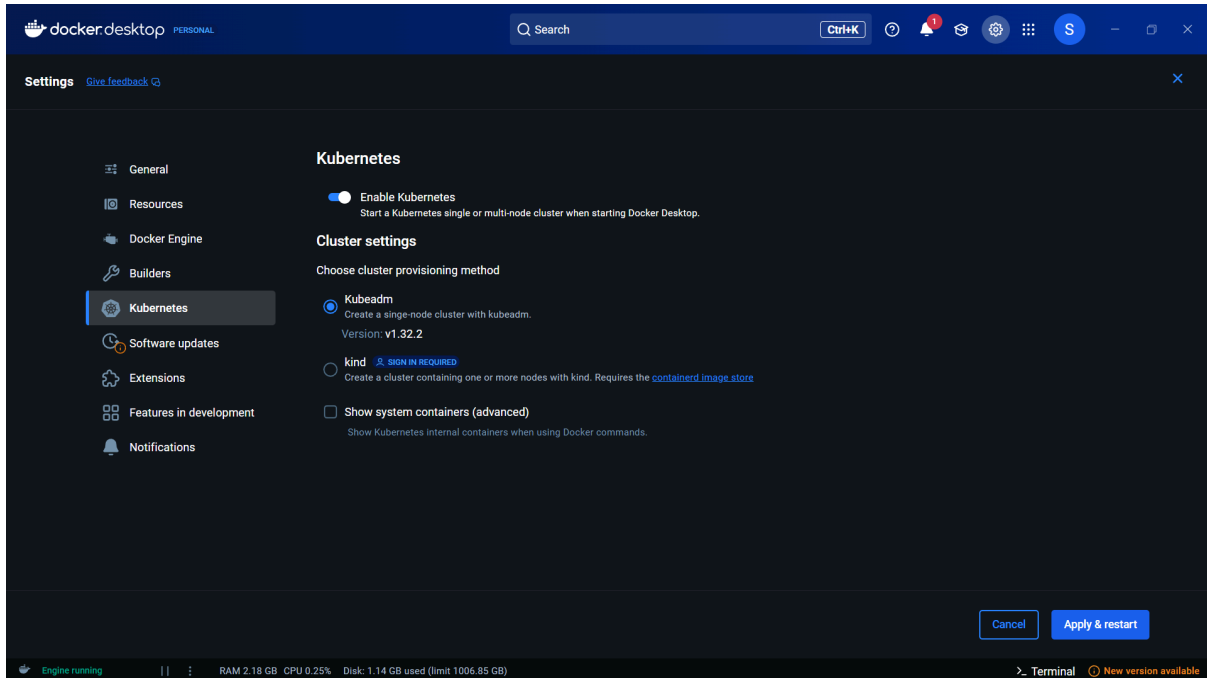


Kubernetes - Codelab DS3

1) Kubernetes nivel basico - Local



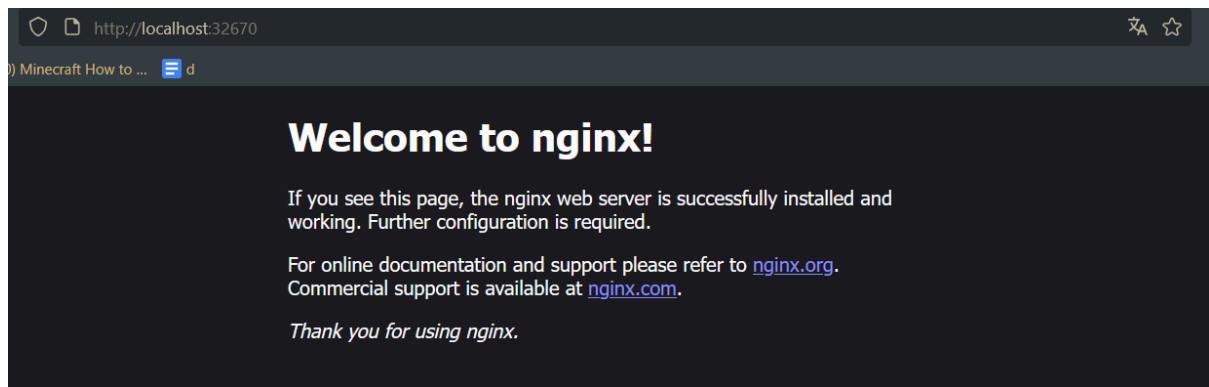
```
C:\Users\Juan Pablo Escobar>kubectl get nodes
NAME                STATUS    ROLES    AGE   VERSION
docker-desktop      Ready     control-plane  43s   v1.32.2
```

```
C:\Users\Juan Pablo Escobar>kubectl create deployment nginx-deploy --image=nginx
deployment.apps/nginx-deploy created
```

```
C:\Users\Juan Pablo Escobar>kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
nginx-deploy-c9d9f6c6c-4xrll       0/1     ContainerCreating  0           3s
```

```
C:\Users\Juan Pablo Escobar>kubectl expose deployment nginx-deploy --type=NodePort --port=80
service/nginx-deploy exposed
```

```
C:\Users\Juan Pablo Escobar>kubectl get service
NAME            TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
kubernetes      ClusterIP   10.96.0.1     <none>         443/TCP          2m56s
nginx-deploy    NodePort    10.101.2.74   <none>         80:32670/TCP     39s
```



```
C:\Users\Juan Pablo Escobar>kubectl scale deployment nginx-deploy --replicas=3
deployment.apps/nginx-deploy scaled
```

```
C:\Users\Juan Pablo Escobar>kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
nginx-deploy-c9d9f6c6c-4xrll	1/1	Running	0	2m32s
nginx-deploy-c9d9f6c6c-5z8xn	1/1	Running	0	11s
nginx-deploy-c9d9f6c6c-pfx8h	1/1	Running	0	11s

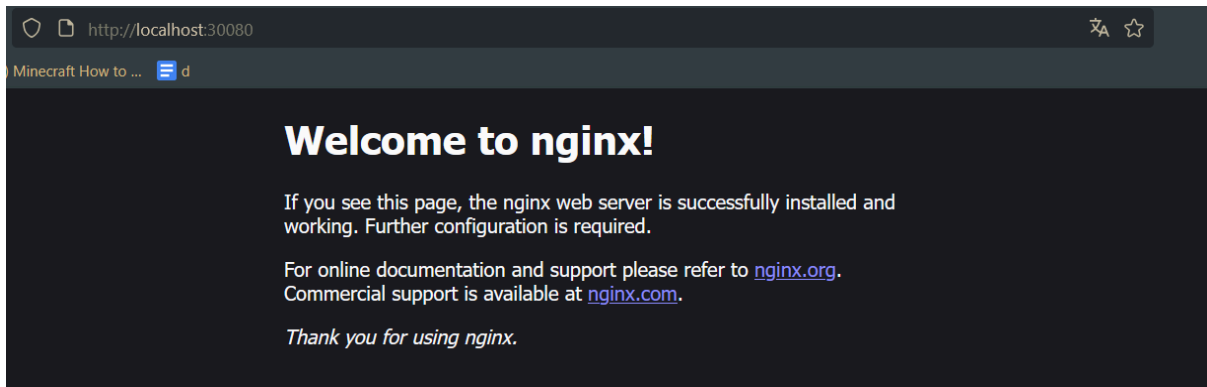
```
C:\Users\Juan Pablo Escobar>kubectl delete service nginx-deploy
service "nginx-deploy" deleted
```

```
C:\Users\Juan Pablo Escobar>kubectl delete deployment nginx-deploy
