

AWS PROJECT

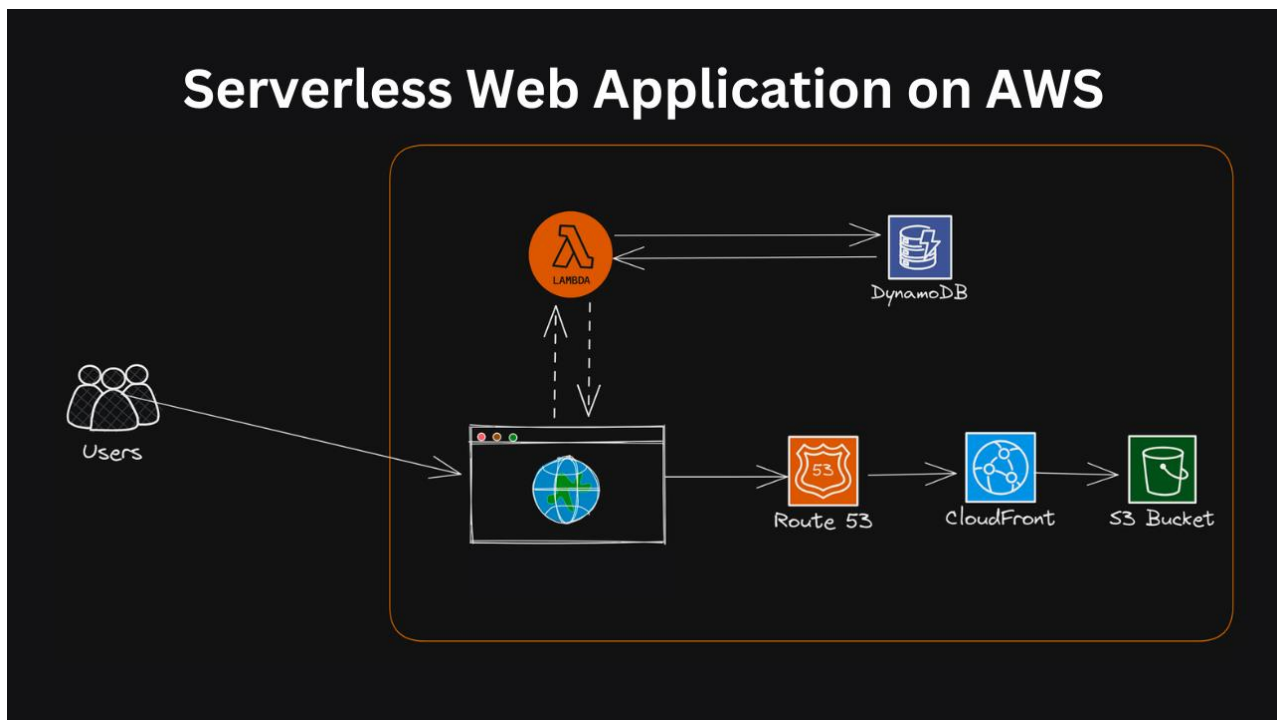
SERVERLESS WEB APPLICATION USING ON AWS

Project Name: Serverless Web Application on AWS

Project Description:

In this project, I will build a serverless web application using AWS Lambda, DynamoDB, S3, CloudFront and Route 53. The application will allow users to create, read, update, and delete (CRUD) items from a DynamoDB table.

Project Architecture:



