



Academic Year: 2025-26

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Class / Branch/ Div: TEIT C

Subject: ADL Lab

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Roll No.43

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Experiment No: 12

Aim: To create a Lambda function which will log “An Image has been added” once you add an object to a specific bucket in S3

Software Used: AWS

Code & Output:

aws [Alt+S] Shreya

Amazon S3 > Buckets > Create bucket

Create bucket [Info](#)

Buckets are containers for data stored in S3.

General configuration

AWS Region
Asia Pacific (Mumbai) ap-south-1

Bucket type [Info](#)

☒ **General purpose**
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

☐ **Directory**
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name [Info](#)
lambdawiths3-sq
Bucket names must be 3 to 63 characters and unique within the global namespace. Bucket names must also begin and end with a letter or number. Valid characters are a-z, 0-9, periods (.), and hyphens (-). [Learn More](#)

Copy settings from existing bucket - optional
Only the bucket settings in the following configuration are copied.
[Choose bucket](#)
Format: s3://bucket/prefix

Object Ownership [Info](#)
Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

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aws [Search] [Alt+S] Asia Pacific (Mumbai) Shreye

Amazon S3 > Buckets

Successfully created bucket "lambdawiths3-ss"
To upload files and folders, or to configure additional bucket settings, choose [View details](#).

General purpose buckets All AWS Regions Directory buckets

General purpose buckets (2) info
Buckets are containers for data stored in S3.

Find buckets by name

Name	AWS Region	Creation date
lambdawiths3-ss	Asia Pacific (Mumbai) ap-south-1	August 1, 2025, 13:44:11 (UTC+05:30)
store-build-artifact-ss	Asia Pacific (Mumbai) ap-south-1	July 25, 2025, 15:51:39 (UTC+05:30)

Account snapshot info
Updated daily
Storage Lens provides visibility into storage usage and activity trends.

External access summary - new info
Updated daily
External access findings help you identify bucket permissions that allow public access or access from other AWS accounts.

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aws [Search] [Alt+S] Global Shreye

IAM > Roles > Create role

Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.

Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.

Custom trust policy
Create a custom trust policy to enable others to perform actions in this account.

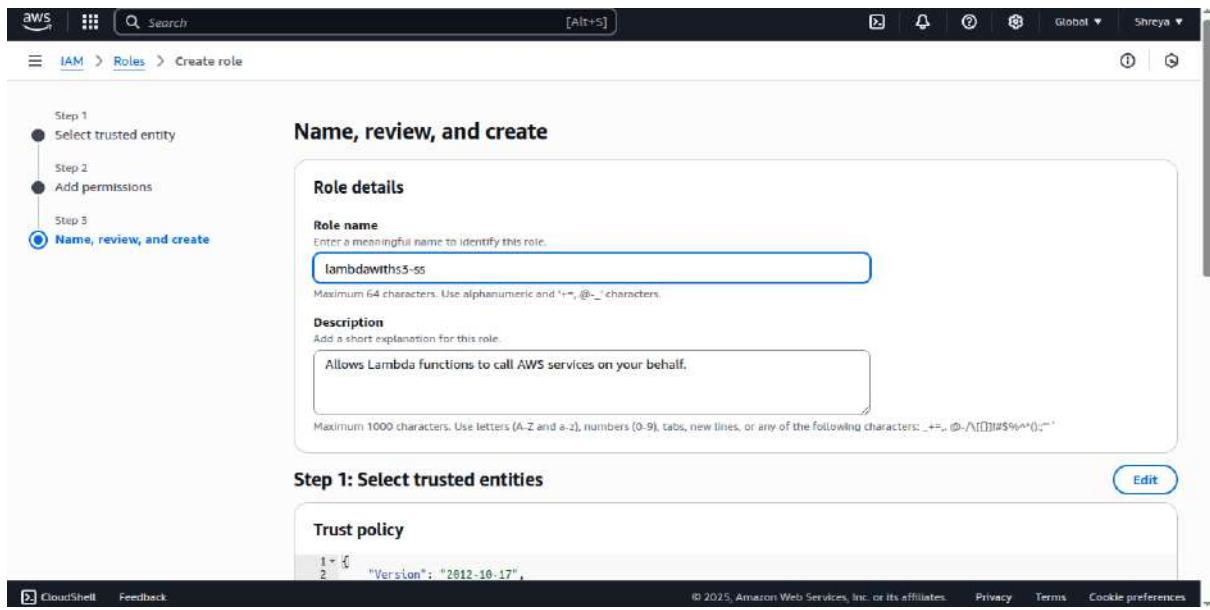
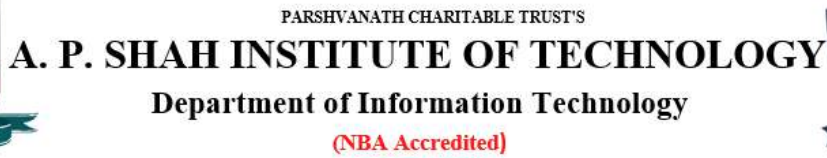
Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case
Lambda

Choose a use case for the specified service.
Use case
☒ Lambda
Allows Lambda functions to call AWS services on your behalf.

