kubernetes

Kubernetes: Volumes (HostPath)

- Create hostPath Volume and Use it.
- This kind of Volumes that persist data beyond the pod's lifecycle.
- Kubernetes have the **PersistentVolume** and **PersistentVolumeClaim** resources that enable native and external persistent storage in your Kubernetes clusters.

- **PersistentVolume**: It's a piece of network storage that has been provisioned by the administrator. It's a resource in the cluster which is independent of any individual pod that uses the PV.
- **PersistentVolume** allowing users and administrators to focus on storage capacity and storage types their applications will consume rather than the subtle details of each storage provider's API.
- Linking a **persistentVolume** to your application involves several steps: provisioning a PV, requesting storage, and using the PV in your pod or deployment.

- Kubernetes supports **static** and **dynamic** provisioning of PVs.
- In the **static provisioning**, PVs are created by the cluster administrator and are allowed to use actual storage available in the cluster. This means that in order to use **static** provisioning, one needs to have a storage (e.g., Amazon EBS) capacity provisioned beforehand.
- On the other hand, a **dynamic provisioning** of volumes can be triggered when a volume type claimed by the user does not match any PVs available in the cluster.

- **PersistentVolumeClaim**: The storage requested by Kubernetes for its pods is known as PVC.
- The user does not need to know the underlying provisioning. The claims must be created in the same namespace where the pod is created.
- A **PVC** is bound to the PV that matches storage type, capacity, and other requirements specified in the claim.
- Binding the **PVC** to the **PV** is secured by the control loop that watches for new PVCs and finds a matching PV. The claim will be automatically unbound if a matching volume does not exist.

Will see you in Next Lecture…

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