Helm Charts Testing

What is helm?

- The package manager for Kubernetes
- Helm uses charts to define, create, install, and upgrade Kubernetes applications

Challenge with helm charts

- YAML linting
- e2e testing before releasing
- Testing different configurations

Tools I will use

- Helm CLI
- Kubectl
- Kubernetes (k3s and kind)
- GitHub Workflows and Action

Test Scenarios

- Helm Chart Testing via helm cli
  - helm test
- Chart Testing Tool https://github.com/helm/chart-testing/tree/main
  - ct lint
  - ct install
- Chart Testing in CI pipelines such as GitHub Action
  - Setup helm
  - Setup Kubernetes (kind a.k.a Kubernetes in Docker)
  - Setup ct
  - Run tests
  - ci folder to run tests against multiple value files
- Real World Advanced Implementation

References

- https://helm.sh/docs/topics/chart_tests/

- https://github.com/helm/chart-testing/tree/main

- https://github.com/helm/chart-testing-action

- https://github.com/amardeep2006/docker-selenium/blob/feat/integrationtests-gridonkubernetes/.github/workflows/helm-chart-test.yml