
PROLOGUE
Building Serverless Solutions
with Azure and .NET

Introduction to Serverless

Beyond Traditional Infrastructure

The evolution of application platforms

On-Premises

What media should I use to keep **backups?**

What **size** of **servers** should I **buy**?

How do I **deploy** new **code** to my **servers**?

What happens in case of server hardware **failure?**

How can I increase **server** utilization?

Who **monitors** my **apps**?

How often should I **backup** my **server?**

How can I **scale** my app?

Which packages should be on my **server**?

Are my **servers** in a **secure** location?

Do I need a secondary **Network connection?**

How do I keep the **operating system** up to date?

Who has **physical** access my **servers?**

Who **monitors** my **servers**?

What **storage** do I need to use?

How **many** servers do I need?

What happens in case of server hardware **failure?**

Do I need a **UPS**?

How can I dynamically configure my app?

It takes how long to **provision** a new **server?**

How often should I **patch** my **severs?**

The evolution of application platforms

IaaS

What media should I use to keep **backups?**

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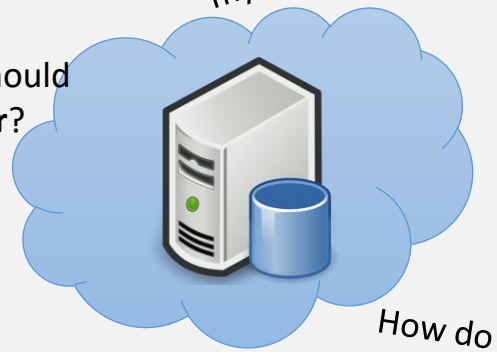

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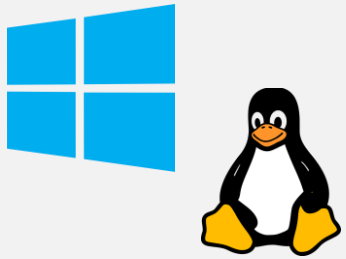

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The evolution of application platforms

Serverless

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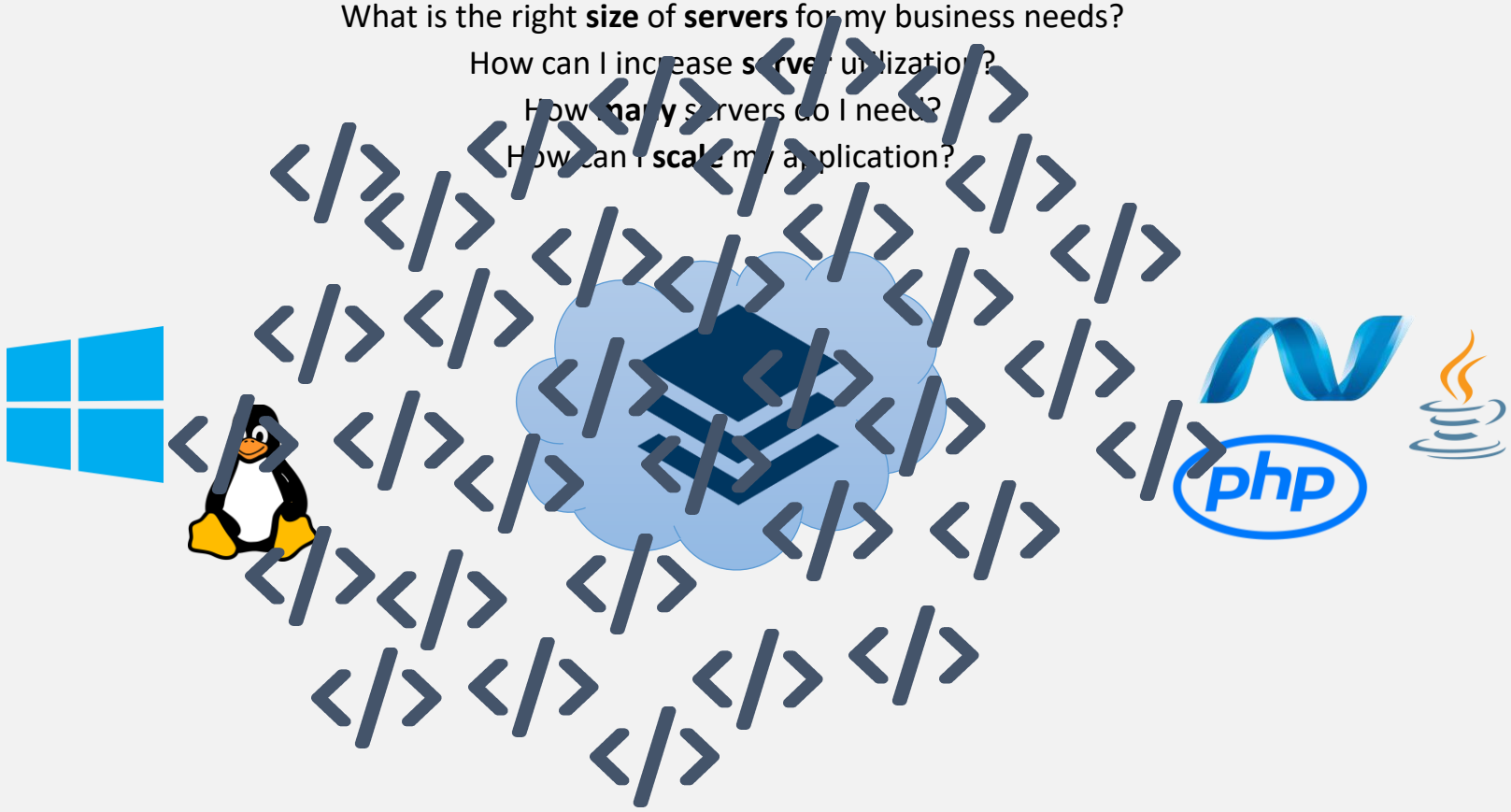

