



Environment Variables in Kubernetes

Environment Variables:

- Environment variables are variables that can be used to pass values to applications at runtime.
- They can be used to modify values present in Docker files.
- Environment variables are set in YAML files using the env or envFrom fields.
- Once set, these variables can be accessed throughout the pod.

Downward API:

- The Downward API allows a pod to expose information about itself to containers running within the pod.
- There are two ways to expose pod and container fields to running containers: using environment variables and volume files.

Exposing information using environment variables:

- The pod can expose its own details as environment variables such as its name, IP address, or even labels.
- Similarly, the container running inside the pod can expose information like how much CPU or memory it needs or the limits it can reach.
- To customize application behavior based on pod or node information we pass these fields to the container as environment variables.

Exposing information using volume files:

- In this method, the pod saves information about itself as files in a volume.
- These files can store details like the pod's IP address, the container's requested resources, or any other custom information.
- The files are made available to the containers inside the pod to read the values from them.