



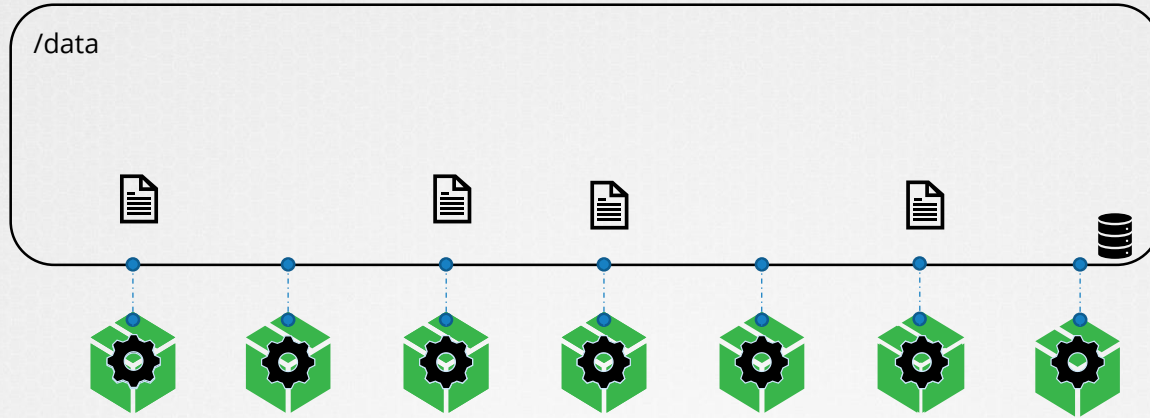
{KODE{KLOUD

Volumes

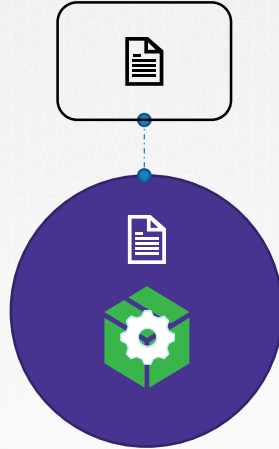




Volume

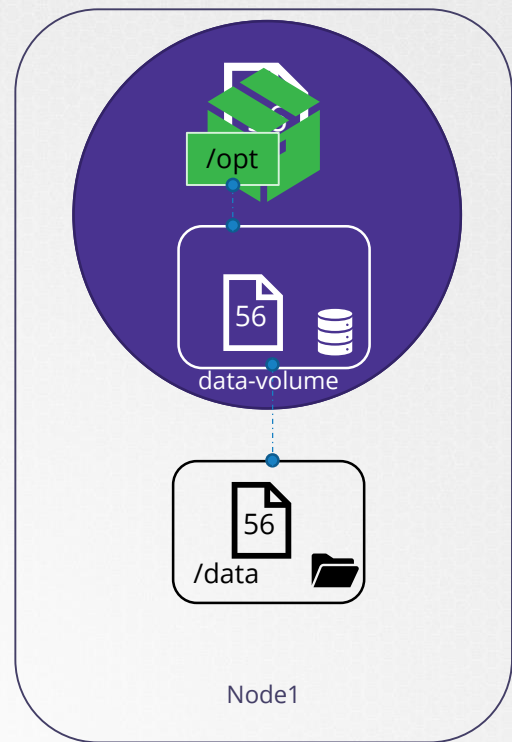



Volumes



Volumes & Mounts

```
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
```

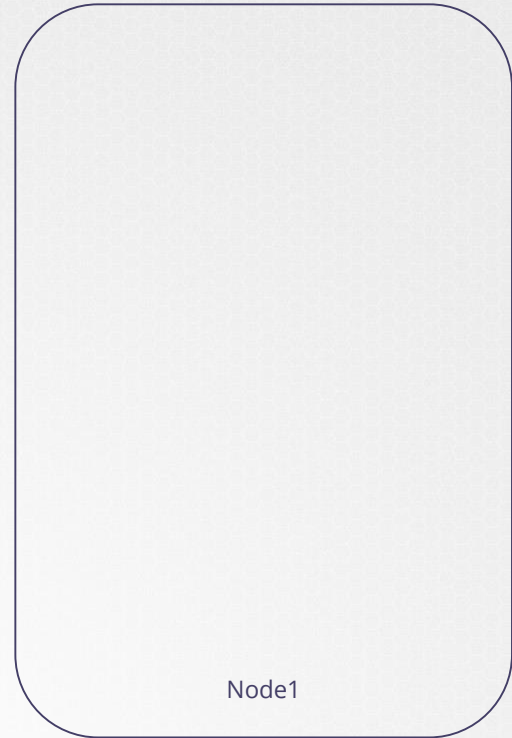




```
volumes:  
- name: data-volume  
  hostPath:  
    path: /data  
    type: Directory
```



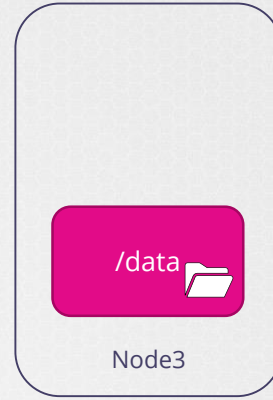
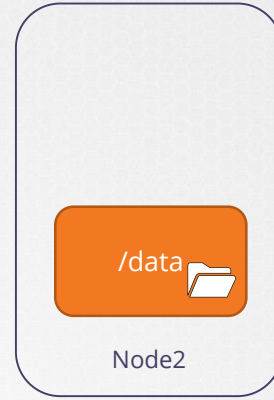
