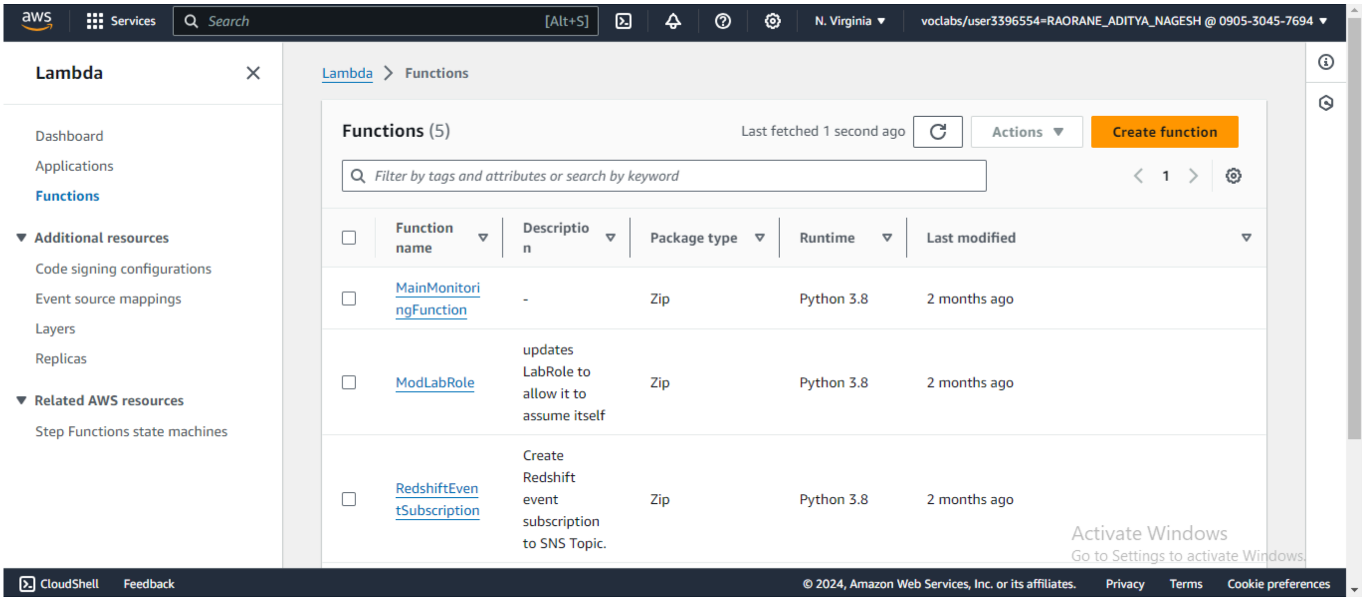
Name: Aditya Nagesh Raorane Class: D15C/ Batch B Roll No: 44

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

1. Open up the Lambda Console and click on the Create button.


aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3396554=RAORANE_ADITYA_NAGESH @ 0905-3045-7694
Lambda
Dashboard
Applications
Functions
Additional resources
Code signing configurations
Event source mappings
Layers
Replicas
Related AWS resources
Step Functions state machines
Lambda > Functions
Last fetched 1 second ago
Actions
Create function
Filter by tags and attributes or search by keyword
1
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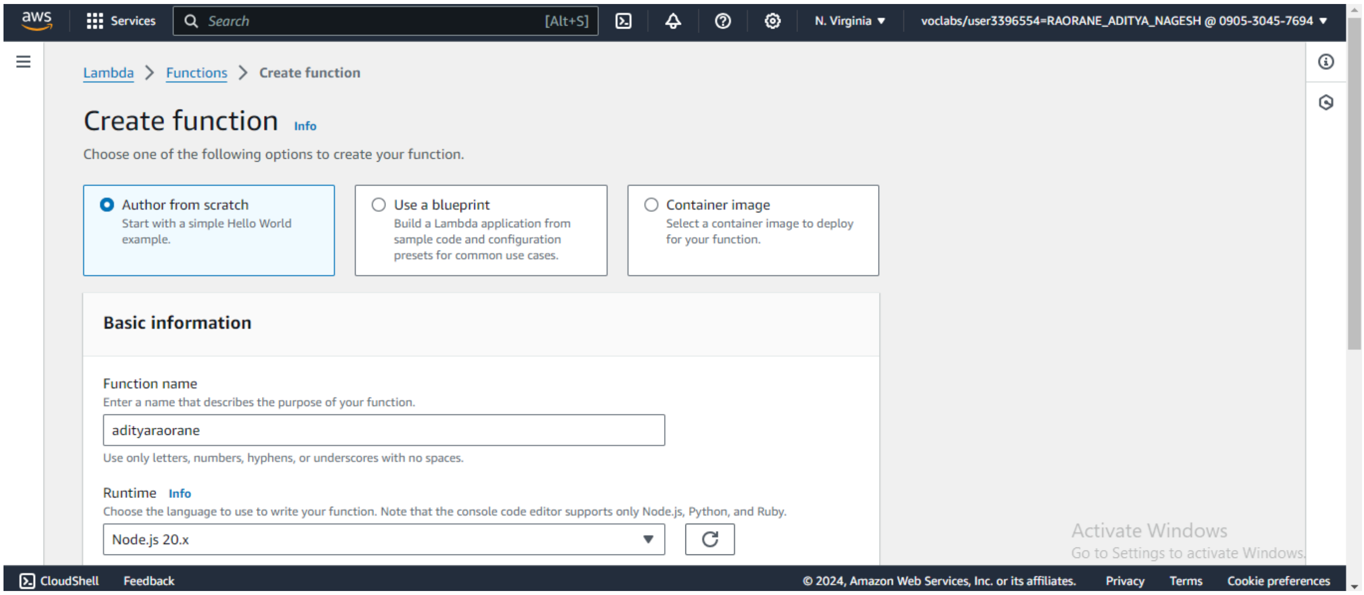
Functions (5)

