Application Config. in Kubernetes

Manage Application Configuration

Application Config.

- What is Application Configuration
- ConfigMaps
- Secrets
- Environment Variables
- Configuration Volumes
- Hands On Lab

Application Configuration

- Most people already understand "**configuration**" as settings that influence the operation of an application.

- Kubernetes allows user to pass dynamic configuration values to application at Runtime.

- These dynamic Configuration helps user to control the Application Flow.

ConfigMap

- ➢ Keep the Non-Sensitive Data in ConfigMap, which can be passed to Container Application.
- ➢ Config Map Store Data in Key-Value format.
- ➢ ConfigMaps allow you to separate your configurations from your Pods and components.
- ➢ ConfigMap helps to makes configurations easier to change and manage, and prevents hardcoding configuration data to Pod specifications.

ConfigMap Commands

- Config Map via Config File.

```
kubectl create configmap [NAME] --from-file [/PATH/TO/ FILE.PROPERTIES] --from-file [/PATH/TO/FILE2.PROPERTIES]
```

```
kubectl create configmap [NAME] --from-file [/PATH/TO/ DIRECTORY]
```

- Get ConfigMap via CLI.

```
kubectl get configmap <Config_map_name> -o yaml/json
```

Secrets

- Secrets are similar to ConfigMap but designed to keep the Sensitive Data.

- Create Secrets from file.

```
kubectl create secret generic db-user-pass --from-file=./username.txt
—from-file=./password.txt
```

- **Note** : Special characters such as **$,** \, *, and **!** require escaping.

Secrets

- Get Secrets.

```
kubectl get secrets
```

- Describe Secrets.

```
kubectl describe secrets <Secret_name>
```

K8s Secrets

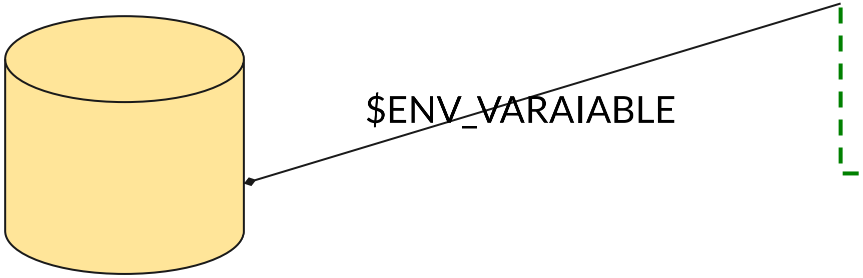
- Sample Secrets YAML file.

```yaml
apiVersion: v1
kind: Secret
metadata:
 name: mysecret-manifest
type: Opaque
data:
 username: YW5zaHVsY2hhdWhhbg==
 password: VGVzdGt1VybmV0ZXMxMjM0NQ==
```

Pass ConfigMap and Secrets to Containers

- User can pass Secrets and Config Map to Container using **Environment Variables**.

```
spec:
 containers:
  - ...
   env:
    - name: SPECIAL_LEVEL_KEY
     valueFrom:
      configMapKeyRef:
       name: special-config
       key: special.how
```



Container Process

Pass ConfigMap and Secrets to Containers

- Config **Mount Volume** is another way to pass Config Data and Secrets to Containers.
- Using this Config Data will be available in Files to Container File System.

```
volumes:
 - name: config-volume
   configMap:
     name: special-config
```

Hands On Demonstration

Thank You…

Don’t be the Same! Be Better!!!