Architecting for Availability and Fault Tolerance

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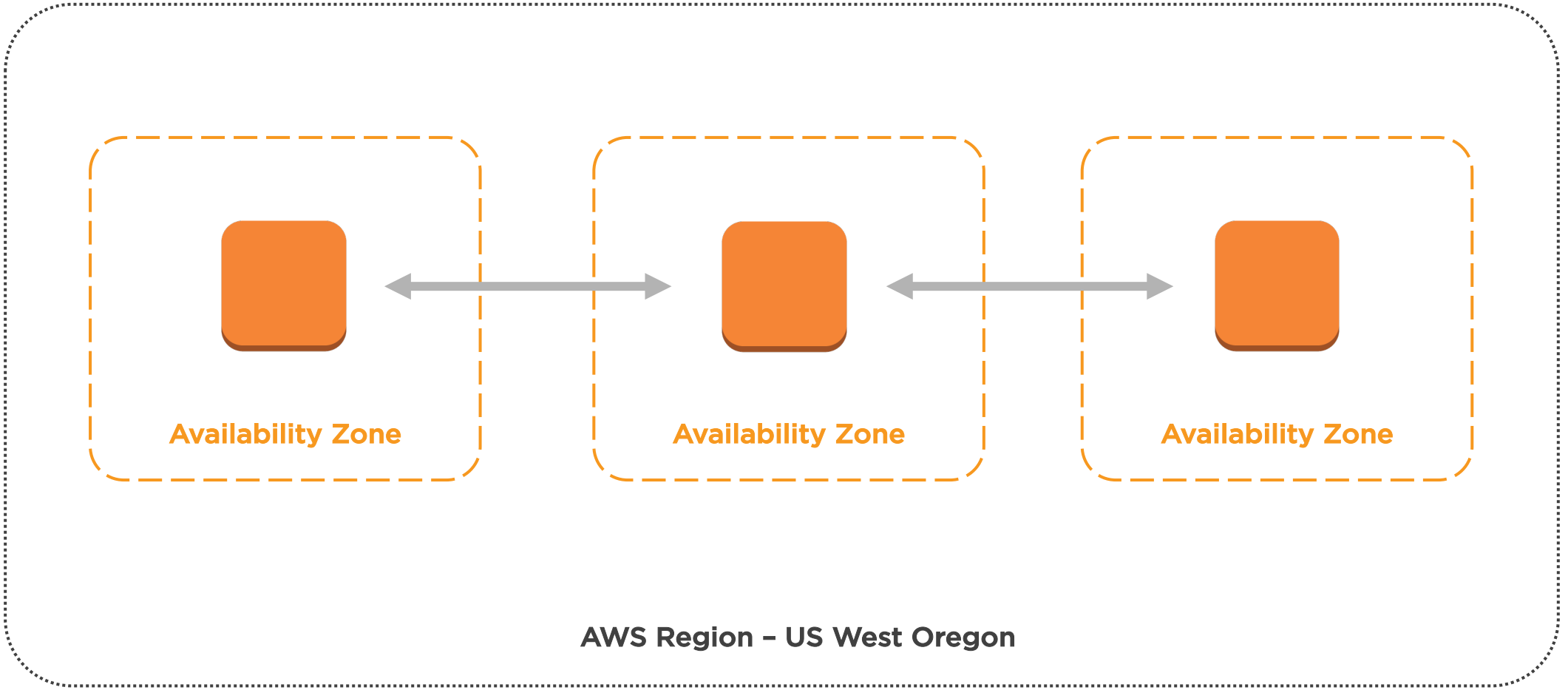
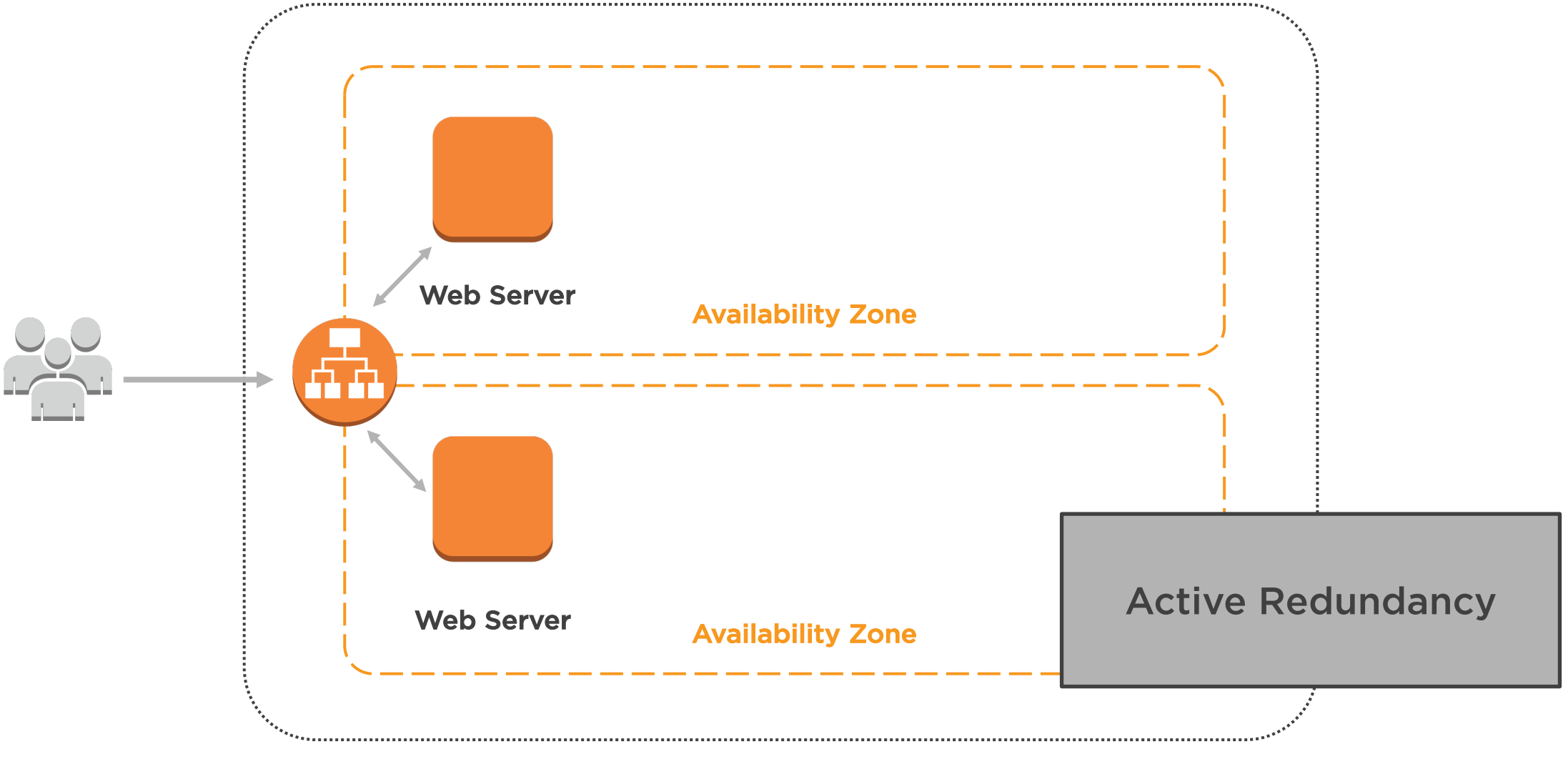
What we will cover

