

# Exploring Software Architectures: Microservices and Monolithic

Presented By -  
Abraar Masud Nafiz (2019831076)



# Introduction

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In today's fast-paced digital landscape, designing robust, scalable, and maintainable software systems is crucial for success. The choice of architecture plays a vital role in achieving these goals.





# What are Microservices?

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Microservice architecture is an architectural style where a software system is decomposed into smaller, independent services that are loosely coupled and can be developed, deployed, and scaled independently. Each microservice represents a specific business capability and can be developed using different technologies and programming languages. The communication between microservices typically occurs through APIs.

# The Benefits of Microservices

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Scalability  
Modularity  
Fault Isolation  
Team Autonomy.

Disadvantages of Microservice Architecture:  
Complexity,  
Operational Overhead,  
Latency,  
Integration Testing





# Monolithic Architecture

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Monolithic architecture is a traditional approach where the entire application is built as a single, self-contained unit. In this architecture, all the components and functionalities of the system are tightly coupled and deployed together. They typically consists of three main components: Presentation Layer, Application Layer, Data Layer.

It is Simple, and Performance oriented.



# Challenges of Monolithic Architecture

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1. Scalability - Scaling a monolithic application can be challenging because the entire system needs to be replicated even if only certain components require additional resources
2. Flexibility: Adding new features or technologies to a monolithic application can be complex, as changes can have wide-ranging impacts across the system.
3. Maintainability: Monolithic architectures can become complex and difficult to maintain over time, especially as the application grows larger.

# Conclusion

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The choice between microservice and monolithic architecture depends on various factors such as the complexity of the system, scalability requirements, team size, development speed, and future growth plans. Monolithic architecture is often suitable for smaller applications with straightforward requirements and limited scalability needs.

Microservice architecture is more appropriate for complex systems with scalability, flexibility, and modularity as primary concerns.

# Thanks

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Do you have any  
questions?

Reinhardt.codes@gmail.com