deployment.apps "nginx-deploy" deleted
```

2) Kubernetes nivel intermedio - Local

```
C: > Users > Juan Pablo Escobar > Documents > Codelabs > codelabs-ds3 > kubernetes > ! webapp.yaml
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: webapp
5  spec:
6    replicas: 2
7    selector:
8      matchLabels:
9        app: webapp
10   template:
11     metadata:
12       labels:
13         app: webapp
14     spec:
15       containers:
16       - name: nginx
17         image: nginx
18         ports:
19         - containerPort: 80
20   ---
21   apiVersion: v1
22   kind: Service
23   metadata:
24     name: webapp-service
25   spec:
26     selector:
27       app: webapp
28     type: NodePort
29     ports:
30     - port: 80
31       targetPort: 80
32       nodePort: 30080
33
```

```
PS C:\Users\Juan Pablo Escobar\Documents\Codelabs\codelabs-ds3\kubernetes> kubectl get deployments
>>
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
webapp    2/2     2            2           13s
PS C:\Users\Juan Pablo Escobar\Documents\Codelabs\codelabs-ds3\kubernetes> kubectl get pods
>>
NAME                                READY   STATUS    RESTARTS   AGE
webapp-869b646d9f-jzkgk             1/1     Running   0           20s
webapp-869b646d9f-p2dmn             1/1     Running   0           20s
PS C:\Users\Juan Pablo Escobar\Documents\Codelabs\codelabs-ds3\kubernetes> kubectl get services
NAME            TYPE        CLUSTER-IP    EXTERNAL-IP   PORT(S)          AGE
kubernetes     ClusterIP   10.96.0.1     <none>        443/TCP          9m30s
webapp-service  NodePort    10.104.253.163 <none>        80:30080/TCP     24s
```



