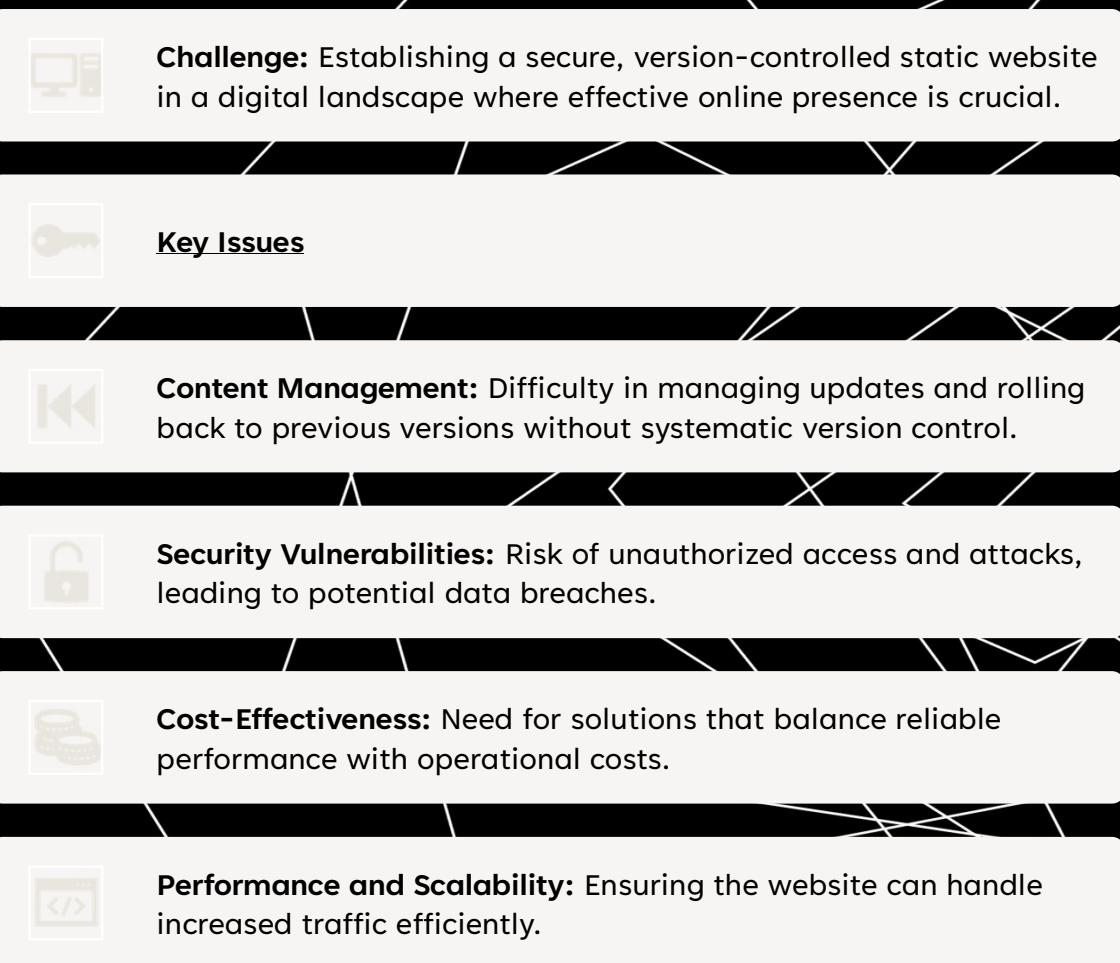


STATIC WEBSITE WITH S3, LIFECYCLE MANAGEMENT, AND DYNAMODB

PROBLEM STATEMENT



PROJECT OVERVIEW



OBJECTIVE: Create a cost-optimized, secure Static Website with lifecycle management and replication

