

# Serverless Data Processing (CSCI 5410)

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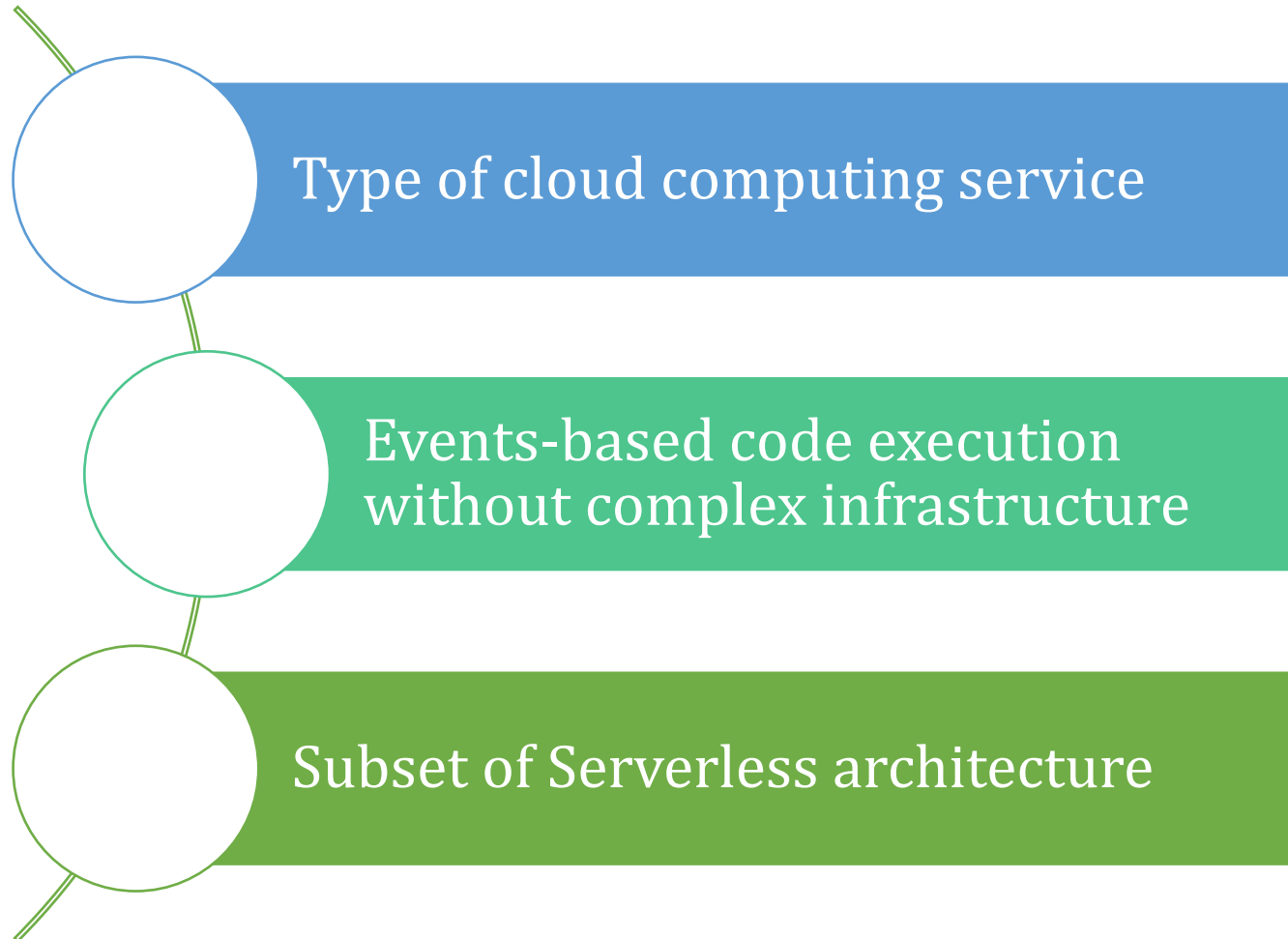
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# Outline

