

Create and attach persistent volume claims to pods

To create and attach a persistent volume claims to pods, we are doing following configuration.

1. Creating a PersistentVolume (PV)

A PersistentVolume is a piece of storage in the cluster.

pv.yaml file:

```
apiVersion: v1
kind: PersistentVolume
metadata:
  name: my-pv
spec:
  capacity:
    storage: 1Gi
  accessModes:
    - ReadWriteOnce
  hostPath:
    path: /mnt/data
```

2. Create a PersistentVolumeClaim (PVC)

A PersistentVolumeClaim is a request for storage by a user.

Pvc.yaml file:

```
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: my-pvc
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 1Gi
```

3. Attach the PVC to a Pod

PVC in our pod's `volumes` section, and mount it in a container.

Pod.yaml file:

```
apiVersion: v1
kind: Pod
metadata:
  name: mypod
spec:
  containers:
    - name: mycontainer
      image: nginx
      volumeMounts:
        - mountPath: "/usr/share/nginx/html"
          name: my-storage
  volumes:
    - name: my-storage
      persistentVolumeClaim:
        claimName: my-pvc
```

4. Apply the YAML Files

```
$ kubectl apply -f pv.yaml
```

```
$ kubectl apply -f pvc.yaml
```

```
$ kubectl apply -f pod.yaml
```

5. Verify

Checking PVC status:

```
$ kubectl get pvc
```

Checking Pod status:

```
$ kubectl get pods
```