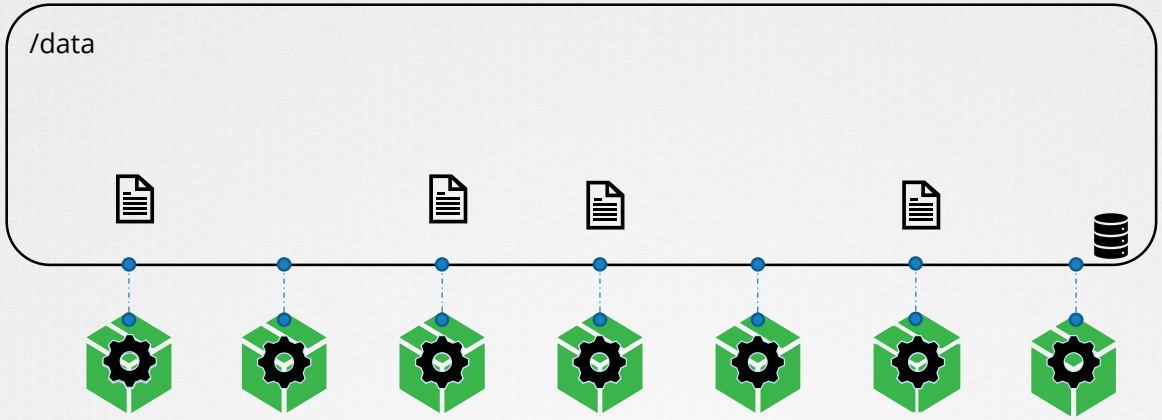

KODEKLOUD

Volumes

Volume

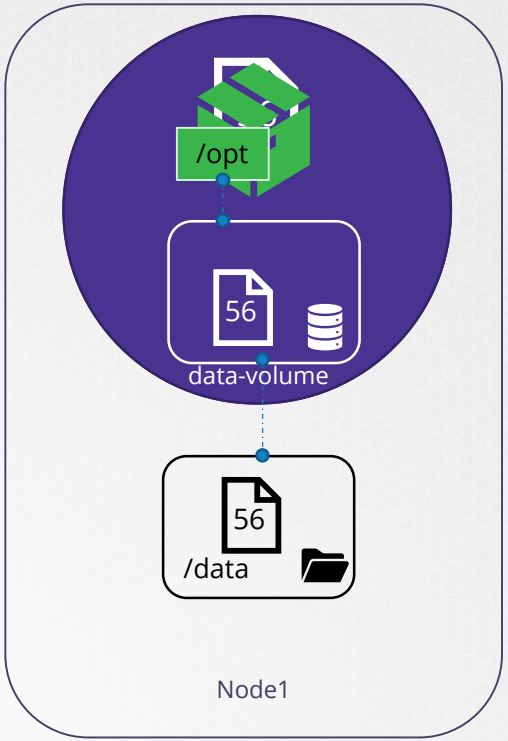


Volumes

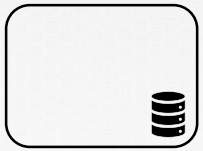
Volumes & Mounts

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: random-number-generator
spec:
  containers:
  - image: alpine
    name: alpine
    command: ["/bin/sh","-c"]
    args: ["shuf -i 0-100 -n 1 >> /opt/number.out;"]
    volumeMounts:
    - mountPath: /opt
      name: data-volume