	Function name	Description	Package type	Runtime	Last modified
□	MainMonitoringFunction	-	Zip	Python 3.8	2 months ago
□	ModLabRole	updates LabRole to allow it to assume itself	Zip	Python 3.8	2 months ago
□	RedshiftEventSubscription	Create Redshift event subscription to SNS Topic.	Zip	Python 3.8	2 months ago

2. Choose to create a function from scratch or use a blueprint, i.e templates defined by AWS for you with all configuration presets required for the most common use cases. After that, choose to create a new role with basic Lambda permissions if you don't have an existing one.


aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3396554=RAORANE_ADITYA_NAGESH @ 0905-3045-7694
Lambda > Functions > Create function
Info
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Create function

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.

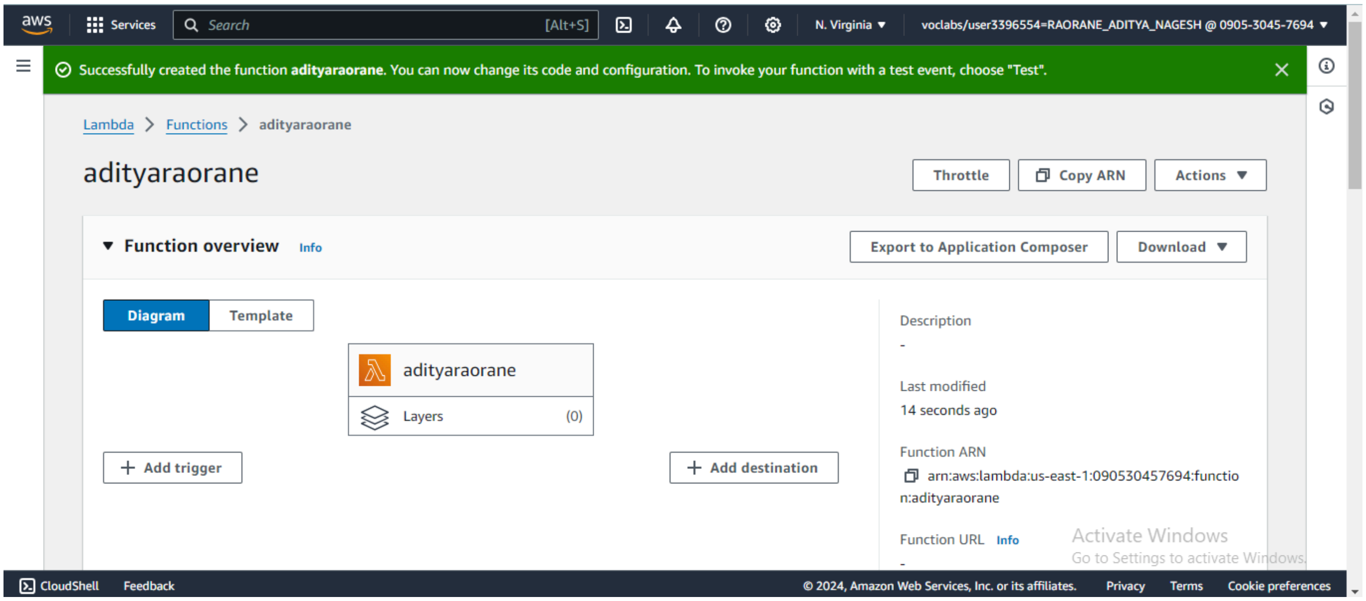
Basic information

Function name
Enter a name that describes the purpose of your function.
adityaraorane
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.
Node.js 20.x

Click on the *Create* button.

3. This process will take a while to finish and after that, you’ll get a message that your function was successfully created.