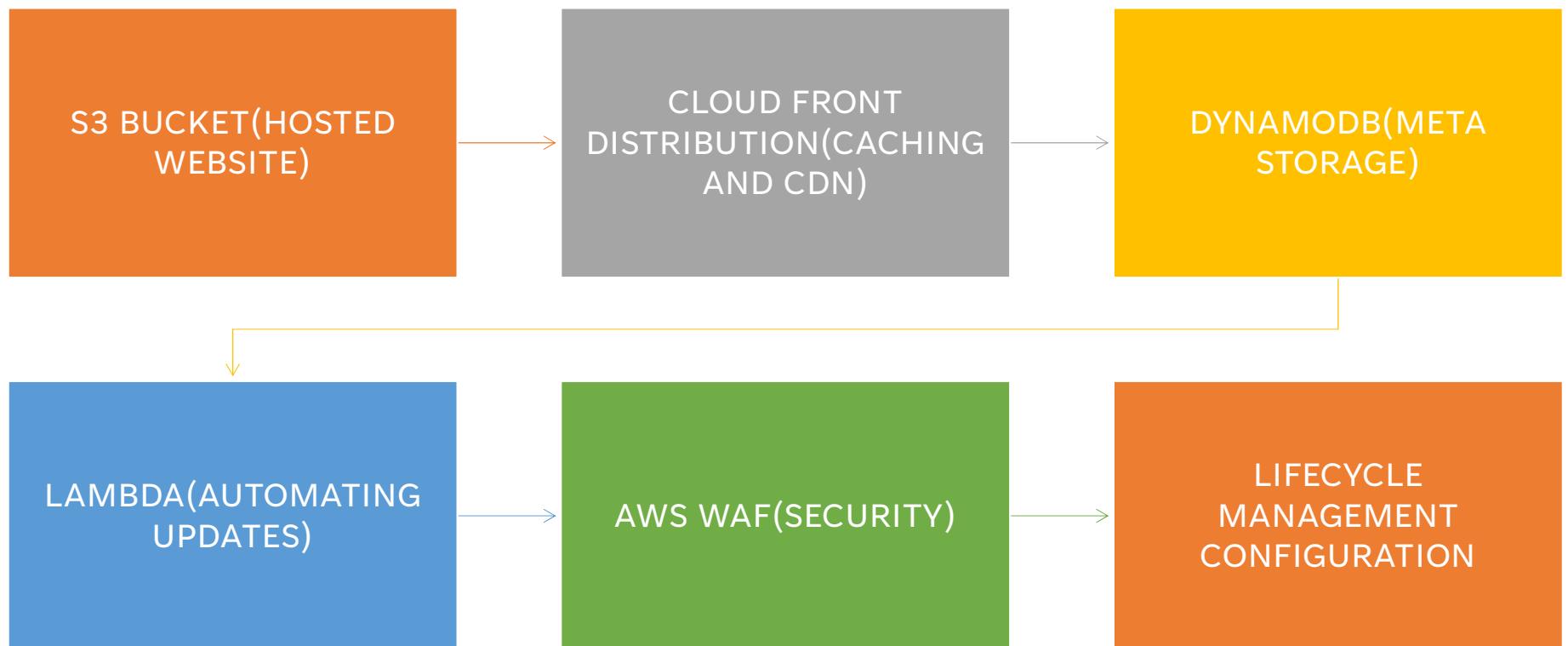


KEY COMPONENTS: S3, DynamoDB, CloudFront, AWS Lambda, AWS WAF



Outcome: A robust website architecture with full version control and disaster recovery

ARCHITECTURE DIAGRAM



CREATING A S3 BUCKET

The screenshot shows the AWS S3 'Create bucket' wizard. At the top, there's a navigation bar with the AWS logo, a search bar, and session information: 'Asia Pacific (Mumbai)' and 'role-IIHT-LAB/lab-session @ 863518456108-mm1'. Below the navigation is a breadcrumb trail: 'Amazon S3 > Buckets > Create bucket'. The main content area has a title 'Object Ownership' with a 'Info' link. It explains object ownership from other AWS accounts and the use of access control lists (ACLs). Two options are shown: 'ACLs disabled (recommended)' (selected) and 'ACLs enabled'. Under 'Object Ownership', it says 'Bucket owner enforced'. In the 'Block Public Access settings for this bucket' section, there's a note about public access being granted through ACLs, bucket policies, or access point policies. It recommends turning on 'Block all public access'. Below this, four sub-options are listed: 'Block public access to buckets and objects granted through new access control lists (ACLs)', 'Block public access to buckets and objects granted through any access control lists (ACLs)', 'Block public access to buckets and objects granted through new public bucket or access point policies', and 'Block public and cross-account access to buckets and objects through any public bucket or access point policies'. The bottom of the page includes links for CloudShell, Feedback, and various AWS terms like Privacy, Terms, and Cookie preferences.

CREATED AN EMPTY BUCKET

The screenshot shows the AWS S3 Buckets page. At the top, there is a green success message: "Successfully created bucket 'final-project-static-web-hosting'. To upload files and folders, or to configure additional bucket settings, choose View details." Below this, there is an "Account snapshot" section with an "All AWS Regions" button and a "View Storage Lens dashboard" button. The main table displays "General purpose buckets" (1). The table has columns for Name, AWS Region, IAM Access Analyzer, and Creation date. The single entry is "final-project-static-web-hosting" in the Asia Pacific (Mumbai) region, created on March 13, 2025. There are buttons for Copy ARN, Empty, Delete, and Create bucket.

Name	AWS Region	IAM Access Analyzer	Creation date
final-project-static-web-hosting	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	March 13, 2025, 14:57:45 (UTC+05:30)

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CREATING A BUCKET POLICY

GENERATING A BUCKET POLICY

The screenshot shows the AWS Policy Generator interface. At the top, there are dropdown menus for 'AWS Service' set to 'Amazon S3' and 'Actions' set to '-- Select Actions --'. There are also checkboxes for 'All Services (*)' and 'All Actions (*)'. Below these, a modal window titled 'Policy JSON Document' displays the following JSON policy:

```
{  
  "Id": "Policy1741858767604",  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Sid": "Stmt1741858765438",  
      "Action": [  
        "s3:GetObject"  
      ],  
      "Effect": "Allow",  
      "Resource": "arn:aws:s3:::final-project-static-web-hosting/*",  
      "Principal": "*"  
    }  
  ]  
}
```

Below the JSON, a note says: 'Click below to edit. To save the policy, copy the text below to a text editor. Changes made below will **not be reflected in the policy generator tool**.', followed by a 'Close' button.

On the left side of the main interface, there are sections for 'Principal' (set to '*'), 'Step 3: Add conditions', and 'A policy is a'. At the bottom, a footer states: 'This AWS Policy Generator is provided for informational purposes only, you are still responsible for your use of Amazon Web Services technologies and ensuring that your use is in compliance with all applicable terms and conditions. This AWS Policy Generator is provided as is without warranty of any kind, whether express, implied, or statutory. This AWS Policy Generator does not modify the applicable terms and conditions governing your use of Amazon Web Services technologies.' and includes the copyright notice: '©2010, Amazon Web Services LLC or its affiliates. All rights reserved.'

