FINAL LAB

1- create a namespace iti-devops

```
sara@vm:~$ kubectl create ns iti-devops
namespace/iti-devops created
```

2- create a service account iti-sa-devops under the same namespace

```
sara@vm:~$ kubectl create serviceaccount iti-sa-devops --namespace iti-devops
serviceaccount/iti-sa-devops created
```

3- create a clusteRole which should be named as cluster-role-devops to grant permissions
"get","list","watch","create","patch","update" to
"configMaps","secrets","endpoints","nodes","pods","services","namespaces","events","serviceAccounts".

```
apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRole
metadata:
  name: cluster-role-devops
rules:
  - apiGroups: [""]
    resources: ["configMaps", "secrets", "endpoints", "nodes", "pods", "service
s", "namespaces", "events", "serviceAccounts"]
    verbs: ["get", "watch", "list", "create", "patch", "update"]
```

4- create a ClusterRoleBinding which should be named as cluster-role-binding-devops under the same namespace. Define roleRef apiGroup should be rbac.authorization.k8s.io . Kind should be ClusterRole, name should be cluster-role-devops and subjects kind should be ServiceAccount: name should be iti-sa-devops and namespace should be iti-devops

```
sara@vm: ~

apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRoleBinding
metadata:
  name: cluster-role-binding-devops
subjects:
- kind: ServiceAccount
  name: iti-sa-devops
  namespace: iti-devops
roleRef:
  kind: ClusterRole
  name: cluster-role-devops
  apiGroup: rbac.authorization.k8s.io
~
~
~
~
~
~
~
-- INSERT --                                    8,24              All
```

5- What is the difference between statefulSets and deployments?

- in deployment after applying to the deployment, each pod created with random hash and doesn't matter
  which pod receives the traffic and the pods don't have a unique identity
  all pods in the deployment go to the same pvc
- statefulSet makes a unique identity to each pod and each pod has it's pvc
  statefulSet creates headless service

6- Set up Ingress on Minikube with the NGINX Ingress Controller
play around with paths , you can create more than 2 deployments if you like
https://kubernetes.io/docs/tasks/access-application-cluster/ingress-minikube/

```
sara@vm:~$ curl hello-world.info
Hello, world!
Version: 1.0.0
Hostname: web-84fb9498c7-knpdh
sara@vm:~$ curl hello-world.info/v2
Hello, world!
Version: 2.0.0
Hostname: web2-7df4dcf77b-tcbfc
```

Best of Luck