



Semester: V  
Academic Year: 2022-23  
Class / Branch: TE IT  
Subject: Advanced Devops Lab (ADL)  
Name of Instructor: Prof. Manjusha Kashilkar

Name of Student: Soham Dalvi  
Student ID: 21104010

## EXPERIMENT NO. 11

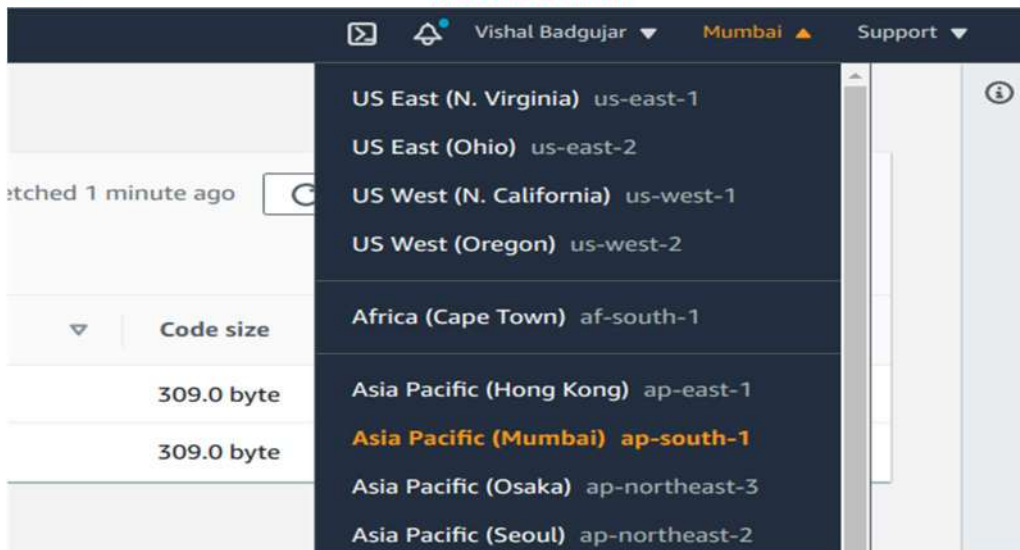
**Aim:** To understand AWS Lambda, its workflow, various functions and create your first Lambda functions using Python / Java / Nodejs.

### Steps: First Lambda functions using Python

1. Open Aws Console and search for Lambda Service and open home screen of Lambda.



2. Choose region in which you need to create Lambda function as it is region specific.



**3. Create sum as a Lambda Function in Python Language so select latest version of Python and choose role with basic Lambda Permission to allow cloudwatch for monitoring.**

Lambda > Functions > Create 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 from sample code and configuration presets for common use cases.

☐ Container image  
Select a container image to deploy for your function.

☐ Browse serverless app repository  
Deploy a sample Lambda application from the AWS Serverless Application Repository.

---

#### 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. Note that the console code editor supports only Node.js, Python, and Ruby.