- Regions and Availability Zones
- Launching an EC2 Instance into an Availability Zone
- Eliminating Single Points of Failure
- Horizontal and Vertical Scaling
- Architecting with Services Instead of Servers
- Implementing Loose Coupling

Regions and Availability Zones



Eliminating Single Points of Failure



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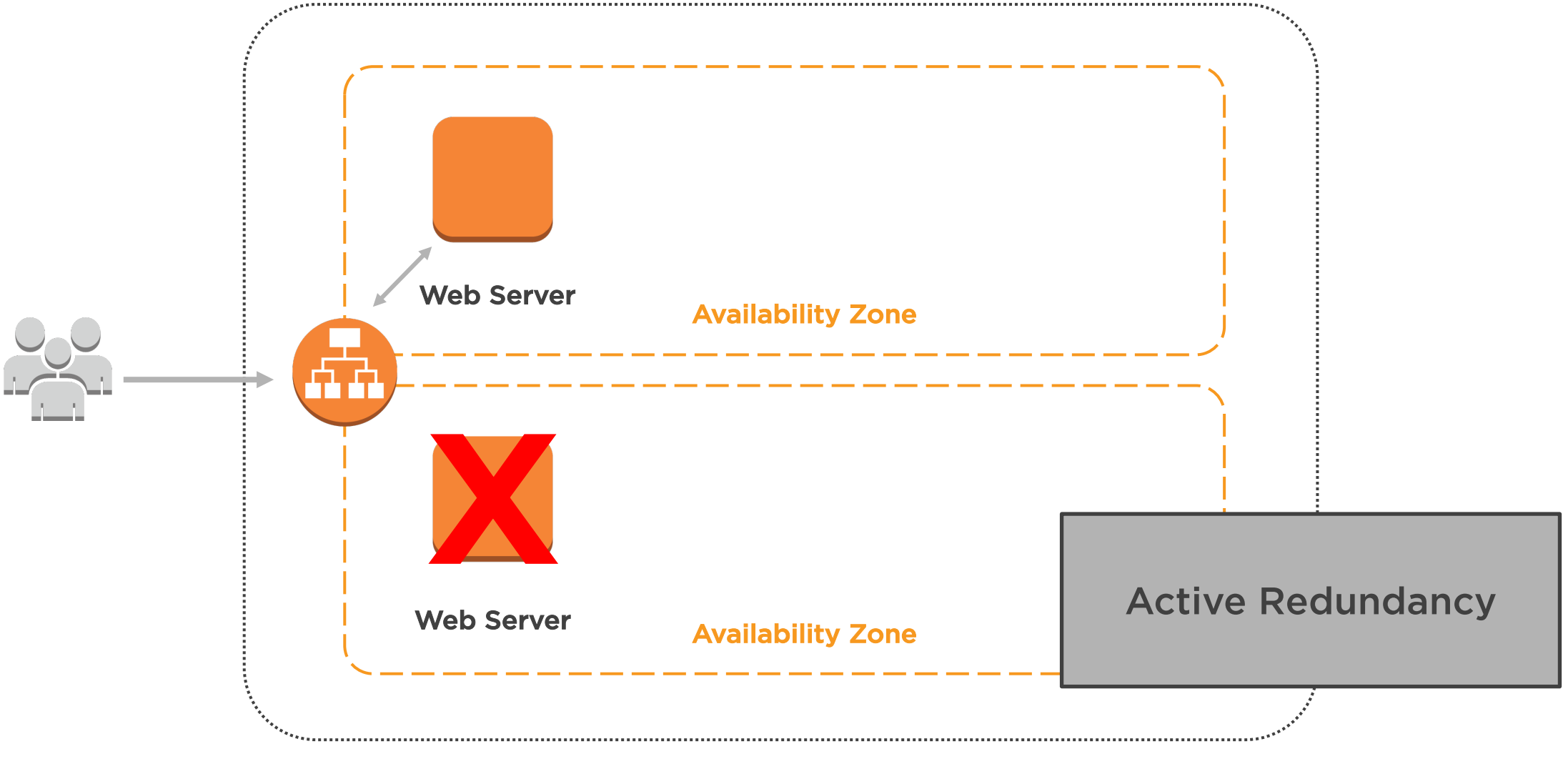