ADDING BUCKET POLICY

The screenshot shows the AWS S3 console interface. In the top navigation bar, there are links for 'Amazon S3', 'Buckets', and the specific bucket name 'final-project-static-web-hosting'. The top right corner displays the region 'Asia Pacific (Mumbai)' and a session ID. A green success message box at the top center says 'Successfully edited bucket policy.' Below it, the 'Block public access (bucket settings)' section is visible, showing that 'Block all public access' is currently off. The 'Bucket policy' section contains the JSON code for the bucket's policy:

```
{  
    "Version": "2012-10-17",  
    "Id": "Policy1741858767604",  
    "Statement": [  
        {  
            "Sid": "Stmt1741858765438",  
            "Effect": "Allow",  
            "Principal": "*",  
            "Action": "s3:GetObject",  
            "Resource": "arn:aws:s3:::final-project-static-web-hosting/*"  
        }  
    ]  
}
```

At the bottom of the page, there are links for 'CloudShell', 'Feedback', and copyright information: '© 2025, Amazon Web Services, Inc. or its affiliates.' followed by 'Privacy', 'Terms', and 'Cookie preferences'.

S3 BACKUP AND CROSS REGION REPLICATION

The screenshot shows the AWS S3 console interface. At the top, there is a navigation bar with the AWS logo, a search bar, and various icons. The main content area displays a success message about creating a bucket, followed by an account snapshot summary. Below this, there are tabs for 'General purpose buckets' and 'Directory buckets', with 'General purpose buckets' selected. A table lists three buckets: 'final-project-static-web-hosting', 'final-project-static-web-hosting-backup', and 'final-project-static-web-hosting-backup-cross'. Each row in the table includes columns for Name, AWS Region, IAM Access Analyzer, and Creation date.

Successfully created bucket "final-project-static-web-hosting-backup-cross"
To upload files and folders, or to configure additional bucket settings, choose [View details](#).

▶ Account snapshot - updated every 24 hours [All AWS Regions](#)

Storage lens provides visibility into storage usage and activity trends. Metrics don't include directory buckets. [Learn more](#)

[View Storage Lens dashboard](#)

[View details](#) [X](#)

[General purpose buckets](#) [Directory buckets](#)

General purpose buckets (3) [Info](#) [All AWS Regions](#)

Buckets are containers for data stored in S3.

Name	AWS Region	IAM Access Analyzer	Creation date
final-project-static-web-hosting	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	March 13, 2025, 14:57:45 (UTC+05:30)
final-project-static-web-hosting-backup	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	March 13, 2025, 15:02:06 (UTC+05:30)
final-project-static-web-hosting-backup-cross	Asia Pacific (Seoul) ap-northeast-2	View analyzer for ap-northeast-2	March 13, 2025, 15:04:39 (UTC+05:30)

[Create bucket](#)

[CloudShell](#) [Feedback](#)

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CREATE A LIFECYCLE RULE

AWS | Search [Alt+S] | Asia Pacific (Mumbai) ▾ | role-IIHT-LAB/lab-session @ 863518456108-mm1 ▾ | ⓘ | 🌐 | 🔍

Amazon S3 > Buckets > final-project-static-web-hosting > Lifecycle configuration > Create lifecycle rule

Create lifecycle rule Info

Lifecycle rule configuration

Lifecycle rule name
lifecycle-rule
Up to 255 characters

Choose a rule scope
 Limit the scope of this rule using one or more filters
 Apply to all objects in the bucket

⚠️ Apply to all objects in the bucket
If you want the rule to apply to specific objects, you must use a filter to identify those objects. Choose "Limit the scope of this rule using one or more filters". [Learn more](#)
 I acknowledge that this rule will apply to all objects in the bucket.

Lifecycle rule actions

Choose the actions you want this rule to perform.

Transition current versions of objects between storage classes
This action will move current versions.

Transition noncurrent versions of objects between storage classes
This action will move noncurrent versions.

Expire current versions of objects

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aws | Search [Alt+S] Asia Pacific (Mumbai) ▾ role-IIHT-LAB/lab-session @ 863518456108-mm1 ▾

Amazon S3 > Buckets > final-project-static-web-hosting > Lifecycle configuration > lifecycle-rule

Transition noncurrent versions of objects between storage classes

Choose transitions to move noncurrent versions of objects between storage classes based on your use case scenario and performance access requirements. These transitions start from when the objects become noncurrent and are consecutively applied. [Learn more](#)

Choose storage class transitions

Glacier Instant Retrieval ▾

Days after objects become noncurrent

1

Number of newer versions to retain - Optional

30

Remove

Can be 1 to 100 versions. All other noncurrent versions will be moved.

Add transition

Review transition and expiration actions

Current version actions

Day 0
No actions defined.

