**Content**

[1. SAM (Serverless Application Model) 2](#_Toc15935152)

[1. The file 2](#_Toc15935153)

[2. AWS SAM CLI 3](#_Toc15935154)

[3. StepFunctions 3](#_Toc15935155)

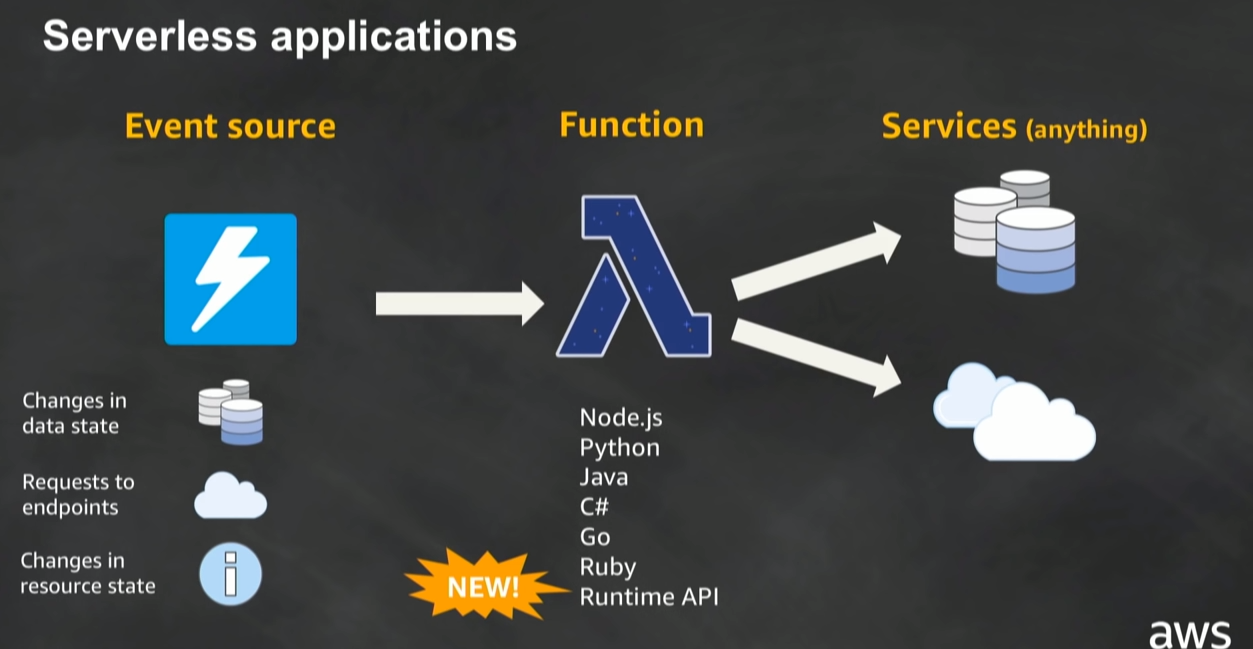
[2. Lambda – versions and aliases 4](#_Toc15935156)

[3. API Gateway 5](#_Toc15935157)