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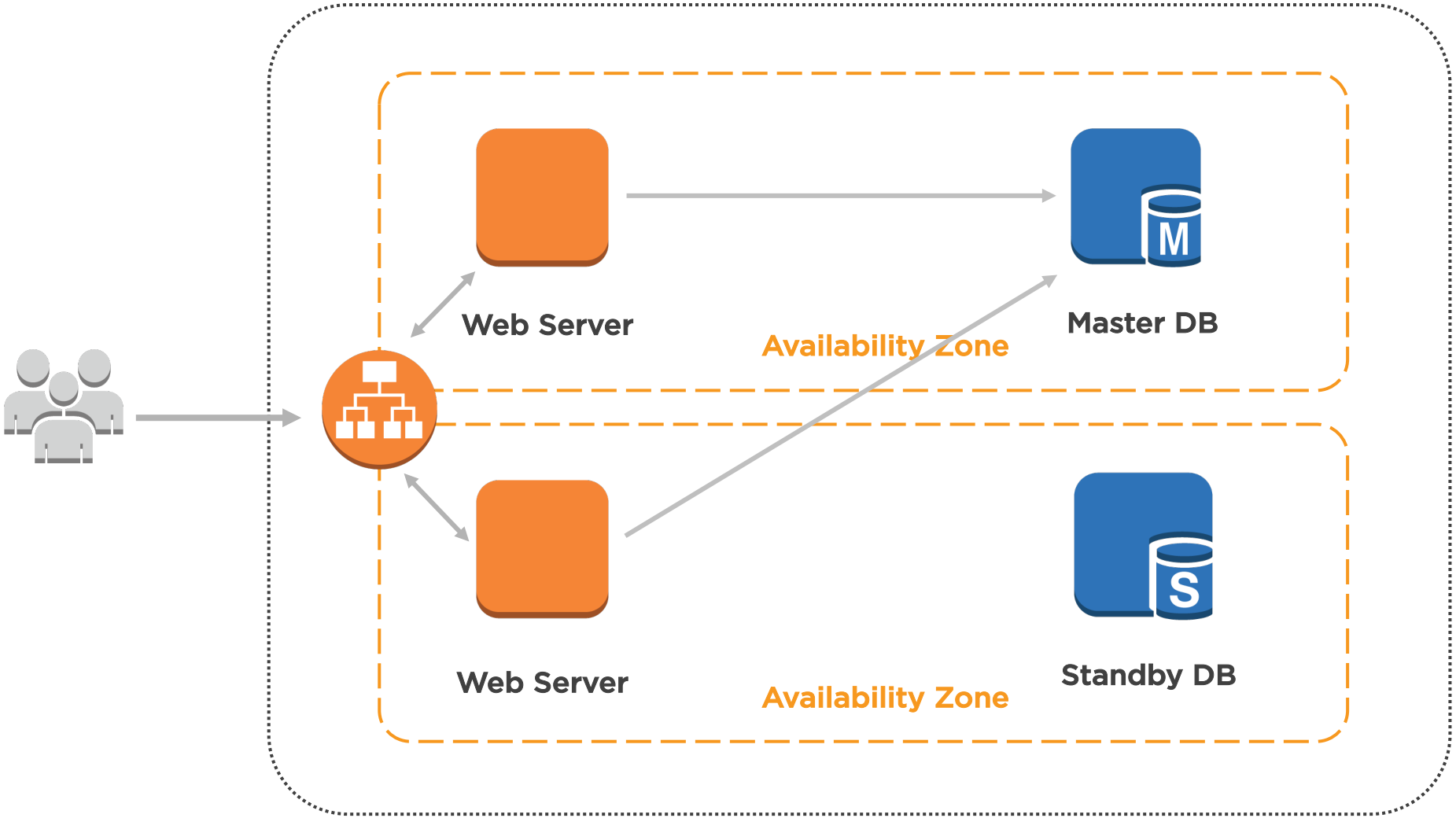
