

Webinar Series on Remote Learning

TITLE

Introduction to Serverless Computing on AWS

BRIEF SYNOPSIS

In this webinar, learn about AWS Lambda, an event-driven serverless computing service. Lambda lets you to run code without the need to provision or manage servers. It eliminates infrastructure management tasks such as patching, operating system maintenance, and capacity provisioning.

SPEAKERS

Steve Sofian
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SPEAKER BIOS:

Solutions Architect, AWS
Technical Program Manager, AWS WWPS

DURATION

41 min

TIMESTAMPS

[0:00](#) – Speaker Introductions

[3:27](#) – Introduction to Serverless

[7:38](#) – Serverless Architecture

[9:07](#) – AWS Lambda

[12:22](#) – Use Cases

[14:02](#) – AWS Lambda Demo

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Q & A with Ronald Kok-Leong Lim and Furin Ongko:

AWS Educate

Q: What are the benefit of badges?

A: Badges in the AWS Educate portal are micro credentials that you can attach in your digital portfolio in the portal or utilize it in your resume. It depicts that you'd at least have some fundamental knowledge in the respective tech.

Q: I completed the machine learning pathway in AWS Educate. There is no credential ID for that. How can I add that I have completed a career pathway in my LinkedIn profile?

A: Completed pathways appear in your profile to employers in the job board hosted in AWS Educate. Do feel free to post it as an achievement on LinkedIn.

Services

Q: When we connect to the VPN, will this mean the internet will be fast?

A: Generally, no. Still, you shouldn't overlook bandwidth throttling caused by ISPs. Basically, they limit bandwidth for certain online content/activities to get you to buy a pricier subscription. Well, using a VPN like Buffered will put an end to ISP bandwidth throttling. Thus, you might say that this way, using a VPN will enhance your online speed.

Q: What is DirectX?

A: DirectX is the key multimedia handler on Microsoft-based computers, game consoles or smartphones. It consists of various APIs such as Direct3D, DirectDraw, DirectPlay, DirectSound or DirectMusic. ... Cognosys provides hardened images of Microsoft DirectX SDK on all public cloud i.e. AWS marketplace and Azure.

Q: How can I attach an Amazon S3 bucket to VPC??

A: See <https://aws.amazon.com/premiumsupport/knowledge-center/ec2-instance-access-s3-bucket/>

Q: What is meant by instance type?

A: Instance is a term for virtual machine/ server.

Q & A with Steve Sofian and Furin Ongko:

Q: What is a Lambda function?

A: AWS Lambda is a compute service that lets you run code without provisioning or managing servers. AWS Lambda executes your code only when needed and scales automatically, from a few requests per day to thousands per second. You pay only for the compute time you consume - there is no charge when your code is not running.

Q: What is the use of Lambda?

A: Instead of configuring a local server on your machine to execute the codes, you can use Lambda to do that instead with the additional configurations.

Q: What is DLQ and its uses?

A: Dead-letter queues are useful for debugging your application or messaging system because they let you isolate problematic messages to determine why their processing doesn't succeed.

Q: How many type of events a single function can handle?

A: This would be a good place to refer to:

<http://docs.aws.amazon.com/lambda/latest/dg/intro-core-components.html#intro-core-components-event-sources>

Q: Will the trigger of Lambda be recorded in CloudWatch?

A: AWS Lambda automatically monitors Lambda functions on your behalf and reports metrics through Amazon CloudWatch.

Q: Is there a demo for creating an IAM role?

A: This could be useful: <https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorials.html>

Q: Can we use lambda functions with databases and with .NET applications?

A: Yes you can refer to this. <https://aws.amazon.com/blogs/compute/developing-net-core-aws-lambda-functions/>

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Q & A with Steve Sofian and Furin Ongko:

Q: Can I test my serverless code locally?

A: You can run the AWS Management Console through CLI but you'd still need to be connected.

Q: What are the uses of serverless architecture?

A: This would be a good read: <https://aws.amazon.com/blogs/architecture/ten-things-serverless-architects-should-know/>

Q: Does Lambda support all Python versions?

A: Please refer to this URL for the various runtimes supported on Lambda:
<https://docs.aws.amazon.com/lambda/latest/dg/lambda-runtimes.html>

Q: What is concurrency in AWS Lambda?

A: This would be a good read:
<https://docs.aws.amazon.com/lambda/latest/dg/configuration-concurrency.html>

Q: Is AWS Lambda a paid service?

A: With AWS Lambda, you pay only for what you use. You are charged based on the number of requests for your functions and the duration, the time it takes for your code to execute.

Q: Are Lambda functions related to app level? Will users build from the UI?

A: Nope, Lambda runs on the backend. Users literally build the code structure and function to support the UI.

Q: What is difference between DynamoDB, Aurora, and Redshift? How do you know which type of database service to use?

A: Please refer to this site: <https://aws.amazon.com/products/databases/>

Q: What is a proxy server?

A: A proxy server acts as a gateway between you and the internet. It's an intermediary server separating end users from the websites they browse. Proxy servers provide varying levels of functionality, security, and privacy depending on your use case, needs, or company policy.

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Q & A with Steve Sofian and Furin Ongko:

Q: Is lambda only used for developing codes?

