CODING NINJAS

Microservices Architecture

What are microservices?

Microservices architecture is an evolved variant of service-oriented architecture that promotes software components to be loosely coupled. It is the most granulated type of architecture design and every service is completely independent of the other.

Features of microservices:

1. All the software components must be completely independent of each other.
2. Every service must deliver only one function.

When should microservices architecture be preferred?

A. When an application needs to be rebuilt due to a change in functionalities, the addition of new features

B. Big data applications require dedicated services for tasks such as data collection, processing, delivery etc

C. Applications requiring real-time data and executing different operations to deliver output immediately such as traffic control system

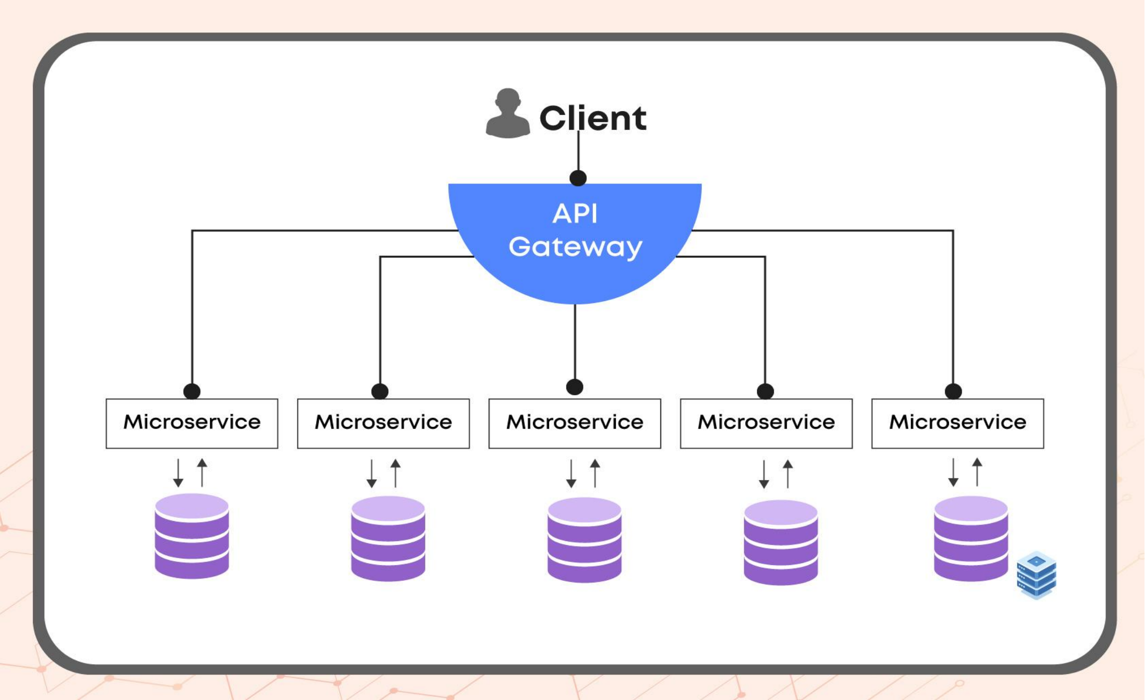

Fig: Microservices architecture

Differences between Service-Oriented Architecture and Microservices Architecture

Parameter	Service-Oriented Architecture	Microservices Architecture
Promotes	Software components reusability	Granulated and completely independent services
Data Storage	Can share the data storage	Each microservice has separate and independent data storage
Dependency	Different layers are dependent	Every data layer is independent
Size	Software size is large	Software size is comparatively smaller.
Communication	Use ESB(Enterprise Service Bus)	Use messaging system

Disadvantages of Microservices Architecture:

A. Complicated testing as distributed environment
B. Requires load balancing so that network latency can be decreased
C. Creating a lot of services for complex applications can lead to confusion between developers
D. Higher operational cost than monolithic architecture

Advantages of Microservices Architecture:

A. As the services are independent of each other, different teams can independently develop, test and put the code into production
B. Flexibility to try new languages and technologies
C. No Single Point Of Failure(SPOF)