

## Lab 3

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### # Demo screenshots

```
lenovo@Vikram: ~  
Verifying Kubernetes components...  
Enabled addons: storage-provisioner, default-storageclass  
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default  
lenovo@Vikram:~$ kubectl apply -f replicaset.yaml  
replicaset.apps/nginx created  
lenovo@Vikram:~$ kubectl get pods  
NAME          READY   STATUS             RESTARTS   AGE  
nginx-8nghh   0/1     ContainerCreating   0           4s  
nginx-cp2r7   0/1     ContainerCreating   0           4s  
nginx-vmp94   0/1     ContainerCreating   0           4s  
lenovo@Vikram:~$ kubectl get pods  
NAME          READY   STATUS             RESTARTS   AGE  
nginx-8nghh   0/1     ContainerCreating   0          22s  
nginx-cp2r7   0/1     ContainerCreating   0          22s  
nginx-vmp94   0/1     ContainerCreating   0          22s  
lenovo@Vikram:~$ kubectl get pods  
NAME          READY   STATUS    RESTARTS   AGE  
nginx-8nghh   1/1     Running   0           88s  
nginx-cp2r7   1/1     Running   0           88s  
nginx-vmp94   1/1     Running   0           88s  
lenovo@Vikram:~$ kubectl delete pod nginx-vmp94  
pod "nginx-vmp94" deleted  
lenovo@Vikram:~$ kubectl get pods  
NAME          READY   STATUS    RESTARTS   AGE  
nginx-8nghh   1/1     Running   0          2m17s  
nginx-8tcvh   1/1     Running   0           16s  
nginx-cp2r7   1/1     Running   0          2m17s  
lenovo@Vikram:~$ kubectl get replicaset  
NAME          DESIRED   CURRENT   READY   AGE  
nginx         3          3          3       2m28s
```

```
lenovo@Vikram:~$ kubectl apply -f deployment.yaml  
deployment.apps/nginx-deployment created  
lenovo@Vikram:~$ kubectl get deployments  
NAME          READY   UP-TO-DATE   AVAILABLE   AGE  
nginx-deployment 3/3      3             3           3m30s  
lenovo@Vikram:~$ kubectl rollout status deployment nginx  
Error from server (NotFound): deployments.apps "nginx" not found  
lenovo@Vikram:~$ kubectl rollout status deployment nginx-deployment  
deployment "nginx-deployment" successfully rolled out  
lenovo@Vikram:~$ kubectl apply -f statefulset.yaml  
service/nginx created  
statefulset.apps/web created  
lenovo@Vikram:~$ kubectl get statefulsets  
NAME          READY   AGE  
web           0/3     11s  
lenovo@Vikram:~$ kubectl get statefulsets  
NAME          READY   AGE  
web           0/3     33s  
lenovo@Vikram:~$ |
```

```
lenovo@Vikram:~$ kubectl apply -f daemonset.yaml  
daemonset.apps/nginx created  
lenovo@Vikram:~$ kubectl get daemonset  
NAME          DESIRED   CURRENT   READY   UP-TO-DATE   AVAILABLE   NODE SELECTOR   AGE  
nginx         1          1          1          1             1           <none>          48s  
lenovo@Vikram:~$ kubectl apply -f deploymentResourceLimit.yaml  
deployment.apps/nginx-deployment configured  
lenovo@Vikram:~$ kubectl get deployments  
NAME          READY   UP-TO-DATE   AVAILABLE   AGE  
nginx-deployment 3/3      3             3           10m  
lenovo@Vikram:~$ kubectl apply -f deploymentHealthCheck.yaml  
deployment.apps/nginx-deployment configured  
lenovo@Vikram:~$ kubectl get deployments  
NAME          READY   UP-TO-DATE   AVAILABLE   AGE  
nginx-deployment 3/3      1             3           12m  
lenovo@Vikram:~$ |
```