  volumes:
  - name: data-volume
    hostPath:
      path: /data
      type: Directory
```



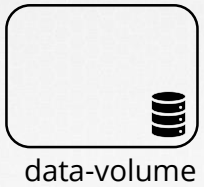
```yaml
volumes:
- name: data-volume
  hostPath:
    path: /data
    type: Directory
```

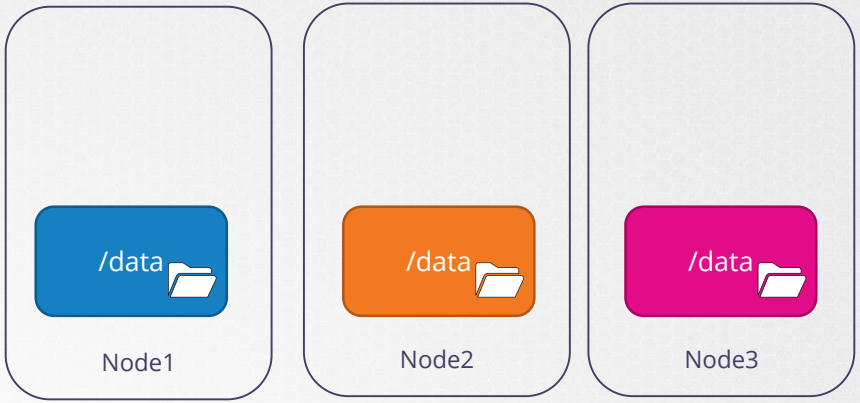


data-volume

Node1

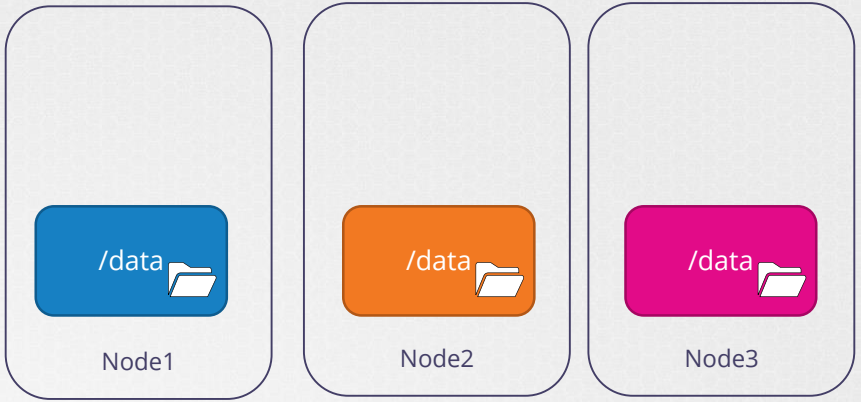
```
volumes:
- name: data-volume
  hostPath:
    path: /data
    type: Directory
```



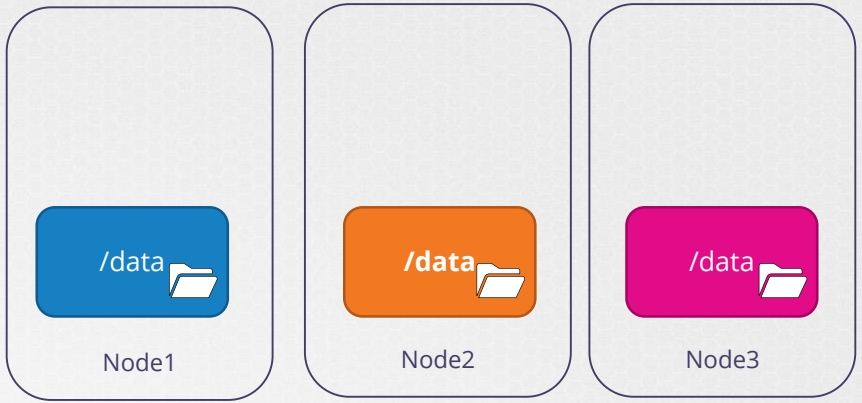


Volume Types

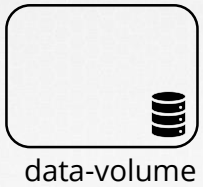
```
volumes:
- name: data-volume
  hostPath:
    path: /data
    type: Directory
```



Volume Types

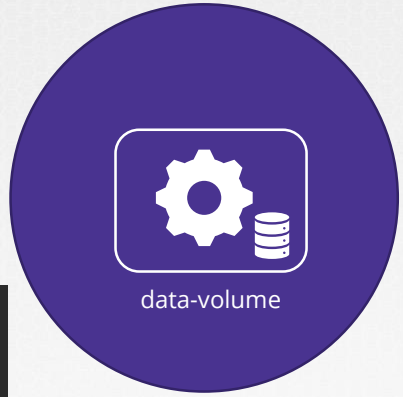



```
volumes:
- name: data-volume
  awsElasticBlockStore:
    volumeID: <volume-id>
    fsType: ext4
```



Persistent Volumes

