

# AWS Lambda

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## 1 Lambda

AWS Lambda is a serverless compute service that lets you run code without provisioning or managing servers, maintaining event integrations, or managing runtimes.

With Lambda, you can run code for virtually any type of application or backend service - all with zero administration. Just upload your code as a ZIP file or container image, and Lambda automatically and precisely allocates compute execution power and runs your code based on the incoming request or event, for any scale of traffic.

You can set up your code to automatically trigger from 140 AWS services or call it directly from any web or mobile app. You can write Lambda functions in your favorite language (Node.js, Python, Go, Java, and more) and use both serverless and container tools, such as AWS SAM or Docker CLI, to build, test, and deploy your functions.

### Benefits:

1. No servers to manage
2. Continuous Scaling
3. Cost benefits with millisecond billing
4. Consistent performance.

### Use Cases:

1. Data processing.
2. Real-time file processing.
3. Backends.
4. Web Applications.
5. IoT backends.
6. Mobile backends

### Creating a Lambda Function:

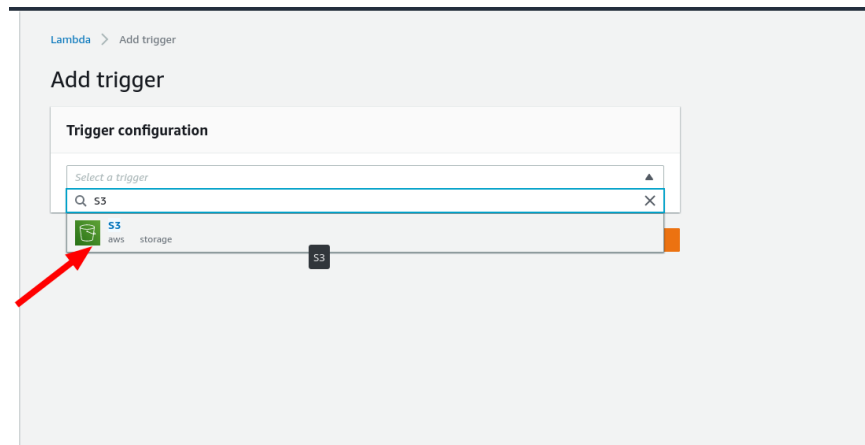
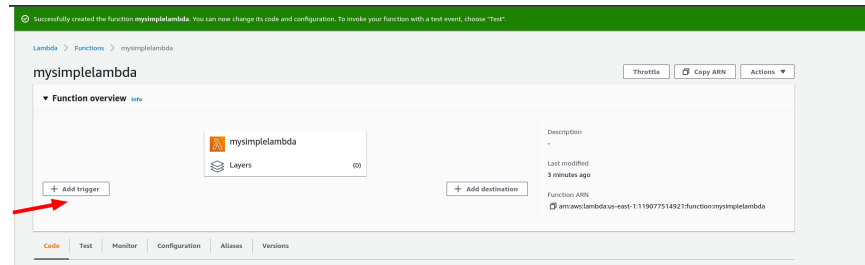
A Lambda function is triggered in response to an event - which could be from one of the AWS services or an external event like an API call.

1. Go to Lambda Console and click on **Create Function**.
  - a. Enter a Name.
  - b. Choose your run-time - The programming language in which you code is written.
  - c. Under the Permissions - Choose the Right role that meets the requirement to run your job, For instance, if the Lambda function deals in handling S3 operations make sure the role has required permissions to the requisite S3 buckets.

The screenshot displays the AWS Lambda 'Create function' page. At the top, there are four tabs: 'Author from scratch' (selected), 'Use a blueprint', 'Container image', and 'Browse serverless app repository'. Below the tabs, the 'Basic information' section contains a 'Function name' field with the value 'myimpltestbd'. The 'Runtime' section shows 'Python 3.6' selected from a dropdown menu. The 'Permissions' section has a link to 'Change default execution role'. At the bottom right, there are 'Cancel' and 'Create function' buttons.

1. Add a Trigger. The trigger could be an event from one of the AWS Services or an external event.


In this example, **any object creation** in a certain S3 bucket is the Trigger.




Lambda > Add trigger

## Add trigger

### Trigger configuration

 **S3**  
aws storage

**Bucket**  
Please select the S3 bucket that serves as the event source. The bucket must be in the same region as the function.

geninputfiles 

**Event type**  
Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.

All object create events


**Prefix - optional**  
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.

e.g. images/

**Suffix - optional**  
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.

e.g. .jpg

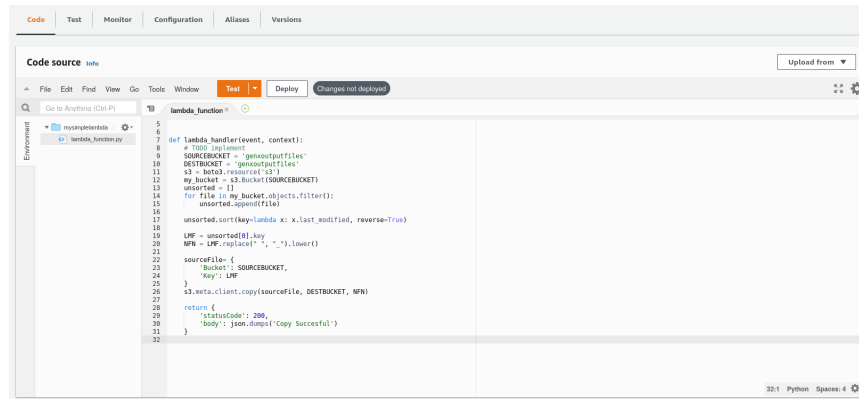
Lambda will add the necessary permissions for Amazon S3 to invoke your Lambda function from this trigger. [Learn more](#) about the Lambda permissions model.

 **Recursive invocation**  
If your function writes objects to an S3 bucket, ensure that you are using different S3 buckets for input and output. Writing to the same bucket increases the risk of creating a recursive invocation, which can result in increased Lambda usage and increased costs. [Learn more](#)

☒ I acknowledge that using the same S3 bucket for both input and output is not recommended and that this configuration can cause recursive invocations, increased Lambda usage, and increased costs.

Cancel **Add**

1. Add the code to the Function. This is the key part of the lambda function.



1. Add the Destination. Destination could be a simple SNS (Notification) or another lambda function.