## # Kubernetes Demo screenshots

```
lenovo@Vikram: $ cd /mnt/e/kubernetes-demo/kubernetes
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f secrets/mongodb-secret.yml
secret/mongodb-secret created
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f stateful-sets/mongodb-stateful-set.yml
statefulset.apps/mongodb-stateful-set created
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f services/mongodb-service.yml
service/mongodb-service created
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f deployments/note-server-depl.yml
deployment.apps/note-server-deployment created
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f services/note-server-service.yml
Error from server (InternalError): error when creating "services/note-server-service.yml": Internal error occurred: failed to allocate a service IP: etcdserver: request timed out
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f secrets/mongodb-secret.yml
secret/mongodb-secret unchanged
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f services/note-server-service.yml
service/note-server-service created
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f deployments/note-depl.yml
deployment.apps/note-deployment created
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ kubectl apply -f services/note-service.yml
service/note-service created
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ minikube service note-service
! Executing "docker container inspect minikube --format={{.State.Status}}" took an unusually long time: 19.264245709s
! Restarting the docker service may improve performance.

X Exiting due to GUEST_STATUS: Unable to get machine status: state: unknown state "minikube": context deadline exceeded
```

📌 If the above advice does not help, please let us know:  
👉 <https://github.com/kubernetes/minikube/issues/new/choose>

Please run 'minikube logs --file=logs.txt' and attach logs.txt to the GitHub issue.  
Please also attach the following file to the GitHub issue:  
- /tmp/minikube\_service\_4e6c8726bae76636d96e17f2be761750e8017700\_0.log

```
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ minikube service note-service
! Executing "docker container inspect minikube --format={{.State.Status}}" took an unusually long time: 6.453927391s
! Restarting the docker service may improve performance.
```

NAMESPACE	NAME	TARGET PORT	URL
default	note-service	3000	http://192.168.49.2:30351

```
X Exiting due to SVC_UNREACHABLE: service not available: no running pod for service note-service found
```

📌 If the above advice does not help, please let us know:  
👉 <https://github.com/kubernetes/minikube/issues/new/choose>

Please run 'minikube logs --file=logs.txt' and attach logs.txt to the GitHub issue.  
Please also attach the following file to the GitHub issue:  
- /tmp/minikube\_service\_4e6c8726bae76636d96e17f2be761750e8017700\_0.log

```
lenovo@Vikram:/mnt/e/kubernetes-demo/kubernetes$ minikube service note-service
! Executing "docker container inspect minikube --format={{.State.Status}}" took an unusually long time: 6.453927391s
! Restarting the docker service may improve performance.
```

NAMESPACE	NAME	TARGET PORT	URL
default	note-service	3000	http://192.168.49.2:30351

🌟 Starting tunnel for service note-service.

NAMESPACE	NAME	TARGET PORT	URL
default	note-service		http://127.0.0.1:34429

```
🔗 Opening service default/note-service in default browser...
👉 http://127.0.0.1:34429
! Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```

## Important Assignments

```
lenovo@Vikram: /mnt/e/kuber$ kubectl get service mongo-express -n default
NAME                                TARGET PORT  URL
mongo-express-service              8081         http://192.168.49.2:31907

X Exiting due to SVC_UNREACHABLE: service not available: no running pod for service mongo-express-service found

If the above advice does not help, please let us know:
https://github.com/kubernetes/minikube/issues/new/choose

Please run 'minikube logs --file=logs.txt' and attach logs.txt to the GitHub issue.
Please also attach the following file to the GitHub issue:
- /tmp/minikube_service_1a2c0ecc517ec030620e8d7ba8d741fa4f9775ef_0.log

lenovo@Vikram: /mnt/e/kuber$ minikube service mongo-express-service
Executing "docker container inspect minikube --format={{.State.Status}}" took an unusually long time: 4.355023783s
Restarting the docker service may improve performance.

NAME                                TARGET PORT  URL
mongo-express-service              8081         http://192.168.49.2:31907

Starting tunnel for service mongo-express-service.

