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Introduction to IBM Cloud Functions

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12/7/2021   1

1

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Introduction

"IBM Cloud Functions is a software platform that provides capabilities for serverless apps running in the IBM Cloud."

12/7/2021   2

2

History: Who

IBM Cloud Functions is the product invented by IBM corporation

IBM Cloud Functions is a Function as a Service computing platform similar to AWS Lambda, Microsoft Azure, etc

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3

History: Why

- Focus more on code, not infrastructure

- Pay only for the resources you use, when you use them

- Get all the benefits of robust cloud infrastructure

4

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History: How

- Built clouds for enterprise clients from 2007

- Combination of virtualization, standardization, and automation

5

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Features Summary

- Actions exposed through API gateway

- Packages for common tasks

- Offers access to the Apache OpenWhisk ecosystem

6

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Example Use Case

Citigroup transforms application development with an IBM cloud solution

- Developers had to wait almost 50 days to receive a provisioned server they had requested

- Cloud deployment offered both IaaS and SaaS from the outset

- enables image-based standard OS deployments with predefined middleware stacks

12/7/2021   7

7

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Example Use Case

Red Hat OpenShift on IBM Cloud

- Use the OpenShift tools and APIs

- Heightened cluster and app security

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8

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Technology Advantages

- IBM delivers a superior TCO even for high-load scenarios

- Achieve much more availability at the same cost of running in a single region

- Innovative development tools: Command line integrated with graphics

12/7/2021   9

9

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Technology Disadvantages

- Need more out of the box support and integration to receive events from services like MongoDB and NoSQL databases.

- Are not good for long processes.

- Limit on the total size of the deployment

12/7/2021   10

10

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Cost Discussion

Cloud Functions is efficient when both highly utilized (scaling seamlessly to 10,000+ parallel requests), and when used only periodically (once a week).

Examples

The table below highlights how your action configurations, along with usage, can impact your overall free tier and monthly cost.

Action Execution Time	Action Memory	Executions Per Month	Cost Per Month
500ms	128MB	5,000,000	Free
500ms	256MB	5,000,000	$3.83
500ms	512MB	5,000,000	$14.45
1,000ms	128MB	10,000,000	$14.45
1,000ms	256MB	10,000,000	$35.70
1,000ms	512MB	10,000,000	$78.20

12/7/2021   11

11

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Cost Example

Pricing Calculator

Basic Rate	$0.000017 GB-s
Avg. Execution Time (in ms)	3000
Action Memory (in MB)	512
Executions Per Month	100000
Include Free Tier: (400,000 GB-s free)	☐
Cost Per Month	$2.55

12/7/2021   12

12

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Conclusions

- IBM Cloud Functions offers a very similar FaaS platform to AWS Lambda.

- Much expensive than AWS Lambda

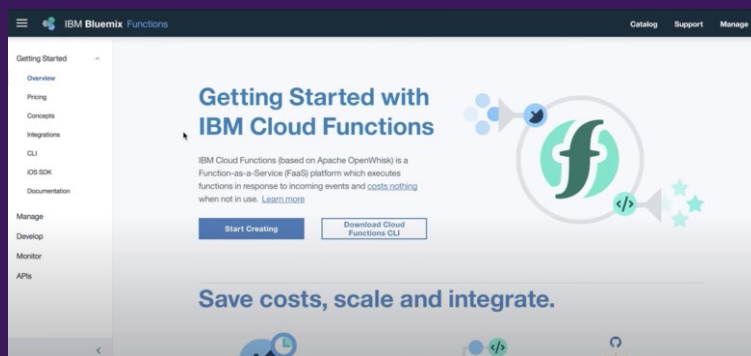- Has its's own advantages over other FaaS platform

12/7/2021   13

13

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Demonstration

IBM Cloud Functions Console

12/7/2021   14

14

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Demonstration

IBM CLI

- Provides commands for managing resources in IBM Cloud

```
curl -fsSL https://clis.cloud.ibm.com/install/osx | sh
```

```
$ ibmcloud login
```

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15

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Q & A

12/7/2021   16

16

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Thanks for watching!

12/7/2021   17

17