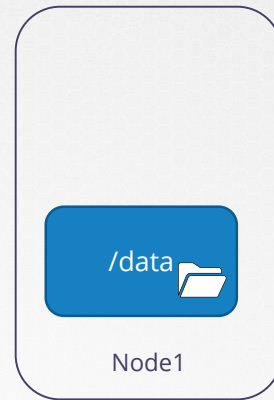
data-volume



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



data-volume

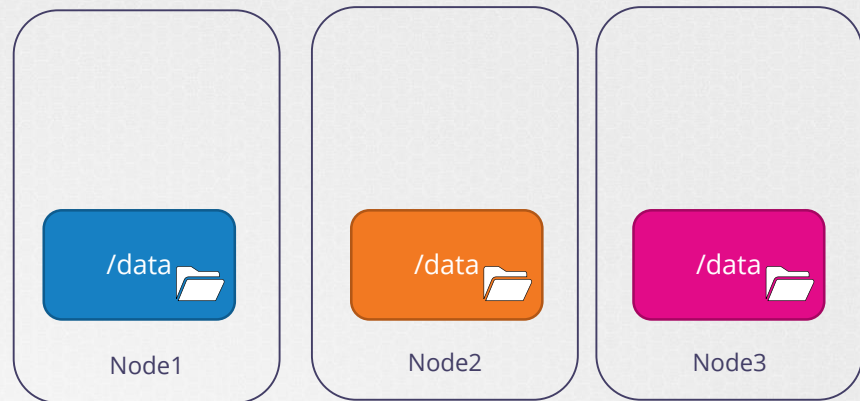


Volume Types

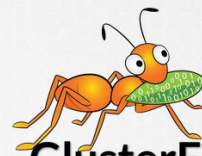
```
volumes:  
- name: data-volume  
  hostPath:  
    path: /data  
    type: Directory
```



data-volume



NFS



GlusterFS



Flocker™
by ClusterHQ



ceph

SCALEIO

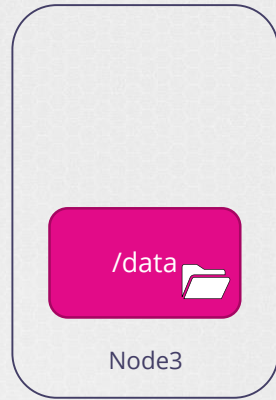
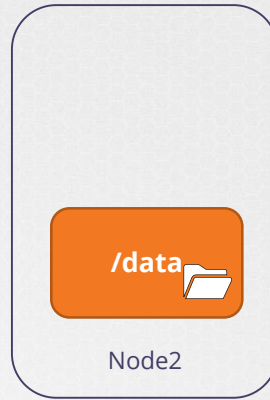


