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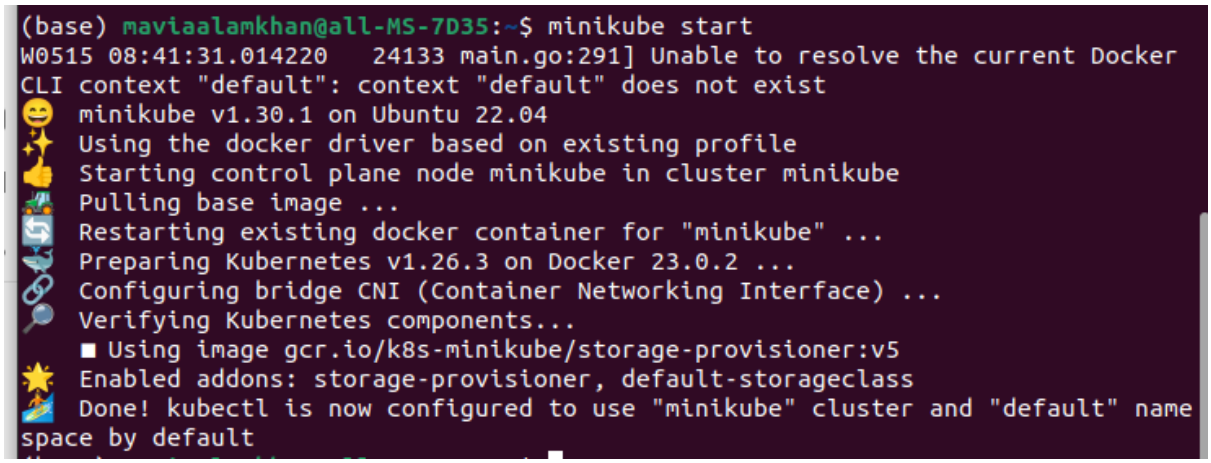
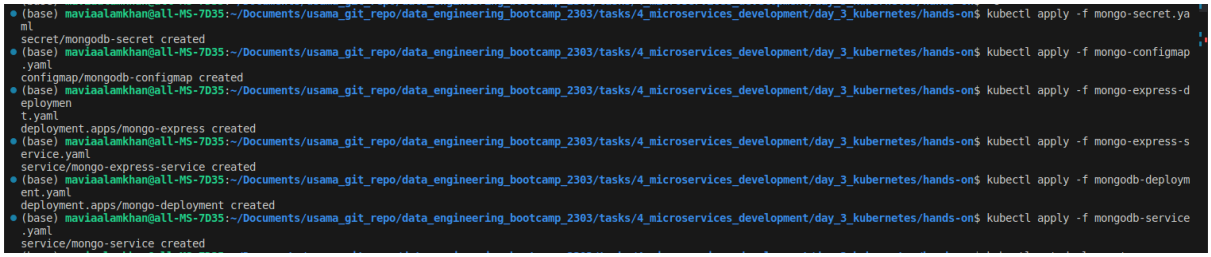
ASSIGNMENT NO : 4.3



minikube start is used to start a local Kubernetes cluster using Minikube. Minikube is a tool that allows you to run a single-node Kubernetes cluster on your local machine for development and testing purposes. When you run the minikube start command, it sets up and starts a virtual machine that hosts the Kubernetes cluster.



Now we break down the command and its purpose:

kubectl: It is the command-line tool used to interact with Kubernetes clusters.
apply: This command is used to create or update resources in a cluster based on the configuration provided.
-f mongo-secret.yaml: The -f flag indicates that the configuration is specified in a file.

