Microservices, Serverless, OpenShift

Module 4 Glossary: OpenShift Essentials / Working with OpenShift and Istio

Term	Definition
Citadel	An Istio component that is responsible for providing a strong identity to each service in the system. It generates certificates and rolls them out to each one of the proxies so that the proxies can perform mutual transport layer security (TLS) when they're talking to one another.
CRD	A “custom resource definition” is a Kubernetes feature that enables users to add their own objects to a cluster and use it like a native object.
Gateway	A load balancer that sits at the edge of a service mesh and accepts incoming and outgoing HTTP and TCP connections.
Image Stream	A pointer to a set of related images. When a change is detected with an image, the image stream pushes those images with no downtime to the applications. It automatically brings down the old code and replaces it with the new by redirecting the pointer to the new image.
Istio	A service mesh that provides a transparent and language-independent way to automate application network functions flexibly and easily. It also supports how microservices communicate and share data with each other. Istio extends Kubernetes using custom resource definitions (CRDs).
OpenShift	A hybrid cloud, enterprise, Kubernetes-application platform. It not only orchestrates containers but it also provides additional tooling around the complete lifecycle of applications, from build and CI/CD, to monitoring and logging.
Red Hat Marketplace	An open cloud marketplace that provides software that is certified to run on Red Hat OpenShift. Each product includes information about the software's automation capabilities. It enables you to size software to your needs, sign up for free trials, and make purchases. It provides pricing, billing, and subscription choices. You can deploy your purchased software automatically via the marketplace to selected OpenShift clusters on any cloud or on-premises environment. Red Hat Marketplace can also perform many lifecycle actions, such as seamless upgrades and provide metrics, alerts, log processing, and workload analysis.

Service Mesh	A dedicated layer for making service-to-service communication secure and reliable. Among other capabilities, it provides traffic management to control the flow of traffic between services, security to encrypt traffic between services, and observability of service behavior to troubleshoot and optimize applications.
Source to Image	(S2I) is a toolkit and workflow for building reproducible Docker images from source code.
YAML	“Yet Another Markup Language” is a markup language used for writing configuration files. It is a superset of JSON so it can do all of what JSON does and more.