Successfully created the function **adityaraorane**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Lambda > Functions > adityaraorane

adityaraorane

Function overview Info

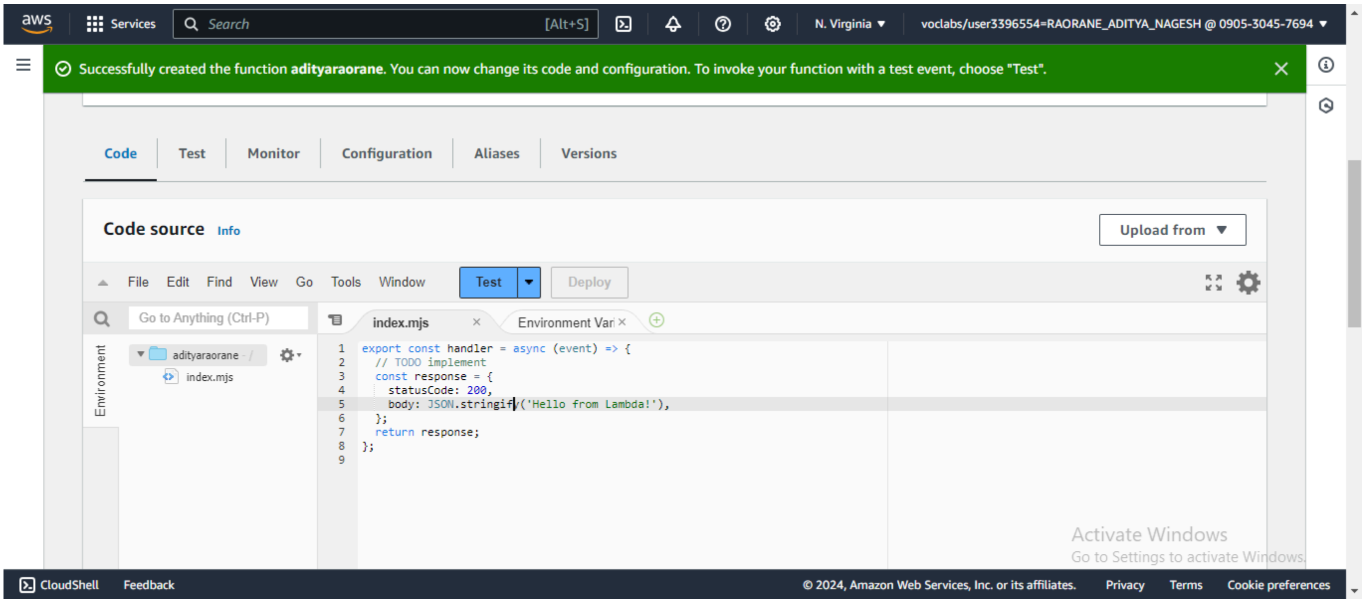
adityaraorane

Description
-

Last modified
14 seconds ago

Function ARN
arn:aws:lambda:us-east-1:090530457694:function:adityaraorane

Function URL Info
-

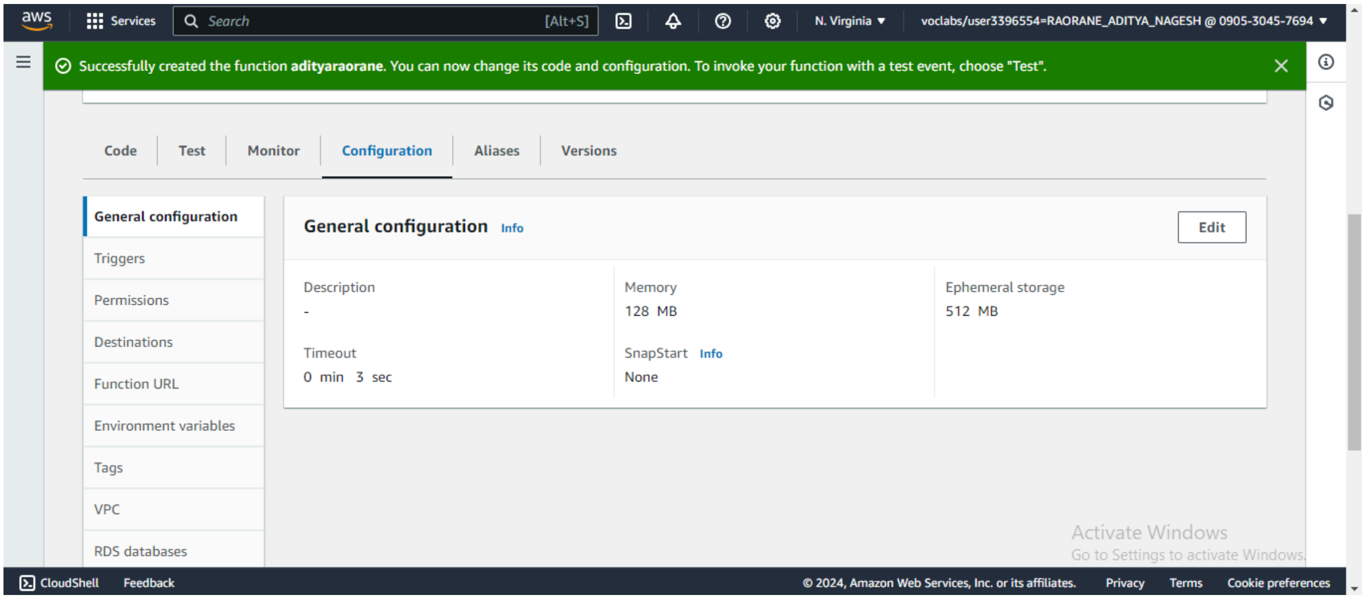


Successfully created the function **adityaraorane**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Code source Info

```
export const handler = async (event) => {
  // TODO implement
  const response = {
    statusCode: 200,
    body: JSON.stringify('Hello from Lambda!'),
  };
  return response;
};
```