Cancel Next

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AWS [Search] [Alt+S] [Region: Asia Pacific (Mumbai)] [User: Shreya]

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.

Basic information

Function name
Enter a name that describes the purpose of your function.

Function name must be 1 to 64 characters, must be unique to the Region, and can't include spaces. Valid characters are a-z, A-Z, 0-9, hyphen (-), and underscores (_).

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.
☐ arm64
☒ x86_64

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.

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AWS [Search] [Alt+S] [Region: Asia Pacific (Mumbai)] [User: Shreya]

Create function [Info](#) [Tutorials](#)

Choose the instruction set architecture you want for your function code.
☐ arm64
☒ x86_64

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

☐ 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.

[View the lambdawiths3-ss role](#) on the IAM console.

Additional configurations
Use additional configurations to set up code signing, function URL, tags, and Amazon VPC access for your function.

[Cancel](#) [Create function](#)

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Successfully created the function **lambdawiths3bucket-ss**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

lambdawiths3bucket-ss

Throttle Copy ARN Actions

Export to Infrastructure Composer Download

Function overview Info

Diagram Template

lambdawiths3bucket-ss

Layers (0)

+ Add trigger + Add destination

Description

Last modified: 4 seconds ago

Function ARN: arn:aws:lambda:ap-south-1:564102956383:function:lambdawiths3bucket-ss

Function URL: Info

Code Test Monitor Configuration Aliases Versions

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Add triggers

Event types

Select the events that you want to 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. Any special characters must be URL encoded.

e.g. images/

Suffix - optional

Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters. Any special characters must be URL encoded.

.png

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.

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

Cancel Add

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The screenshot shows the AWS Lambda console for the function **lambdawiths3bucket-ss**. A green notification banner at the top states: "The trigger lambdawiths3-ss was successfully added to function lambdawiths3bucket-ss. The function is now receiving events from the trigger." The **Function overview** section includes a diagram showing the function connected to an **S3** bucket. The **Configuration** tab is selected, showing details like **Last modified** (4 minutes ago), **Function ARN** (arn:aws:lambda:ap-south-1:564102956383:function:lambdawiths3bucket-ss), and **Function URL**. A sidebar on the right offers a **Tutorials** section with a link to "Create a simple web app".

The screenshot shows the AWS S3 console for the bucket **lambdawiths3-ss** in the **Upload** view. It displays a table with one file: "Screenshot from 2025-08-01 14..." (Image/png, 131.8 KB). Below the table, the **Destination** section shows the bucket path **s3://lambdawiths3-ss**. Further down, there are sections for **Permissions** and **Properties**. At the bottom right, there are **Cancel** and **Upload** buttons.



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Upload succeeded
For more information, see the Files and folders table.

Upload: status Close

After you navigate away from this page, the following information is no longer available.

Summary

Destination s3://lambda-with3-ss	Succeeded 1 file, 131.8 KB (100.00%)	Failed 0 files, 0 B (0%)
--	--	------------------------------------

Files and folders | Configuration

Files and folders (1 total, 131.8 KB)

Find by name

Name	Folder	Type	Size	Status	Error
Screenshot from 2025-08-01 ...	-	Image/png	131.8 KB	Succeeded	-

CloudWatch > Log groups

CloudWatch

Log groups (2)

By default, we only load up to 10000 log groups.

Filter log groups or try pattern search

☒ Exact match

<input type="checkbox"/>	Log group	Log class	Anomaly d...	Data ...	Sensit...	Retenti...	Metric
<input type="checkbox"/>	/aws/lambda/lambda-with3s3bucket-ss	Standard	Configure	-	-	Never exp...	-
<input type="checkbox"/>	/aws/lambda/sum	Standard	Configure	-	-	Never exp...	-



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The screenshot shows the AWS CloudWatch console. The left sidebar contains navigation links for CloudWatch, Favorites and recents, Dashboards, AI Operations, Alarms, Logs, Metrics, Application Signals (APM), Network Monitoring, and Insights. The main area displays the 'Log events' page for the log group `/aws/lambda/lambdaewith3bucket-ss`. The log events table shows four entries with timestamps and messages. The first entry is an 'INIT_START' event, the second is a 'START' event, the third is an 'END' event, and the fourth is a 'REPORT' event. The 'No older events at this moment. Retry' message is displayed at the top of the log events list.