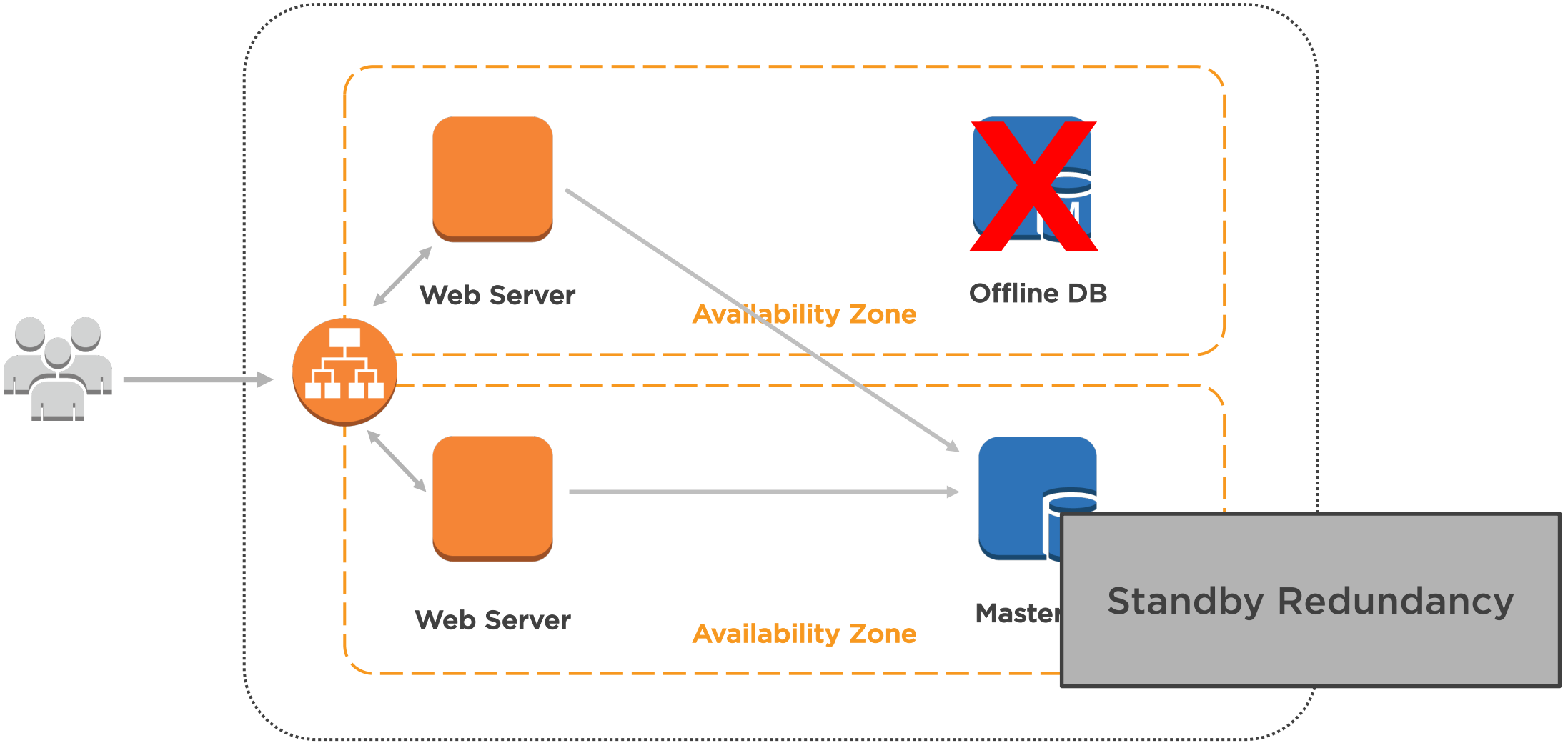
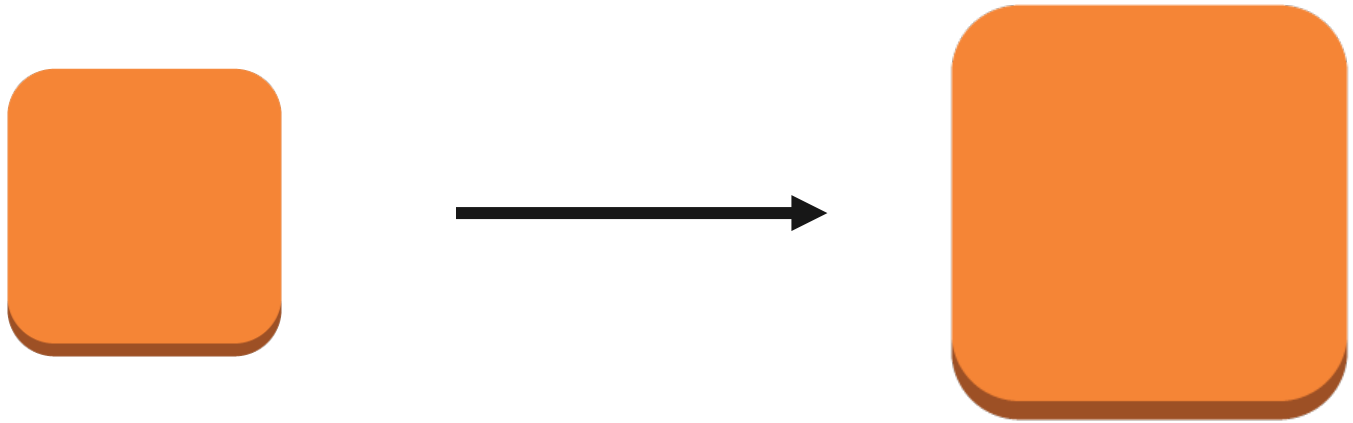


