NOTE: All YAML files can be found in the GitHub Repo

* * * 1. REPLICA SET: * * *

- achieved replica set by creating 2 replicas for dapp (i.e node app)

```
shehrozwaseem@DESKTOP-7BRNBJJ:~$ kubectl get pods
NAME                       READY   STATUS    RESTARTS      AGE
dapp-6bb7b64cb4-88bm7      1/1     Running   1 (21m ago)   27m
dapp-6bb7b64cb4-g8r79      1/1     Running   1 (21m ago)   27m
ganache-59fc5cb6fc-ftnkz   1/1     Running   1 (21m ago)   28m
react-556b8b788d-2l9sr     1/1     Running   1 (21m ago)   24h
shehrozwaseem@DESKTOP-7BRNBJJ:~$ kubectl get deployments
NAME       READY   UP-TO-DATE   AVAILABLE   AGE
dapp       2/2     2            2           27m
ganache    1/1     1            1           24h
react      1/1     1            1           24h
```

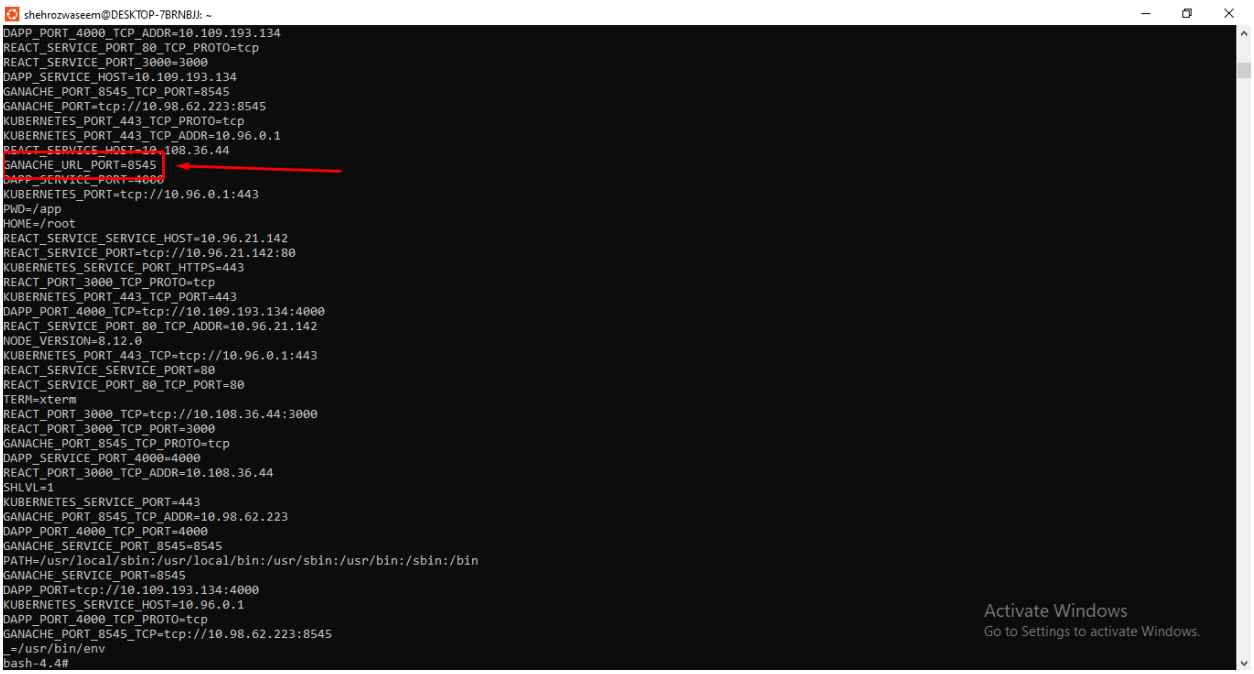
```
error: the server doesn't have a resource type "dapp"
shehrozwaseem@DESKTOP-7BRNBJJ:~$ kubectl describe deployment dapp
Name:                   dapp
Namespace:              default
CreationTimestamp:      Fri, 26 Jan 2024 21:46:27 -0500
Labels:                 io.kompose.service=dapp
Annotations:            deployment.kubernetes.io/revision: 1
                        kompose.cmd: kompose convert
                        kompose.version: 1.32.0 (765fde254)
Selector:               io.kompose.service=dapp
Replicas:               2 desired | 2 updated | 2 total | 2 available | 0 unavailable
StrategyType:           RollingUpdate
MinReadySeconds:        0
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:       io.kompose.network/docker-ethereum-default=true
                io.kompose.service=dapp
  Annotations:  kompose.cmd: kompose convert
                kompose.version: 1.32.0 (765fde254)
  Containers:
   dapp:
    Image:      schadokar/eth-server:1.0.0
    Port:       4000/TCP
    Host Port:  0/TCP
    Limits:
      cpu:     500m
      memory:  128Mi
    Requests:
      cpu:     250m
      memory:  64Mi
    Environment:
      GANACHE_URL_PORT:  <set to the key 'GANACHE_URL_PORT' of config map 'node-configmap'>  Optional: false
    Mounts:              <none>
  Volumes:               <none>
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Progressing    True    NewReplicaSetAvailable
  Available      True    MinimumReplicasAvailable
OldReplicaSets:  <none>
NewReplicaSet:   dapp-6bb7b64cb4 (2/2 replicas created)
Events:
  Type    Reason             Age   From                   Message
```

