Welcome to the:
AWS Serverless-First Function

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What is a modern application?

- Scales to millions of users
- Responds in milliseconds
- Global availability
- Handles petabytes of data
What are the elements of a modern application?

1. Architectural patterns
2. Operational model
3. Software delivery
4. Management & governance
5. Data management

Modular services
As managed as possible
Automated & standardized
Everyone's responsibility
Purpose built
Modular applications at scale

Application

Microservice

Persistence

Microservice

Event

API

Microservice

Event

API

Persistence

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Modular applications at scale
What is the path to modern applications?

On-premises

Infrastructure-centric

Application-centric
On-premises

Infrastructure-centric

Application-centric
On-premises

Infrastructure-centric

Application-centric
On-premises  Infrastructure-centric  Application-centric
Organizational nirvana
What is a “serverless-first” approach?

When organizations opt for serverless technologies as their first choice for application design, we call this a serverless-first approach.

Organizations that take a serverless-first approach offload more undifferentiated tasks to managed services, and are freer to focus only on their core business.

Organizational nirvana
AWS operational responsibility models

- **Compute**
  - Virtual machine
  - Amazon EC2
  - AWS Elastic Beanstalk
  - AWS Fargate
  - AWS Lambda

- **Databases**
  - MySQL
  - MySQL on Amazon EC2
  - Amazon RDS for MySQL
  - Amazon RDS
  - Amazon Aurora
  - Amazon DynamoDB

- **Storage**
  - Storage
  - Amazon S3

- **Messaging**
  - ESBs
  - Amazon MQ
  - Amazon Kinesis
  - Amazon SQS/SNS

- **Analytics**
  - Hadoop
  - Hadoop on EC2
  - Amazon EMR
  - Amazon Elasticsearch Service
  - Amazon Athena

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Serverless changes how we work

Builders

Developers
Focus: Build new solutions

Operators

Process optimizers
Focus: Deployment safety & speed
Operations will continue to be important to ensure the long-term success of a product, organization, or even the company itself. But the **thinking** around operations is changing, and along with that, often are the roles of operations teams.
Modern development lifecycle

Services

Developers

Delivery pipelines

Build

Test

Release

Monitor

Monitor
What are guardrails?

Guardrails are mechanisms, such as processes or practices, that reduce both the occurrence & blast radius of undesirable application behavior.
Operations thinking: Determining & distributing guardrails
Now go learn... and go build.