IAAS ACADEMY

AWS Lambda

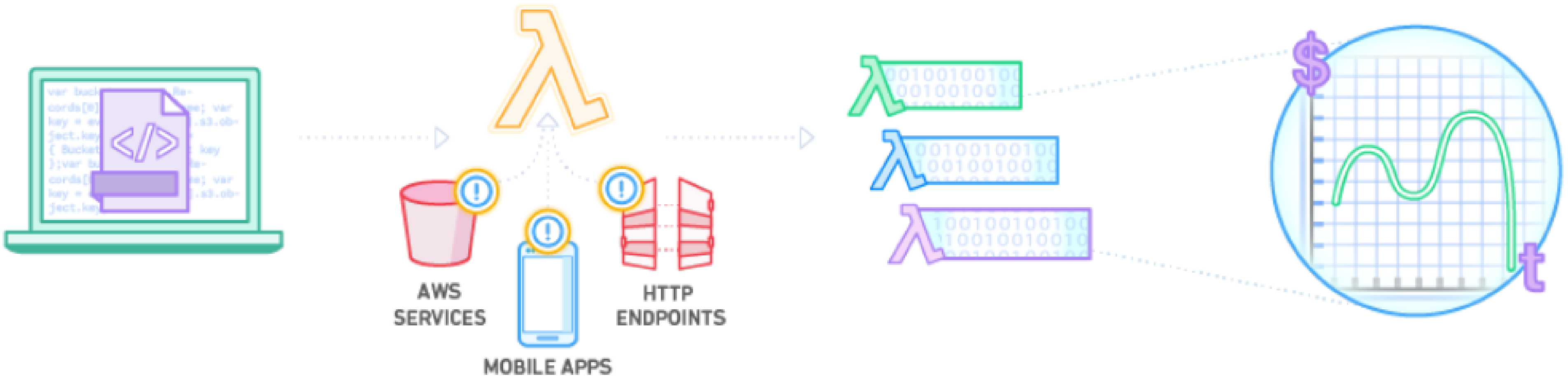
Amazon Web Services

What is Lambda

AWS Lambda enables true Serverless computing services by letting you run code without provisioning or managing servers. AWS Lambda executes your code only when needed and scales automatically. You can use AWS Lambda to run your code in response to events, such as changes to data in an Amazon S3 bucket or an Amazon DynamoDB table; to run your code in response to HTTP requests using Amazon API Gateway; or invoke your code using API calls made using AWS SDKs. Thus AWS Lambda can help you architect your Ser applications.

AWS Lambda

What is Lambda



Upload your code to AWS Lambda

Set up your code to trigger from other AWS services, HTTP endpoints, or in-app activity

Lambda runs your code only when triggered, using only the compute resources needed

Pay just for the compute time you use

Benefits of Lambda

When using AWS Lambda, you are responsible only for your code. AWS Lambda manages the compute fleet that offers a balance of memory, CPU, network, and other resources. This is in exchange for flexibility, which means you cannot log in to compute instances, or customize the operating system or language runtime.

- Pay only for the compute time you consume vs. paying for EC2 Instances
- Zero administration of underlying Infrastructure
- Lambda runs your code on a high-availability compute infrastructure