A: Just like how when you program using PHP/ASP, you setup a local server on your machine for execution. Instead of the complicated configurations, you can now run everything serverlessly through Lambda.

Q: What is the basic use of AWS?

A: Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform, offering over 175 fully featured services from data centers globally.

Q: Are there any examples using C#?

A: Have a look at this: <https://docs.aws.amazon.com/lambda/latest/dg/lambda-csharp.html>

Q: What is meant by the role or role name?

A: Role refers to the IAM role for execution.

Q: Can we use AWS Lambda to bind our ML models into an API?

A: This tutorial could get you going: <https://towardsdatascience.com/hosting-your-ml-model-on-aws-lambdas-api-gateway-part-1-9052e6b63b25>

Q: Is AWS Lambda free of cost for initial development and prototyping?

A: If you use the free tier, AWS Lambda provides 1 Million free requests per month for a year.

Q: What's the use of a lambda function?

A: If you think back on when you work on PHP/ASP and have to install a local server on your computer for execution, Lambda is that server that runs on the cloud so you don't have to work with the complex configuration

Q: Can I define functions with parameters in lambda?

A: Yes you can and here is a good example:

<https://docs.aws.amazon.com/lambda/latest/dg/python-handler.html>

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Q & A with Steve Sofian and Furin Ongko:

Q: How do we create IAM roles from our Educate account?

A: If you're using the AWS Educate Starter Account, there are some limitations to IAM. Please check through this list: https://s3.amazonaws.com/awseducate-starter-account-services/AWS_Educate_Starter_Accounts_and_AWS_Services.pdf

Q: Why we are using lambda instead of ASP/PHP?

A: AWS Lambda is a platform for you to run codes. You can essentially run your scripts in there without the need to pre-configure a local machine.

Q: Please share a benefit of AWS Lambda?

A: With AWS Lambda, you pay only for what you use. You are charged based on the number of requests for your functions and the duration, the time it takes for your code to execute.

Q: How are GoDaddy servers different from AWS?

A: Here's a simple comparison: <https://hostadvice.com/tools/web-hosting-comparison/amazon-web-services-vs-godaddy/>

Q: Can you share an example demo with Python?

A: This demo is through Python but you can use other runtimes. Please refer to this site: <https://docs.aws.amazon.com/lambda/latest/dg/lambda-runtimes.html>

Q: How much does it cost to run that hello lambda code?

A: You can see the public pricing site: <https://aws.amazon.com/lambda/pricing/>. Additionally All new AWS users can benefit from the 1 year Free-Tier

Q: Is AWS cloud compatible with other cloud computing products?

A: Best practices are always to have a single cloud platform to ensure business efficiency and cost-savings. However, There are ways to do that connection through APIs, pending on its' availability.

Q: How can I access the virtual lab sessions? Do we need to create an AWS Educate account?

A: Yes. Within AWS Educate. We provide an AWS account and AWS console access and credits.

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Q & A with Steve Sofian and Furin Ongko:

Q: Can a complete mobile app run using Lambda?

A: Yes. But not in a single function. Please explore more within AWS Educate portal.

Q: Can you share a link that talks about the lambda based mobile app?

A: You can explore the Cloud Career pathway about mobile development.

Q: Can you give more real life scenarios involving AWS Lambda?

A: There are lot apps that use Lambda. For example, Lambda can be used for image resizing within the e-marketplace and mobile apps.

Q: S3 is actually global and isn't bound to any region, right?

A: S3 is region based. However, it can be access globally.

Q: Is serverless computing hackable?

A: We have a shared responsibility model, which means security will be shared between AWS and the Customer.

Q: How is Lambda better than other services?

A: Lambda is one of the services. It integrates with other services within AWS.

Q: How is the lambda function triggered when some other user is accessing the service?

A: Individual lambda execution is not shared across user.

Q: Does it matter if we execute Lambda inside a VPC or not?

A: If you will be accessing resources inside a VPC, then Lambda is required to run within the VPC.

Q: How can we import packages like Graph Lab or Selenium in Python using Lambda?

A: You will leverage on import in Python and you will have to zip up your code including 3rd party libraries and upload into the Lambda function.

Q: Is a lambda function bound by some compute capacity?

A: It is bounded by memory allocation.

Q & A with Steve Sofian and Furin Ongko:

Q: What is the max duration of a Lambda function to execute?

A: 15 minutes

Q: Does Lambda support C language?

A: Not at this time. You can leverage on .NET Core.

Q: Can a Lambda function be used to monitor Github changes?

A: No.

Q: Is Lambda plus S3 a good option for data processing? Or would you recommend a different AWS product?

A: You can leverage AWS Glue and Athena for data processing or ETL.

RESOURCES

[AWS Educate](#) – AWS Educate gives students and educators access to content and programs that enable them to skill up for cloud careers in growing fields. AWS Educate also connects companies hiring for cloud skills to qualified student job seekers with the AWS Educate Job Board.

[AWS Educate Office Hours for Educators and Students](#) – Webinars, office hours, and training sessions for educators and students

[AWS Lambda](#) - AWS Lambda lets you run code without provisioning or managing servers. You pay only for the compute time you consume.

[AWS Lambda User Guide](#) – Getting Started with AWS Lambda

[AWS User Groups](#) - User groups are peer-to-peer communities which meet regularly to share ideas, answer questions, and learn about new services and best practices.