

14-persistentvolumeclaim

PersistentVolumeClaim (PVC) What it is PersistentVolumeClaim requests storage for workloads. When to use Any stateful workload needing persistent disk Decouple app from underlying storage implementation Key fields `spec.resources.requests.storage` `spec.accessModes` `spec.storageClassName` `spec.volumeName` (optional explicit binding)

Common commands `bash` `kubectl get pvc` `kubectl describe pvc app-data` `kubectl delete pvc app-data` **YAML example**

```
yaml
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: app-data
spec:
  accessModes: -
  ReadWriteOnce
  storageClassName: standard
  resources:
    requests:
      storage: 5Gi
```

Pod mount example

```
yaml
apiVersion: v1
kind: Pod
metadata:
  name: app-with-pvc
spec:
  containers:
    - name: app
      image: nginx:1.27
      volumeMounts:
        - name: data
          mountPath: /usr/share/nginx/html
  volumes:
    - name: data
      persistentVolumeClaim:
        claimName: app-data
```

Practical notes PVC stays bound across Pod reschedules. Deleting PVC behavior depends on PV reclaim policy.