Noncurrent versions actions

Day 0

- Objects become noncurrent

↓

Day 1

- 30 newest noncurrent versions are retained
- All other noncurrent versions move to Glacier Instant Retrieval

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REPLICATION RULE (BACKUP)

The screenshot shows the AWS S3 console interface for creating a replication rule. The top navigation bar includes the AWS logo, a search bar, and a 'Create replication rule' button. The breadcrumb trail indicates the path: Amazon S3 > Buckets > final-project-static-web-hosting > Replication rules > Create replication rule. The main content area is titled 'Create replication rule' with an 'Info' link. It contains several configuration sections:

- Replication rule configuration**
 - Replication rule name:** A text input field containing 'replication-rule'. A note below states: "Up to 255 characters. In order to be able to use CloudWatch metrics to monitor the progress of your replication rule, the replication rule name must only contain English characters."
 - Status:** A section where users can choose whether the rule is enabled or disabled. The 'Enabled' option is selected (radio button is checked).
 - Priority:** A numerical input field set to '0'. A note explains: "The priority value resolves conflicts that occur when an object is eligible for replication under multiple rules to the same destination. The rule is added to the configuration at the highest priority and the priority can be changed on the replication rules table."
- Source bucket**
 - Source bucket name:** A dropdown menu showing 'final-project-static-web-hosting'.
 - Source Region:** A dropdown menu showing 'Asia Pacific (Mumbai) ap-south-1'.
 - Choose a rule scope:** A dropdown menu currently showing 'CloudShell 1.com'.

At the bottom of the page, there are footer links for 'Feedback', 'Privacy', 'Terms', and 'Cookie preferences', along with a copyright notice: "© 2025, Amazon Web Services, Inc. or its affiliates."

REPLICATING EXISTING OBJECTS

The screenshot shows the AWS S3 console with the path: Amazon S3 > Buckets > final-project-static-web-hosting > Replication rules. A green success message at the top states: "Replication configuration successfully updated. If changes to the configuration aren't displayed, choose the refresh button. Changes apply only to new objects. To replicate existing objects with this configuration, choose Create replication job." On the right, there are "Create replication job" and "Edit" buttons.

A modal dialog titled "Replicate existing objects?" is open in the center. It contains the following text: "You can enable a one-time Batch Operations job from this replication configuration to replicate objects that already exist in the bucket and to synchronize the source and destination buckets. [Learn more](#) or [see pricing](#)". Below this, under "Existing objects", there are two options:

- No, do not replicate existing objects.
- Yes, replicate existing objects.

At the bottom of the modal are "Cancel" and "Submit" buttons. The "Submit" button is highlighted with an orange background.

Below the modal, the main "Replication rules (1)" section is visible. It shows a table with columns: Replication, Destination, Destination, Storage, Replica, Replication, KMS-encrypted objects, and Replica. Each row has a "View details" button, an "Edit rule" button, a "Delete" button, and an "Actions" dropdown menu. The first row's "Edit rule" button is highlighted with an orange background. At the bottom of this section are buttons for "Create replication rule", navigation arrows, and a settings gear icon.

At the very bottom of the page, there are links for CloudShell, Feedback, and cookie preferences. The footer includes the text: "© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences".

BATCH OPERATION JOB

AWS | Search [Alt+S] | Asia Pacific (Mumbai) | role-IIHT-LAB/lab-session @ 863518456108-mm1

Amazon S3 > Buckets > final-project-static-web-hosting > Replication rules > Create Batch Operations job

Create Batch Operations job

Job settings

A job is used to execute batch operations on a list of S3 objects. The list of objects is contained in a replication manifest object generated by S3.

Job run options

You can choose whether to have the job start automatically after the replication manifest is generated or to have the job wait in the *Awaiting your confirmation to run* status until you run the job.

Automatically run the job when it's ready
When selected, the job automatically runs without waiting for you to start it.

Wait to run the job when it's ready
Recommended if you want to review the manifest or job details before running the job.

Completion report

Generate a CSV completion report that lists your target objects, task success or error codes, outputs, and descriptions. Completion reports are encrypted using SSE-S3. [Learn more](#)

Generate completion report

Completion report scope

Failed tasks only
 All tasks

Completion report destination

Specify a general purpose bucket location to store the completion report. '/job-[job-id]/report.json' will automatically be appended to the specified destination. [Learn more](#)

s3://final-project-static-web-hosting-backup

[View](#) [Browse S3](#)

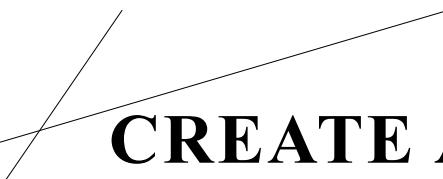
Format: s3://<bucket>/<optional-prefix-with-path>. S3 will append the path with a '/'. If you add a '/' to the prefix, it will appear as an extra folder in the S3 console.

CROSS REGION REPLICATION

The screenshot shows the AWS S3 console with the 'Replication rules' section for the 'final-project-static-web-hosting' bucket. The interface includes a sidebar with navigation links like 'Amazon S3', 'General purpose buckets', and 'Storage Lens'. The main content area displays two replication rules:

Replication rule name	Status	Destination bucket	Destination Region	Priority	Scope	Storage class	Replica owner	Replication Time Control	KMS-encrypted objects (KMS or DSSE-KM)
replication-rule-cross	Enabled	s3://final-project-static-web-hosting-backup-cross	Asia Pacific (Seoul) ap-northeast-2	1	Entire bucket	Same as source	Same as source	Disabled	Do not replicate
replication-rule	Enabled	s3://final-project-static-web-hosting-backup	Asia Pacific (Mumbai) ap-south-1	0	Entire bucket	Same as source	Same as source	Disabled	Do not replicate

Below the table, there are buttons for 'View replication configuration' and 'Actions' (Edit rule, Delete, Create replication rule). The top navigation bar shows the region as 'Asia Pacific (Mumbai)' and the user as 'role-IIHT-LAB/lab-session @ 863518456108-mm1'.