Activate Windows
Go to Settings to activate W

* * * 2. SECRET/CONFIG MAPS: * * *

-Created env variable via ConfigMap in DAPP (i.e node js app) the env var is **GANACHE_URL_PORT**

```
Pod Template:
  Labels:       io.kompose.network/docker-ethereum-default=true
                io.kompose.service=dapp
  Annotations:  kompose.cmd: kompose convert
                kompose.version: 1.32.0 (765fde254)
  Containers:
   dapp:
    Image:      schadokar/eth-server:1.0.0
    Port:       4000/TCP
    Host Port:  0/TCP
    Limits:
      cpu:     500m
      memory:  128Mi
    Requests:
      cpu:     250m
      memory:  64Mi
    Environment:
      GANACHE_URL_PORT:  <set to the key 'GANACHE_URL_PORT' of config map 'node-configmap'>  Optional: false
    Mounts:              <none>
  Volumes:               <none>
```



* * * 3. SCALING: * * *

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get hpa
NAME    REFERENCE          TARGETS   MINPODS   MAXPODS   REPLICAS   AGE
dapp    Deployment/dapp    0%/50%    2         4         2          16h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                       READY   STATUS    RESTARTS      AGE
dapp-6bb7b64cb4-g8r79      1/1     Running   1 (18h ago)   18h
dapp-6bb7b64cb4-qn6gv      1/1     Running   0             2m9s
ganache-59fc5cb6fc-ftnkz   1/1     Running   1 (18h ago)   18h
react-556b8b788d-2l9sr     1/1     Running   1 (18h ago)   42h
```

```
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:       io.kompose.network/docker-ethereum-default=true
                io.kompose.service=dapp
  Annotations:  kompose.cmd: kompose convert
                kompose.version: 1.32.0 (765fde254)
  Containers:
   dapp:
    Image:      schadokar/eth-server:1.0.0
    Port:       4000/TCP
    Host Port:  0/TCP
    Limits:
      cpu:     500m
      memory:  128Mi
    Requests:
      cpu:     250m
      memory:  64Mi
    Environment:
      GANACHE_URL_PORT:  <set to the key 'GANACHE_URL_PORT' of config map 'node-configmap'>  Optional: false
    Mounts:              <none>
  Volumes:               <none>
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Progressing    True    NewReplicaSetAvailable
  Available      True    MinimumReplicasAvailable
OldReplicaSets:  <none>
NewReplicaSet:   dapp-6bb7b64cb4 (2/2 replicas created)
Events:
  Type    Reason             Age   From                   Message
  ----    ------             ----  ----                   -------
  Normal  ScalingReplicaSet  27m   deployment-controller  Scaled down replica set dapp-6bb7b64cb4 to 1 from 2
  Normal  ScalingReplicaSet  5m3s  deployment-controller  Scaled up replica set dapp-6bb7b64cb4 to 2 from 1
```

SCALING IN PLAY:

- I updated the image with in deployment file to add file write functionality to my code to achieve storage task so it started a new pod with new image that has **AGE as 3s**:

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                        READY   STATUS        RESTARTS      AGE
dapp-546f564bb4-vldj6       1/1     Terminating   0             6m
dapp-7458c7b46b-26h9s       1/1     Running       0             3m5s
dapp-7458c7b46b-lzk4z       1/1     Running       0             3s
ganache-59fc5cb6fc-ftnkz    1/1     Running       1 (19h ago)   20h
react-556b8b788d-2l9sr      1/1     Running       1 (19h ago)   44h
```