Function-as-a-Service  
AWS Lambda



# Function-as-a-Service



# Introduction to AWS Lambda

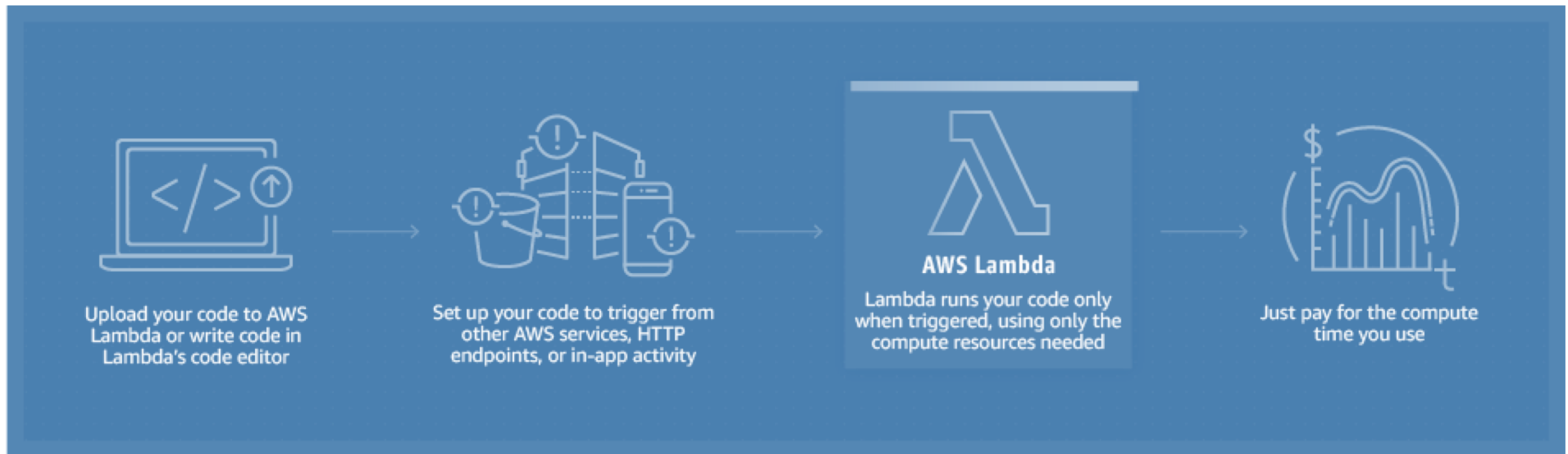
- Code we run on AWS Lambda is called a “Lambda function.” Once we create a Lambda function it is always ready to run as soon as it is triggered. Each function includes code as well as some associated configuration information, including the function name and resource requirements.

<https://aws.amazon.com/lambda/features/>



# How does AWS Lambda Work?

- Lambda can be directly triggered by AWS services such as S3, DynamoDB, SNS, and CloudWatch, or it can be orchestrated into workflows.



# Lambda Features

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Custom Logic

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Own code - Lambda natively supports Java, Go, PowerShell, Node.js, Python, C#, Ruby.

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Automated Administration

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Orchestrate multiple functions

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Connection to Database

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Pay-per-use

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Flexible, fault-tolerant, auto scale



# AWS Lambda Creation

- When you create a new function with AWS Lambda, you choose a **function name**, create your **code**, and specify the **configuration** of the execution environment that will be used to run the function

## Create function [Info](#)

Choose one of the following options to create your function.

### Author from scratch

Start with a simple Hello World example.



### Use a blueprint

Build a Lambda application common use cases.



### Basic information

#### Function name

Enter a name that describes the purpose of your function.

Use only letters, numbers, hyphens, or underscores with no spaces.

#### Runtime [Info](#)

Choose the language to use to write your function.

### Permissions [Info](#)

Lambda will create an execution role with permission to upload logs to Amazon CloudWatch Logs. You can configure and modify permission