Volume Types

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



data-volume



Persistent Volumes



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







Persistent Volume

pv-definition.yaml

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

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

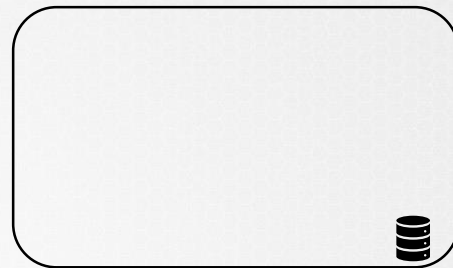
```
▶ kubectl get persistentvolume
```

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

ReadOnlyMany

ReadWriteOnce

ReadWriteMany

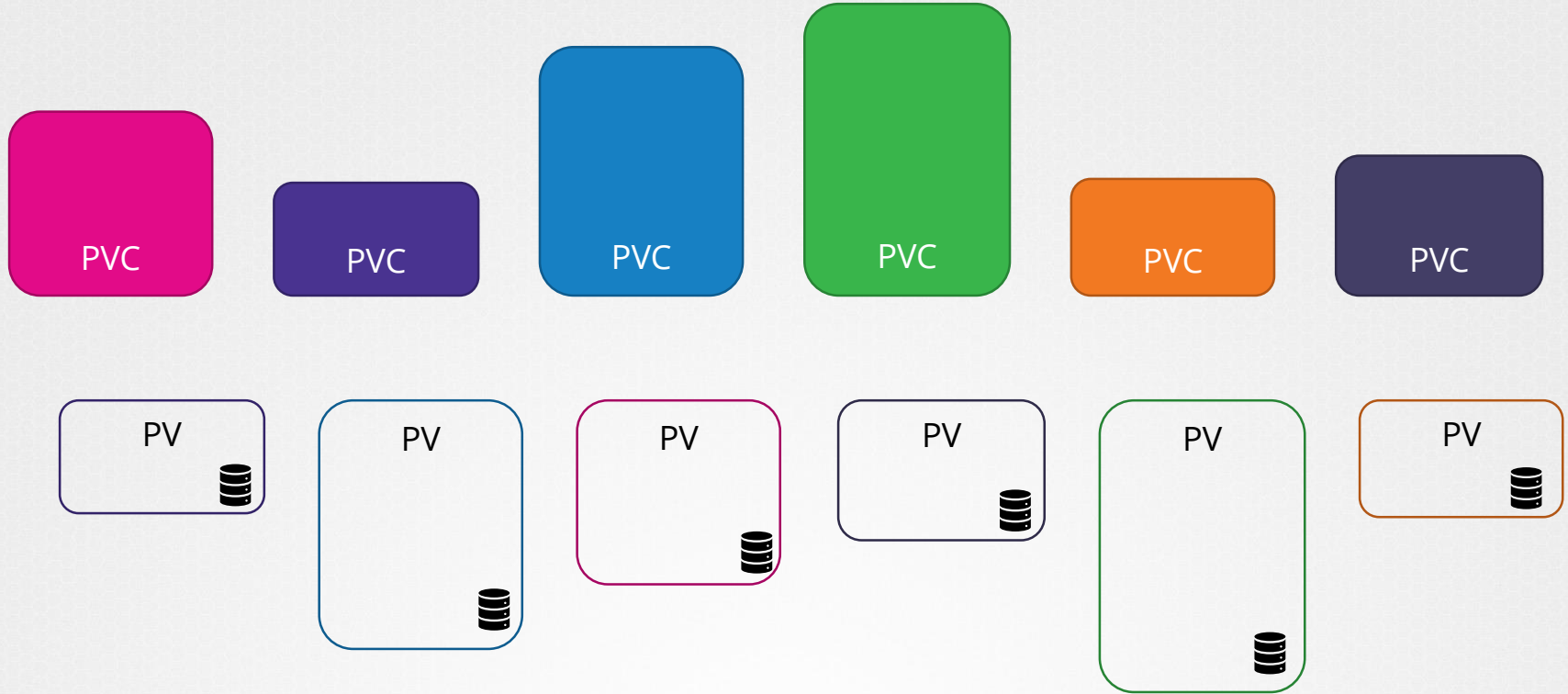


Persistent Volume (PV)