Eliminating Single Points of Failure



Vertical and Horizontal Scaling



EC2 Instance
T2.micro

1 vCPU / 1 GB Memory

EC2 Instance
M5.large

2 vCPUs / 8 GB Memory

Vertical and Horizontal Scaling

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T2.micro

1 vCPU / 1 GB Memory

EC2 Instance
M5.large

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Vertical and Horizontal Scaling

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Architecting with services instead of servers

Managed Services

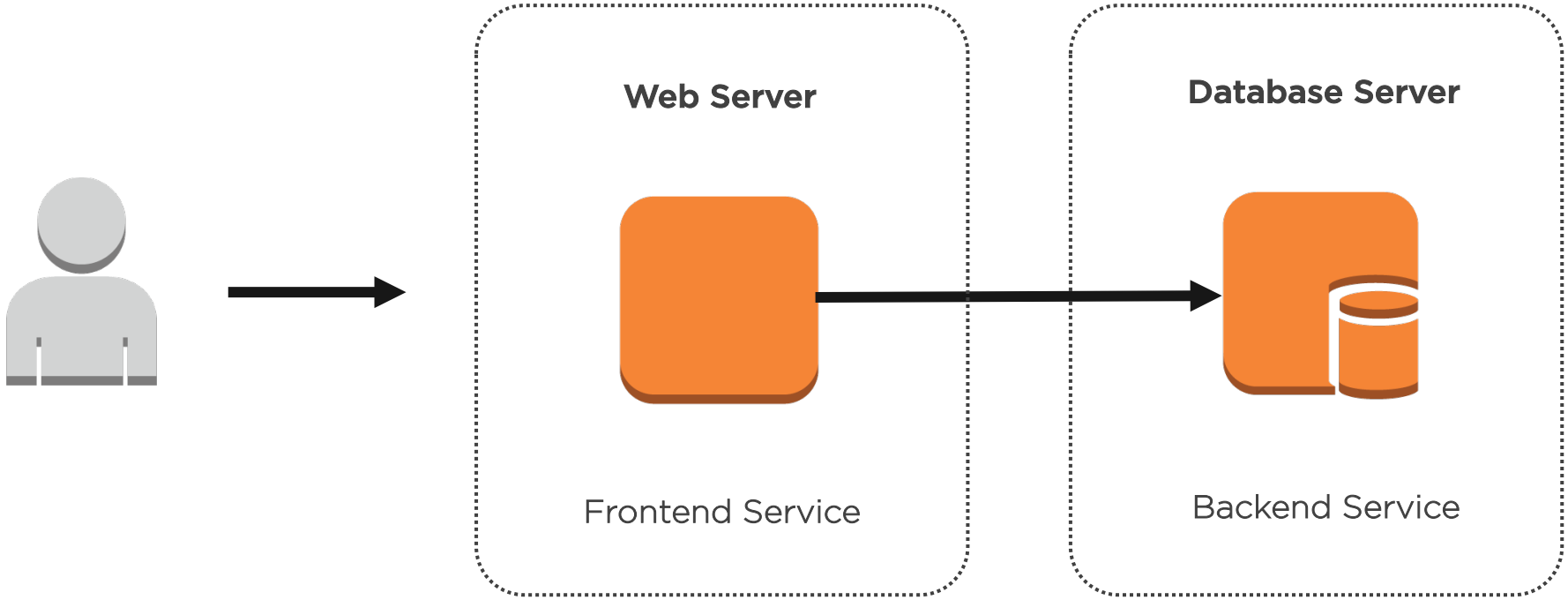
- Relational Database Service (RDS)
- Simple Storage Service (S3)
- DynamoDB
- Elastic Load Balancing

