



kubernetes

Kubernetes: Dynamic Volumes Provisioning

KUBERNETES : Advance of Kuebernetes

- **Dynamic volume** provisioning, a feature unique to **Kubernetes**, allows storage volumes to be created on-demand.
- Before dynamic provisioning, cluster administrators had to manually make calls to their cloud or storage provider to provision new storage volumes, and then create **PersistentVolume objects** to represent them in Kubernetes.
- Storage resources can be dynamically provisioned using the provisioner specified by the **StorageClass object**.

KUBERNETES : Advance of Kuebernetes

- **StorageClasses** use provisioners that are specific to the storage platform or cloud provider to give Kubernetes access to the physical media being used.
- Each **StorageClass** contains the fields provisioner, parameters, and reclaimPolicy, which are used when a **PersistentVolume** belonging to the class needs to be dynamically provisioned.
- To use Dynamic Storage user needs to refer **StorageClass** by name in the **PersistentVolumeClaim** (PVC) using the “**storageClassName**” parameter.

KUBERNETES : Advance of Kuebernetes

- **StorageClasses** use provisioners that are specific to the storage platform or cloud provider to give Kubernetes access to the physical media being used.
- Each **StorageClass** contains the fields provisioner, parameters, and reclaimPolicy, which are used when a **PersistentVolume** belonging to the class needs to be dynamically provisioned.
- To use Dynamic Storage user needs to refer **StorageClass** by name in the **PersistentVolumeClaim** (PVC) using the “**storageClassName**” parameter.

KUBERNETES : Advance of Kuebernetes

- The following table provides more detail on default storage classes pre-installed by cloud provider as well as the specific parameters used by these defaults.

Cloud Provider	Default StorageClass Name	Default Provisioner
Amazon Web Services	gp2	aws-ebs
Microsoft Azure	standard	azure-disk
Google Cloud Platform	standard	gce-pd
OpenStack	standard	cinder
VMware vSphere	thin	vsphere-volume

KUBERNETES : Advance of Kuebernetes

- **ReclaimPolicy:** Persistent Volume have two type of reclaim policy **Delete** or **Retain**. If no reclaimPolicy is specified when a StorageClass object is created, it will default to Delete.
- **AWS EBS Storage Manifest:**

apiVersion: [storage.k8s.io/v1](#)

kind: StorageClass

metadata:

name: aws

provisioner: [kubernetes.io/aws-ebs](#)

parameters:

type: gp2

KUBERNETES : Advance of Kuebernetes

➤ GCP Storage Manifest:

```
apiVersion: storage.k8s.io/v1
kind: StorageClass
metadata:
  name: aws
provisioner: kubernetes.io/gce-pd
parameters:
  type: pd-standard
```

Will see you in Next Lecture...

Thank you!

A close-up photograph of a hand holding a black marker, writing the words 'Thank you!' in a cursive script on a white surface. The hand is positioned on the right side of the frame, with the marker tip touching the paper. The background is plain white.

See you in next lecture ...