Supported Languages

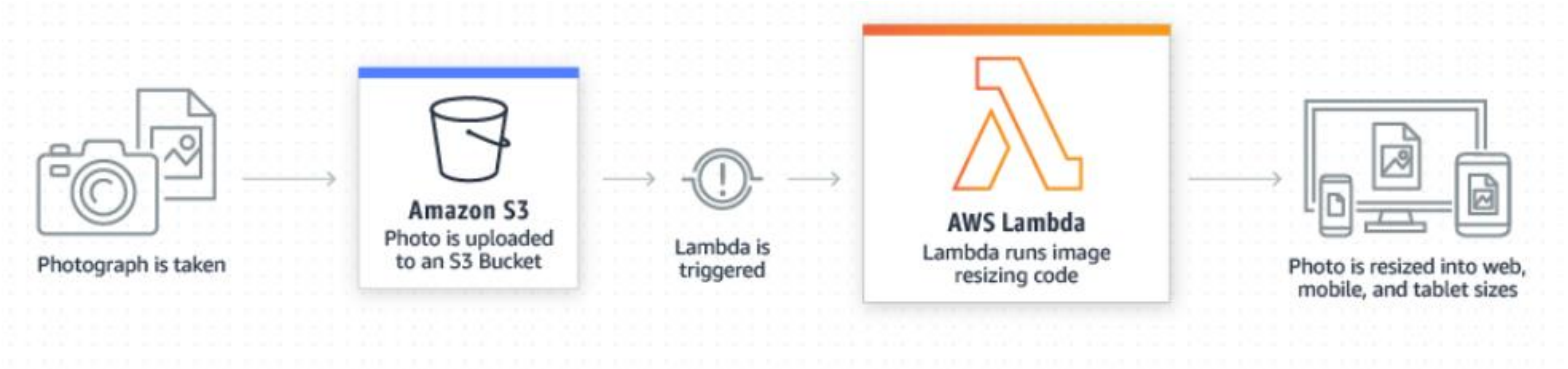
- Node.js
- Python
- Java
- C#
- Go

AWS Lambda Limits

Resource	Limit
Function memory allocation	128 MB to 3,008 MB, in 64 MB increments.
Function timeout	900 seconds (15 minutes)
Function environment variables	4 KB
Function resource-based policy	20 KB
Function layers	5 layers
Invocation frequency (requests per second)	10x concurrent executions limit (synchronous – all sources) 10x concurrent executions limit (asynchronous – non-AWS sources) Unlimited (asynchronous – AWS service sources)
Invocation payload (request and response)	6 MB (synchronous) 256 KB (asynchronous)
Deployment package size	50 MB (zipped, for direct upload) 250 MB (unzipped, including layers) 3 MB (console editor)
Test events (console editor)	10
/tmp directory storage	512 MB
File descriptors	1,024
Execution processes/threads	1,024

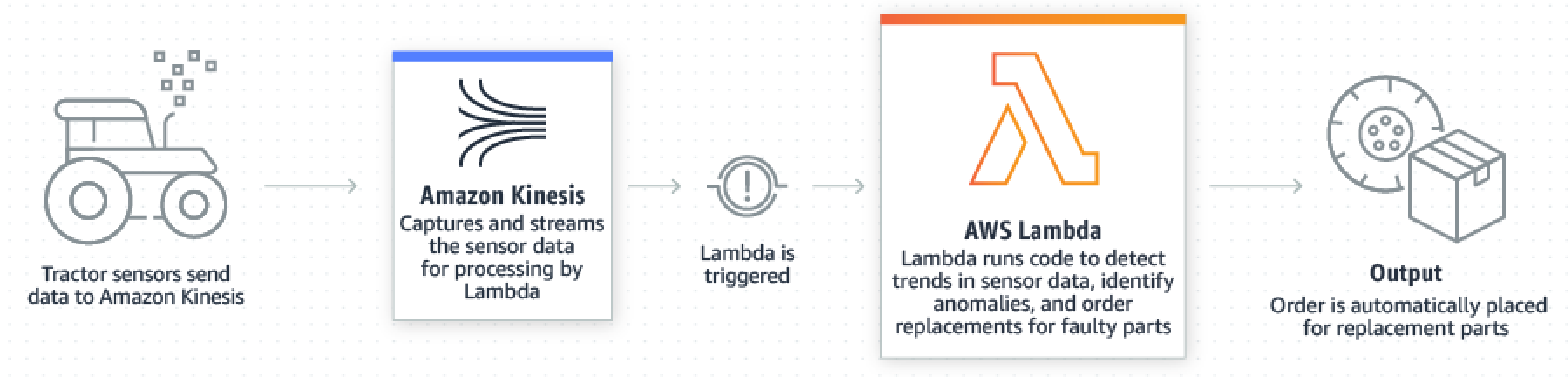
Sample Use Case

You can use Amazon S3 to trigger AWS Lambda to process data immediately after an upload. For example, you can use Lambda to thumbnail images, transcode videos, index files, process logs, validate content, and aggregate and filter data in real-time.


Photograph is taken
Amazon S3
Photo is uploaded to an S3 Bucket
Lambda is triggered
AWS Lambda
Lambda runs image resizing code
Photo is resized into web, mobile, and tablet sizes

Sample Use Case

You can build serverless backends using AWS Lambda to handle web, mobile, Internet of Things (IoT), and 3rd party API requests.



Tractor sensors send data to Amazon Kinesis

Amazon Kinesis
Captures and streams the sensor data for processing by Lambda

Lambda is triggered

AWS Lambda
Lambda runs code to detect trends in sensor data, identify anomalies, and order replacements for faulty parts

Output
Order is automatically placed for replacement parts

Next Video