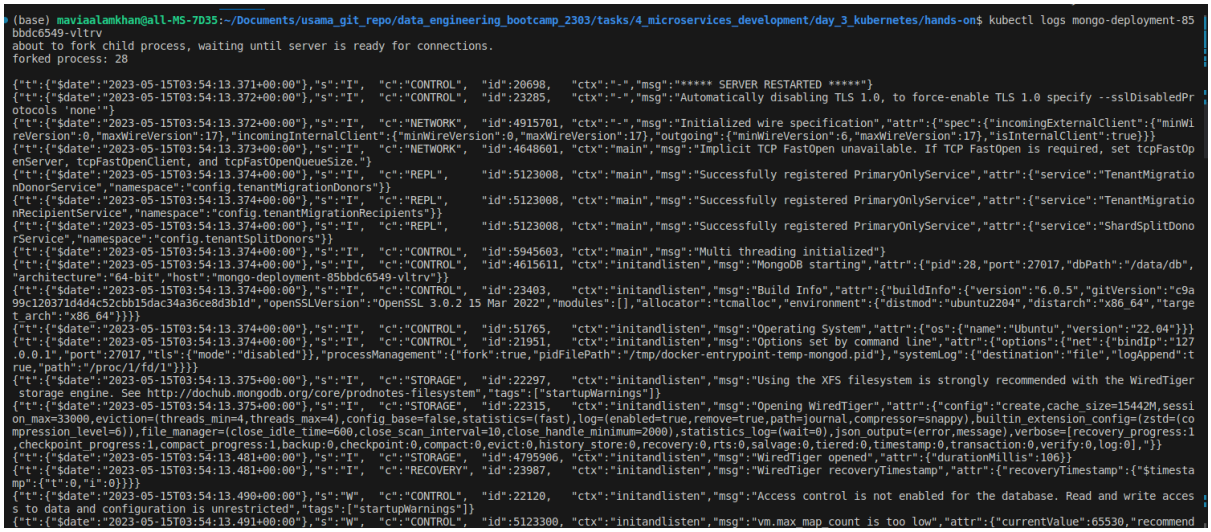
```
(base) maviaalamkhan@all-MS-7D35:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl get deployments
NAME              READY   UP-TO-DATE   AVAILABLE   AGE
mongo-deployment  1/1     1            1           81s
mongo-express     0/1     1            0           6m30s
(base) maviaalamkhan@all-MS-7D35:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl get services
NAME                    TYPE           CLUSTER-IP       EXTERNAL-IP    PORT(S)          AGE
kubernetes              ClusterIP      10.96.0.1        <none>         443/TCP          45h
mongo-express-service   LoadBalancer   10.102.171.116   192.168.0.10   8080:30001/TCP   2m4s
mongo-service           ClusterIP      10.108.30.24     <none>         27017/TCP        67s
(base) maviaalamkhan@all-MS-7D35:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl get pods
NAME                             READY   STATUS    RESTARTS      AGE
mongo-deployment-85bbdc6549-vltrv   1/1     Running   0             105s
mongo-express-5bcd46fcff-bbksb      1/1     Running   6 (2m49s ago)   6m54s
(base) maviaalamkhan@all-MS-7D35:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl describe service mongo-
xpress-service
Name:                     mongo-express-service
Namespace:                default
Labels:                   <none>
Annotations:              <none>
Selector:                 app=mongo-express
Type:                     LoadBalancer
IP Family Policy:         SingleStack
IP Families:              IPv4
IP:                       10.102.171.116
IPs:                      10.102.171.116
External IPs:             192.168.0.10
Port:                     <unset>  8080/TCP
TargetPort:               8081/TCP
NodePort:                 <unset>  30001/TCP
Endpoints:                10.244.0.4:8081
Session Affinity:         None
External Traffic Policy:  Cluster
Events:                   <none>
(base) maviaalamkhan@all-MS-7D35:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl get pods
NAME                             READY   STATUS    RESTARTS      AGE
mongo-deployment-85bbdc6549-vltrv   1/1     Running   0             3m11s
mongo-express-5bcd46fcff-bbksb      1/1     Running   6 (4m15s ago)   8m20s
```

kubectl get deployments, it sends a request to the Kubernetes API server to retrieve a list of all the deployments in the current context or namespace.

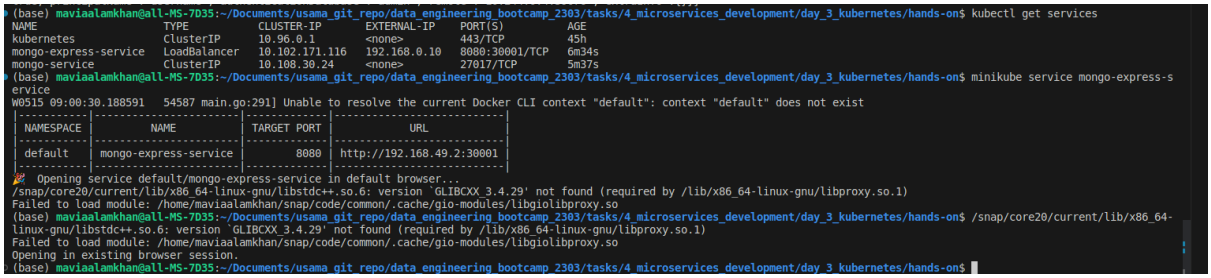
kubectl get services, you will receive a tabular representation of the services in your cluster he cluster IP address, and the ports exposed by the service.

