

## Persistent Volumes:

### Dynamic Provisioning



#### Storage Class

##### VolumeBindingMode:

- WaitForFirstConsumer
- Immediate

##### reclaimPolicy:

- Retain
- Delete
- Recycle (deprecated)

#### Persistence Volume Claim (PVC)

##### accessModes:

- ReadWriteOnce (RWO)
- ReadOnlyMany (ROX)
- ReadWriteMany (RWX)
- ReadWriteOncePod

(ROX) - EBS - Elastic Block Storage  
(RWX) - EFS - Elastic File Storage  
(RWX) - EFS - Elastic File Storage

Mapped to PVC:  
Pods | Deployments |  
StatefulSets

### Static Provisioning



#### EBS

Created in AWS Console



#### EFS

#### Persistence Volume (PV)

##### reclaimPolicy:

- Retain
- Delete
- Recycle (deprecated)

##### csi:

driver: ebs.csi.aws.com

volumeHandle: vol-xxxxxxxxxxxxxxxx

#### Persistence Volume Claim (PVC)

##### accessModes:

- ReadWriteOnce (RWO)
- ReadOnlyMany (ROX)
- ReadWriteMany (RWX)
- ReadWriteOncePod

Mapped to PVC:  
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Volume Types	Description
emptyDir	Temporary storage shared between containers in a Pod. Deleted when the Pod is deleted.
hostPath	Mounts a file or directory from the host node into the Pod. Not recommended for production use.
Persistent Volumes *	Backed by real storage from cloud or local systems. Persist beyond Pod lifecycle.
Provisioning Modes	Description
Static	Volume is pre-created manually (e.g., via AWS Console)
Dynamic	Volume is created automatically using a StorageClass
VolumeBindingMode	Behavior
WaitForFirstConsumer	Volume is created only when Pod is scheduled (prevents cross-AZ issues)
Immediate	Volume is created as soon as PVC is created, even before pod uses it