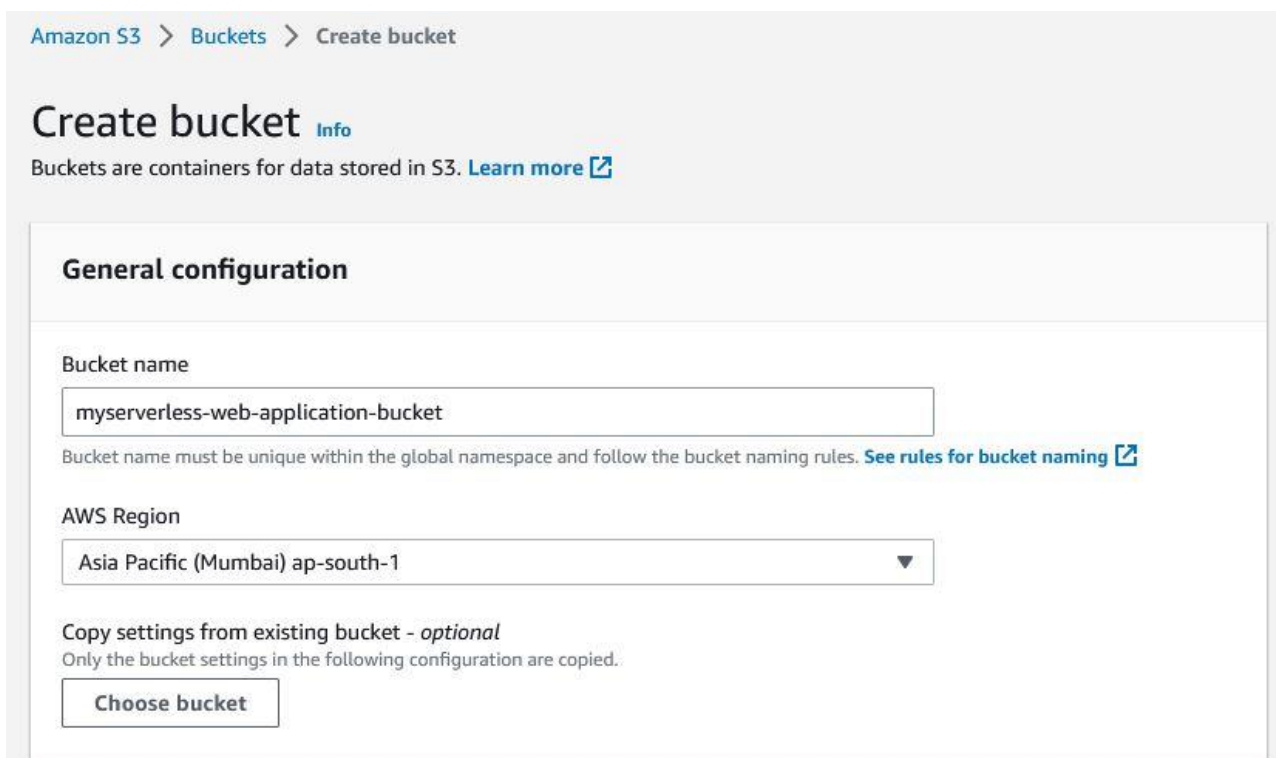
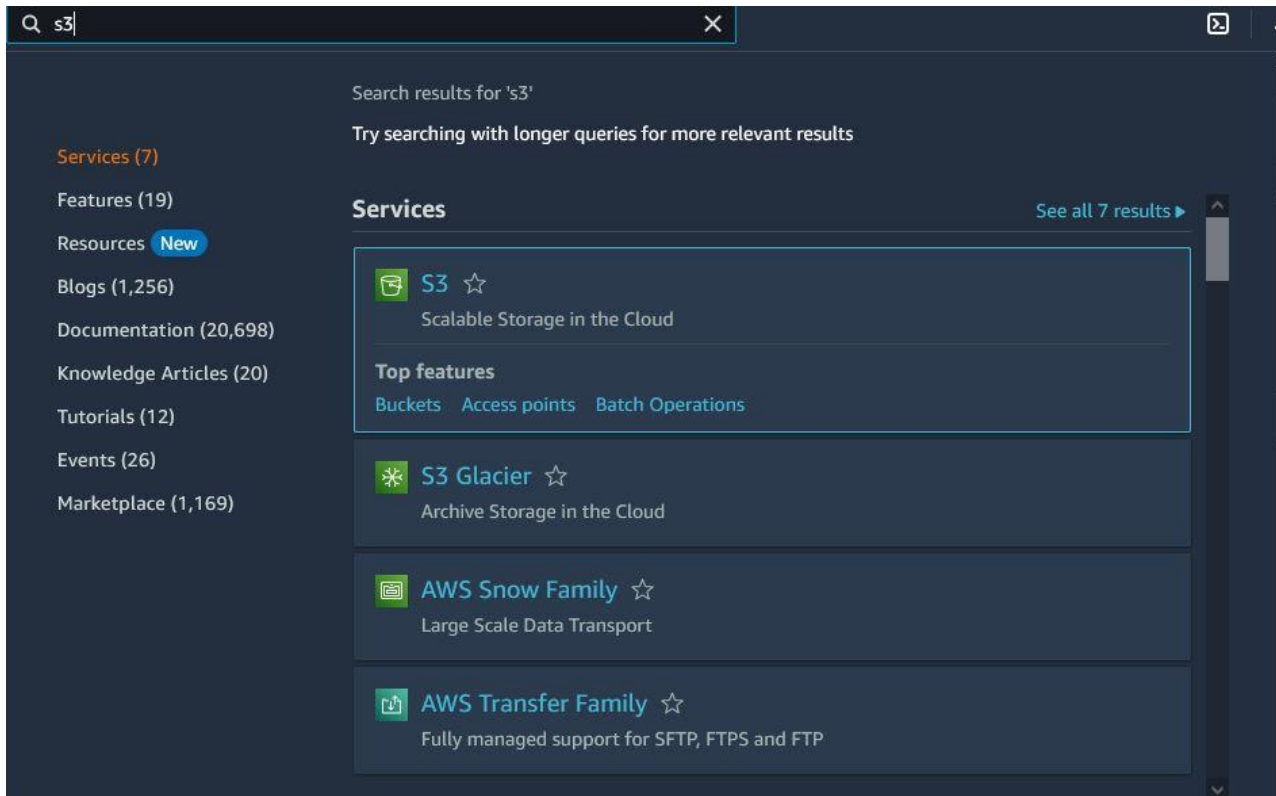
Steps to build the project:

