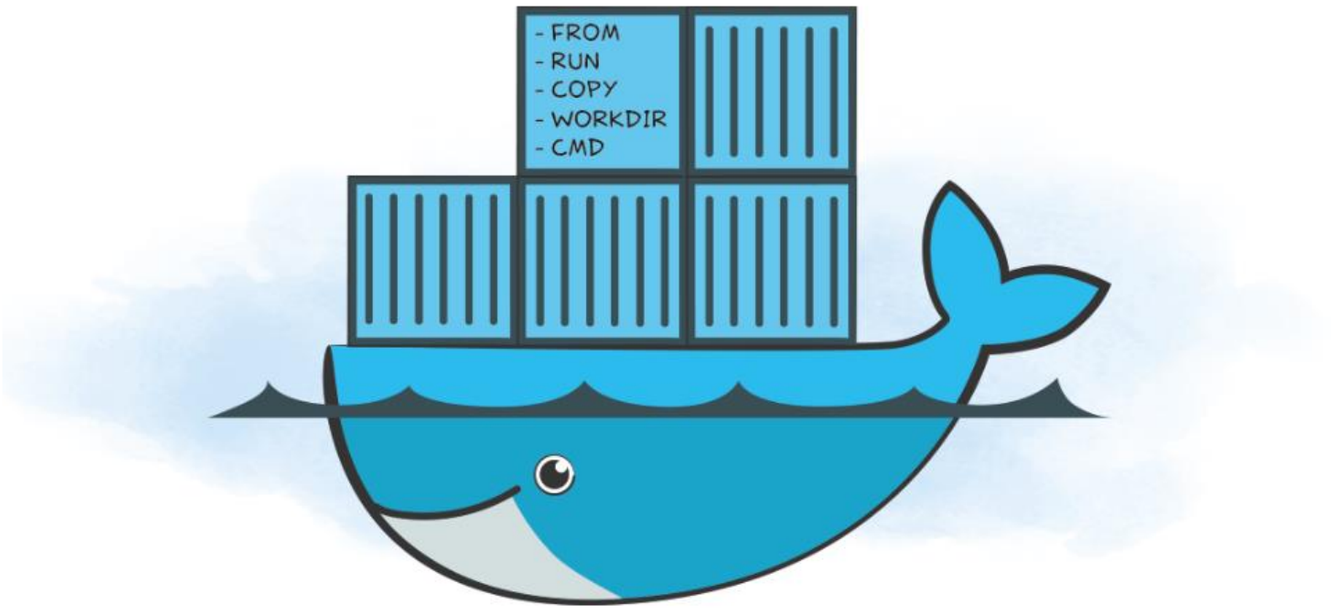


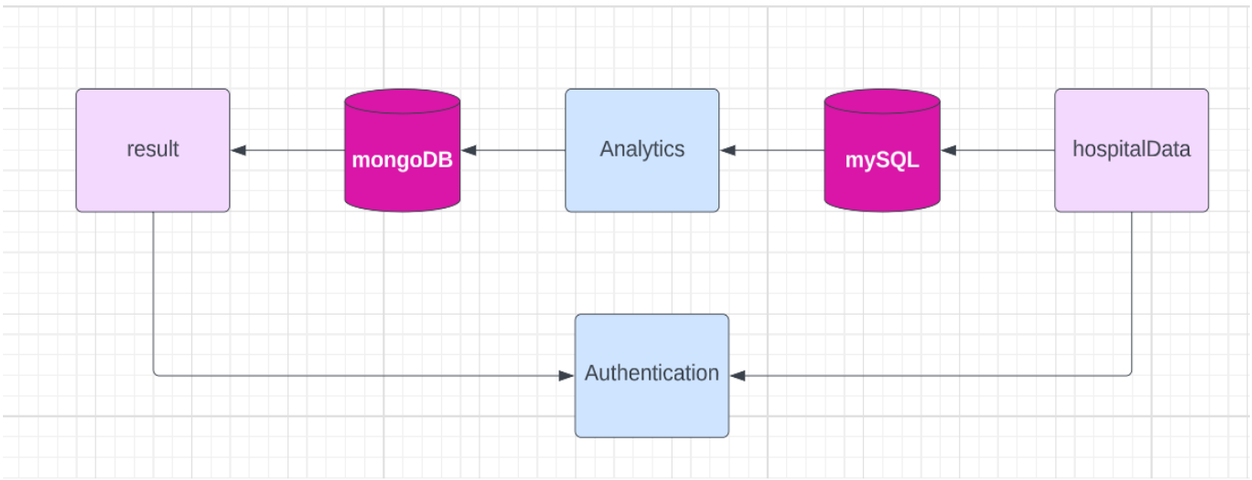
Containerization Assignment

(Report)

Student name : Diya Momani

- **OverView:**

  We were asked to Build a containerized microservices data collection and analytics system, so I decided to build a system for calculating the average age of diabetic patients in a clinic, and knowing the age of the oldest person with the disease and the youngest person. I built 4 microservices and 2 databases ,each of them Exists in container and I used docker files and docker composed to provide a convenient and efficient way to manage and deploy software applications in a consistent and reproducible manner, which can save time and reduce errors in the software development process.



- **MicroServices:**

  I built 4 microservices:

  1. hospitalData:

     this microservice take inputs from login page and add Patient page and authenticate that the logged person is authorized , and just authorized person can add patient information into system. This microservice provides protection and security for patient information.

  2. Authentication:

     This microservice Ensures the protection of user data by allowing only authorized persons to enter the system and enter and view patient data

  3. Analytics:

     This container performs some mathematical operations on patients' data and provides the admin with the required information, such as the average age of people with diabetes and the youngest and oldest age of a person with this disease. It is linked to mySQL Database and mongoDB.

  4. Result:

     This microservice displays analytics data from the MongoDB database.

- **DataBases:**

1. mySQL: stores patients information such as: name and age.
2. mongoDB: stores the analytics data such as: average, max and min.

- **Dockerfiles:**

  I used dockerfiles in this project because it provides a simple, efficient, and standardized way to manage and deploy applications, while reducing the risk of errors and inconsistencies across different environments and providing a consistent and secure environment for running Java-based microservices in Docker containers. So there is a docker file inside every container in the project.

- **Run:**

  This is the link of login form : http://localhost:8080/login

  username: Diaa

  password: 123456