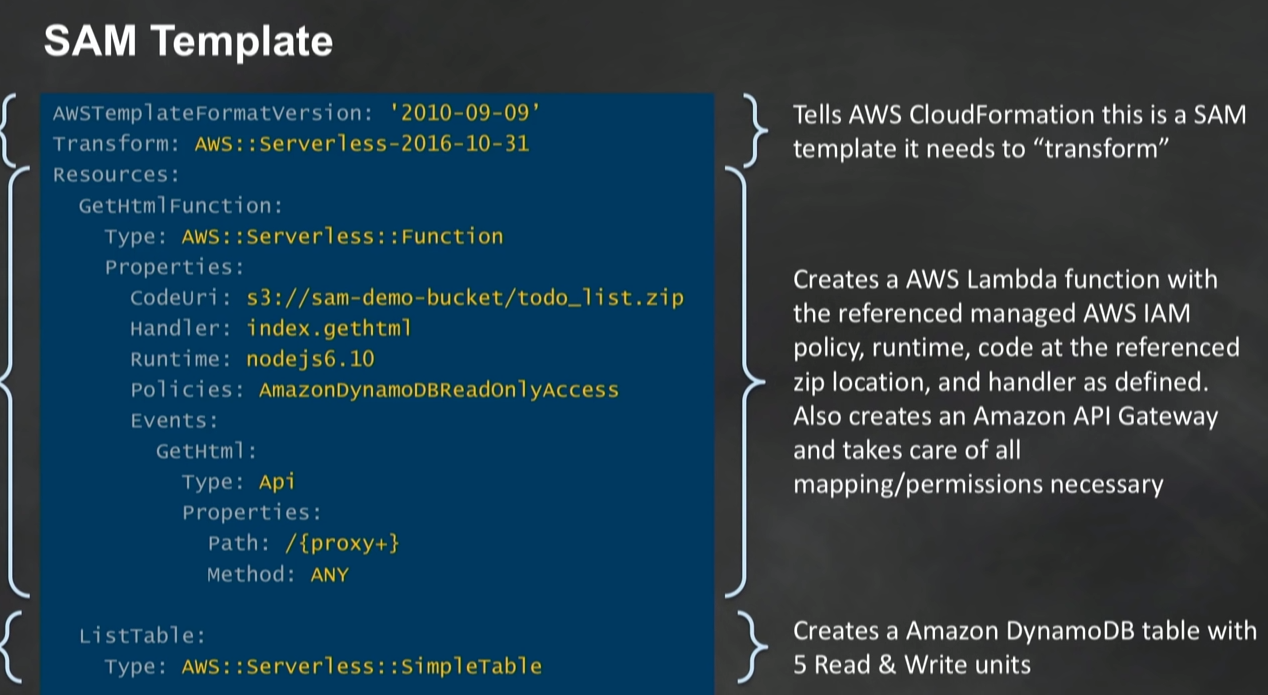
[1. API Gateway Private Endpoints 5](#_Toc15935158)

1. SAM (Serverless Application Model)

AWS CloudFormation extension, optimized for serverless. Special serverless resource types: functions, APIs, tables, Layers and Applications. Supports anything AWS CloudFormation supports.



* 1. The file



<https://bit.y/2xWycnj>

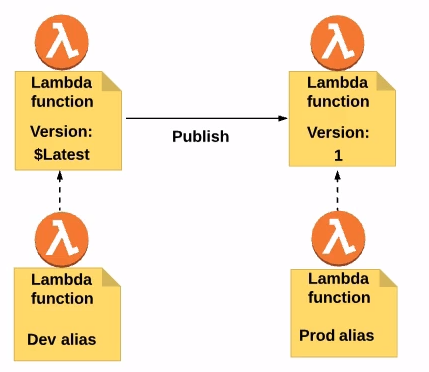
* 1. AWS SAM CLI

CLI tool for local development, debugging, testing, deploying and monitoring serverless applications. Uses open source docker-lambda images to mimic Lambda’s execution environment such as timeout, memory limits, runtimes.

* 1. StepFunctions

1. Lambda – versions and aliases

* You can publish one or more versions of your Lambda function
* Each Lambda Function has a unique ARN.
* After you publish a version it can not be charged
* The latest version of the function is tagged as $Latest
* Lambda supports creating aliases for each Lambda function version
* An alias is a pointer to a specific Lambda function version
* Each alias has unique arn
* Alieses can be modified. **You can update an alias to point to different version.**
* Lambda Canary: shit traffic between 2 versions based on weights.



1. API Gateway

You can create APIs for use in your own client applications (apps) or you can make your APIs available to third-party app developers.

* REST – stateless
* WebSocket – stateful API specific entity – route. (real time chat app: onConnect, onDisconnect, sendMessage)

A REST API receives message from the client and forwards those to the backend resource. It also forwards responses from the backend to the client. But a Web Socket API supports two-way communication between client apps and your backend. The backend can send callback messages to connected clients. The backed services can independenty send messages to its clients. When REST there is no response withour a request. When WEB Socket it can be.

Swagger – helps developers to build RESTful web services.

Authorization – API Key

* 1. API Gateway Private Endpoints

Requirements:

* A VPC with at least one subnet and DNS resolution enabled.
* A VPC endpoint configured such:

1. Service name = „com.amazonaws.{region}.execute-api“
2. Enable Private DNS Name = enabled
3. A security group set to allow TCP Port 443 inbound from either an OP range in your VPC or another security group in your VPC

* An API Gateway with

1. Endpoint type = „Private“
2. A resource policy giving access to your API from the VPC endpoints.