Github : <https://github.com/HaydenDuong/SIT323_Cloud_Native_Application_Development/tree/main/Coding%20Tasks/9.1P>

Video Demo:

<https://deakin.au.panopto.com/Panopto/Pages/Viewer.aspx?id=b0128c10-18b4-4079-bca5-b2d500ec8c60>

Pictures & Explanation:

Testing the application to determine whether it is connected to mongoDB or not and to test CRUD endpoints.

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AI-generated content may be incorrect.

Picture 1 – App.js is connected to MongoDB, shown in MongoDB Compass.

Because this application will simulate how microservice application look like so the application-side and the database-side will have their own YAML files like Deployment, and Service files. As for the database, it will have additional Secret, and Persistent Volume – Persistent Volume Claim files.

Their contents are shown as follows (or can be accessed publicly through Github link)

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AI-generated content may be incorrect.

Picture 2 - mongo-pv.yaml

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Picture 3 – mongo-secret.yaml

A screen shot of a computer

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Picture 4 – mongo-deployment.yaml

A screenshot of a computer program

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Picture 5 – mongo-service.yaml

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Picture 6 – app-deployment.yaml

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Picture 7 - app-service.yaml

After built an image and pushed it to Docker Hub / localhost repository, run “kubeclt apply -f ….yaml” on those YAML files.

The application, by now, can be tested by:

1. Type in command: “kubectl port-forward svc/my-app 8080:80”.
2. Upon received output message like “Forwarding from 127.0.0.1:8080 → 3000”, then open a new terminal and type in command: “kubectl port-forward svc/mongo 27018:27017” – this command will allow user to view the result of CRUD interaction with mongoDB database on mongoDB Compass.
3. Open mongoDB Compass and choose “Add new connection” button and paste this following URI: “mongodb://admin:password123@localhost:27018/”
4. Upon successful connected, open a new terminal in vscode and try the following CRUD command:
   1. For adding a new document item:

curl -X POST -H "Content-Type: application/json" -d '{"\_id":"item1","name":"Test Item","description":"Just testing"}' http://localhost:8080/items

* 1. For updating an existing document item:

curl -X PUT -H "Content-Type: application/json" -d '{"name":"Updated Item"}' http://localhost:8080/items/item1

* 1. Get a specific document item:

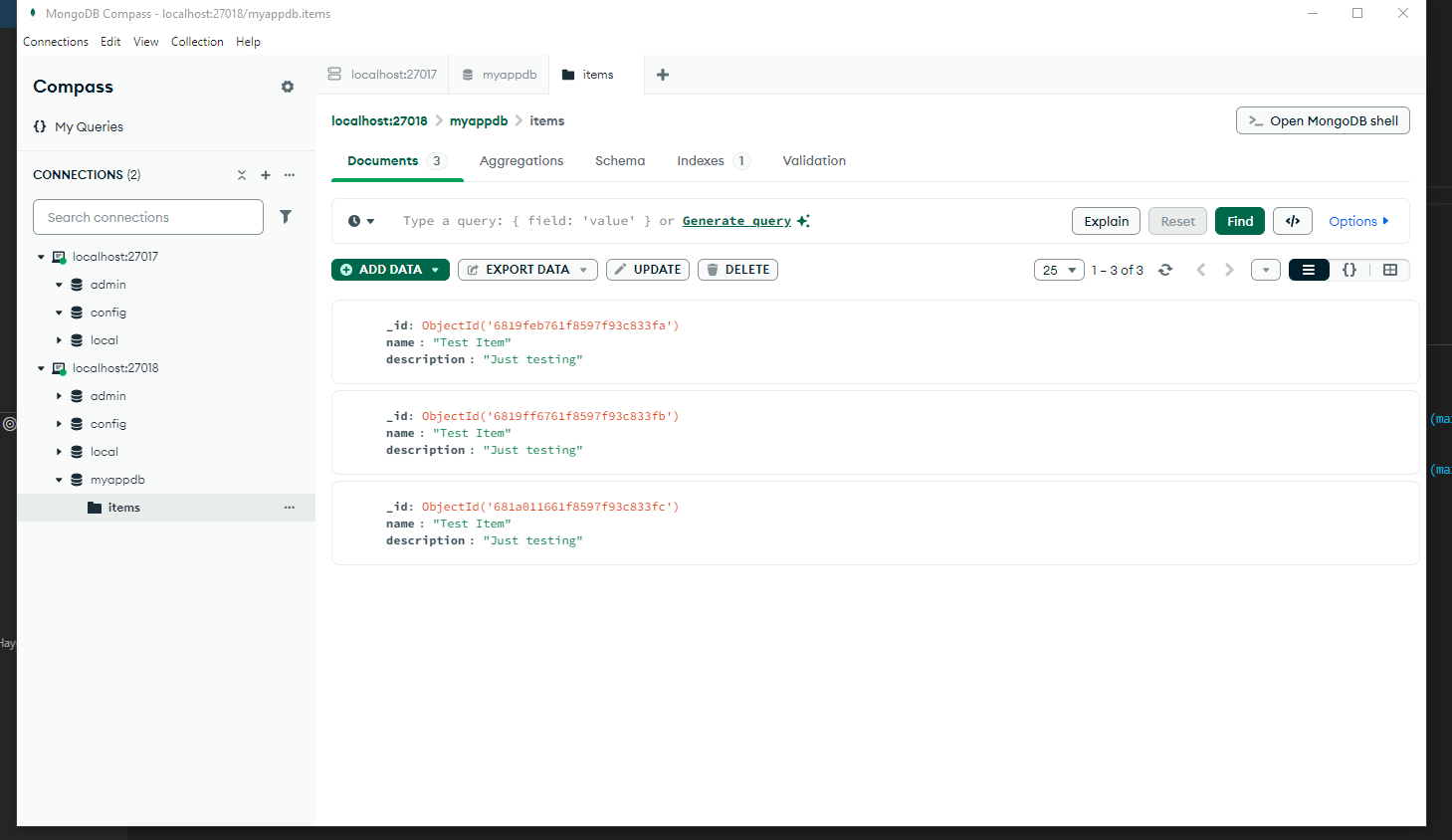
curl <http://localhost:8080/items/item1>

* 1. Get all document items

curl <http://localhost:8080/items>

* 1. Delete a document item:

curl -X DELETE <http://localhost:8080/items/item1>



Picture 8 – Results after adding three document item.