**Volumes in Kubernetes:**

Volumes allow you to provide more permanent storage to a pod that exist beyond the life of container.

apiVersion: v1

kind: Pod

metadata:

name: volume-pod

spec:

containers:

- image: busybox

name: busybox

command: ["/bin/sh", "-c", "while true; do sleep 3600; done"]

volumeMounts:

- mountPath: /tmp/storage

name: my-volume

volumes:

- name: my-volume

emptyDir: {}

Persistent Volume and persistent volume Claim:

* <https://kubernetes.io/docs/concepts/storage/persistent-volumes/>
* <https://kubernetes.io/docs/tasks/configure-pod-container/configure-persistent-volume-storage/>

stateless ; pod and container can be easily deleted. Data inside the container is lost as the pod deleted.

statePersistence: maintaining data out side mainly beyond the lif of container.

Kubernetes allow to maintain the persistent volume via PersistentVolume and PersistentVolume Claim.

Create the persistentVolume:

kind: PersistentVolume

apiVersion: v1

metadata:

name: my-pv

spec:

storageClassName: local-storage

capacity:

storage: 1Gi

accessModes:

- ReadWriteOnce

hostPath:

path: "/mnt/data"

Persistent VolumeClaim:

apiVersion: v1

kind: PersistentVolumeClaim

metadata:

name: my-pvc

spec:

storageClassName: local-storage

accessModes:

- ReadWriteOnce

resources:

requests:

storage: 512Mi

Create the pod that consume storage resources using the PVC:

kind: Pod

apiVersion: v1

metadata:

name: my-pvc-pod

spec:

containers:

- name: busybox

image: busybox

command: ["/bin/sh", "-c", "while true; do sleep 3600; done"]

volumeMounts:

- mountPath: "/mnt/storage"

name: my-storage

volumes:

- name: my-storage

persistentVolumeClaim:

claimName: my-pvc