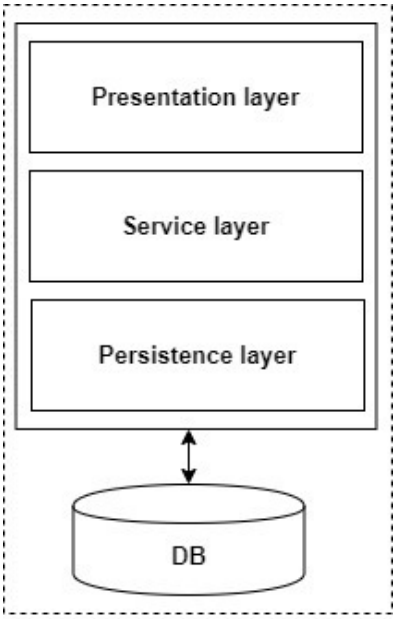
ASSIGNMENT 2

Monolithic:

If all the functionalities of a project exist in a single codebase, then that application is known as a monolithic application. We design our application in various layers like presentation, service, and persistence and then deploy that codebase as a single jar/war file. This is nothing but a monolithic application, where **“mono”** represents the single codebase containing all the required functionalities.



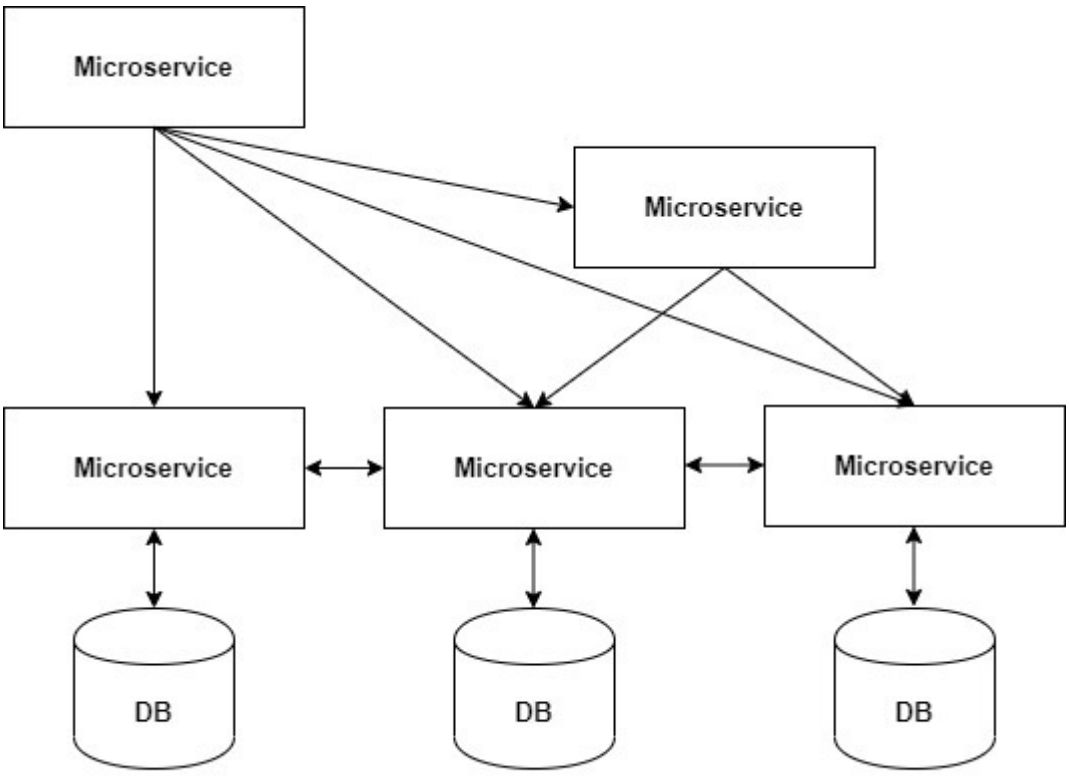
Monolithic architecture

As the size of the application increases, its start-up and deployment time also increases.For any new developer joining the project, it is very difficult to understand the logic of a large Monolithic application even if his responsibility is related to a single functionality.Even if a single part of the application is facing a large load/traffic, we need to deploy the instances of the entire application in multiple servers. It is very inefficient and takes up more resources unnecessarily. Hence, horizontal scaling is not feasible in monolithic applications.

Microservices:

Microservices is a service-oriented architecture pattern wherein applications are built as a collection of various smallest independent service units. It is a software engineering approach that focuses on decomposing an application into single-function modules with well-defined interfaces. These modules can be independently deployed and operated by small teams that own the entire lifecycle of the service. Instead of sharing a single database schema with other services, each service has its own database schema. It reduces barrier of adopting new technologies since the developers are free to choose whatever technologies make sense for their service and not bounded

to the choices made at the start of the project. Each service offers a secure module boundary so that different services can be written in different programming languages. There are many patterns involved in microservice architecture like service discovery & registry, caching, API gateway & communication, observability, security, etc.



Microservices architecture