Deploying Helm with Flux CD

Nephio R1 Concepts and Tutorials
Episode 6
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Prerequisites:
- Episode 4 - Building a Demo Environment

https://nephio.org/learn
Why use Helm?

- Widely used as Kubernetes deployment method.
- Vendors have invested heavily in the technology.
- Ease of onboarding newcomers to the project.
- Allows mature micro-services packaged in helm to be used in the Nepio ecosystem.
Why use Flux CD?

- Actively supported Open Source CNCF project.
- GitOps model using declarative CRDs to generically handle helm chart deployment on Kubernetes.
- Only a subset of Flux controllers (source & helm) required.
Flux Controllers kpt package

- Predefined ktp package that can be deployed to any given workload cluster.
- Contains Kubernetes manifests to deploy the helm and source controllers.
- Deployed in to the flux-system NameSpace by default.
Flux helm Online Boutique kpt package

The chart being used is from the GCP microservices demo Online Boutique.

- A Flux source CR (Custom Resource) to pull the chart from.
  - Various source types and security mechanisms supported.
- A Flux HelmRelease CR to define the deployment config.
- A ConfigMap containing override values.yaml for the chart.
  - This can be customized accordingly to meet requirements.