```
20      env:
21      - name: SALUDO
22        valueFrom:
23          configMapKeyRef:
24            name: webapp-config
25            key: SALUDO
```

Se escribe kubectl apply -f configmap.yaml

```
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl apply -f webapp.yaml
deployment.apps/webapp configured
service/webapp-service unchanged
```

```
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl get pods
>>
NAME                                READY   STATUS    RESTARTS   AGE
webapp-6b995fc796-dt49s             1/1     Running   0           15s
webapp-6b995fc796-gtm7p             1/1     Running   0           18s
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl exec -it webapp-6b995fc796-gtm7p -- printenv SALUDO
Hola desde Kubernetes!
```

```
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl apply -f secret.yaml
secret/webapp-secret created
```

```
- name: PASSWORD
  valueFrom:
    secretKeyRef:
      name: webapp-secret
      key: PASSWORD
```

```
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl apply -f webapp.yaml
>>
deployment.apps/webapp configured
service/webapp-service unchanged
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl get pods
>>
NAME                                READY   STATUS    RESTARTS   AGE
webapp-894cd5756-462b9             1/1     Running   0           5s
webapp-894cd5756-v2fkr             1/1     Running   0           9s
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl exec -it webapp-894cd5756-462b9 -- printenv PASSWOR
command terminated with exit code 1
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl exec -it webapp-894cd5756-462b9 -- printenv PASSWORD
command terminated with exit code 1
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes> kubectl exec -it webapp-894cd5756-462b9 -- printenv PASSWORD
secreto123
PS C:\Users\Juan Pablo Escobar\Documents\CodeLabs\codeLabs-ds3\kubernetes>
```

```
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes> kubectl apply -f config-volume.yaml
configmap/html-config created
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes> kubectl apply -f webapp-volumen.yaml
>>
deployment.apps/webapp-volumen created
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes> kubectl expose deployment webapp-volumen --type=NodePort --port=80 --name=webapp-volumen-service
service/webapp-volumen-service exposed
```

```
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes> kubectl get service
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	17m
webapp-service	NodePort	10.104.253.163	<none>	80:30080/TCP	8m49s
webapp-volumen-service	NodePort	10.99.187.225	<none>	80:31396/TCP	36s

```
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes>
```



Hola desde un volumen en kubernetes!

```
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl apply -f namespace.yaml
namespace/auth-demo created
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl config set-context --current --namespace=auth-demo
Context "docker-desktop" modified.
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl apply -f db1.yaml
persistentvolumeclaim/db1-pvc created
service/db1 created
deployment.apps/db1 created
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl apply -f db2.yaml
persistentvolumeclaim/db2-pvc created
service/db2 created
deployment.apps/db2 created
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl apply -f pais-service.yaml
service/pais-service created
deployment.apps/pais-service created
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl apply -f auth-service.yaml
service/auth-service created
deployment.apps/auth-service created
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
auth-service-7df446bdb-jwrm	0/1	ContainerCreating	0	10s
db1-dbd647-jk67k	0/1	ContainerCreating	0	12s
db2-6ddd5445f5-blznp	0/1	ContainerCreating	0	12s
pais-service-796bb57fcc-grlk2	0/1	ContainerCreating	0	11s

```
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl get svc
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
auth-service	ClusterIP	10.107.171.24	<none>	8080/TCP	17s
db1	ClusterIP	10.102.160.120	<none>	5432/TCP	19s
db2	ClusterIP	10.101.109.141	<none>	5432/TCP	19s
pais-service	ClusterIP	10.110.86.239	<none>	8082/TCP	19s

```
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl port-forward svc/auth-service 8081:8080
Forwarding from 127.0.0.1:8081 -> 8080
Forwarding from [::1]:8081 -> 8080
Handling connection for 8081
```

```
PS C:\Users\Juan Pablo Escobar\Documents\Code\labs\code\labs-ds3\kubernetes\k8s-auth-demo> kubectl port-forward svc/pais-service 8082:8080
Forwarding from 127.0.0.1:8082 -> 8080
Forwarding from [::1]:8082 -> 8080
Handling connection for 8082
```

No se tiene acceso