CREATE A DYNAMODB TABLE

CREATE A DYNAMODB TABLE

The screenshot shows the AWS DynamoDB 'Create table' interface. At the top, there's a navigation bar with the AWS logo, a search bar, and a 'Tables' link. The main content area has a blue header bar with a feedback survey message: 'Share your feedback on Amazon DynamoDB' and a 'Share feedback' button.

Create table

Table details Info
DynamoDB is a schemaless database that requires only a table name and a primary key when you create the table.

Table name
This will be used to identify your table.
 Between 3 and 255 characters, containing only letters, numbers, underscores (_), hyphens (-), and periods (.)

Partition key
The partition key is part of the table's primary key. It is a hash value that is used to retrieve items from your table and allocate data across hosts for scalability and availability.
 1 to 255 characters and case sensitive.

Sort key - optional
You can use a sort key as the second part of a table's primary key. The sort key allows you to sort or search among all items sharing the same partition key.
 1 to 255 characters and case sensitive.

Table settings

CloudShell Feedback

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CREATE A LAMBDA FUNCTION

Screenshot of the AWS Lambda 'Create function' wizard.

The top navigation bar shows the AWS logo, a search bar, keyboard shortcut [Alt+S], and account information: Asia Pacific (Mumbai) role-IIHT-LAB/lab-session @ 863518456108-mm1.

The breadcrumb trail indicates the current location: 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.

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, hyphens (-), 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.

- 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

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Tutorials Info

Learn how to implement common use cases in AWS Lambda.

Create a simple web app ^

In this tutorial you will learn how to:

- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

[Learn more](#) 

[Start tutorial](#)

ADDING A TRIGGER TO LAMBDA FUNCTION

The screenshot shows the AWS Lambda Functions interface. In the top navigation bar, the region is set to Asia Pacific (Mumbai) and the session ID is role-IIHT-LAB/lab-session @ 863518456108-mm1. The left sidebar shows the Lambda > Functions > final-project path. The main content area displays the 'final-project' function overview. A green success message states: "The trigger final-project-static-web-hosting was successfully added to function final-project. The function is now receiving events from the trigger." Below this, the 'Function overview' section includes a 'Diagram' tab (selected), an 'S3' trigger icon, and a '+ Add trigger' button. To the right, there are buttons for 'Export to Infrastructure Composer' and 'Download'. The 'Configuration' tab is selected in the navigation bar at the bottom. The 'General configuration' section shows tabs for 'General configuration' (selected), 'CloudShell', and 'Feedback'. On the right side, there is a 'Tutorials' sidebar with a 'Create a simple web app' section containing a list of steps and a 'Start tutorial' button.

aws | [Alt+S] | Asia Pacific (Mumbai) | role-IIHT-LAB/lab-session @ 863518456108-mm1

Lambda > Functions > final-project

final-project

Throttle Copy ARN Actions

The trigger final-project-static-web-hosting was successfully added to function final-project. The function is now receiving events from the trigger.

Function overview Info

Diagram Template

final-project

S3 + Add destination

+ Add trigger

Description

Last modified 1 minute ago

Function ARN arn:aws:lambda:ap-south-1:863518456108:function:final-project

Function URL Info

Code Test Monitor Configuration Aliases Versions

General configuration Info Edit

CloudShell Feedback

Learn how to implement common use cases in AWS Lambda.

Create a simple web app

In this tutorial you will learn how to:

- Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
- Invoke your function through its function URL

Learn more

Start tutorial

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SOURCE CODE TO LAMBDA FUNCTION

The screenshot shows the AWS Lambda Functions console. At the top, there's a green success message: "Successfully updated the function final-project." Below the message, the navigation bar includes tabs for Code, Test, Monitor, Configuration, Aliases, and Versions. The Code tab is selected.

In the main area, the "Code source" section displays the file structure of the project "FINAL-PROJECT". The "lambda_function.py" file is open in the editor. The code is as follows:

```
def lambda_handler(event, context):
    try:
        for record in event['Records']:
            object_key = urllib.parse.unquote_plus(record['s3']['object']['key']) # Decode object key

            # Debugging logs
            print(f'Received event for bucket: {record["s3"]["bucket"]["name"]}, file: {object_key}')

            # Ensure the bucket name matches exactly
            if record['s3']['bucket']['name'] != "final-project-static-web-hosting":
                raise ValueError(f'Unexpected bucket: {record["s3"]["bucket"]["name"]}')

            response = s3_client.head_object(Bucket=record['s3']['bucket']['name'], Key=object_key)
            file_size = response['ContentLength']
            upload_time = response['LastModified'].isoformat()
            content_type = response.get('ContentType', 'Unknown')

            table = dynamodb.Table(TABLE_NAME)
            table.put_item(
                Item={
```

A tooltip "Amazon Q Tip 1/3" appears over the line "raise ValueError(f'Unexpected bucket: {record['s3']['bucket']['name']}')". On the right side of the editor, there's a preview pane showing the function's execution results. Below the editor, there are buttons for Deploy (Ctrl+Shift+U) and Test (Ctrl+Shift+I). The sidebar also shows sections for EXPLORER, TEST EVENTS [NONE SELECTED], and a feedback link.