**Permissions** [info](#)  
By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ Change default execution role

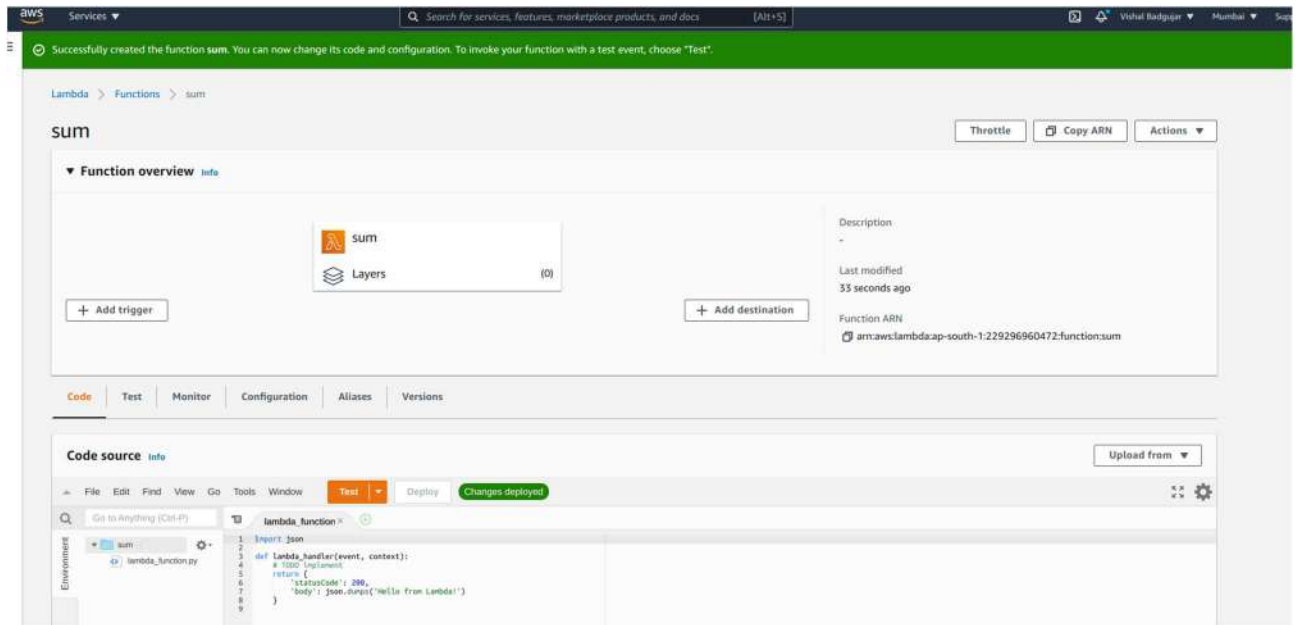
**Execution role**  
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

☒ Create a new role with basic Lambda permissions  
☐ Use an existing role

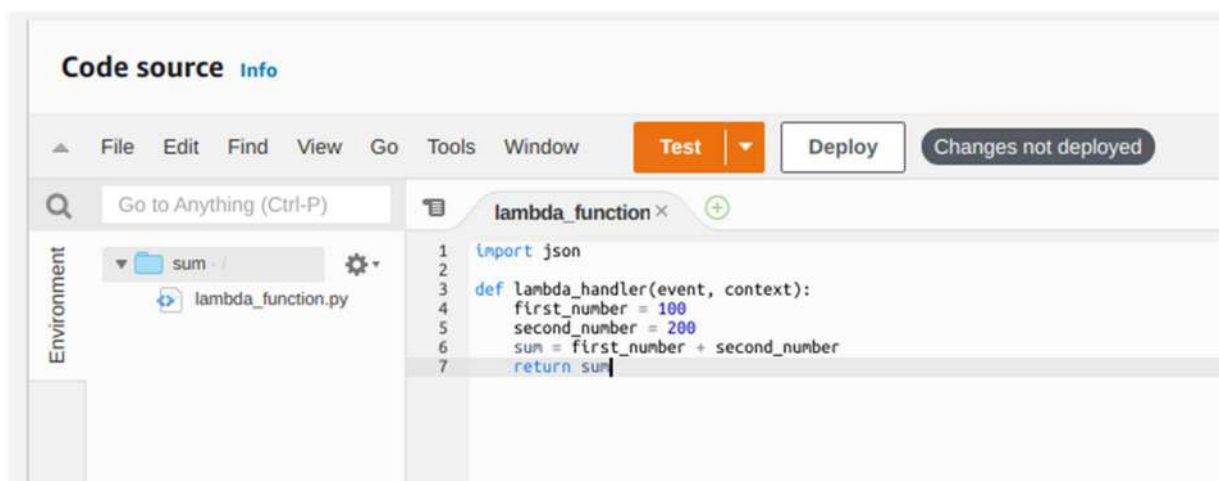
**4. Lambda sum function is created successfully**



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5. Write a sample python code for sum of two numbers:



6. Configure Test Event in Json Format



## Configure test event

A function can have up to 10 test events. The events are persisted so you can switch to another computer or web browser and test your function with the same events.