4. To change the configuration, open up the Configuration tab and under General Configuration, choose Edit.



Successfully created the function **adityaraorane**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

General configuration Info

Description: -

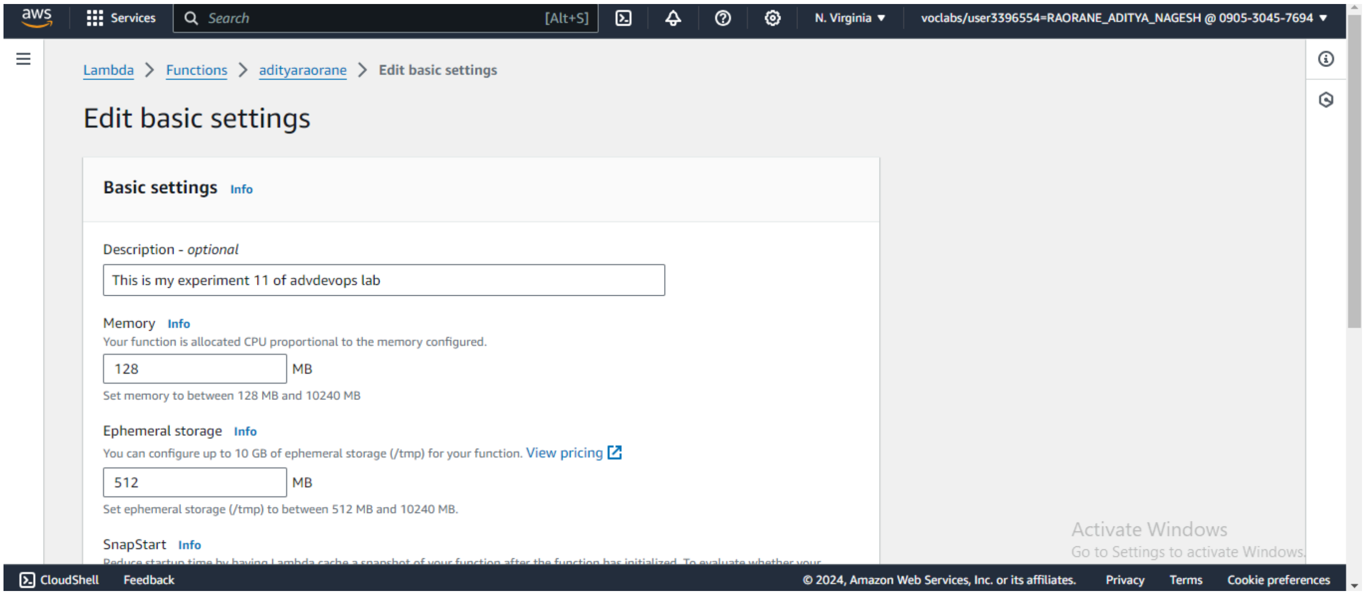
Memory: 128 MB

Ephemeral storage: 512 MB

Timeout: 0 min 3 sec

SnapStart Info: None

Here, you can enter a description and change Memory and Timeout. I've changed the Timeout period to 5 sec since that is sufficient for now.


aws
Services
Search
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N. Virginia ▾
voclabs/user3396554=RAORANE_ADITYA_NAGESH @ 0905-3045-7694 ▾
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Lambda > Functions > adityaraorane > Edit basic settings

Edit basic settings

Basic settings Info

Description - *optional*

This is my experiment 11 of advdevops lab

Memory Info

Your function is allocated CPU proportional to the memory configured.