Architecting with services instead of servers

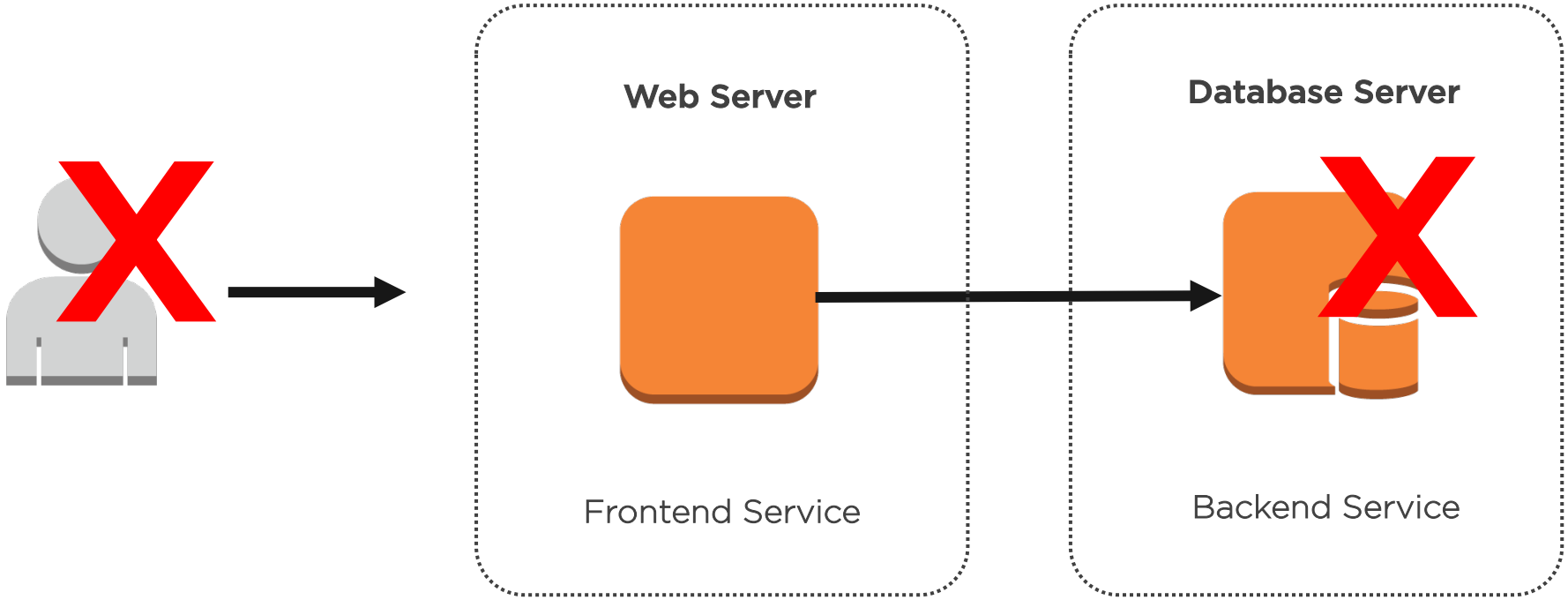
Serverless Architectures

- Lambda
- API Gateway
- Simple Storage Service (S3)
- CloudFront

Implementing Loose Coupling

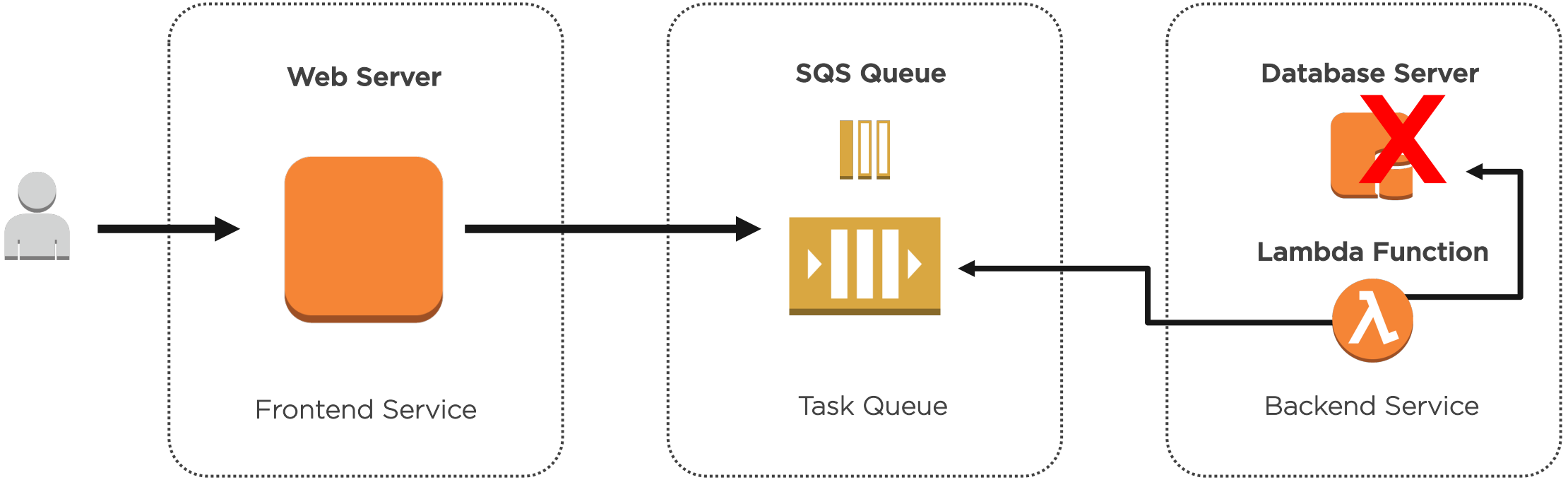


Implementing Loose Coupling



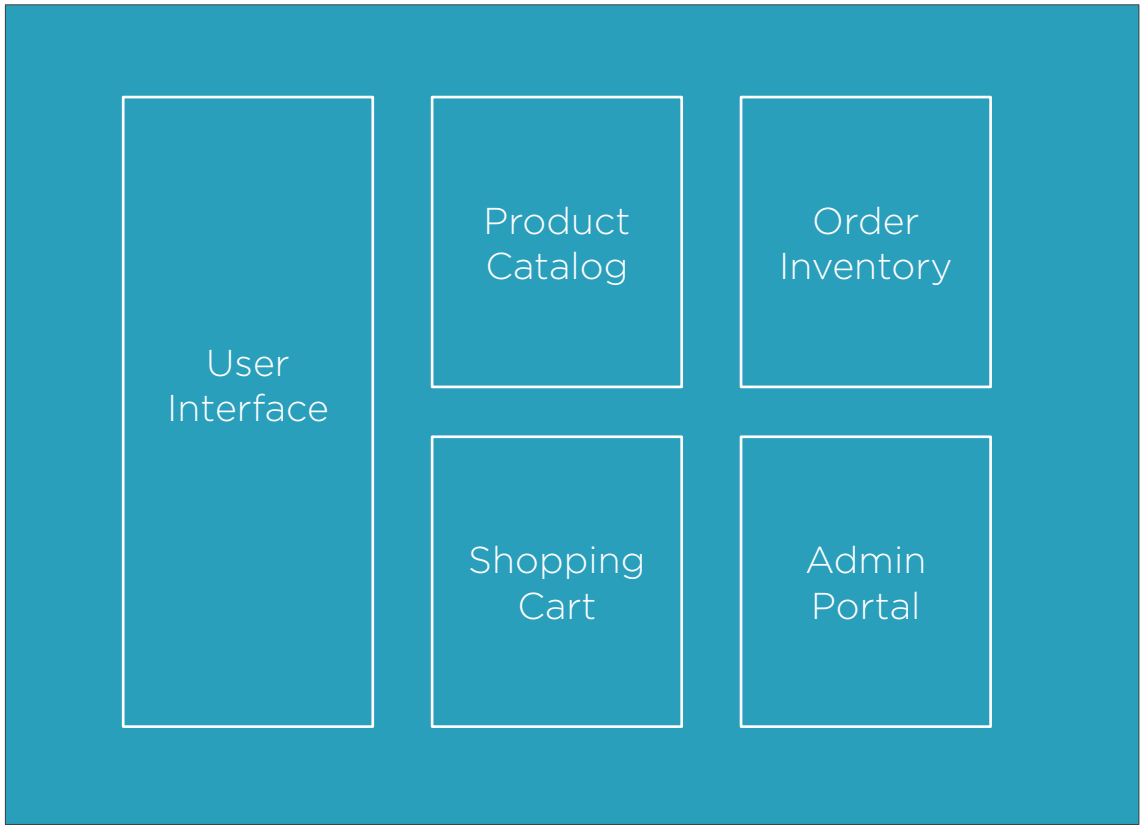
Tightly Coupled Architecture