kubectl get pods allowing you to monitor their status, resource usage

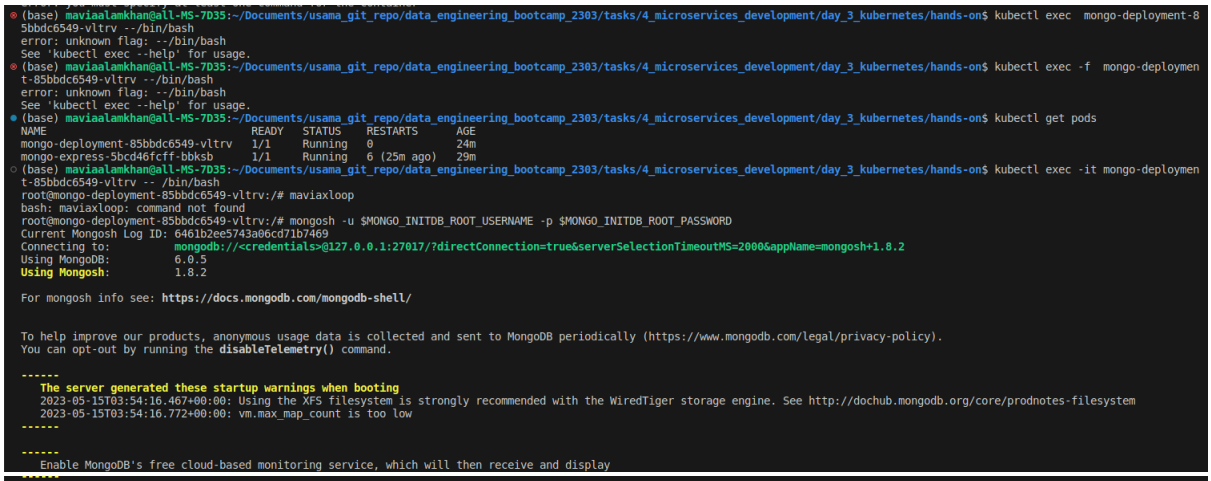
kubectl describe service command provides a detailed overview of the specified service, including its configuration, status, and associated resources. It is useful for troubleshooting, verifying the service's setup, and understanding its connectivity within the cluster and to external entities.

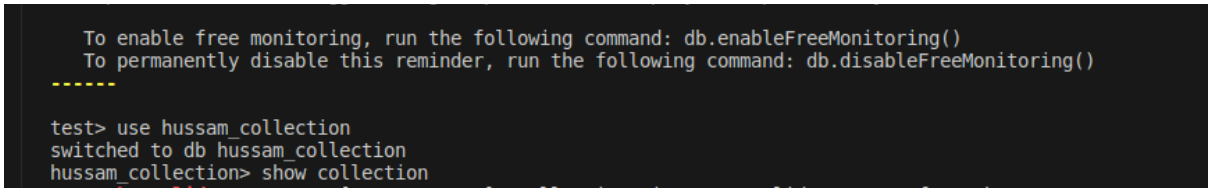


kubectl logs mongo-deployment-85bbdc6549-tgv79 allows you to view the specific pod's logs, which can help you diagnose issues, monitor application behavior, and gather insights into the execution of the containerized application within the pod.



minikube service mongo-express-service deployed on a remote server. This allows you to test, validate, and interact with the service using the full functionality of the application or interface exposed by the service.