128 MB

Set memory to between 128 MB and 10240 MB

Ephemeral storage Info

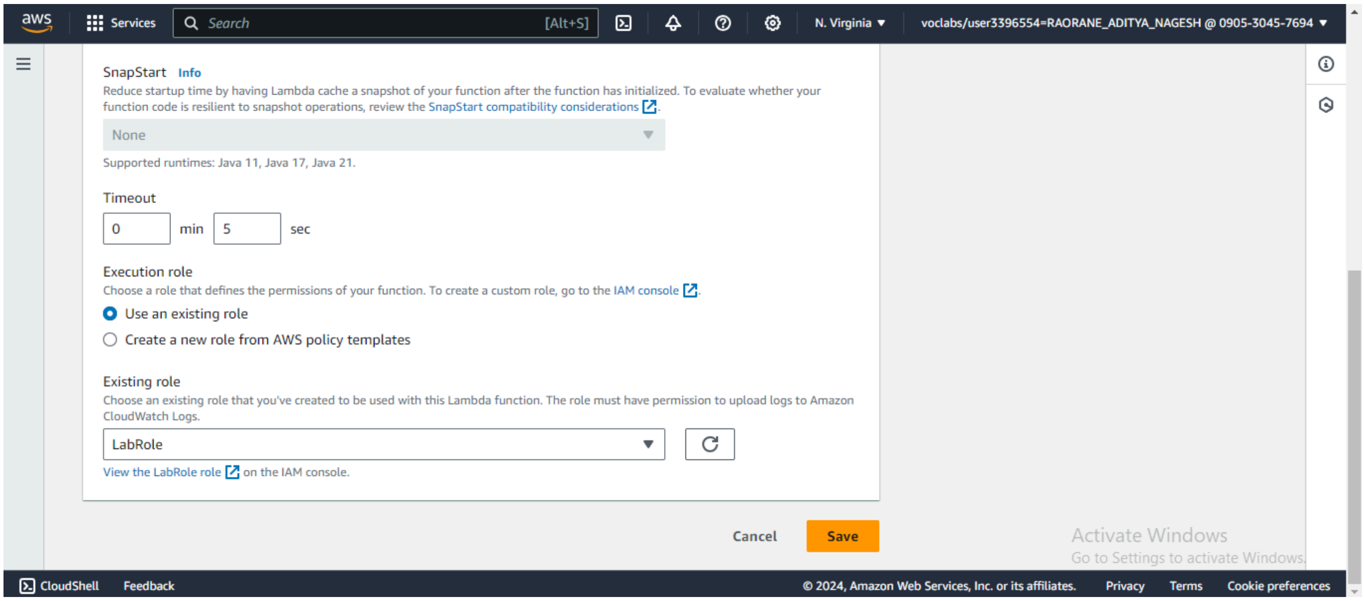
You can configure up to 10 GB of ephemeral storage (/tmp) for your function. View pricing

512 MB

Set ephemeral storage (/tmp) to between 512 MB and 10240 MB.

SnapStart Info

Reduce startup time by having Lambda cache a snapshot of your function after the function has initialized. To evaluate whether your



SnapStart Info

Reduce startup time by having Lambda cache a snapshot of your function after the function has initialized. To evaluate whether your function code is resilient to snapshot operations, review the SnapStart compatibility considerations.

None

Supported runtimes: Java 11, Java 17, Java 21.

Timeout

0 min 5 sec

Execution role

Choose a role that defines the permissions of your function. To create a custom role, go to the IAM console.

● Use an existing role

○ Create a new role from AWS policy templates

Existing role

Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.

LabRole

View the LabRole role on the IAM console.

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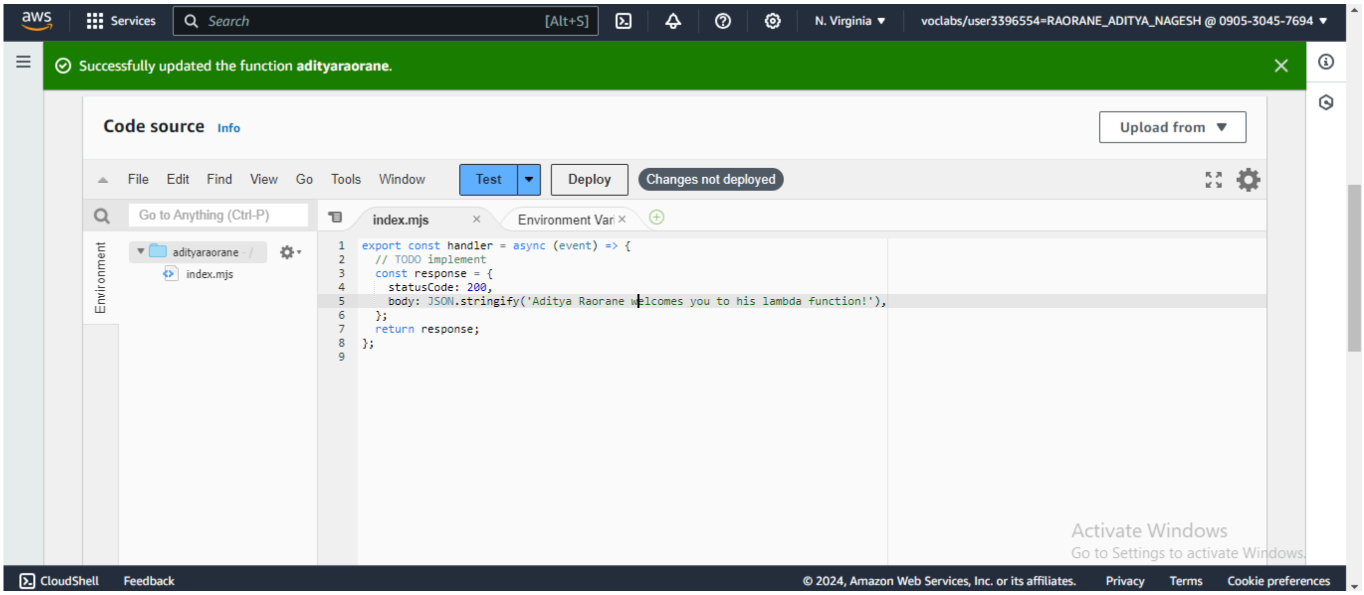
5. You can make changes to your function inside the code editor. You can also upload a zip file of your function or upload one from an S3 bucket if needed.
Press Ctrl + S to save the file and click Deploy to deploy the changes.