- 1) Create a S3 bucket and to store the static web host application files (HTML, CSS, JAVA SCRIPTS)
- 2) Create a CloudFront distribution to serve the S3-hosted static files with low latency.
- 3) Create a Hosted zone using route 53 and attach the name server with domain.
- 4) Create a DynamoDB table to store the items
- 5) Create an AWS Lambda function to handle the CRUD operation on the DynamoDB table.
- 6) Test the project.

Detailed explain the steps:

Step 1: Create a S3 bucket and to store the static web host application files (HTML, CSS, JAVA SCRIPTS)

Go to S3 bucket → create bucket → to enter general configuration with give permission all public access → create bucket → select the object in bucket → upload → add files → give grants all public access → upload the files.



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.

☐ **ACLs disabled (recommended)**

All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

☒ **ACLs enabled**

Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

 We recommend disabling ACLs, unless you need to control access for each object individually or to have the object writer own the data they upload. Using a bucket policy instead of ACLs to share data with users outside of your account simplifies permissions management and auditing.



Object Ownership

☒ **Bucket owner preferred**

If new objects written to this bucket specify the bucket-owner-full-control canned ACL, they are owned by the bucket owner. Otherwise, they are owned by the object writer.

☐ **Object writer**

The object writer remains the object owner.

 If you want to enforce object ownership for new objects only, your bucket policy must specify that the bucket-owner-full-control canned ACL is required for object uploads. [Learn more](#) 

☐ **Block *all* public access**

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

☐ **Block public access to buckets and objects granted through *new* access control lists (ACLs)**

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

☐ **Block public access to buckets and objects granted through *any* access control lists (ACLs)**


S3 will ignore all ACLs that grant public access to buckets and objects.

☐ **Block public access to buckets and objects granted through *new* public bucket or access point policies**

S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

☐ **Block public and cross-account access to buckets and objects through *any* public bucket or access point policies**

S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

 **Turning off block all public access might result in this bucket and the objects within becoming public**
AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.

☒ I acknowledge that the current settings might result in this bucket and the objects within becoming public.

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Bucket Versioning

- ☒ Disable
- ☐ Enable

Tags (0) - optional

You can use bucket tags to track storage costs and organize buckets. [Learn more](#)

No tags associated with this bucket.

Add tag

Default encryption [Info](#)

Server-side encryption is automatically applied to new objects stored in this bucket.

Encryption type [Info](#)

- ☒ Server-side encryption with Amazon S3 managed keys (SSE-S3)
- ☐ Server-side encryption with AWS Key Management Service keys (SSE-KMS)
- ☐ Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)
Secure your objects with two separate layers of encryption. For details on pricing, see [DSSE-KMS pricing](#) on the [Management & insights](#) tab of the [Amazon S3 pricing page](#).