On the right side of the screen, there's a "Tutorials" panel with a "Create a simple web app" section. It includes a brief description, a list of objectives, and links to learn more and start the tutorial.

IAM ROLE TO LAMBDA FUNCTION

The screenshot shows the AWS IAM Roles page with the role 'final-iam-role' selected. The left sidebar shows navigation options like Dashboard, Access management, Roles, and Access reports. The main content area displays the 'final-iam-role' summary, creation date (March 13, 2025, 15:36 UTC+05:30), last activity (none), ARN (arn:aws:iam::863518456108:role/final-iam-role), and maximum session duration (1 hour). Below the summary, the 'Permissions' tab is selected, showing attached permissions policies: AmazonDynamoDBFullAccess, AmazonS3FullAccess, and CloudWatchFullAccess, all of which are AWS managed policies.

final-iam-role Info

Allows Lambda functions to call AWS services on your behalf.

Summary

Creation date
March 13, 2025, 15:36 (UTC+05:30)

Last activity
-

ARN
arn:aws:iam::863518456108:role/final-iam-role

Maximum session duration
1 hour

Permissions Trust relationships Tags Last Accessed Revoke sessions

Permissions policies (3) Info

You can attach up to 10 managed policies.

Filter by Type

Policy name	Type	Attached entities
AmazonDynamoDBFullAccess	AWS managed	1
AmazonS3FullAccess	AWS managed	1
CloudWatchFullAccess	AWS managed	1

Permissions boundaries (not set)

ATTACHING THE IAM ROLE

The screenshot shows the AWS Lambda Functions configuration page for a function named "final-project". The "Configuration" tab is selected. On the left, a sidebar lists "General configuration", "Triggers", "Permissions" (which is currently selected), "Destinations", "Function URL", "Environment variables", and "Tags". The main content area displays the "Execution role" settings. It shows a role name "final-project-role-w0hbhvah" with a copy icon. Below it is a "Resource summary" section with a heading "Amazon CloudWatch Logs" and a note stating "3 actions, 2 resources". At the top right of the main content area are three buttons: "Edit", "View role document", and a refresh icon. A success message at the bottom states "Successfully updated the function final-project." with a close button.

Code | Test | Monitor | Configuration | Aliases | Versions

General configuration

Triggers

Permissions

Destinations

Function URL

Environment variables

Tags

Execution role

Role name
final-project-role-w0hbhvah

Resource summary

To view the resources and actions that your function has permission to access, choose a service.

Amazon CloudWatch Logs
3 actions, 2 resources

Lambda > Functions > final-project

Successfully updated the function final-project.

Code | Test | Monitor | Configuration | Aliases | Versions

General configuration

Triggers

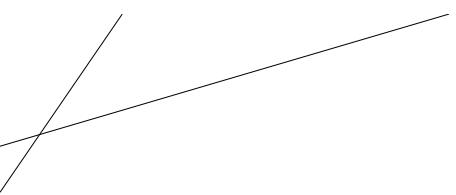
Permissions

Destinations

Execution role

Role name
final-iam-role

Resource summary



ADDING WEB FILES TO S3 BUCKET

The screenshot shows the AWS S3 console interface. The top navigation bar includes the AWS logo, a search bar, and account information for 'Asia Pacific (Mumbai)' and 'role-IIHT-LAB/lab-session'. The left sidebar has sections for 'Amazon S3', 'General purpose buckets', 'Storage Lens', and 'Feature spotlight'. The main content area is titled 'final-project-static-web-hosting' and displays the 'Objects' tab. It shows five objects: 'css/' (Folder), 'fonts/' (Folder), 'images/' (Folder), 'index.html' (html file last modified March 13, 2025, 15:44:59 (UTC+05:30), 30.9 KB, Standard storage class), and 'js/' (Folder). There are also buttons for 'Copy S3 URI', 'Copy URL', 'Download', 'Open', 'Delete', 'Actions', 'Create folder', and 'Upload'.

Name	Type	Last modified	Size	Storage class
css/	Folder	-	-	-
fonts/	Folder	-	-	-
images/	Folder	-	-	-
index.html	html	March 13, 2025, 15:44:59 (UTC+05:30)	30.9 KB	Standard
js/	Folder	-	-	-

VERIFYING S3 BUCKET REPLICATION

Amazon S3

General purpose buckets

- Directory buckets
- Table buckets
- Access Grants
- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

▼ Storage Lens

- Dashboards
- Storage Lens groups
- AWS Organizations settings

Feature spotlight 11

Amazon S3 > Buckets > final-project-static-web-hosting-backup-cross

final-project-static-web-hosting-backup-cross Info

Objects Properties Permissions Metrics Management Access Points

Objects (6)

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	css/	Folder	-	-	-
<input type="checkbox"/>	fonts/	Folder	-	-	-
<input type="checkbox"/>	images/	Folder	-	-	-
<input type="checkbox"/>	index.html	html	March 13, 2025, 15:44:59 (UTC+05:30)	30.9 KB	Standard
<input type="checkbox"/>	job-70af141e-5edc-4f94-a459-a4bbf5f5b02f/	Folder	-	-	-
<input type="checkbox"/>	js/	Folder	-	-	-

Find objects by prefix Show versions

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ENABLING STATIC WEB HOSTING

The screenshot shows the AWS S3 console interface. The left sidebar lists navigation options like 'Amazon S3', 'General purpose buckets', and 'Storage Lens'. The main content area is titled 'Static website hosting' for the bucket 'user-name-storage'. It includes a recommendation to use AWS Amplify Hosting, a 'Create Amplify app' button, and sections for 'S3 static website hosting' (Enabled), 'Hosting type' (Bucket hosting), and 'Bucket website endpoint' (http://user-name-storage.s3-website.ap-south-1.amazonaws.com). The bottom navigation bar includes links for 'CloudShell', 'Feedback', 'Privacy', 'Terms', and 'Cookie preferences'.