```
volumes:
- name: data-volume
  awsElasticBlockStore:
    volumeID: <volume-id>
    fsType: ext4
```




data-volume
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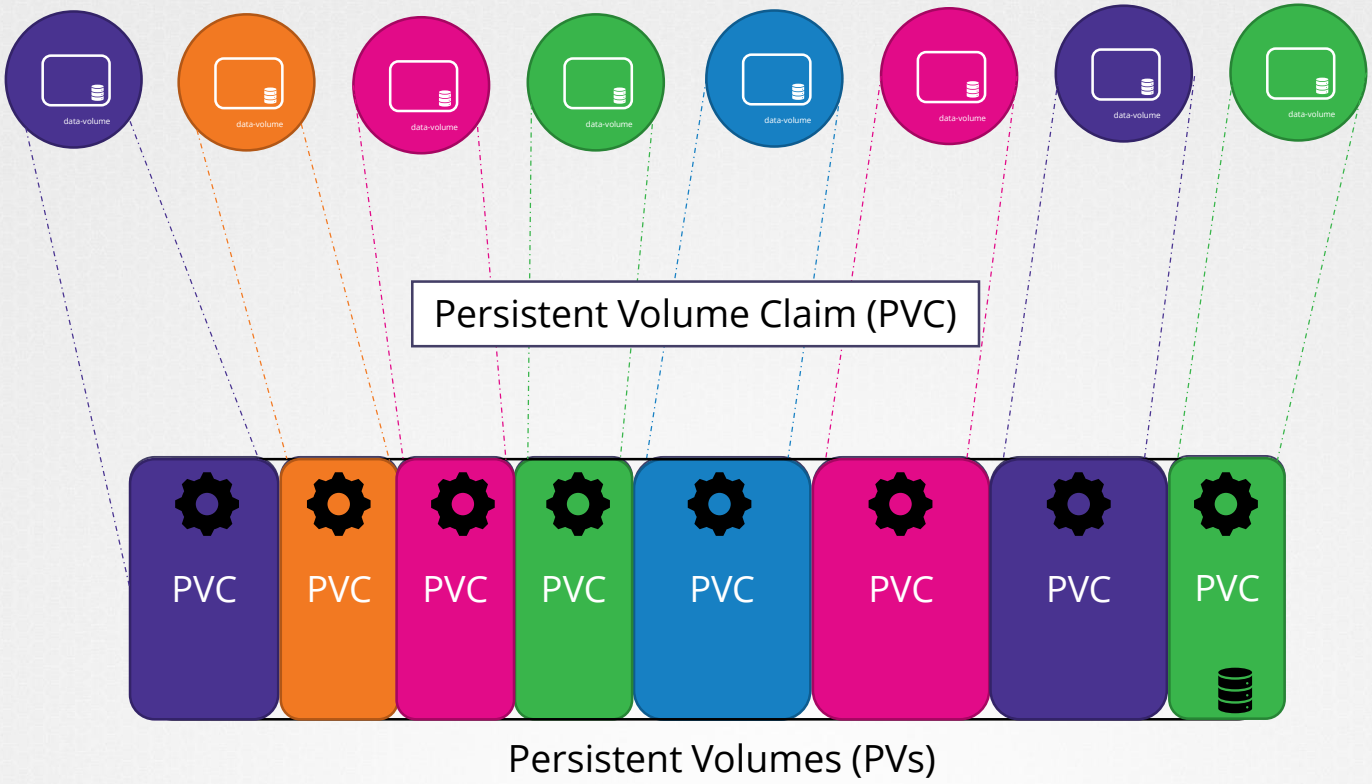
Persistent Volume

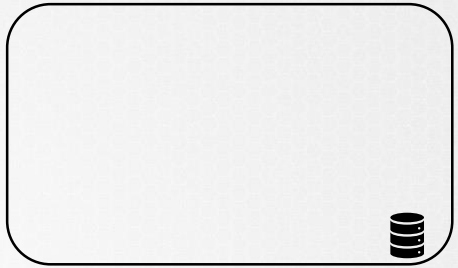


Persistent Volume

pv-definition.yaml

