ASSIGNMENT 4.3

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Paired With

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Starting minikube and running all commands

To start minikube type "minikube start"

Check all the PODS running in Kubectl

To check all the running pods type "kubectl get pods"

Check all the services in Kubectl

To check all the services running in Kubectl type "kubectl get services"

```
muhammadhumza@all-MS-7D35:~/my_practice/code_practice/Module_4/Material/Day_3/data-engineering-bootcamp-main/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl get services
NAME                   TYPE          CLUSTER-IP       EXTERNAL-IP    PORT(S)          AGE
hello-minikube         NodePort      10.111.49.35     <none>         8080:31148/TCP   4h1m
kubernetes             ClusterIP     10.96.0.1        <none>         443/TCP          4h10m
mongo-express-service  LoadBalancer  10.108.161.165   192.168.0.10   8080:30001/TCP   69s
mongo-service          ClusterIP     10.107.62.107    <none>         27017/TCP        81s
```

Get list of all the files

To get all the files type "ls"

```
muhammadhumza@all-MS-7D35:~/my_practice/code_practice/Module_4/Material/Day_3/data-engineering-bootcamp-main/tasks/4_microservices_development/day_3_kubernetes/hands-on$ ls
mongo-configmap.yaml     mongodb-secret.yaml    mongo-express-deployment.yaml   mongo-secret.yaml
mongodb-deployment.yaml  mongodb-service.yaml   mongo-express-service.yaml
```

Get all configmap files

To get all configmap files in Kubectl type "kubectl get configmaps"

```
muhammadhumza@all-MS-7D35:~/my_practice/code_practice/Module_4/Material/Day_3/data-engineering-bootcamp-main/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl get configmaps
NAME               DATA   AGE
kube-root-ca.crt   1      4h56m
mongodb-configmap  1      47m
```

Get all deployments

To get all deployments in kubectl type "kubectl get deployments"

```
muhammadhumza@all-MS-7D35:~/my_practice/code_practice/Module_4/Material/Day_3/data-engineering-bootcamp-main/tasks/4_microservices_development/day_3_kubernetes/hands-on$ kubectl get deployments
NAME              READY   UP-TO-DATE   AVAILABLE   AGE
hello-minikube    1/1     1            1           4h48m
mongo-deployment  1/1     1            1           48m
mongo-express     1/1     1            1           47m
```

Get logs for specific pod in Kubectl

To get all logs for a pod in Kubectl type "kubectl logs <pod_id>"

Get description for a pod in Kubectl for mongo express

To get the description of a pod in Kubectl type "kubectl describe pods <pod_id>"

Get description for a pod in Kubectl for mongo deployment

Launch service in minikube

To launch a service in minikube type "minikube service <name>"
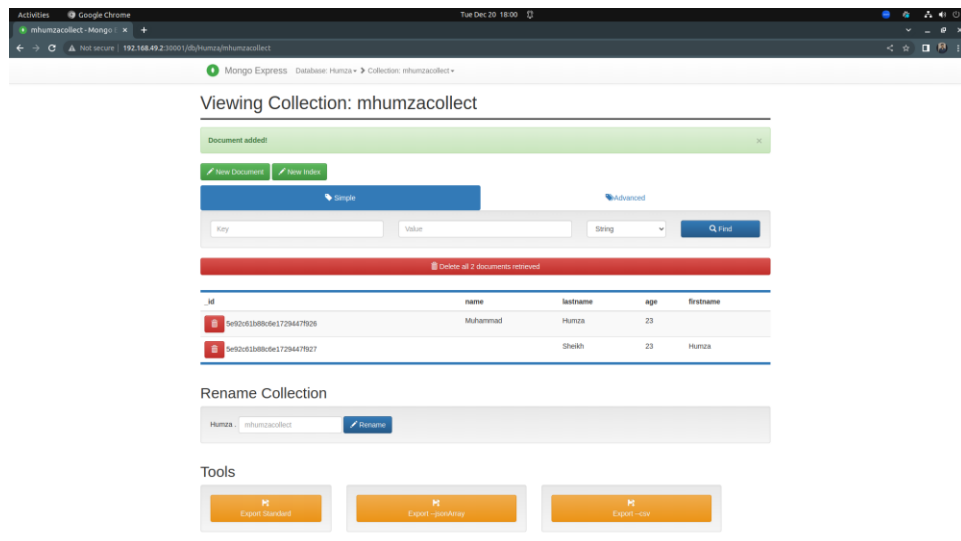
Opening MongoDB using the service port

In MongoDB I created a database named "Humza"
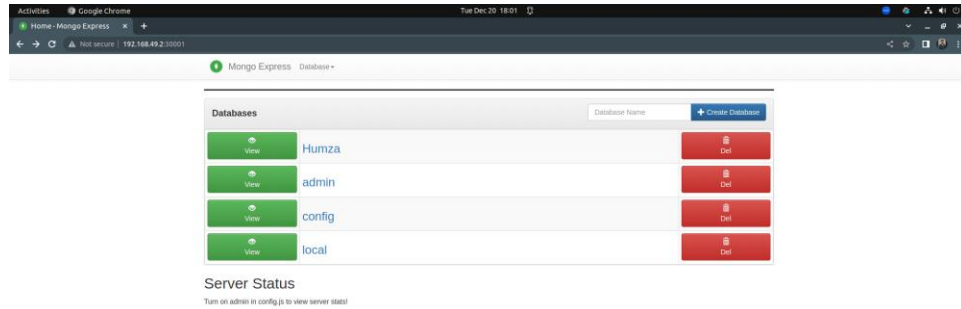
Creating a collection inside the database and create a document

The name of the collection is "mhumzacollect"

And created a document with values "name, lastname, age"

Accessing the MongoDB in the terminal and verifying the database, collection and document.

To open MongoDB in the terminal, we will use mongosh with ID and PASSWORD

To access the database, we type "use <Database_name>"

To access the collections, we type "show_collections"

To access the document, we type "db.collection_name.find().pretty()"

```
root@mongo-deployment-5fb8d98f85-ls7kb:/#
root@mongo-deployment-5fb8d98f85-ls7kb:/# mongosh -u $MONGO_INITDB_ROOT_USERNAME -p $MONGO_INITDB_ROOT_PASSWORD
Current Mongosh Log ID: 63a1ae22aefbbdf63534c4d6
Connecting to:          mongodb://<credentials>@127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&ap
pName=mongosh+1.6.1
Using MongoDB:          6.0.3
Using Mongosh:          1.6.1

For mongosh info see: https://docs.mongodb.com/mongodb-shell/

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   The server generated these startup warnings when booting
   2022-12-20T12:05:01.980+00:00: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine.
See http://dochub.mongodb.org/core/prodnotes-filesystem
   2022-12-20T12:05:02.331+00:00: vm.max_map_count is too low
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   Enable MongoDB's free cloud-based monitoring service, which will then receive and display
   metrics about your deployment (disk utilization, CPU, operation statistics, etc).

   The monitoring data will be available on a MongoDB website with a unique URL accessible to you
   and anyone you share the URL with. MongoDB may use this information to make product
   improvements and to suggest MongoDB products and deployment options to you.

   To enable free monitoring, run the following command: db.enableFreeMonitoring()
   To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
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test> use Humza
switched to db Humza
Humza> show collections
mhumzacollect
Humza>  db.mhumzacollect.find().pretty()
[
  {
    _id: ObjectId("5e92c61b88c6e1729447f926"),
    name: 'Muhammad',
    lastname: 'Humza',
    age: 23
  },
```