Successfully updated the function **adityaraorane**.

Code source Info

```
export const handler = async (event) => {
  // TODO implement
  const response = {
    statusCode: 200,
    body: JSON.stringify('Aditya Raorane welcomes you to his lambda function!'),
  };
  return response;
};
```

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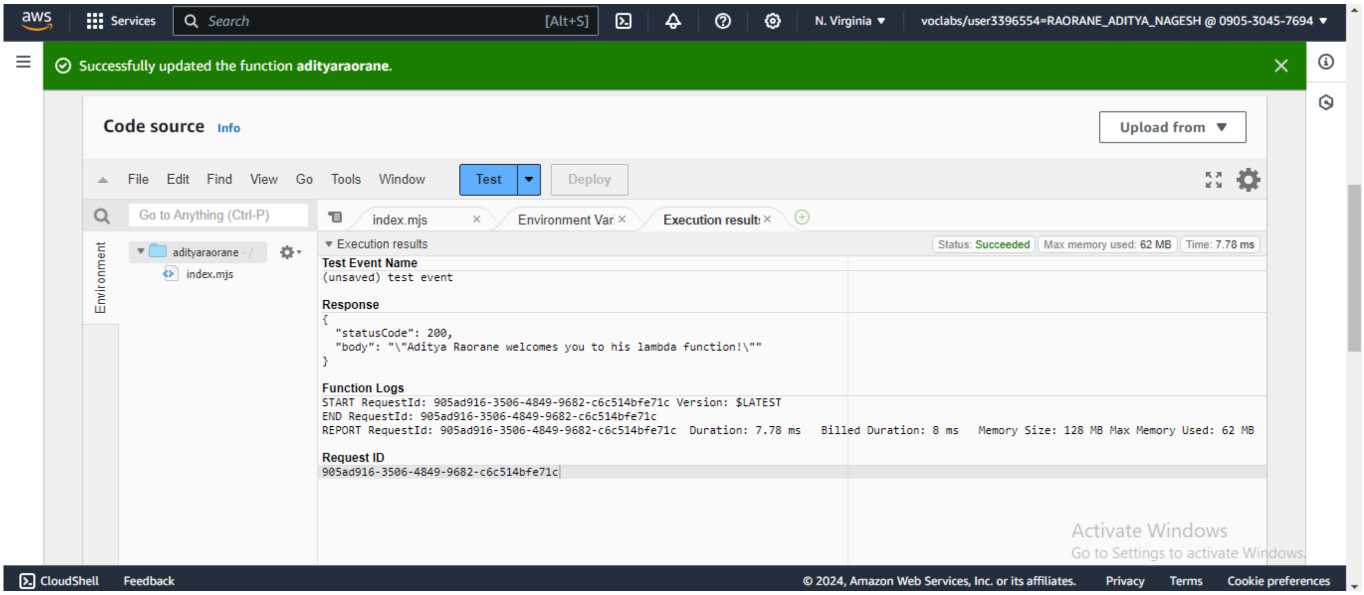
6. Click on Test and you can change the configuration, like so. If you do not have anything in the request body, it is important to specify two curly braces as valid JSON, so make sure they are there.



Successfully updated the function **adityaraorane**.

