K8s Integration

EKS OIDC With Keycloak:
https://epam.github.io/edp-install/operator-guide/configure-keycloak-oidc-eks/
External Secrets Integration:
https://epam.github.io/edp-install/operator-guide/external-secrets-operator-integration/

The Copy Shared Secrets stage provides the ability to copy secrets from the current Kubernetes namespace into a namespace created during CD pipeline:
https://epam.github.io/edp-install/user-guide/copy-shared-secrets/

Logsight can be integrated with the CI/CD pipeline. It connects to log data sources, analyses collected logs, and evaluates deployment risk scores.
https://epam.github.io/edp-install/operator-guide/logsight-integration/

1. **Network Policy/Plugins**
   https://kubernetes.io/docs/tasks/administer-cluster/network-policy-provider/_print/

2. **ArgoCD**
   Argo CD is a declarative, GitOps continuous delivery tool for Kubernetes.
   Application deployment and lifecycle management should be automated, auditable, and easy to understand.
   Argo CD is implemented as a kubernetes controller which continuously monitors running applications and compares the current, live state against the desired target state (as specified in the Git repo).

3. **Helm Versioning**
   Every chart must have a version number. A version must follow the SemVer 2 standard. Unlike Helm Classic, Helm v2 and later uses version numbers as release markers. Packages in repositories are identified by name plus version.

4. **Kustomize vs Helm**

   Kustomize is a configuration management tool for the Kubernetes ecosystem. Configuration management, as a core discipline, focuses on maintaining consistency across environments. It is a declarative tool, which works with yaml directly.

   Helm3 is an imperative templating tool for managing Kubernetes packages called charts.

   Helm uses templating to build up your final manifest, which means there will be a lot of brackets and non-yaml. The idea of a chart is really the unique part from helm as it's utilization as a discreet package that can be deployed.

5. **Tekton**

   Tekton is a cloud-native solution for building CI/CD systems. It consists of Tekton Pipelines, which provides the building blocks, and of supporting components, such as Tekton CLI and Tekton Catalog, that make Tekton a complete ecosystem.

   https://github.com/tektoncd

6. **Velero**

   Velero (formerly Heptio Ark) gives you tools to back up and restore your Kubernetes cluster resources and persistent volumes. You can run Velero with a cloud provider or on-premises. **Velero lets you:**

   1. Take backups of your cluster and restore in case of loss.
   2. Migrate cluster resources to other clusters.
   3. Replicate your production cluster to development and testing clusters.

   - **Velero consists of:**
     1. A server that runs on your cluster
     2. A command-line client that runs locally
   - **Velero Install:** https://velero.io/docs/v1.9/basic-install/