

PROLOGUE



Design and Develop a
Serverless Event-Driven
Microservice-Based Solution



Introduction to Microservices

Understanding the Basics



What are microservices?

**Modular
Structure**



What are microservices?

**Modular
Structure**

**Independent
Functions**



What are microservices?

**Modular
Structure**

**Independent
Functions**

Communication



What are microservices?

**Modular
Structure**

**Independent
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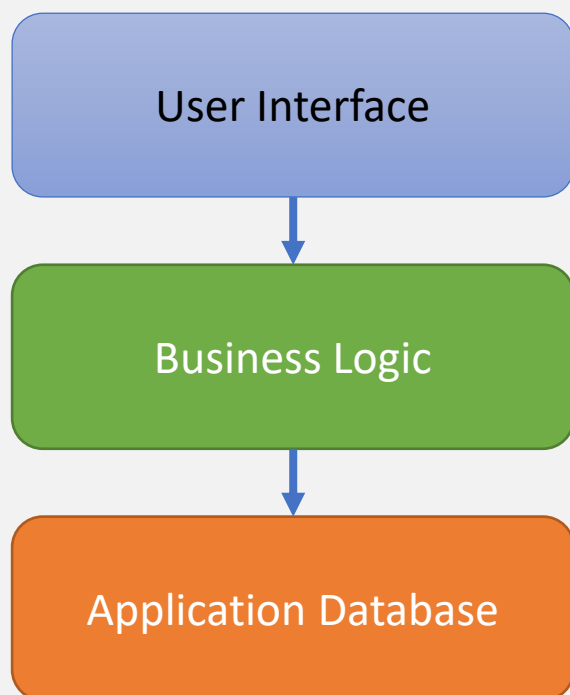
Communication

Flexibility

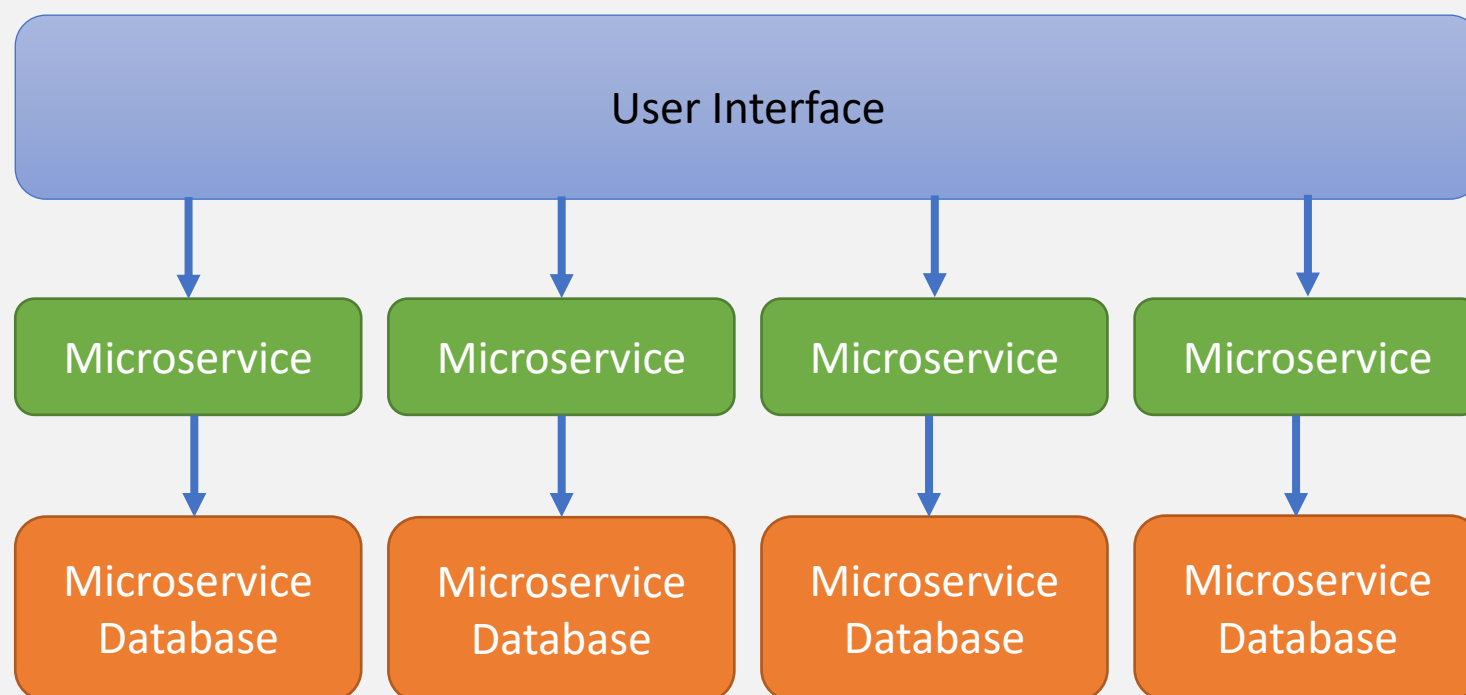


What are Microservices

Monolithic Architecture



Microservices Architecture





Characteristics of Microservices

Autonomous



Characteristics of Microservices

Autonomous

Specialized



Characteristics of Microservices

Autonomous

Specialized

Flexible Scaling



Characteristics of Microservices

Autonomous

Specialized

Flexible Scaling

**Easy
Deployment**



Characteristics of Microservices

Autonomous

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Flexible Scaling

**Easy
Deployment**

Decentralized



Characteristics of Microservices

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**Easy
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**Failure
Resistance**



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**Failure
Resistance**

Evolutionary



Advantages of Microservices

Scalability



Advantages of Microservices

Scalability

Fault Isolation



Advantages of Microservices

Scalability

Fault Isolation

**Enhanced Team
Productivity**



Advantages of Microservices

Scalability

Fault Isolation

**Enhanced Team
Productivity**

**Quick
Deployment**



Advantages of Microservices

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**Quick
Deployment**

Cost Efficiency



Microservice Challenges

Complexity



Microservice Challenges

Complexity

**Service Discovery and
Communication**



Microservice Challenges

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**Service Discovery and
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**Data Management and
Consistency**



Microservice Challenges

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**Service Discovery and
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**Data Management and
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**Deployment and
DevOps Automation**



Microservice Challenges

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**Deployment and
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**Monitoring and
Observability**



Microservice Challenges

Complexity

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**Monitoring and
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**Service Resilience and
Fault Tolerance**



Microservice Challenges

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**Service Resilience and
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Security



Who is using Microservices



Uber



Who is using Microservices

The Uber logo, consisting of a grey circle with the word "Uber" in white lowercase letters.A large, stylized red letter 'N' with a 3D effect, appearing to be made of two overlapping planes.



Who is using Microservices

The Uber logo, consisting of a grey circle with the word "Uber" in white.The Netflix logo, featuring a large, stylized red 'N'.The Amazon logo, featuring a lowercase 'a' with a curved orange arrow underneath it.



Who is using Microservices





Conclusion

- Microservices offer several benefits but also come with their own set of challenges
- They are a good fit for complex, evolving applications due to their scalability and flexibility



Introduction to Event-Driven Architecture

Understanding the Basics