```yaml
apiVersion: v1
kind: PersistentVolume
metadata:
   name: pv-vol1
spec:
  accessModes:
      - ReadWriteOnce
  capacity:
      storage: 1Gi
  awsElasticBlockStore:
    volumeID: <volume-id>
    fsType: ext4
```

- ReadOnlyMany
- ReadWriteOnce
- ReadWriteMany



Persistent Volume (PV)

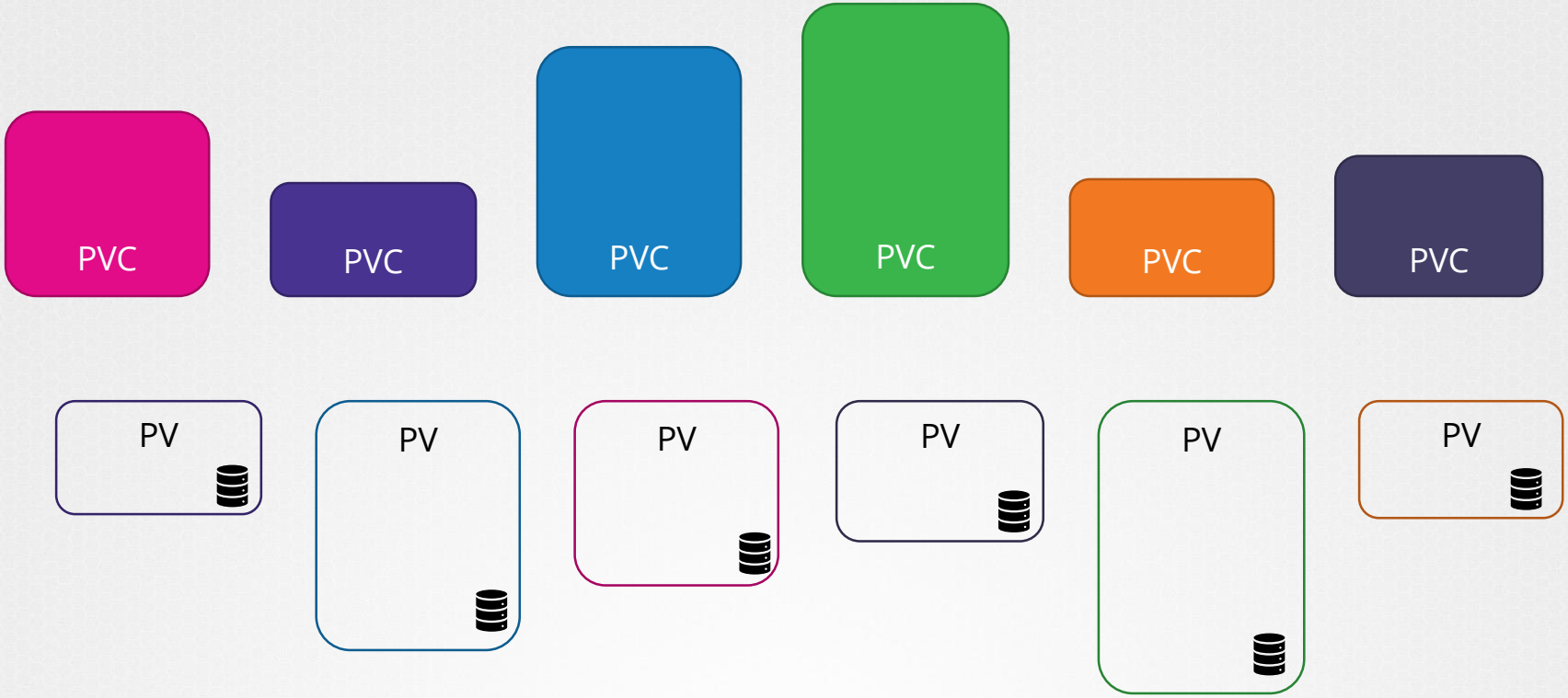
```
kubectl create -f pv-definition.yaml
```