DATA BASE :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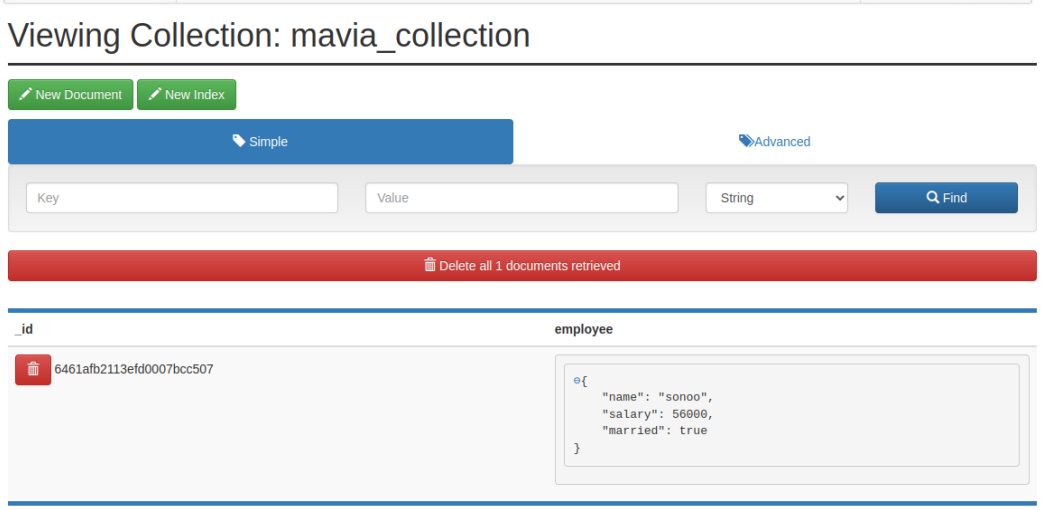
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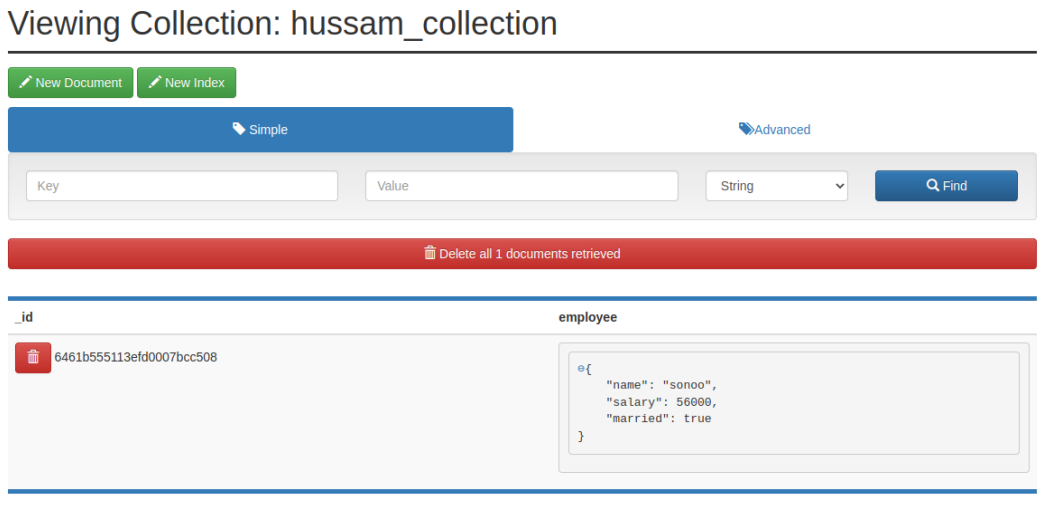
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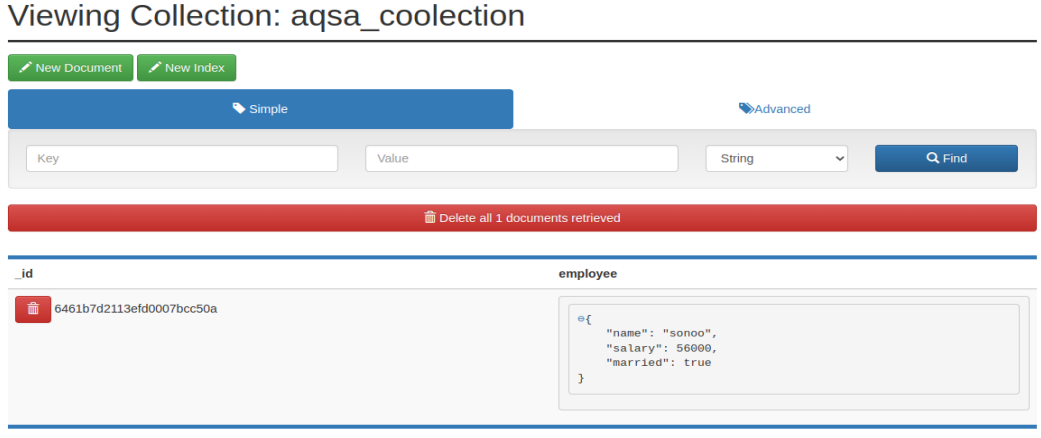
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