The screenshot shows the AWS Lambda console. The left sidebar contains navigation links for Lambda, Functions, and lambdewith3bucket-ss. The main area displays the 'Functions' page for the function `lambdaewith3bucket-ss`. The 'Code' tab is selected, showing the function code. The 'Test' button is highlighted. The 'Test events' section shows a list of test events, including 'shre'. The 'Execution Results' section shows the output of the test event, indicating a 'SyntaxError: Unexpected identifier' in the code. The 'Code properties' section shows the package size and SHA256 hash.



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The screenshot shows the AWS Lambda console interface. At the top, there's a navigation bar with the AWS logo, a search bar, and user information. The main content area is titled 'Lambda > Functions > lambdawiths3bucket-ss'. A green notification bar at the top states: 'Successfully updated the function lambdawiths3bucket-ss.' and 'The test event 'shre' was successfully saved.' Below this, the 'DEPLOY' section shows a 'Deploy (Ctrl+Shift+U)' button and a 'Test (Ctrl+Shift+T)' button. The 'TEST EVENTS (SELECTED: SHRE)' section shows a list of test events, including 'shre'. The 'EXECUTION RESULTS' section shows the status 'Succeeded' and the response 'No records found in the event.' The 'FUNCTION LOGS' section shows the logs for the function, including the timestamp '2025-08-01T08:43:03.153Z' and the event data.

The screenshot shows the AWS Lambda console interface for the 'Upload Status' section. A green notification bar at the top states: 'Upload succeeded' and 'For more information, see the Files and folders table.' Below this, the 'Summary' section shows the destination 's3://lambdawiths3-ss' and the upload status 'Succeeded' with '1 file, 150.6 KB (100.00%)' and 'Failed' with '0 files, 0 B (0%)'. The 'Files and folders' section shows a table with the following data:

Name	Folder	Type	Size	Status	Error
Screenshot from 2025-08-01 ...	-	image/png	150.6 KB	Succeeded	-



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The screenshot shows the AWS CloudWatch console. The breadcrumb navigation indicates the path: CloudWatch > Log groups > /aws/lambda/lambdafunction3bucket-s3 > 2025/08/01/[LATEST]9580eded2b614a6981d28a036aa8a5b9. The left sidebar shows the 'Log groups' section expanded. The main content area is titled 'Log events' and includes a search bar and filters. The log events are displayed in a table with two columns: 'Timestamp' and 'Message'. The messages show the execution of a Lambda function triggered by an S3 event, including details like RequestId, Duration, and Billed Duration.

Timestamp	Message
2025-08-01T08:42:58.953Z	2025-08-01T08:42:58.953Z 6c8a6924-9d95-4c8e-82a2-9869602e9327 INFO No records found in the event.
2025-08-01T08:42:58.977Z	END RequestId: 6c8a6924-9d95-4c8e-82a2-9869602e9327
2025-08-01T08:42:58.977Z	REPORT RequestId: 6c8a6924-9d95-4c8e-82a2-9869602e9327 Duration: 25.43 ms Billed Duration: 26 ms Memory Siz...
2025-08-01T08:43:03.153Z	2025-08-01T08:43:03.153Z ef86474e-df8c-4047-9a09-89cb44d06271 INFO Incoming Event: {}
2025-08-01T08:43:03.153Z	2025-08-01T08:43:03.153Z ef86474e-df8c-4047-9a09-89cb44d06271 INFO No records found in the event.
2025-08-01T08:43:03.153Z	START RequestId: ef86474e-df8c-4047-9a09-89cb44d06271 Version: \$LATEST
2025-08-01T08:43:03.153Z	END RequestId: ef86474e-df8c-4047-9a09-89cb44d06271
2025-08-01T08:43:03.153Z	REPORT RequestId: ef86474e-df8c-4047-9a09-89cb44d06271 Duration: 1.51 ms Billed Duration: 2 ms Memory Siz...
2025-08-01T08:44:24.214Z	START RequestId: 3f98ff0c-bbce-4fa5-be7d-442f1d0efeb4 Version: \$LATEST
2025-08-01T08:44:24.214Z	2025-08-01T08:44:24.214Z 3f98ff0c-bbce-4fa5-be7d-442f1d0efeb4 INFO Incoming Event: { Records: [{ eventVers...
2025-08-01T08:44:24.214Z	2025-08-01T08:44:24.214Z 3f98ff0c-bbce-4fa5-be7d-442f1d0efeb4 INFO An Image has been added - lambdafunction3-s...
2025-08-01T08:44:24.214Z	END RequestId: 3f98ff0c-bbce-4fa5-be7d-442f1d0efeb4
2025-08-01T08:44:24.214Z	REPORT RequestId: 3f98ff0c-bbce-4fa5-be7d-442f1d0efeb4 Duration: 125.29 ms Billed Duration: 126 ms Memory S...

Conclusion: In this experiment, we created an AWS Lambda function in which we Configured an S3 Trigger. Wrote the Lambda function to log the desired message. Also we Deployed and tested the setup by uploading an image to the S3 bucket. We also Verified logs in CloudWatch to confirm the function executed correctly.