Implementing Loose Coupling



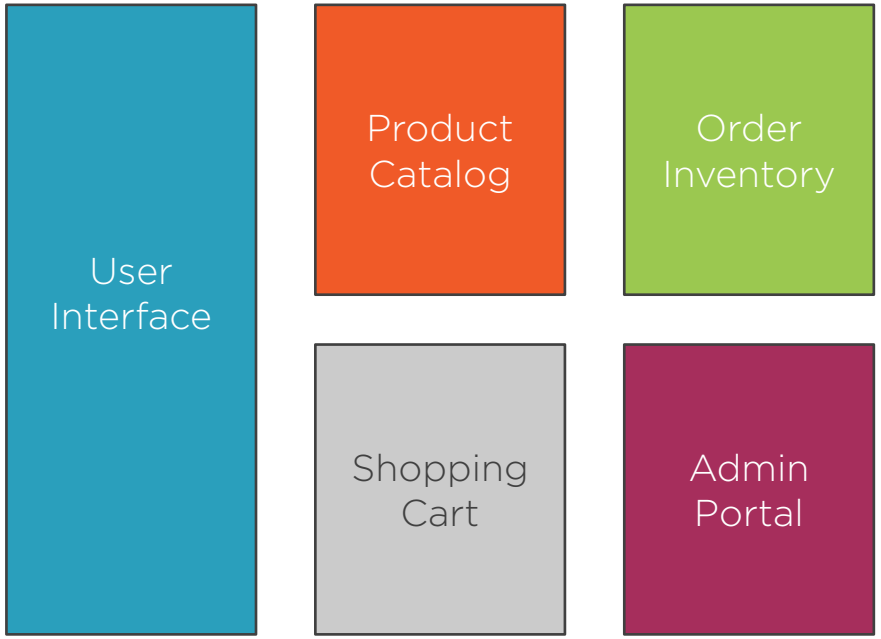
Loosely Coupled Architecture

Implementing Loose Coupling



Tightly Coupled Monolithic Application Architecture

Implementing Loose Coupling



Loosely Coupled Microservices Application Architecture

Summary

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