Amazon S3 > Buckets > user-name-storage

Static website hosting

Use this bucket to host a website or redirect requests. [Learn more](#)

i We recommend using AWS Amplify Hosting for static website hosting

Deploy a fast, secure, and reliable website quickly with AWS Amplify Hosting. Learn more about [Amplify Hosting](#) or [View your existing Amplify apps](#)

Create Amplify app

S3 static website hosting
Enabled

Hosting type
Bucket hosting

Bucket website endpoint
When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. [Learn more](#)

<http://user-name-storage.s3-website.ap-south-1.amazonaws.com>

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HOSTING THE WEBSITE

The screenshot shows a web browser displaying a static website. The URL in the address bar is `final-project-static-web-hosting.s3.ap-south-1.amazonaws.com/index.html`. The website has a dark blue header with the word "First" in white. Below the header is a navigation menu with links: HOME (underlined), ABOUT, SERVICES, PROJECTS, and CONTACT. To the right of the menu is a white circular icon with a phone receiver symbol and a phone number "120-240-9600" in a white rounded rectangle. The main content area has a green and purple abstract background. On the left, there's a circular profile picture of a man with a beard and a yellow shirt. Next to it is a white speech bubble containing the text "Hello friend!". Below that is another white speech bubble containing the text "I'm available for freelance work.". At the bottom left is a purple button with the text "Let's begin". On the right side, there's a large white circle containing a photo of a smiling man sitting cross-legged, working on a laptop and giving a thumbs-up.

CLOUDWATCH LOG GROUPS

The screenshot shows the AWS CloudWatch Log Groups interface. The left sidebar navigation includes CloudWatch, Favorites and recents, Dashboards, Alarms, Logs (with Log groups selected), Metrics, X-Ray traces, Events, Application Signals, Network Monitoring, and Insights. The main content area displays a single log group named "/aws/lambda/final-project". The log group details are as follows:

Log group	Log class	Anomaly detection	Data processing	Sensitivity	Retention	Metric filtering
/aws/lambda/final-project	Standard	Configure	-	-	Never expire	-

Below the table, there is a note: "By default, we only load up to 10000 log groups." The top navigation bar includes the AWS logo, a search bar, a help icon, and the region "Asia Pacific (Mumbai)". The bottom footer contains links for CloudShell, Feedback, Copyright (© 2025, Amazon Web Services, Inc. or its affiliates.), Privacy, Terms, and Cookie preferences.

VERIFYING METADATA IN DYNAMODB

aws | Search [Alt+S] | Asia Pacific (Mumbai) | role-1IHT-LAB/lab-session @ 863518456108-mml

DynamoDB > Explore items > FileMetadata

Completed. Read capacity units consumed: 2

	file_name (String)	bucket_name	content_type	file_size	upload_time
js/jquery.sticky.js	final-project-s...	application/jav...	7301	2025-03-13T10:15:05+00:00	
css/bootstrap.min.css	final-project-s...	text/css	163873	2025-03-13T10:15:02+00:00	
images/clients/cachet....	final-project-s...	image/svg+xml	6660	2025-03-13T10:15:05+00:00	
images/projects/nikhil...	final-project-s...	image/jpeg	59310	2025-03-13T10:14:57+00:00	
images/clients/tokico....	final-project-s...	image/svg+xml	2961	2025-03-13T10:15:06+00:00	
images/portrait-happy...	final-project-s...	image/png	49365	2025-03-13T10:15:01+00:00	
js/custom.js	final-project-s...	application/jav...	674	2025-03-13T10:15:04+00:00	
css/magnific-popup.css	final-project-s...	text/css	6952	2025-03-13T10:15:02+00:00	
fonts/bootstrap-icons....	final-project-s...	binary/octet-st...	92064	2025-03-13T10:15:03+00:00	
js/click-scroll.js	final-project-s...	application/jav...	1267	2025-03-13T10:15:03+00:00	

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CREATING A CLOUDFRONT DISTRIBUTION

The screenshot shows the AWS CloudFront 'Create Distribution' wizard. At the top, there are dropdown menus for 'Origin request' and 'Origin response', both set to 'No association'. Below this is a section titled 'Web Application Firewall (WAF)'. It contains two radio button options: 'Enable security protections' (selected) and 'Do not enable security protections'. The 'Enable security protections' option includes a description: 'Keep your application secure from the most common web threats and security vulnerabilities using AWS WAF. Blocked requests are stopped before they reach your web servers.' Below this is a 'Use monitor mode' checkbox, which is also selected. A note next to it says: 'Count how many of your requests would be blocked by this WAF configuration. When ready, you can disable monitor mode to begin blocking requests.' Under the 'Included security protections' heading, there is a bulleted list: 'Protect against the most common vulnerabilities found in web applications.', 'Protect against malicious actors discovering application vulnerabilities.', and 'Block IP addresses from potential threats based on Amazon internal threat intelligence'. A 'Price estimate' section indicates: 'This AWS WAF configuration is estimated to cost \$14 for 10 million requests/month'. At the bottom, there is a 'Settings' section and a footer with links for CloudShell, Feedback, Copyright (© 2025, Amazon Web Services, Inc. or its affiliates.), Privacy, Terms, and Cookie preferences.