- ☒ Create new test event
- ☐ Edit saved test events

Event template

hello-world

Event name

mytest1

```
1 {  
2  
3 }
```

## Code source

File Edit Find View Go Tools Window Test Deploy Changes deployed

Go to Anything (Ctrl-P)

sum1.py Execution result x

Environment

- sum /
- sum1.py

Execution results

Test Event Name

sum

Response

300

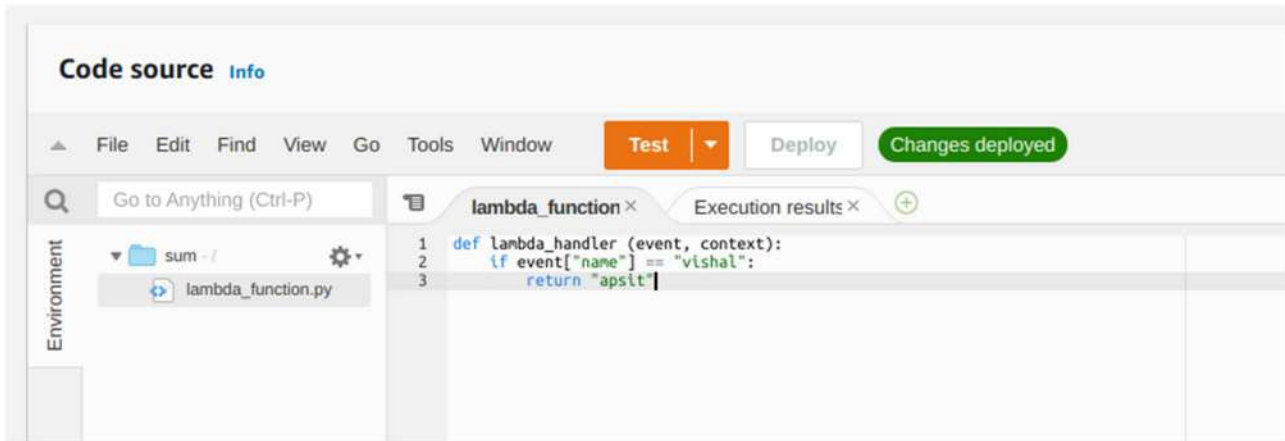
Function Logs

START RequestId: bc4cb31a-e6ff-42e3-8804-0e3d78afa7d6 Version: SLATEST  
END RequestId: bc4cb31a-e6ff-42e3-8804-0e3d78afa7d6  
REPORT RequestId: bc4cb31a-e6ff-42e3-8804-0e3d78afa7d6 Duration: 1.07 ms Billed Duration: 2 ms Memory Size: 128 MB Max Memory Used: 51 MB Init Duration: 125.07 ms

Request ID

bc4cb31a-e6ff-42e3-8804-0e3d78afa7d6

Write a sample Second sample python Code:



### Configure test event

A function can have up to 10 test events. The events are persisted so you can switch to another computer or web browser and test your function with the same events.

- ☐ Create new test event
- ☒ Edit saved test events

Saved Test Events

vishal1

```
1 {
2   "name": "vishal"
3 }
```

Configure Test Event

If condition met returns a value as apsit



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| Execution results |  | Status: Succeeded |
|-------------------|--|-------------------|
| Test Event Name   | vishal1  |                   |
| Response          | "apsit"  |                   |
| Function Logs     | START RequestId: cddd9b6e-59b3-4457-be2b-04e4784e5c3e Version: \$LATEST<br>END RequestId: cddd9b6e-59b3-4457-be2b-04e4784e5c3e<br>REPORT RequestId: cddd9b6e-59b3-4457-be2b-04e4784e5c3e Duration: 1.12 ms Billed Duration: 2 ms Memory Size: 128 MB Max Memory Used: 50 MB Init Duration: 124.74 ms |                   |
| Request ID        | cddd9b6e-59b3-4457-be2b-04e4784e5c3e   |                   |

OUTPUT:

aws

Services

Search

[Alt+S]

N. Virginia

Sankalp

Lambda > Functions > Create function

Create function

AWS Serverless Application Repository applications have moved to [Create application](#).

