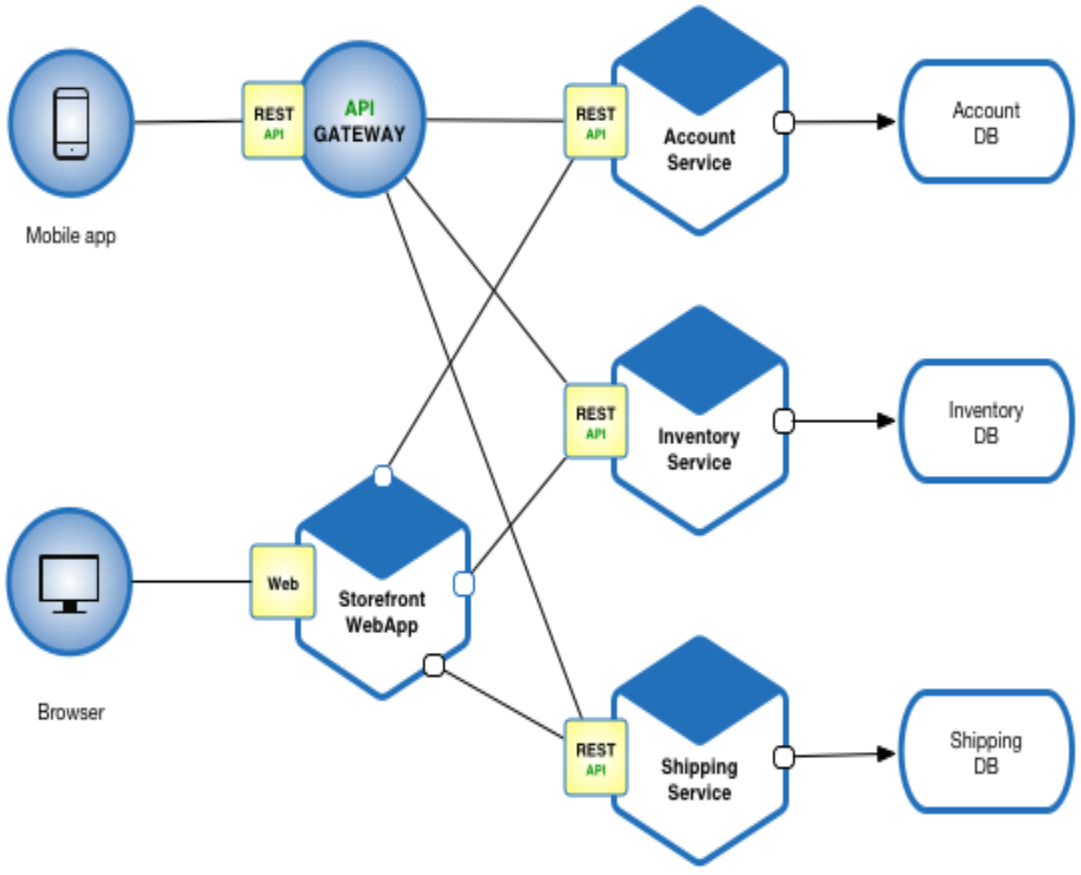
1. What is Microservices?

Microservices also known as the microservice architecture is an architectural style that structures an application as a collection of services that are

- Highly maintainable and testable
- Loosely coupled
- Independently deployable
- Organized around business capabilities
- Owned by a small team

The microservice architecture enables the rapid, frequent and reliable delivery of large, complex applications. It also enables an organization to evolve its technology stack.



2. Challenges with monolithic oriented architecture

- Microservices are not the silver bullet that will solve all architectural problems in your applications. Developing distributed systems is complex. More granularity means more moving parts. Refactoring a monolithic application to microservices creates many small components that constantly communicate; the complexity is shifted around to the interconnections between services.

- When more services are interacting, you increase possible failure points. Smart developers stay one step ahead and plan for failure.

- Tracing performance problems across tiers for a single business transaction can be difficult. This can be handled by correlating calls with a variety of methods including custom headers, tokens or IDs.

- Distributed logic with distributed data increases the effort of finding the root cause of issues. Traditional logging is ineffective because microservices are stateless, distributed and independent — you would produce too many logs to easily locate a problem. Logging must be able to correlate events across several platforms.

- Operational complexity is also increased due to the increased demands on managing these services and monitoring them. The ability to quickly deploy small independent services is a win for development, but it puts additional strain on operations as half-a-dozen applications now turn into hundreds of little microservices. Coordinating a large number of rapidly changing services necessitates automated continuous integration and continuous delivery.

3. Any three advantage and disadvantage of microservices

Advantages :-

- Microservices are self-contained, independent deployment module.
- The cost of scaling is comparatively less than the monolithic architecture.
- Microservices are independently manageable services. It can enable more and more services as the need arises. It minimizes the impact on existing service.

Disadvantages :-

- Microservices has all the associated complexities of the distributed system.
- There is a higher chance of failure during communication between different services.

- Difficult to manage a large number of services.