NAME                                TARGET PORT  URL
mongo-express-service              8081         http://127.0.0.1:41593

Opening service default/mongo-express-service in default browser...
http://127.0.0.1:41593
Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```

Mongo Express Database

## Mongo Express

Databases

Database Name

+ Create Database

View	admin	Del
View	config	Del
View	local	Del
View	mydb	Del

Server Status

Hostname	mongodb-stateful-set-1	MongoDB Version	7.0.5
Uptime	202 seconds	Node Version	18.19.0
Server Time	Sat, 20 Jan 2024 02:52:10 GMT	V8 Version	10.2.154.26-node.28
Current Connections	7	Available Connections	838853

```
C:\Windows\System32\cmd.exe x lenovo@Vikram: /mnt/e/kuber x lenovo@Vikram: /mnt/e/kuber x lenovo@Vikram: /mnt/e/kuber x + - x
note-server-deployment-6fb5fcb67f-ljqww 1/1 Running 1 (27m ago) 62m
web-0 0/1 Pending 0 80m
lenovo@Vikram: /mnt/e/kubernetes-demo/kubernetes$ kubectl delete nginx-deployment-584fbb974d-5hqrx
error: the server doesn't have a resource type "nginx-deployment-584fbb974d-5hqrx"
lenovo@Vikram: /mnt/e/kubernetes-demo/kubernetes$ kubectl get pods
NAME READY STATUS RESTARTS AGE
mongo-express-deployment-b88f6d45f-rx8xq 1/1 Running 0 33m
mongodb-stateful-set-0 1/1 Running 0 64m
mongodb-stateful-set-1 1/1 Running 0 45m
nginx-deployment-584fbb974d-5hqrx 1/1 Running 1 (5m31s ago) 73m
nginx-deployment-584fbb974d-f92lj 1/1 Running 1 (5m30s ago) 74m
nginx-deployment-584fbb974d-r8l8q 1/1 Running 1 (5m32s ago) 74m
nginx-jkt9l 1/1 Running 0 79m
note-deployment-74cc946cd8-clsx5 1/1 Running 0 54m
note-deployment-74cc946cd8-zbttq 1/1 Running 0 54m
note-server-deployment-6fb5fcb67f-df7rf 1/1 Running 1 (28m ago) 63m
note-server-deployment-6fb5fcb67f-ljqww 1/1 Running 1 (28m ago) 63m
web-0 0/1 Pending 0 81m
lenovo@Vikram: /mnt/e/kubernetes-demo/kubernetes$ kubectl delete pod nginx-deployment-584fbb974d-5hqrx
pod "nginx-deployment-584fbb974d-5hqrx" deleted
lenovo@Vikram: /mnt/e/kubernetes-demo/kubernetes$ kubectl get pods
NAME READY STATUS RESTARTS AGE
mongo-express-deployment-b88f6d45f-rx8xq 1/1 Running 0 34m
mongodb-stateful-set-0 1/1 Running 0 66m
mongodb-stateful-set-1 1/1 Running 0 47m
nginx-deployment-584fbb974d-7k9mx 0/1 Running 0 82s
nginx-deployment-584fbb974d-f92lj 1/1 Running 1 (7m12s ago) 76m
nginx-deployment-584fbb974d-r8l8q 1/1 Running 1 (7m14s ago) 76m
nginx-jkt9l 1/1 Running 0 81m
note-deployment-74cc946cd8-clsx5 1/1 Running 0 56m
note-deployment-74cc946cd8-zbttq 1/1 Running 0 56m
note-server-deployment-6fb5fcb67f-df7rf 1/1 Running 1 (29m ago) 65m
note-server-deployment-6fb5fcb67f-ljqww 1/1 Running 1 (29m ago) 65m
web-0 0/1 Pending 0 83m
lenovo@Vikram: /mnt/e/kubernetes-demo/kubernetes$
```