- Now after a while I checked it terminated the first pod as there was not much of utilization:

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                        READY   STATUS        RESTARTS      AGE
dapp-546f564bb4-vldj6       1/1     Terminating   0             6m
dapp-7458c7b46b-26h9s       1/1     Running       0             3m5s
dapp-7458c7b46b-lzk4z       1/1     Running       0             3s
ganache-59fc5cb6fc-ftnkz    1/1     Running       1 (19h ago)   20h
react-556b8b788d-2l9sr      1/1     Running       1 (19h ago)   44h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                        READY   STATUS    RESTARTS      AGE
dapp-7458c7b46b-26h9s       1/1     Running   0             8m42s
dapp-7458c7b46b-lzk4z       1/1     Running   0             5m40s
ganache-59fc5cb6fc-ftnkz    1/1     Running   1 (20h ago)   20h
react-556b8b788d-2l9sr      1/1     Running   1 (20h ago)   44h
```

* * * 4. STORAGE: * * *

- First create PV, PVC and Storage Class. Configure volume in yaml file for dapp-deployment.

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pv
NAME                                       CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS     CLAIM                 STORAGECLASS          REASON   AGE
node-pv                                    1Gi        RWX            Retain           Bound      default/node-pvc      node-storage-class             13m
pvc-06244c10-d31c-4add-9fed-363d2dc1800b   1Gi        RWO            Delete           Released   default/node-pvc      standard                       42h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pvc
NAME       STATUS   VOLUME    CAPACITY   ACCESS MODES   STORAGECLASS          AGE
node-pvc   Bound    node-pv   1Gi        RWX            node-storage-class    13m
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get storageclass
NAME                 PROVISIONER                RECLAIMPOLICY   VOLUMEBINDINGMODE   ALLOWVOLUMEEXPANSION   AGE
node-storage-class   kubernetes.io/no-provisioner   Delete          Immediate           false                  13m
standard (default)   k8s.io/minikube-hostpath   Delete          Immediate           false                  3d
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$
```

Activate Windows

NodeJS CODE (updated the do

```
const mntDirectory = path.resolve('/mnt');

const filePath = path.join(mntDirectory, 'kubVolume.txt');

// const filePath = '../../kubVolume.txt';
// const kubVolumePat = '../';
// Compile the contract
router.post("/compile", async function (req, res, next) {
  try {
    const result = compile();
    fs.appendFileSync(filePath, result, 'utf-8');
    console.log('Data appended successfully.');
    res.send(result);
  } catch (error) {
    console.error('Error appending data:', error.message);
    res.send("failed ");
    // Handle the error as needed
  }

});

// Deploy the contract
router.post("/deploy", async function (req, res, next) {
  try {
    const result = await deploy("Namaste Dockercon 2022!");
    fs.appendFileSync(filePath, JSON.parse(result).address, 'utf-8');
    res.send(JSON.parse(result).address);
    console.log('Data appended successfully.');
  } catch (error) {
    console.error('Error appending data:', error.message);
    res.send("failed ");
    // Handle the error as needed
  }
});
```

cker image also)