What is Serverless?

Serverless computing is a cloud computing model where the cloud provider dynamically manages the allocation and provisioning of servers.

“What’s in a name?”

Not there isn’t servers

Just, you can think about the servers less

~~Server Configuration~~

~~Server Scaling~~

Types of Serverless Architecture

Function as a Service (FaaS)

Backend as a Service (BaaS)

Function-as-a-Service

Event-Driven

Function-as-a-Service

Event-Driven

Short-Lived

Function-as-a-Service

Event-Driven

Short-Lived

Automatic Scaling

Function-as-a-Service

Event-Driven

Short-Lived

Automatic Scaling

Pay-Per-Execution

Function-as-a-Service

Event-Driven

Short-Lived

Automatic Scaling

Pay-Per-Execution

Abstraction of Infrastructure

Benefits

Cost Efficiency

Benefits

Cost Efficiency

Auto-Scaling

Benefits

Cost Efficiency

Auto-Scaling

Reduced Operational Overhead

Benefits

- Cost Efficiency
- Auto-Scaling
- Reduced Operational Overhead
- **Faster Time-to-Market**

Benefits

Cost Efficiency

Auto-Scaling

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Faster Time-to-Market

Trigger-Driven Architecture

Benefits

- Cost Efficiency
- Auto-Scaling
- Reduced Operational Overhead
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- Trigger-Driven Architecture
- **High Availability**

Benefits

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Trigger-Driven Architecture

High Availability

Micro-Billing

Challenges

Loss of Control

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Cold Starts

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Usage-Based Pricing

Challenges

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Provider Lock-In

Challenges

- Loss of Control
- Cold Starts
- Usage-Based Pricing
- Provider Lock-In
- **Testing and Debugging**

Implementation Examples

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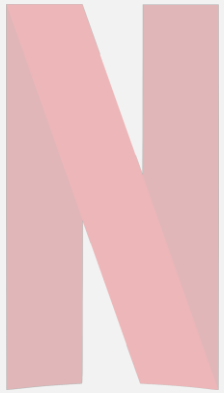
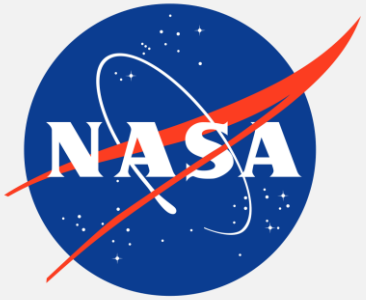
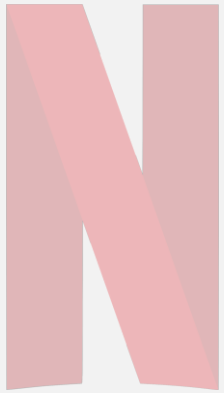




Implementation Examples



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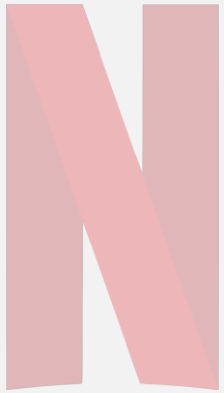

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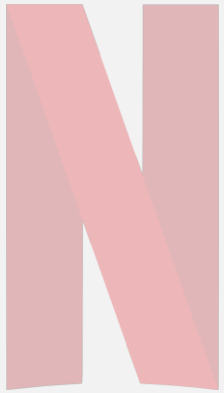

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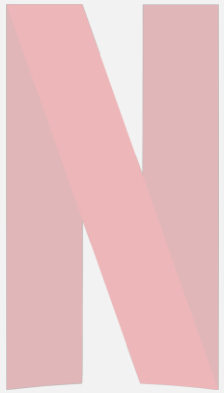

Conclusion

- Serverless Architecture offers numerous benefits like cost efficiency and easy scalability.
- However, it presents challenges like vendor lock-in and the cold start problem.
- Despite these challenges, serverless is becoming popular for many organizations due to its numerous advantages.

Overview of Azure Serverless

Harnessing the Power of Microservice Azure