Bucket Key

Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. [Learn more](#)

- ☐ Disable
- ☒ Enable

▼ Advanced settings

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

- ☒ Disable
- ☐ Enable

Permanently allows objects in this bucket to be locked. Additional Object Lock configuration is

✔ Successfully created bucket "myserverless-web-application-bucket"

View details

✕

To upload files and folders, or to configure additional bucket settings choose [View details](#).

Amazon S3 > Buckets

▶ Account snapshot

View Storage Lens dashboard

Storage lens provides visibility into storage usage and activity trends. [Learn more](#)

Buckets (1) [Info](#)

↻

Copy content

Empty

Delete

Create bucket

Buckets are containers for data stored in S3. [Learn more](#)

Find buckets by name

< 1 > ⚙

	Name ▲	AWS Region ▼	Access ▼	Creation date ▼
○	myserverless-web-application-bucket	Asia Pacific (Mumbai) ap-south-1	Objects can be public	June 25, 2023, 08:09:10 (UTC+05:30)

Amazon S3 > Buckets > myserverless-web-application-bucket

myserverless-web-application-bucket [Info](#)

[Objects](#) | [Properties](#) | [Permissions](#) | [Metrics](#) | [Management](#) | [Access Points](#)

Objects (0)

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](#)

↻

Copy S3 URI

Copy URL

Download

Open

Delete

Actions ▼

Create folder

Upload

Find objects by prefix

< 1 > ⚙

	Name ▲	Type ▼	Last modified ▼	Size ▼	Storage class ▼
--	--------	--------	-----------------	--------	-----------------

No objects

You don't have any objects in this bucket.

Upload

Upload [Info](#)

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose **Add files** or **Add folder**.

Files and folders (3 Total, 2.3 KB)

[Remove](#)[Add files](#)[Add folder](#)

All files and folders in this table will be uploaded.

< 1 >

<input type="checkbox"/>	Name ▲	Folder ▼	Type ▼	Size ▼
<input type="checkbox"/>	index.html	-	text/html	860.0 B
<input type="checkbox"/>	script.js	-	application/x-javascript	1.3 KB
<input type="checkbox"/>	style.css	-	text/css	228.0 B

▼ Permissions

Grant public access and access to other AWS accounts.

Access control list (ACL)

Grant basic read/write permissions to other AWS accounts. [Learn more](#)

 AWS recommends using S3 bucket policies or IAM policies for access control. [Learn more](#)

Access control list (ACL)

- ☒ Choose from predefined ACLs
- ☐ Specify individual ACL permissions

Predefined ACLs

- ☐ Private (recommended)
Only the object owner will have read and write access.
- ☒ Grant public-read access
Anyone in the world will be able to access the specified objects. The object owner will have read and write access. [Learn more](#)



Granting public-read access is not recommended

Anyone in the world will be able to access the specified objects. [Learn more](#)

☒ I understand the risk of granting public-read access to the specified objects.

Upload succeeded
View details below.

Upload: status

Close

The information below will no longer be available after you navigate away from this page.

Summary

Destination s3://myserverless-web-application-bucket	Succeeded 3 files, 2.3 KB (100.00%)	Failed 0 files, 0 B (0%)
---	--	-----------------------------

Step 2: Create a CloudFront distribution to serve the S3-hosted static files with low latency.

Go to CloudFront → distribution → create distribution → to enter the specific details → create the distribution

Search results for 'cloudfront'

Try searching with longer queries for more relevant results

Services (1)

Resources New

Blogs (265)

Documentation (6,622)

Knowledge Articles (20)

Tutorials (1)

Events (2)

Services

CloudFront ☆
Global Content Delivery Network

Resources

/ for a focused search

Networking & Content Delivery

Amazon CloudFront

Securely deliver content with low latency and high transfer speeds

Amazon CloudFront is a fast content delivery network (CDN) service that securely delivers data, videos, applications, and APIs to customers globally with low latency and high transfer speeds.

Get started with CloudFront

Enable accelerated, reliable and secure content delivery for Amazon S3 buckets, Application Load Balancers, Amazon API Gateway APIs, and more in 5 minutes or less.

[Create a CloudFront distribution](#)

Create distribution

Origin

Origin domain

Choose an AWS origin, or enter your origin's domain name.

Q myserverless-web-application-bucket.s3.ap-south-1.amazonaws.com X

Origin path - optional [Info](#)

Enter a URL path to append to the origin domain name for origin requests.