#### ▼ Choose or create an execution role

#### Execution role

Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

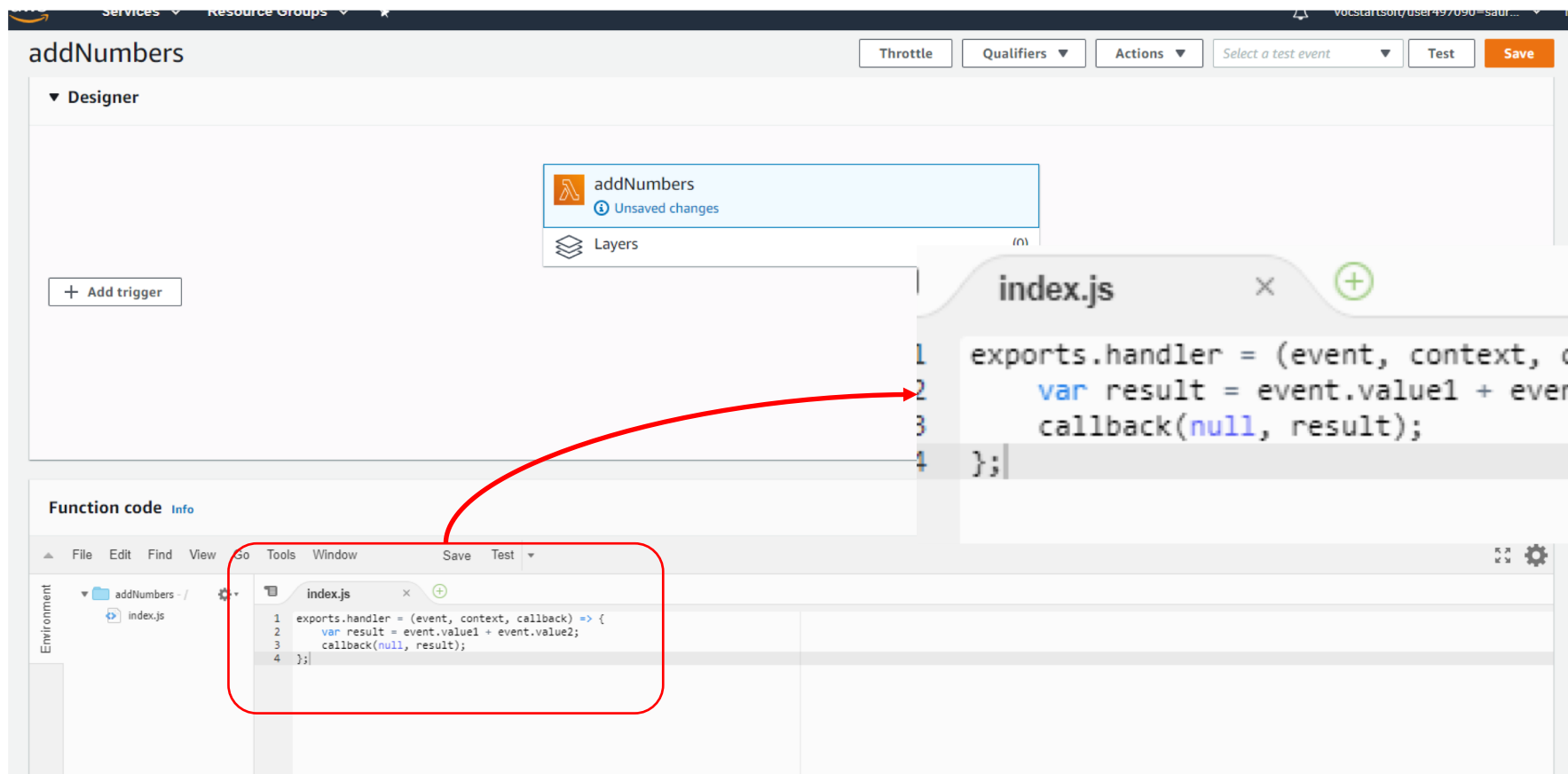
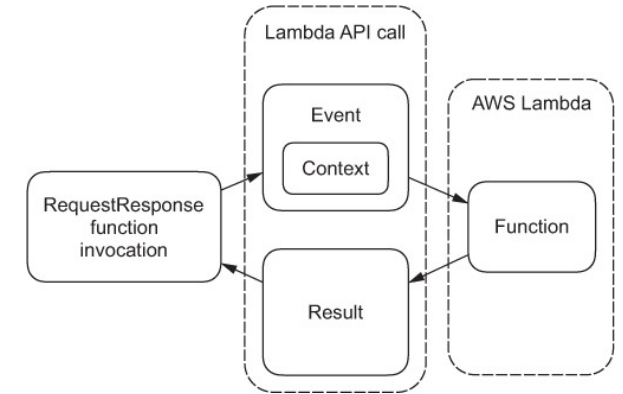
☒ Create a new role with basic Lambda permissions