Execution results — Status: Succeeded | Max memory used: 62 MB | Time: 7.78 ms

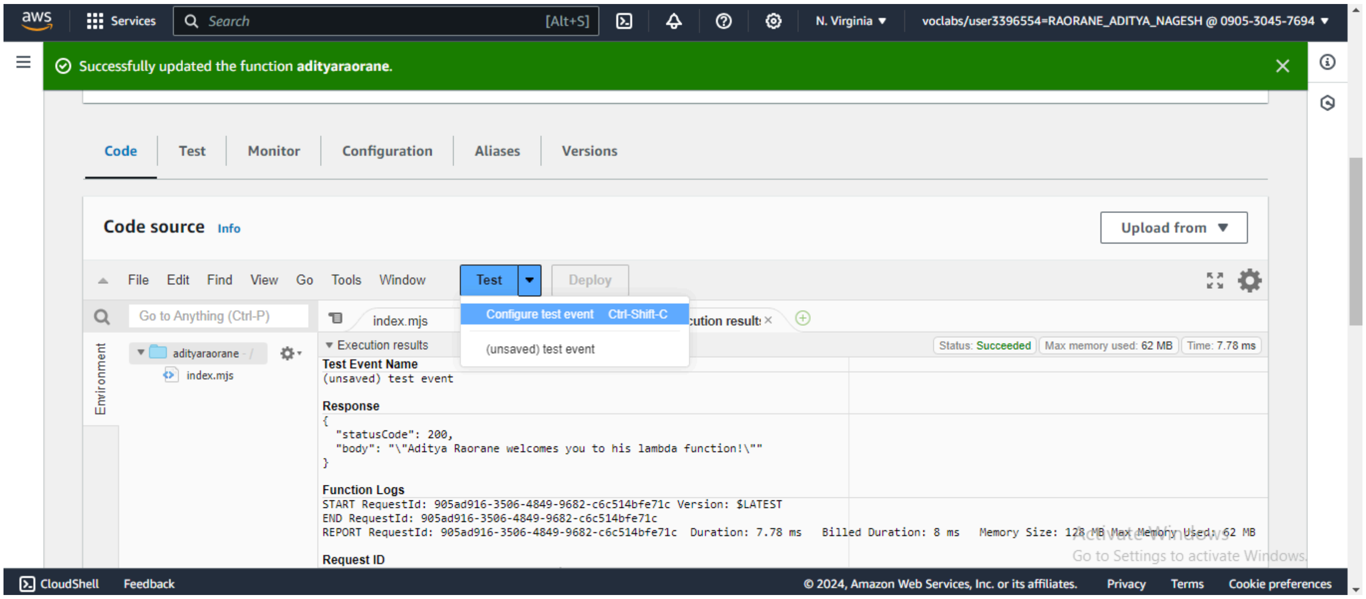
```
Test Event Name
(unsaved) test event

Response
{
  "statusCode": 200,
  "body": "\"Aditya Raorane welcomes you to his lambda function!\""
}

Function Logs
START RequestId: 905ad916-3506-4849-9682-c6c514bfe71c Version: $LATEST
END RequestId: 905ad916-3506-4849-9682-c6c514bfe71c
REPORT RequestId: 905ad916-3506-4849-9682-c6c514bfe71c  Duration: 7.78 ms   Billed Duration: 8 ms   Memory Size: 128 MB Max Memory Used: 62 MB

Request ID
905ad916-3506-4849-9682-c6c514bfe71c
```

7. Now click on Test and you should be able to see the results.



Successfully updated the function **adityaraorane**.

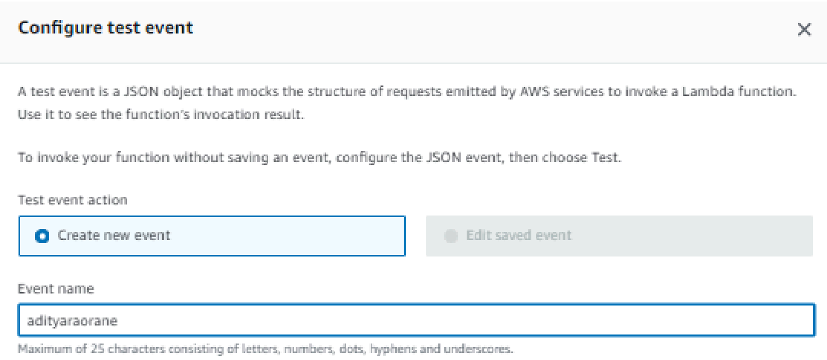
Execution results — Status: Succeeded | Max memory used: 62 MB | Time: 7.78 ms

```
Test Event Name
(unsaved) test event

Response
{
  "statusCode": 200,
  "body": "\"Aditya Raorane welcomes you to his lambda function!\""
}

Function Logs
START RequestId: 905ad916-3506-4849-9682-c6c514bfe71c Version: $LATEST
END RequestId: 905ad916-3506-4849-9682-c6c514bfe71c
REPORT RequestId: 905ad916-3506-4849-9682-c6c514bfe71c  Duration: 7.78 ms   Billed Duration: 8 ms   Memory Size: 128 MB Max Memory Used: 62 MB

Request ID
```



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.

