

AWS Lambda



AWS Lambda

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Serverless means ...



**No servers to provision
or manage**



Scales with usage



Pay for value



**Availability and fault
tolerance built in**



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What is Serverless..?

1. Serverless is a new viewpoint in which the developers don't have to manage servers anymore..!!
2. They just deploy code
3. They just deploy ... functions..!
4. Serverless = Function as a Service (FaaS)
5. Serverless was pioneered by AWS Lambda but now also includes database, messaging, Storage, etc...
6. Serverless does not mean there are no servers
It means you don't manage / provision / see them

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What is AWS Lambda?

AWS Lambda is a compute service that lets you run code without provisioning or managing servers.

Lambda runs your code on a high-availability compute infrastructure and performs all of the administration of the compute resources, including server and operating system maintenance, capacity provisioning and automatic scaling, and logging. With Lambda, all you need to do is supply your code in one of the language runtimes that Lambda supports.

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Why AWS Lambda only...?

Amazon EC2:

1. Virtual servers in the cloud
2. Limited by RAM and CPU
3. Continuously running
4. Scaling means Intervention to add/remove servers

AWS Lambda:

1. Virtual functions: no servers to manage
2. Scaling is automated
3. Limited by time – short executions
4. Run on-demand

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Benefits of AWS Lambda

1. Easy Pricing:

Pay per request and compute time

free tier 1 million requests free

2. Integrated with the whole AWS service

3. Integrated with many programming languages

4. Easy monitoring through AWS Cloudwatch

5. Easy to get more resources per function (10GB of RAM)

6. Increasing RAM will also improve CPU and Network

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AWS Lambda language Support

Node js

Python

Java

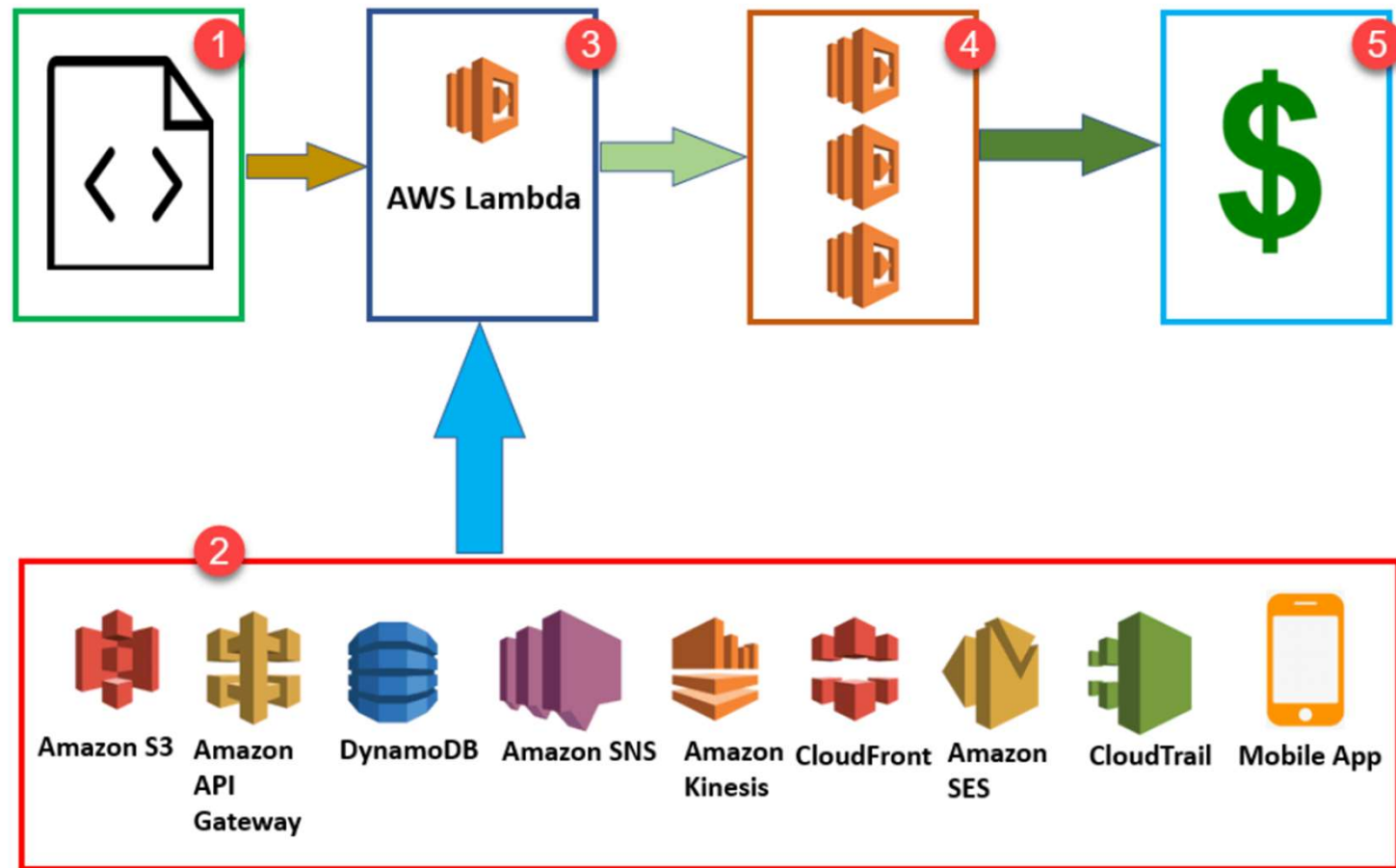
C#

Golang

Ruby

API

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Advantages of using AWS Lambda

AWS Lambda is a highly flexible tool to use

You do not need to set up any Virtual Machine.

It allows you to run your code without provisioning or to manage any other server

Lambda functions are stateless so that they can be scaled quickly.

AWS Lambda is fast so it will execute your code within milliseconds.

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Limitations of AWS Lambda

AWS Lambda tool is not suitable for small projects.
Its memory volume is between 128 MB to 10 GB.
Its code execution timeout is just 15 minutes.
Event requests should not exceed 256 KB.

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AWS Lambda Concepts

Function:

A function is a program or a script that runs in AWS Lambda. Lambda passes invocation events into your function, which processes an event and returns its response.

Runtimes:

Runtime allows functions in various languages that run on the same base execution environment. This helps you to configure your function in runtime. It also matches your selected programming language.

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AWS Lambda Concepts

Event source:

An event source is an AWS service, such as Amazon SNS, or a custom service. This trigger's function helps you to execute its logic.

Lambda Layers:

Lambda layers are an important distribution mechanism for libraries, custom runtimes, and other important function dependencies. This AWS component also helps you to manage your development function code separately from the unchanging code and resources that it uses.

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AWS Lambda Concepts

Log streams:

Log stream allows you to explain your function code with custom logging statements which helps you to analyze the execution flow and performance of your AWS Lambda functions.

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Example Use case