```
kubectl get persistentvolume
```

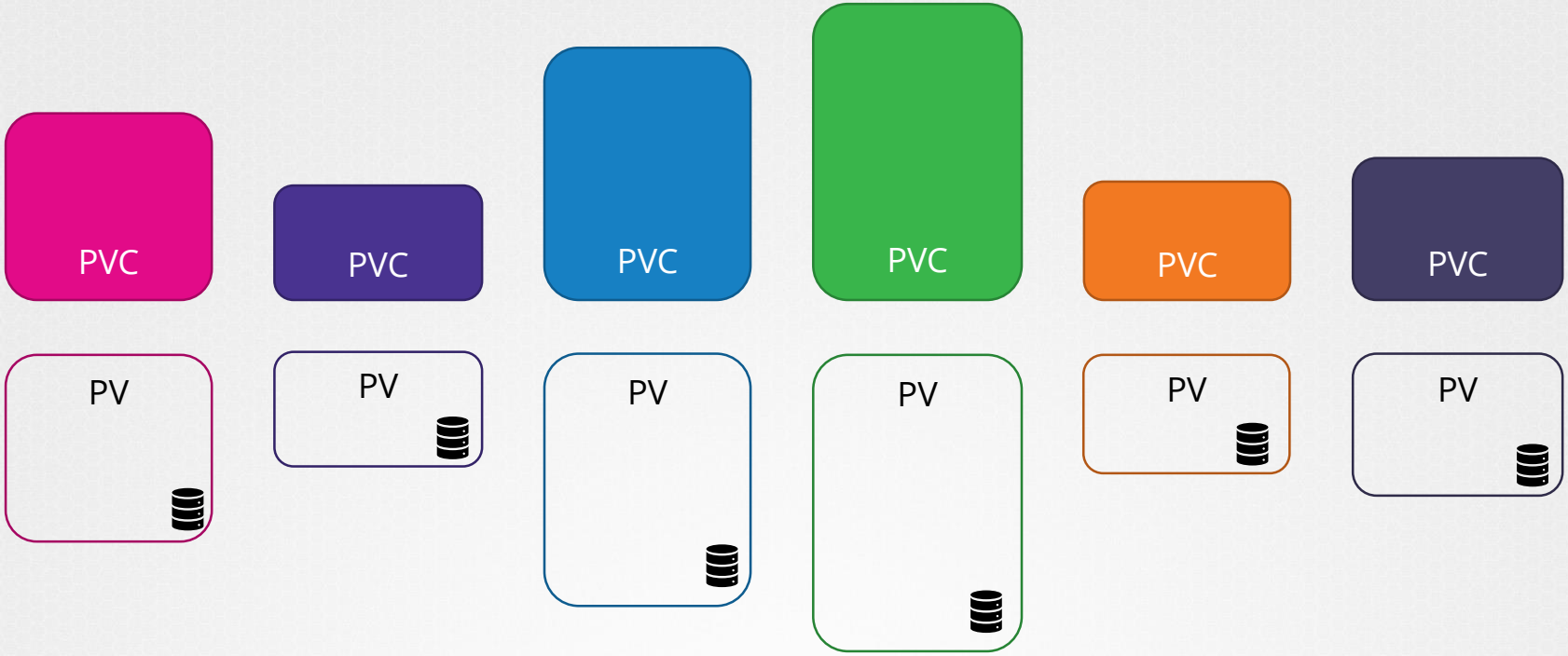
NAME	CAPACITY	ACCESS MODES	RECLAIM POLICY	STATUS	CLAIM	STORAGECLASS	REASON	AGE
pv-vol1	1Gi	RWO	Retain	Available				3m

Persistent Volume Claims

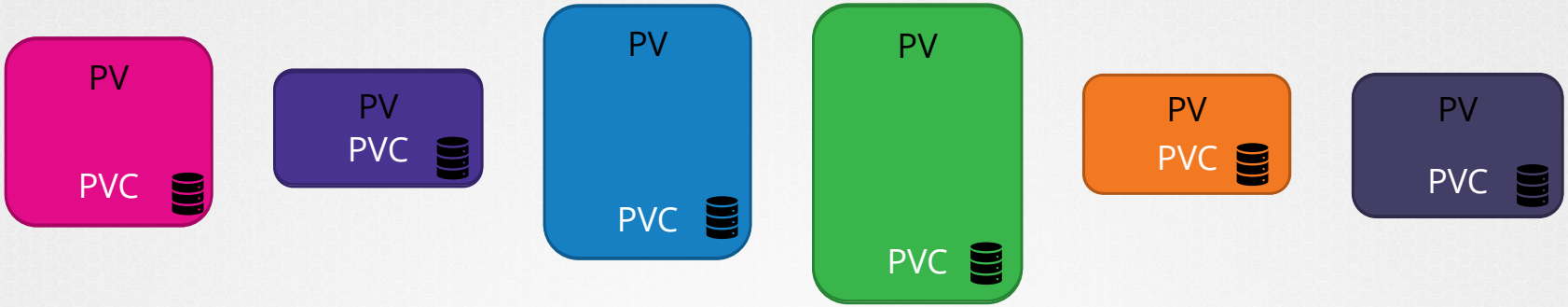
Persistent Volume Claim



Binding



Binding



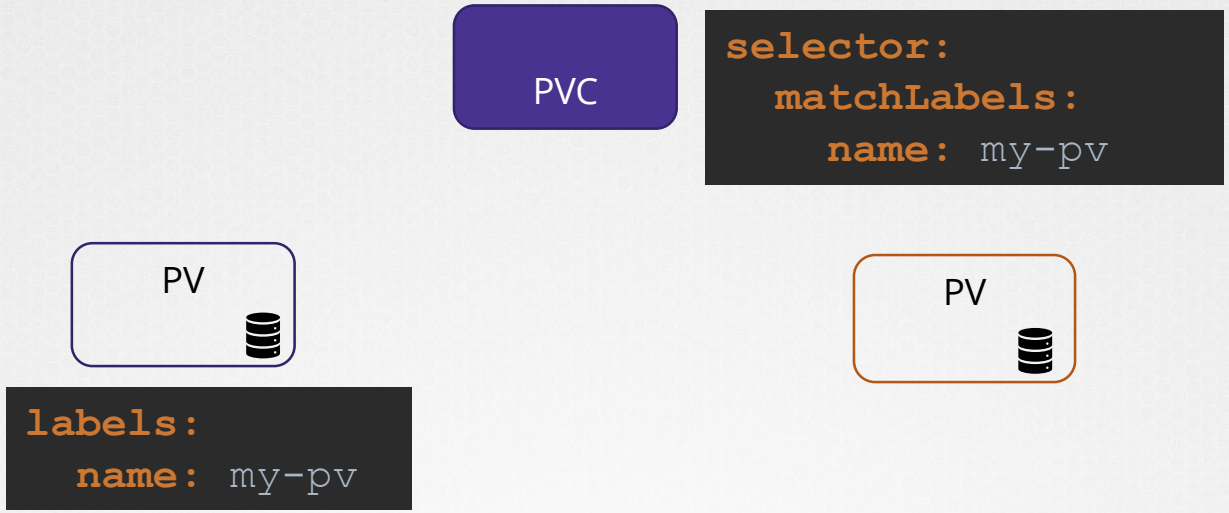
Sufficient Capacity

Access Modes

Volume Modes

Storage Class

Binding



Sufficient Capacity

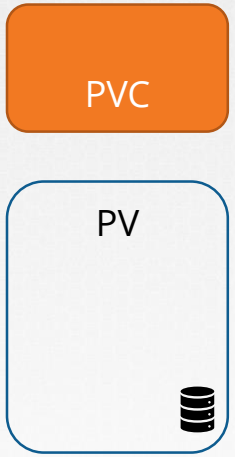
Access Modes

Volume Modes

Storage Class

Selector

Binding



Pending

Sufficient Capacity

Access Modes

Volume Modes

Storage Class

Selector

Persistent Volume Claim

pvc-definition.yaml

```yaml
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: myclaim
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 500Mi
```

```
kubectl create -f pvc-definition.yaml
```

```
kubectl get persistentvolumeclaim
```

```
NAME        STATUS    VOLUME    CAPACITY   ACCESS MODES
myclaim     Pending
```

Persistent Volume Claim

pvc-definition.yaml

```yaml
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: myclaim
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 500Mi
```

```
kubectl create -f pvc-definition.yaml
```

pv-definition.yaml

```yaml
apiVersion: v1
kind: PersistentVolume
metadata:
  name: pv-vol1
spec:
  accessModes:
      - ReadWriteOnce
  capacity:
      storage: 1Gi
  awsElasticBlockStore:
    volumeID: <volume-id>
    fsType: ext4
```

View PVCs

```
kubectl get persistentvolumeclaim
```

```
NAME        STATUS    VOLUME    CAPACITY   ACCESS MODES   STORAGECLASS   AGE
myclaim     Bound     pv-vol1   1Gi        RWO                           43m
```

Delete PVCs

```
kubectl delete persistentvolumeclaim myclaim
persistentvolumeclaim "myclaim" deleted
```


```
persistentVolumeReclaimPolicy:   Recycle
```