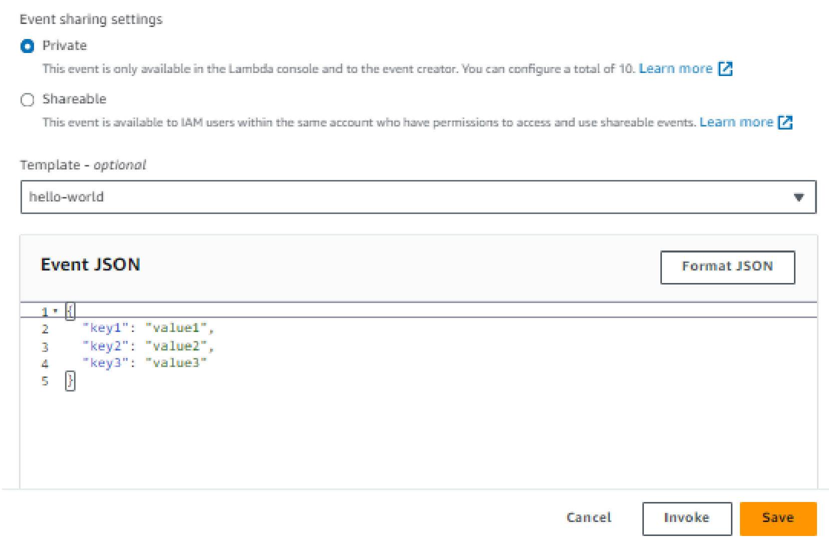
Test event action

● Create new event ○ Edit saved event

Event name

adityaraorane

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

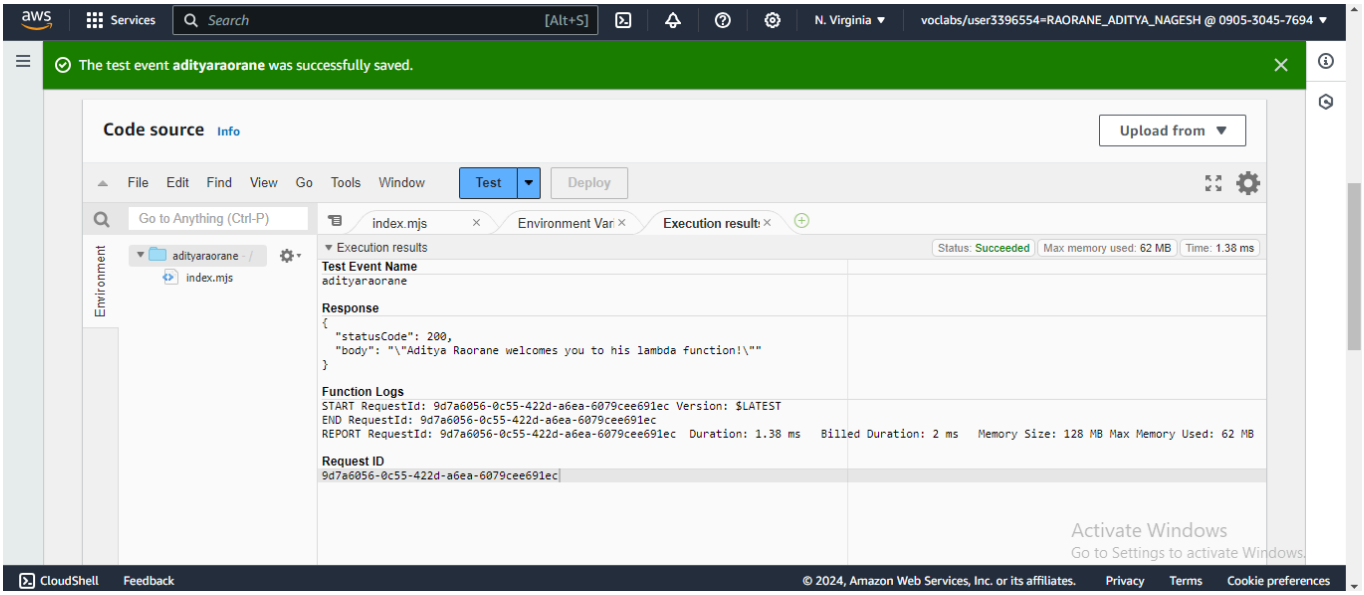
This event is available to IAM users within the same account who have permissions to access and use shareable events. Learn more

Template - *optional*

hello-world

Event JSON

```
{
  "key1": "value1",
  "key2": "value2",
  "key3": "value3"
}
```



The test event **adityaraorane** was successfully saved.

Code source Info

Test Event Name

```
adityaraorane
```

Response

```
{
  "statusCode": 200,
  "body": "\"Aditya Raorane welcomes you to his lambda function!\""
}
```

Function Logs

```
START RequestId: 9d7a6056-0c55-422d-a6ea-6079cee691ec Version: $LATEST
END RequestId: 9d7a6056-0c55-422d-a6ea-6079cee691ec
REPORT RequestId: 9d7a6056-0c55-422d-a6ea-6079cee691ec  Duration: 1.38 ms   Billed Duration: 2 ms   Memory Size: 128 MB Max Memory Used: 62 MB
```

Request ID

```
9d7a6056-0c55-422d-a6ea-6079cee691ec
```

Status: Succeeded Max memory used: 62 MB Time: 1.38 ms

Conclusion: We successfully executed the AWS Lambda function using Python. We learned how AWS Lambda allows you to run code without provisioning or managing servers, making it a cost-effective and scalable solution for serverless computing. The workflow involves uploading code, setting triggers, and letting Lambda manage the execution based on the provided conditions.AWS Lambda's event-driven architecture makes it highly efficient for handling real-time data processing and automation tasks.