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☐ Container image  
Select a container image to deploy for your function.

Basic information

Function name

Enter a name that describes the purpose of your function.

function1

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

Runtime

Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Node.js 18.x

Architecture

Choose the instruction set architecture you want for your function code.

☒ x86\_64

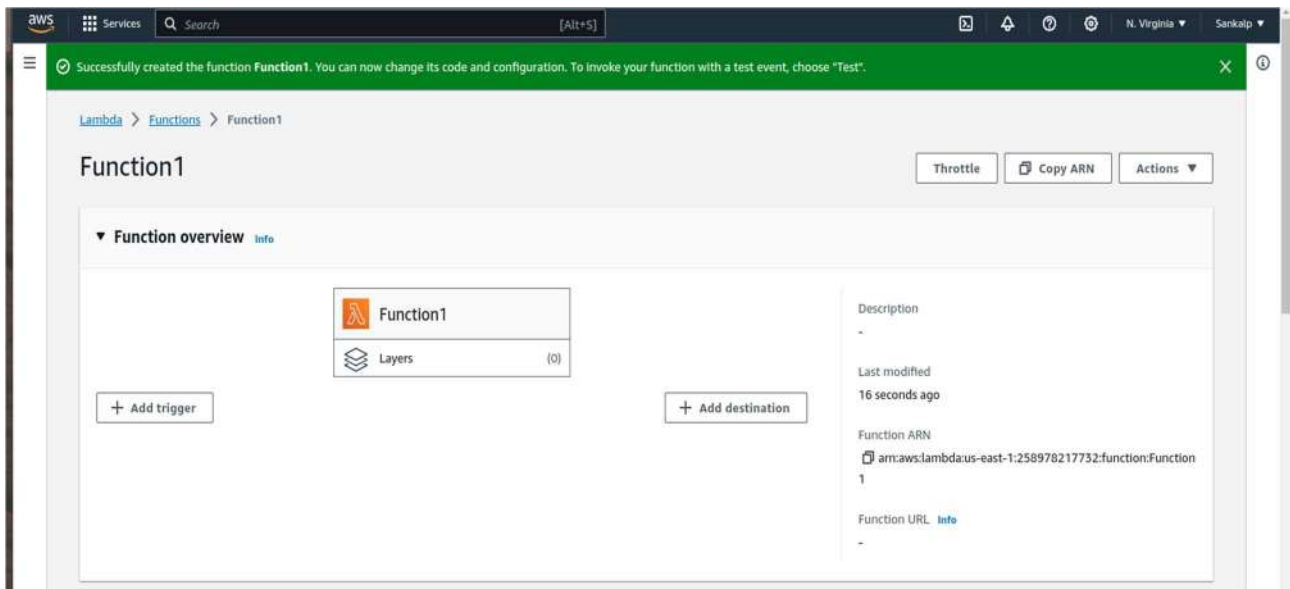
☐ arm64

Permissions

By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.



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Code source [Info](#)

File Edit Find View Go Tools Window Test Deploy Changes not deployed

Go to Anything (Ctrl-P)

Environment

Function1 - /  
lambda\_function.py

```
1 import json
2
3 def lambda_handler(event, context):
4     # TODO implement
5     return {
6         'statusCode': 200,
7         'body': json.dumps('Hello from Sankalp!')
8     }
9
```





## Configure test event



A test event is a JSON object that mocks the structure of requests emitted by AWS services to invoke a Lambda function. Use it to see the function's invocation result.

To invoke your function without saving an event, configure the JSON event, then choose Test.

### Test event action

☒ Create new event

☐ Edit saved event

### Event name

First

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

### Event sharing settings

☒ Private

This event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

☐ Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

### Template - optional

hello-world

### Event JSON

Format JSON

```
1 {  
2  
3 }
```

Cancel

Invoke

Save



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The screenshot shows the AWS Lambda console interface. At the top, there's a navigation bar with the AWS logo, 'Services', a search bar, and region/account information (N. Virginia, Sankalp). A green notification bar at the top states 'The test event First was successfully saved.' Below this, the 'Code source' tab is selected, showing a code editor with a Python function named 'lambda\_handler'. The function imports 'json' and returns a JSON response with 'statusCode': 200 and 'body': 'Hello from Sankalp!'. The 'Test' button is highlighted, and a 'Deploy' button is also visible. The 'Environment' sidebar on the left shows the function's configuration.