aws | Search [Alt+S] | Global ▾ | role-IIHT-LAB/lab-session @ 863518456108-mm1 ▾

CloudFront > Distributions > Create

Origin request: No association

Origin response: No association

Web Application Firewall (WAF) Info

Enable security protections
Keep your application secure from the most common web threats and security vulnerabilities using AWS WAF. Blocked requests are stopped before they reach your web servers.

Do not enable security protections
Select this option if your application does not need security protections from AWS WAF.

Use monitor mode
Count how many of your requests would be blocked by this WAF configuration. When ready, you can disable monitor mode to begin blocking requests.

Included security protections

- Protect against the most common vulnerabilities found in web applications.
- Protect against malicious actors discovering application vulnerabilities.
- Block IP addresses from potential threats based on Amazon internal threat intelligence

Price estimate

This AWS WAF configuration is estimated to cost \$14 for 10 million requests/month

Settings

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DISTRIBUTION POLICY FOR S3 BUCKET

The screenshot shows the AWS CloudFront Distribution configuration page for a distribution named EBT9RZY7G2Z1D. At the top, there are several informational and success messages:

- A blue message box: "Introducing the CloudFront Security Dashboard" with a note about visibility and controls for bots.
- A green message box: "Successfully created new distribution." with a note to create an Internet Monitor and a "Policy statement copied" confirmation.
- A yellow message box: "The S3 bucket policy needs to be updated" with a note to allow read access to CloudFront origin access control and a "Copy policy" button.

The main configuration area includes the following sections:

- Description:** -
- Alternate domain names:** -
- Standard logging:** Off
- Cookie logging:** Off
- Default root object:** -
- Price class:** Use all edge locations (best performance)
- Supported HTTP versions:** HTTP/2, HTTP/1.1, HTTP/1.0

At the bottom left, there is a "Continuous deployment" section with an "Info" link and a "Create staging distribution" button.

UPDATING S3 BUCKET POLICY

The screenshot shows the AWS S3 console interface for editing a bucket policy. The left sidebar lists various S3 features like General purpose buckets, Storage Lens, and Feature spotlight. The main area displays a JSON policy document with line numbers 1 through 29. A modal window titled "Edit statement" is open over the policy code, showing a single statement that allows CloudFront access. The "Included" section of the sidebar lists "S3". The "Available" section lists several services: AI Operations, AMP, API Gateway, API Gateway V2, ARC Zonal Shift, and ASC. At the bottom right of the modal, there is an "Add" button.

```
1  "Version": "2012-10-17",
2  "Id": "Policy1741858767604",
3  "Statement": [
4    {
5      "Sid": "Stmt1741858765438",
6      "Effect": "Allow",
7      "Principal": "*",
8      "Action": "s3:GetObject",
9      "Resource": "arn:aws:s3:::final-project-static-web-hosting/*"
10    },
11  ],
12  {
13    "Sid": "AllowCloudFrontServicePrincipal",
14    "Effect": "Allow",
15    "Principal": {
16      "Service": "cloudfront.amazonaws.com"
17    },
18    "Action": "s3:GetObject",
19    "Resource": "arn:aws:s3:::final-project-static-web-hosting/*",
20    "Condition": {
21      "StringEquals": {
22        "AWS:SourceArn": "arn:aws:cloudfront::863518456108:distribution/E1ZEQ3NHHYFVSP"
23      }
24    }
25  }
26 ]
27 }
28
29 }
```

Amazon S3

General purpose buckets

Directory buckets

Table buckets

Access Grants

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

Dashboards

Storage Lens groups

AWS Organizations settings

Feature spotlight 11

CloudShell Feedback

Search [Alt+S]

Asia Pacific (Mumbai) role-IIHT-LAB/lab-session @ 863518456108-mm1

Policy

Edit statement AllowCloudFrontServicePrincipal Remove

Add actions

Choose a service Filter services

Included S3

Available AI Operations AMP API Gateway API Gateway V2 ARC Zonal Shift ASC

Add a resource Add

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HOSTING WEBSITE WITH DISTRIBUTION DOMAIN NAME

The screenshot shows a website with a purple header and a green main content area. The header contains the word 'First' in white, a navigation menu with 'HOME' underlined, and links for 'ABOUT', 'SERVICES', 'PROJECTS', and 'CONTACT'. On the right, there's a phone icon and the number '120-240-9600'. The main content features a circular profile picture of a smiling man in a yellow shirt on the left, followed by the text 'Hello friend!' in a white box. Below it is another white box containing the text 'I'm available for freelance work.' A blue button at the bottom left says 'Let's begin'. To the right, there's a large circular image of a man sitting cross-legged, working on a laptop and giving a thumbs-up.

d8b1va1bbwn.cloudfront.net

First

HOME ABOUT SERVICES PROJECTS CONTACT

120-240-9600

Hello friend!

I'm available for freelance work.

Let's begin



THANK YOU