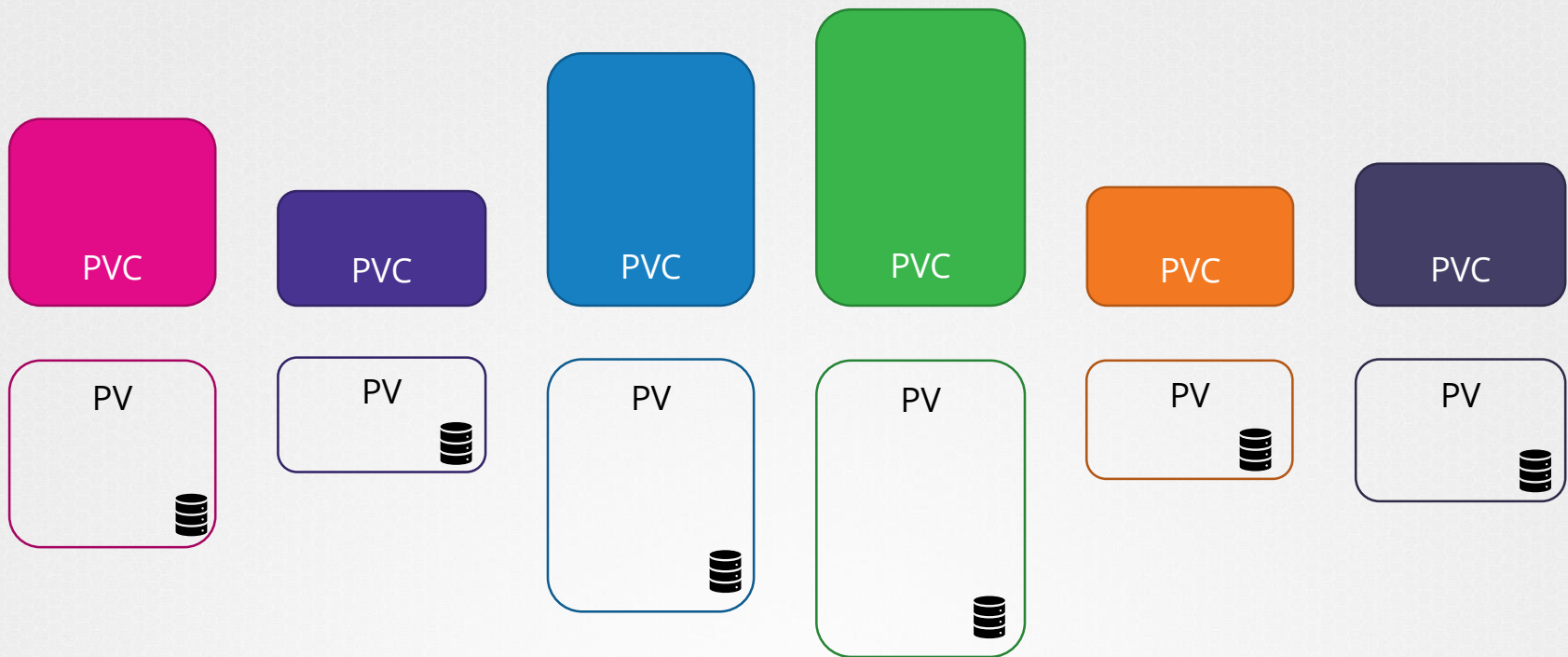
Persistent Volume Claims



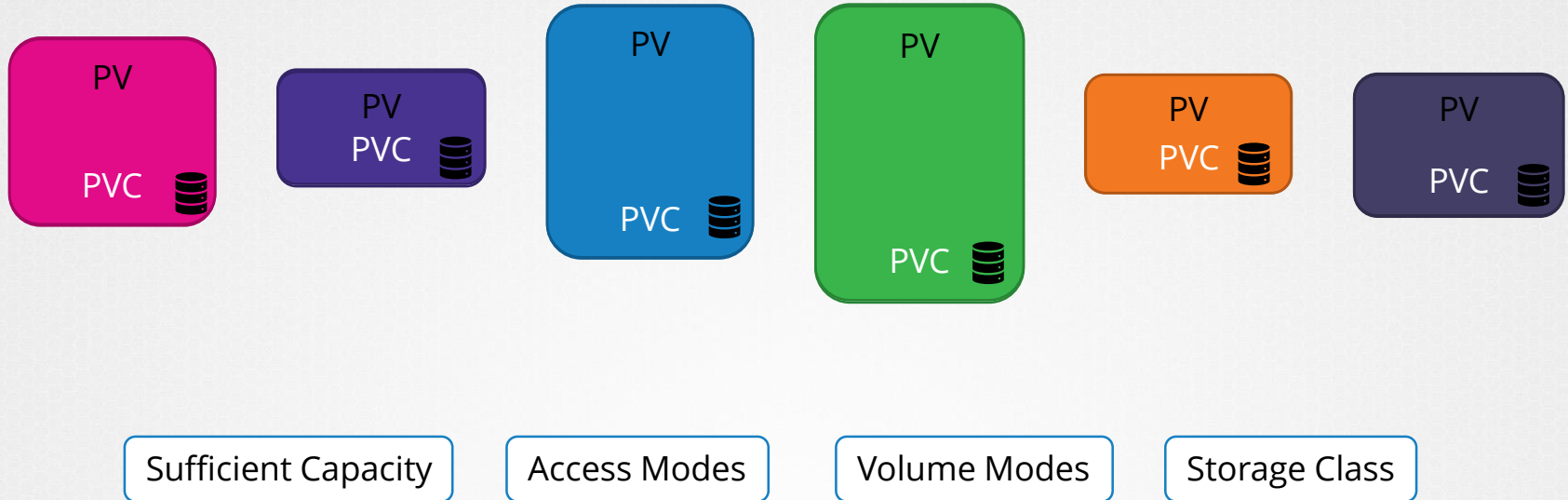
Persistent Volume Claim



| Binding



Binding



Binding

PVC

```
selector:  
  matchLabels:  
    name: my-pv
```

PV



```
labels:  
  name: my-pv
```

PV



Sufficient Capacity

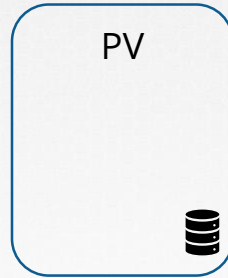
Access Modes

Volume Modes

Storage Class

Selector

Binding



Pending

Sufficient Capacity

Access Modes

Volume Modes

Storage Class

Selector

Persistent Volume Claim

pvc-definition.yaml

```
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

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

pv-definition.yaml

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

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

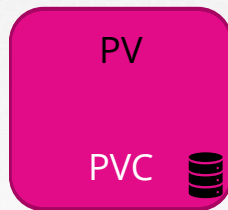

View PVCs

```
▶ 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
```