The screenshot shows the AWS Lambda console interface, specifically the 'Execution result' tab for the function 'lambda\_function'. The 'Test Event Name' is 'First'. The 'Response' is a JSON object: {'statusCode': 200, 'body': '"Hello from Lambda!"'}. The 'Function Logs' section shows the execution details: 'START RequestId: eb8ed343-963a-4b05-89d6-fc5cb8b94b40 Version: \$LATEST', 'END RequestId: eb8ed343-963a-4b05-89d6-fc5cb8b94b40', and 'REPORT RequestId: eb8ed343-963a-4b05-89d6-fc5cb8b94b40 Duration: 1.48 ms Billed Duration: 2 ms Memory Size: 128 MB Max Memory Used: 40 MB Init Duration: 189.88 ms'. The 'Request ID' is 'eb8ed343-963a-4b05-89d6-fc5cb8b94b40'. The status is 'Succeeded', max memory used is '40 MB', and time is '1.48 ms'.



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aws Services Search [Alt+S]

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Select a container image to deploy for your function.

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

**Runtime** [Info](#)  
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

**Architecture** [Info](#)  
Choose the instruction set architecture you want for your function code.  
☒ x86\_64  
☐ arm64

**Permissions** [Info](#)  
By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.  
[Change default execution role](#)

[Advanced settings](#)

Code Test Monitor Configuration Aliases Versions

**Code source** [Info](#) [Upload from](#)

File Edit Find View Go Tools Window Test Deploy Changes not deployed

Go to Anything (Ctrl-P)

Environment

Function2  
lambda\_function.py

```
1 a = 10
2 b = 30
3 print(a+b)
```



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### Configure test event

A test event is a JSON object that mocks the structure of requests emitted by AWS services to invoke a Lambda function. Use it to see the function's invocation result.

To invoke your function without saving an event, configure the JSON event, then choose Test.

Test event action

☒ Create new event ☐ Edit saved event

Event name

Second

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

Event sharing settings

☒ Private  
This event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

☐ Shareable  
This event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

Template - optional

hello-world

Event JSON

Format JSON

```
1 {  
2     
3 }
```

Cancel Invoke Save

### Code source

Upload from

File Edit Find View Go Tools Window Test Deploy

Go to Anything (Ctrl-P)

lambda\_function x Environment Var x Execution result x

Function2

lambda\_function.py

Execution results

Status: Failed Max memory used: 40 MB Time: 16.49 ms

Test Event Name

Second

Response

```
{  
  "errorMessage": "Handler 'lambda_handler' missing on module 'lambda_function'",  
  "errorType": "Runtime.HandlerNotFound",  
  "requestId": "3ce1c4ec-584f-48cf-87e9-836e6edc2e46",  
  "stackTrace": []  
}
```

Function Logs

```
40  
START RequestId: 3ce1c4ec-584f-48cf-87e9-836e6edc2e46 Version: $LATEST  
[ERROR] Runtime.HandlerNotFound: Handler 'lambda_handler' missing on module 'lambda_function'  
Traceback (most recent call last):END RequestId: 3ce1c4ec-584f-48cf-87e9-836e6edc2e46  
REPORT RequestId: 3ce1c4ec-584f-48cf-87e9-836e6edc2e46 Duration: 16.49 ms Billed Duration: 17 ms Memory Size: 128 MB Max Memory Used: 40 MB Init Duration: 109.45 ms
```

Request ID

3ce1c4ec-584f-48cf-87e9-836e6edc2e46



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**Conclusion: Hence we have understood AWS Lambda, its workflow, various functions and create your first Lambda functions using Python / Java / Nodejs.**