Lets configure the PV hostpath

```
    spec:
      containers:
        - image: shehroz85waseem/node-with-vol:5.0
        # - image: schadokar/eth-server:1.0.0
          name: dapp
          ports:
            - containerPort: 4000
              # hostPort: 4000
              protocol: TCP
          env:
            - name: GANACHE_URL_PORT
              valueFrom:
                configMapKeyRef:
                  name: node-configmap
                  key: GANACHE_URL_PORT
          volumeMounts:
          - name: node-storage-1
            mountPath: /mnt
          resources:
            requests:
              memory: "64Mi"
              cpu: "250m"
            limits:
              memory: "128Mi"
              cpu: "500m"
      volumes:
      - name: node-storage-1
        persistentVolumeClaim:
          claimName: node-claim
      restartPolicy: Always

        # - image: schadokar/eth-server:1.0.0
```

```
              kubectl.kubernetes.io/restartedAt: 2024-01-27T23:27:45-05:00
  Containers:
   dapp:
    Image:      shehroz85waseem/node-with-vol:5.0
    Port:       4000/TCP
    Host Port:  0/TCP
    Limits:
      cpu:     500m
      memory:  128Mi
    Requests:
      cpu:     250m
      memory:  64Mi
    Environment:
      GANACHE_URL_PORT:  <set to the key 'GANACHE_URL_PORT' of config map 'node-configmap'>  Optional: false
    Mounts:
      /mnt from node-storage-1 (rw)
  Volumes:
   node-storage-1:
    Type:       PersistentVolumeClaim (a reference to a PersistentVolumeClaim in the same namespace)
    ClaimName:  node-claim
    ReadOnly:   false
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Available      True    MinimumReplicasAvailable
  Progressing    True    NewReplicaSetAvailable
OldReplicaSets:  dapp-86c74b66f7 (0/0 replicas created), dapp-d4c8fc496 (0/0 replicas created), dapp-5fcd74c9df (0/0 replicas created), dapp-75588cb6dc (0/0 repli
eated), dapp-6956f8d658 (0/0 replicas created), dapp-5f9fdb579b (0/0 replicas created), dapp-8544fdbfd7 (0/0 replicas created), dapp-95664664f (0/0 replicas creat
app-5775b4f77d (0/0 replicas created), dapp-c7b975659 (0/0 replicas created)
NewReplicaSet:   dapp-8478f94949 (2/2 replicas created)
Events:
  Type    Reason             Age   From                   Message
  ----    ------             ----  ----                   -------
  Normal  ScalingReplicaSet  11m   deployment-controller  Scaled up replica set dapp-8478f94949 to 1
  Normal  ScalingReplicaSet  11m   deployment-controller  Scaled down replica set dapp-c7b975659 to 1 from 2
  Normal  ScalingReplicaSet  11m   deployment-controller  Scaled up replica set dapp-8478f94949 to 2 from 1
  Normal  ScalingReplicaSet  11m   deployment-controller  Scaled down replica set dapp-c7b975659 to 0 from 1
```

Activate Windows

New pod creation as I have to do several deployments to achieve the goal

Below you can see the file created via nodejs is accessible by both pods

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                      READY   STATUS              RESTARTS      AGE
dapp-8478f94949-nqzrq     0/1     ContainerCreating   0             5s
dapp-c7b975659-8mqmh      1/1     Running             0             98m
dapp-c7b975659-bxq75      1/1     Running             0             98m
ganache-59fc5cb6fc-ftnkz  1/1     Running             1 (27h ago)   27h
react-556b8b788d-2l9sr    1/1     Running             1 (27h ago)   2d3h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                      READY   STATUS        RESTARTS      AGE
dapp-8478f94949-nqzrq     1/1     Running       0             11s
dapp-8478f94949-s7pmv     1/1     Running       0             4s
dapp-c7b975659-bxq75      1/1     Terminating   0             98m
ganache-59fc5cb6fc-ftnkz  1/1     Running       1 (27h ago)   27h
react-556b8b788d-2l9sr    1/1     Running       1 (27h ago)   2d3h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                      READY   STATUS    RESTARTS      AGE
dapp-8478f94949-nqzrq     1/1     Running   0             16s
dapp-8478f94949-s7pmv     1/1     Running   0             9s
ganache-59fc5cb6fc-ftnkz  1/1     Running   1 (27h ago)   27h
react-556b8b788d-2l9sr    1/1     Running   1 (27h ago)   2d3h
```

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl exec -it dapp-8478f94949-s7pmv -- /bin/bash
bash-4.4# ls
Dockerfile                  LICENSE.md                  docker-compose.yml          node_modules                server
Dockerfile.ganache          Lab 2 Docker Compose Video.mp4  ethereum                package-lock.json
LICENSE                     README.md                   how to.md                   package.json
bash-4.4# cd ..
bash-4.4# su
/ # ls
app    bin    dev    etc    home   lib    media  mnt    opt    proc   root   run    sbin   srv    sys    tmp    usr    var
/ # cd mnt
/mnt # ls
CHANGELOG      boot           docker.key     kic.txt        lib            libx32         opt            run            sys            var
Release.key    data           etc            kind           lib32          media          proc           sbin           tmp            version.json
bin            dev            home           kubVolume.txt  lib64          mnt            root           srv            usr
/mnt # exit
bash-4.4# exir
bash: exir: command not found
bash-4.4# exit
exit
command terminated with exit code 127
```

