild containerized applications.
ImageStream	An abstraction for referencing images within OpenShift. Each image contains an ID, or digest, that identifies it. ImageStreams do not contain image data but rather are pointers to image digests.
Istio	A commonly used service mesh. Istio secures services through authentication, authorization, and encryption. Istio provides control by defining policies that can be enforced across an entire fleet. With Istio, you can observe traffic flow in your mesh so you can trace call flows, dependencies, and you can view metrics such as latency and errors.
OpenShift	A hybrid cloud, enterprise Kubernetes application platform.
Operator Pattern	Combining custom resources and custom controllers that give a declarative API like Pods possess.
Operators	Powerful patterns used within Kubernetes to automate many tasks within a cluster. OpenShift provides a way to easily install and use them. A way to package, deploy, and manage a Kubernetes native applications

is an application that is deployed on and managed by Kubernetes.

Service Mesh

A dedicated layer for making service-to-service communication secure and reliable. It provides traffic management to control the flow of traffic between services, security to encrypt traffic between services, and observability of service behavior; so, you can troubleshoot and optimize applications.

Source-to-Image

A tool for building reproducible container images. Also abbreviated S2i, it injects application source code into a container image to produce a ready-to-run image.

Webhook

A trigger that sends a request to an OpenShift Container Platform API endpoint. Often this will be a GitHub webhook, though it can also be a generic webhook. If a GitHub webhook is utilized, GitHub can send the request to OpenShift when there is a new commit on a certain branch, when a pull request is merged, as well as under many more circumstances. Webhooks are a great way to automate development flows so that builds can occur automatically as new code is developed.