☐ Use an existing role

☐ Create a new role from AWS policy templates

# AWS Lambda Creation

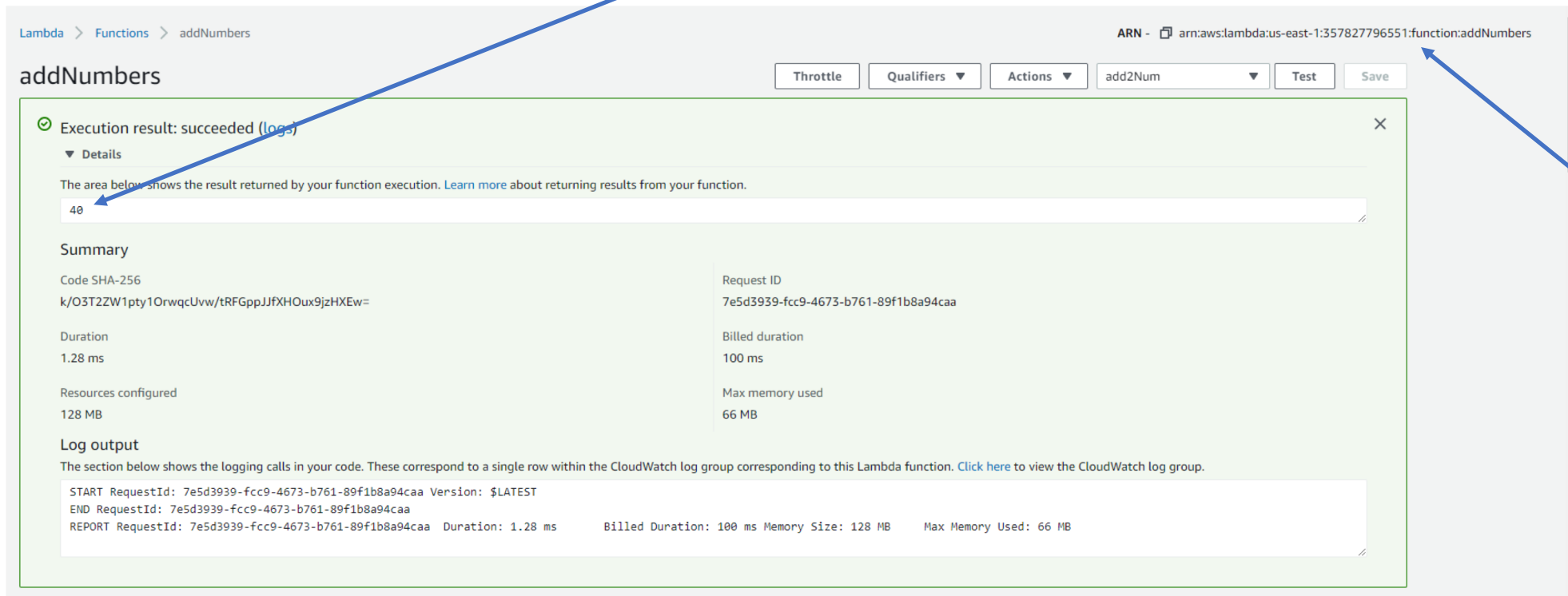
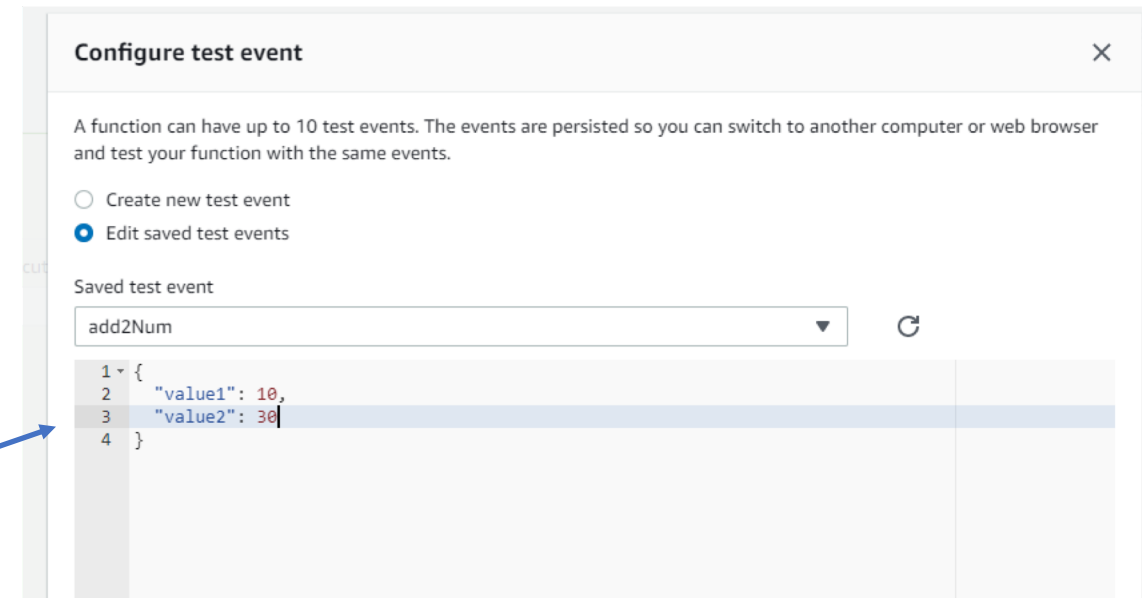
- When we call a function with AWS Lambda, we provide an **event** and a **context** in the input:





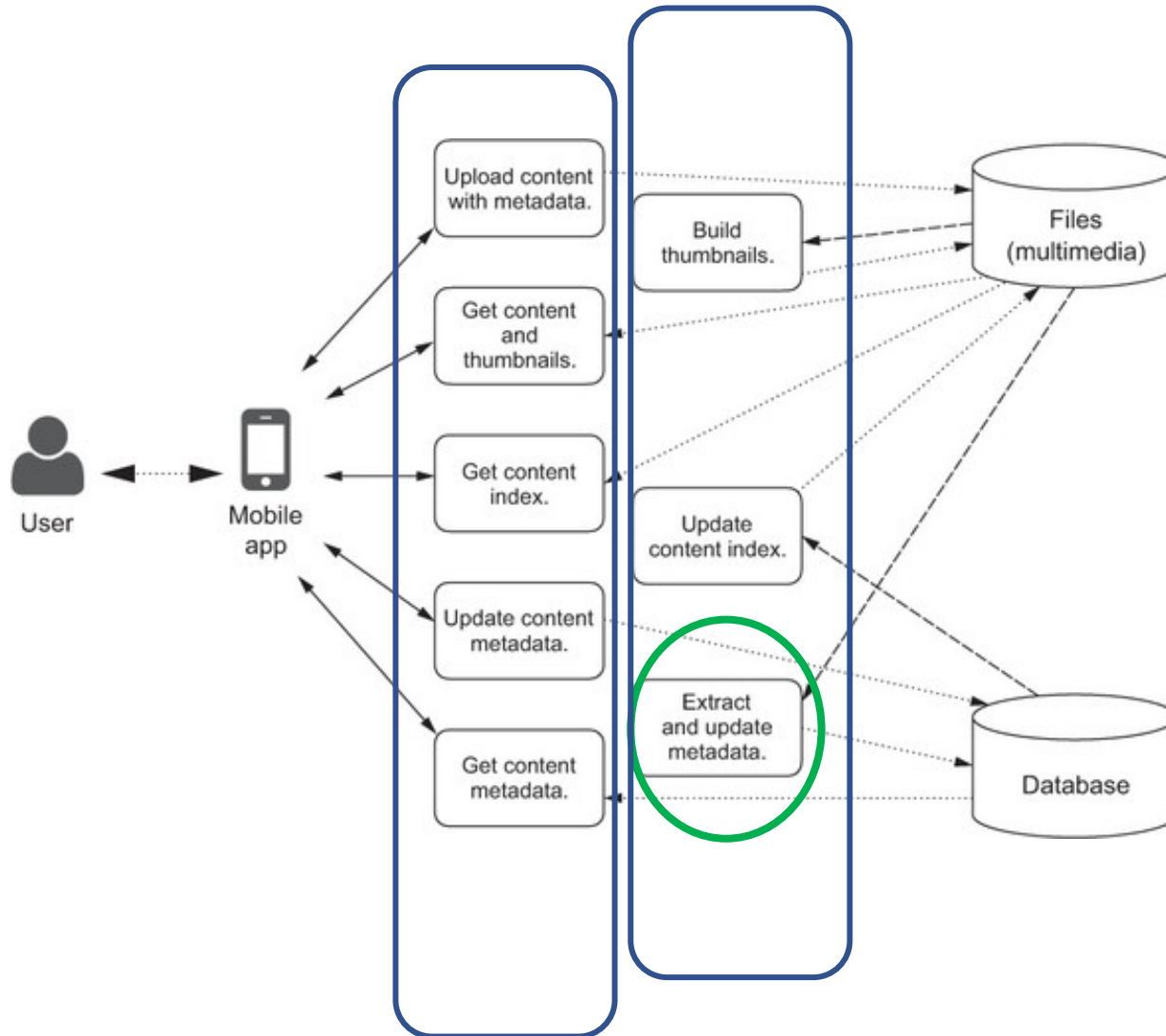
# AWS Lambda Creation

- The event is the way to send input parameters for function and is expressed using JSON syntax.



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# Case Study – Media Sharing App



- An event-driven, media-sharing application built using multiple AWS Lambda functions, some invoked directly by the mobile app. Other functions are subscribed to storage repositories such as a file share or a database.

# Questions to Consider

- Can we use different programming languages to write Lambda functions for a single application?
- Is GCP Cloud Functions better than AWS Lambda?



Thank You