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get pods
NAME                      READY   STATUS    RESTARTS      AGE
dapp-8478f94949-nqzrq     1/1     Running   0             2m45s
dapp-8478f94949-s7pmv     1/1     Running   0             2m38s
ganache-59fc5cb6fc-ftnkz  1/1     Running   1 (27h ago)   27h
react-556b8b788d-2l9sr    1/1     Running   1 (27h ago)   2d3h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl exec -it dapp-8478f94949-nqzrq -- /bin/bash
bash-4.4# su
/app # cd ..
/ # cd /mnt
/mnt # ls
CHANGELOG      boot           docker.key     kic.txt        lib            libx32         opt            run            sys            var
Release.key    data           etc            kind           lib32          media          proc           sbin           tmp            version.json
bin            dev            home           kubVolume.txt  lib64          mnt            root           srv            usr
/mnt #
```

A separate demo video is also available in the repo

* * * 4. Load Balancer * * *

Before Load Balancer:

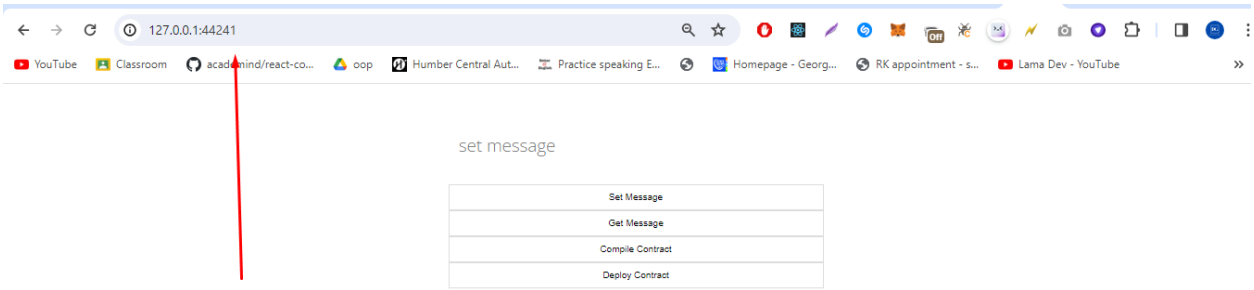
```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ min
|-----------|-------|-------------|--------------|
| NAMESPACE | NAME  | TARGET PORT |     URL      |
|-----------|-------|-------------|--------------|
| default   | react |             | No node port |
|-----------|-------|-------------|--------------|
😿  service default/react has no node port
❗  Starting tunnel for service react.
|-----------|-------|-------------|------------------------|
| NAMESPACE | NAME  | TARGET PORT |          URL           |
|-----------|-------|-------------|------------------------|
| default   | react |             | http://127.0.0.1:39759 |
|-----------|-------|-------------|------------------------|
❗  Opening service default/react in default browser...
❗  http://127.0.0.1:39759
❗  Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get services
NAME         TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)    AGE
dapp         ClusterIP   10.109.193.134   <none>        4000/TCP   2d4h
ganache      ClusterIP   10.98.62.223     <none>        8545/TCP   2d4h
kubernetes   ClusterIP   10.96.0.1        <none>        443/TCP    3d8h
react        ClusterIP   10.108.36.44     <none>        3000/TCP   2d4h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$
```

After Load Balancer:

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl get services
NAME         TYPE           CLUSTER-IP       EXTERNAL-IP   PORT(S)          AGE
dapp         ClusterIP      10.109.193.134   <none>        4000/TCP         2d4h
ganache      ClusterIP      10.98.62.223     <none>        8545/TCP         2d4h
kubernetes   ClusterIP      10.96.0.1        <none>        443/TCP          3d8h
react        LoadBalancer   10.108.36.44     <pending>     3000:32426/TCP   2d4h
```

