Modern Application Development: Serverless Technologies

Modern app development, serverless technologies

Serverless is the native architecture of the cloud that enables you to shift more of your operational responsibilities to AWS. Serverless technologies let you build applications without thinking about the underlying infrastructure, which increases agility and lowers total cost of ownership.

What are the characteristics of serverless technologies?

- No infrastructure to provision or manage
- Automatically scales by unit of work
- Pay for value, not server units
- Built-in availability and fault tolerance

Build & run apps without thinking about servers

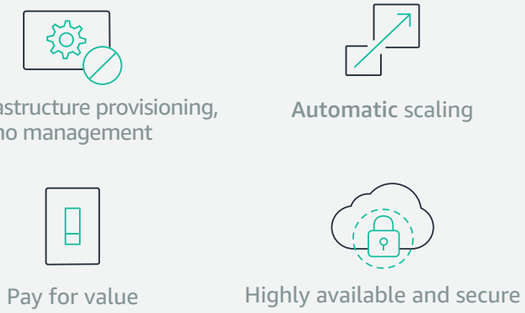
Spend time focusing on innovating your application, instead of managing infrastructure.

You no longer need to provision or maintain servers, operating systems, or software. This means you can focus on writing business logic that provides differentiated value to your customers and business. Serverless technologies automatically scale by unit of work, and have built-in availability and fault tolerance, so you can build customer-ready applications, right from the start. You can build modern applications with a lower cost of ownership because you pay for execution duration, or consistent throughput, not for server unit.

Thinking serverless throughout the application

It's important to understand that building a serverless application properly involves allocating and managing resources. You need serverless compute, storage, and database resources. You also need services that help you monitor and orchestrate application components. Elasticity, high availability, and security are built right into these serverless services.

What is serverless?



According to research from IDC, organizations that adopt serverless technologies reduce their five year operating cost by 60%, while increasing compute deployment efficiency by 89%.

Modern Application Development:
Serverless Technologies

The building blocks of serverless applications

Compute manages requests from external systems, controls access, and authorizes requests (AWS Lambda, AWS Fargate).

Data handles persistent storage and triggers events in response to data changes (Amazon Aurora Serverless, Amazon DynamoDB, Amazon S3).

Messaging and Streaming provides for communications, and guides processing of streaming data (Amazon API Gateway, Amazon Kinesis, Amazon SNS/SQS, AWS Step Functions).

User Management and Identity authenticates both external and internal customers (AWS Cloudtrail, AWS IAM, AWS Single Sign-On, AWS Organizations).

Monitoring and Deployment manages system visibility, defines how changes are promoted (AWS CloudFormation, AWS Cloud9, AWS CloudPipeline, Amazon CloudWatch, AWS X-Ray).

Edge manages the presentation layer and connectivity to external customers (Lambda@Edge).

Serverless Compute at AWS

Your choice of compute impacts the way you architect your entire application, so let's focus on options for compute at AWS.

For event-driven serverless applications, we have AWS Lambda, which allows you to run code as functions. You can set up your code to automatically trigger from other AWS services or call it directly from any web or mobile app.

For serverless container-based applications, we have AWS Fargate, a serverless compute engine built to run containers in production at any scale. This removes the need to choose server types, decide when to scale your clusters, or optimize cluster packing.

Giving developers a serverless state of mind

A serverless state of mind enables you to focus on core competencies while offloading everything that doesn't add value. It accelerates innovation, so you can rethink not just how you compute, but how you compete.

Slashing the total cost of ownership

Alpha Apps lowered database costs by 97% with a serverless database.

Visit us to discover the possibilities of serverless in your business.

Let's focus on compute for now

AWS Lambda
Serverless event-driven code execution

Short-lived
All language runtimes
Data source integrations

AWS Fargate
Serverless compute engine for containers

Long-running
Bring existing code
Fully-managed orchestration

© 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved.