

Task

Configure a Pod to Use a PersistentVolume for Storage.

Create mount point

```
fouad2@client:~$  
[fouad2@client ~]$ sudo mkdir /mnt/data  
for fouad2:  
[fouad2@client ~]$  
[fouad2@client ~]$ sudo sh -c "echo 'Hello from Kubernetes storage' > /mnt/data/index.html"  
[fouad2@client ~]$  
[fouad2@client ~]$
```

```
t ~]$  
t ~]$ sudo mkdir -p /pods/storage  
t ~]$  
t ~]$ cd /pods/storage  
t storage]$
```

```
e]$  
e]$ sudo vim pv-volume.yaml  
fouad2:  
[fouad2@client ~]$
```

```

apiVersion: v1
kind: PersistentVolume
metadata:
  name: task-pv-volume
  labels:
    type: local
spec:
  storageClassName: manual
  capacity:
    storage: 10Gi
  accessModes:
    - ReadWriteOnce
  hostPath:
    path: "/mnt/data"

```

```

[fouad2@client storage]$ kubectl apply -f /pods/storage/pv-volume.yaml
persistentvolume/task-pv-volume created
[fouad2@client storage]$

```

```

[fouad2@client storage]$
[fouad2@client storage]$ kubectl get pv task-pv-volume


```

NAME	AGE	CAPACITY	ACCESS MODES	RECLAIM POLICY	STATUS	CLAIM	STORAGECLASS	VOLUMEATTRIBUTESCLASS	RE
task-pv-volume	2m33s	10Gi	RWO	Retain	Available		manual	<unset>	

```

[fouad2@client storage]$
[fouad2@client storage]$

```




```
e]$  
e]$ sudo vim pv-claim.yaml  
e]$  
f]$
```

```
apiVersion: v1  
kind: PersistentVolumeClaim  
metadata:  
  name: task-pv-claim  
spec:  
  storageClassName: manual  
  accessModes:  
    - ReadWriteOnce  
  resources:  
    requests:  
      storage: 3Gi
```

```
[fouad2@client storage]$  
[fouad2@client storage]$ kubectl apply -f pv-claim.yaml  
persistentvolumeclaim/task-pv-claim created  
[fouad2@client storage]$
```

```
[fouad2@client storage]$ kubectl get pv task-pv-volume  
NAME          CAPACITY  ACCESS MODES  RECLAIM POLICY  STATUS  CLAIM          STORAGECLASS  VOLUMEATTRIBU  
task-pv-volume  10Gi      RWO           Retain          Bound   default/task-pv-claim  manual        <unset>  
7m27s  
[fouad2@client storage]$  
[fouad2@client storage]$
```



Verify

```
[fouad2@client storage]$  
[fouad2@client storage]$ kubectl get pvc  
NAME          STATUS  VOLUME      CAPACITY  ACCESS MODES  STORAGECLASS  VOLUMEATTRIBUTESCLASS  AGE  
task-pv-claim  Bound   task-pv-volume  10Gi      RWO           manual        <unset>                103s  
[fouad2@client storage]$  
[fouad2@client storage]$
```

```
$  
$ sudo vim pv-pod.yaml
```

```
fouad2@clie  
apiVersion: v1  
kind: Pod  
metadata:  
  name: task-pv-pod  
spec:  
  volumes:  
    - name: task-pv-storage  
      persistentVolumeClaim:  
        claimName: task-pv-claim  
  containers:  
    - name: task-pv-container  
      image: nginx  
      ports:  
        - containerPort: 80  
          name: "http-server"  
      volumeMounts:  
        - mountPath: "/usr/share/nginx/html"  
          name: task-pv-storage
```

```
[fouad2@client storage]$ kubectl apply -f pv-pod.yaml
pod/task-pv-pod created
[fouad2@client storage]$
[fouad2@client storage]$ kubectl get pod task-pv-pod
NAME          READY   STATUS    RESTARTS   AGE
task-pv-pod   1/1     Running   0           26s
[fouad2@client storage]$
```

```
[fouad2@client storage]$ kubectl exec -it task-pv-pod -- /bin/bash
root@task-pv-pod:/#
root@task-pv-pod:/#
```

```
root@task-pv-pod:/#
root@task-pv-pod:/# apt update
```

```
root@task-pv-pod:/#
root@task-pv-pod:/# apt install curl
```

```
curl http://localhost/
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
curl is already the newest version (7.88.1-10+deb12u14).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Hello from Kubernetes storage
```