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ minikube service react
|-----------|-------|-------------|---------------------------|
| NAMESPACE | NAME  | TARGET PORT |            URL            |
|-----------|-------|-------------|---------------------------|
| default   | react | 3000/3000   | http://192.168.49.2:32426 |
|-----------|-------|-------------|---------------------------|
🎉  Starting tunnel for service react.
|-----------|-------|-------------|------------------------|
| NAMESPACE | NAME  | TARGET PORT |          URL           |
|-----------|-------|-------------|------------------------|
| default   | react |             | http://127.0.0.1:44241 |
|-----------|-------|-------------|------------------------|
🎉  Opening service default/react in default browser...
🎉  http://127.0.0.1:44241
🎉  Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```



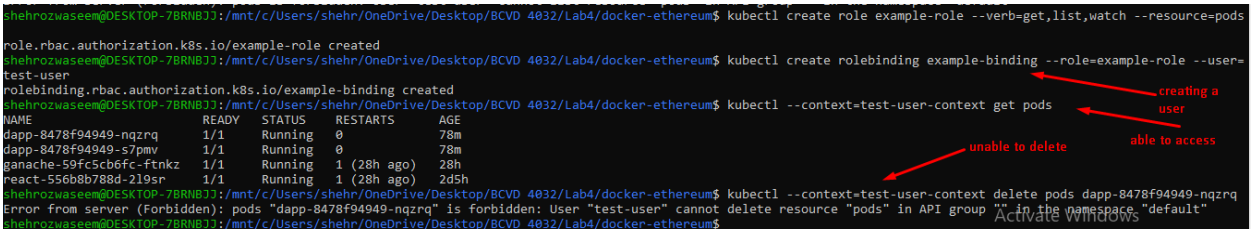
* * * 5. RBAC: * * *

Enforced(1) and Created(2) a test-user in an imperative way; set the context as that user to get pods and it failed as no permissions are assigned to it

```
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ openssl genpkey -algorithm RSA -out test-user.key
..........+...+.+......+..........+.........+.+........++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++*..+...+.+..+...+................+.....+......
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++*....+.............+...+..+....+......+..+.+......+.......................+.........+.+...+...+........+..
.......+.+..+.......+..+...+.............+.....+...+......+.................+.+...+.....+...+.....................+.........+...+.....+.............+.+.....+...+...+..+.
..........+...+......+..........+..+..........+........+......+.+.............................+....+.....+.+.........+...........+................+...+.+..+............
+..........+..+....+..........+.............+.....+......+.+...+...+.....+....+...+..+..........+......+........+......++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++
.+....++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++*..+..++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++*....+....+...+...+..+++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ openssl req -new -key test-user.key -out test-user.csr -subj "/CN=test
-user/O=group1"
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ openssl x509 -req -in test-user.csr -CA ~/.minikube/ca.crt -CAkey ~/.m
inikube/ca.key -CAcreateserial -out test-user.crt -days 500
Certificate request self-signature ok
subject=CN = test-user, O = group1
```

```
User "test-user" set.
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl config set-context test-user-context --cluster=minikube --user
=test-user
Context "test-user-context" created.
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl --context=test-user-context get pods
Error from server (Forbidden): pods is forbidden: User "test-user" cannot list resource "pods" in API group "" in the namespace "default"
```

Now I'll create a role named example-role with read-only access to pods and then will try to perform the operation that is not assigned to it:


shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl create role example-role --verb=get,list,watch --resource=pods
role.rbac.authorization.k8s.io/example-role created
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl create rolebinding example-binding --role=example-role --user=test-user
rolebinding.rbac.authorization.k8s.io/example-binding created
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl --context=test-user-context get pods
NAME READY STATUS RESTARTS AGE
dapp-8478f94949-nqzrq 1/1 Running 0 78m
dapp-8478f94949-s7pmv 1/1 Running 0 78m
ganache-59fc5cb6fc-ftnkz 1/1 Running 1 (28h ago) 28h
react-556b8b788d-2l9sr 1/1 Running 1 (28h ago) 2d5h
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$ kubectl --context=test-user-context delete pods dapp-8478f94949-nqzrq
Error from server (Forbidden): pods "dapp-8478f94949-nqzrq" is forbidden: User "test-user" cannot delete resource "pods" in API group "" in the namespace "default"
shehrozwaseem@DESKTOP-7BRNBJJ:/mnt/c/Users/shehr/OneDrive/Desktop/BCVD 4032/Lab4/docker-ethereum$
creating a user
able to access
unable to delete
Activate Windows