Enter the origin path

Name

Enter a name for this origin.

myserverless-web-application-bucket.s3.ap-south-1.amazonaws.com

Origin access [Info](#)

☒ Public

Bucket must allow public access.

Origin access [Info](#)

☒ Public

Bucket must allow public access.

☐ Origin access control settings (recommended)

Bucket can restrict access to only CloudFront.

☐ Legacy access identities

Use a CloudFront origin access identity (OAI) to access the S3 bucket.

Add custom header - optional

CloudFront includes this header in all requests that it sends to your origin.

Add header

Enable Origin Shield [Info](#)

Origin Shield is an additional caching layer that can help reduce the load on your origin and help protect its availability.

☒ No

☐ Yes

Default cache behavior

Path pattern [Info](#)

Default (*)

Compress objects automatically [Info](#)

- ☐ No
☒ Yes

Viewer

Viewer protocol policy

- ☒ HTTP and HTTPS
☐ Redirect HTTP to HTTPS
☐ HTTPS only

Allowed HTTP methods

- ☒ GET, HEAD
☐ GET, HEAD, OPTIONS
☐ GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE

Restrict viewer access

If you restrict viewer access, viewers must use CloudFront signed URLs or signed cookies to access your content.

- ☒ No
☐ Yes

Cache key and origin requests

We recommend using a cache policy and origin request policy to control the cache key and origin requests.

- ☒ Cache policy and origin request policy (recommended)
☐ Legacy cache settings

Cache policy

Choose an existing cache policy or create a new one.

CachingOptimized

Recommended for S3

Policy with caching enabled. Supports Gzip and Brotli compression.

[Create cache policy](#) [View policy](#)

Origin request policy - optional

Choose an existing origin request policy or create a new one.

Select origin policy

[Create origin request policy](#)

Supported HTTP versions

Add support for additional HTTP versions. HTTP/1.0 and HTTP/1.1 are supported by default.

☒ HTTP/2

☐ HTTP/3

Default root object - optional

The object (file name) to return when a viewer requests the root URL (/) instead of a specific object.

index.html

Standard logging

Get logs of viewer requests delivered to an Amazon S3 bucket.

☒ Off

☐ On

IPv6

☐ Off

☒ On

CloudFront > Distributions

Distributions (1) [Info](#) [Refresh](#) [Enable](#) [Disable](#) [Delete](#) [Create distribution](#)

< 1 > [Settings](#)

<input type="checkbox"/>	ID	Descrip...	Type	Domai...	Alterna...	Origins	Status	Last modified
<input type="checkbox"/>	E1T53FAPW0NFYH		Production	dzy8jdlzh...		myserverless-w	Enabled	June 25, 2023 at 3:04:01 AM UTC

Step 3: Create a Hosted zone using route 53 and attach the name server with domain.

Go to Route 53 → select hosted zone → give domain name → created hosted zone and name server, then the name server attached to the domain.

route53

Search results for 'route'

Try searching with longer queries for more relevant results

Services (4)

Features (32)

Resources **New**

Blogs (254)

Documentation (18,318)

Knowledge Articles (20)

Tutorials (2)

Events (1)

Marketplace (740)

Services

- Route 53** ☆ Scalable DNS and Domain Name Registration
- Route 53 Resolver** Resolve DNS queries in your Amazon VPC and on-premises network.
- Route 53 Application Recovery Controller** ☆ Monitor application recovery readiness and manage failovers
- Amazon Location Service** ☆ Securely and easily add location data to applications.

Features

[See all 32 results ▶](#)

Hosted zone configuration

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

Domain name [Info](#)

This is the name of the domain that you want to route traffic for.

Valid characters: a-z, 0-9, ! " # \$ % & ' () * + , - / : ; < = > ? @ [\] ^ _ ` { | } . ~

Description - optional [Info](#)

This value lets you distinguish hosted zones that have the same name.

The description can have up to 256 characters. 0/256

Type [Info](#)

The type indicates whether you want to route traffic on the internet or in an Amazon VPC.

☒ **Public hosted zone**

A public hosted zone determines how traffic is routed on the internet.

☐ **Private hosted zone**

A private hosted zone determines how traffic is routed within an Amazon VPC.

✔ **gokultech.online was successfully created.**

Now you can create records in the hosted zone to specify how you want Route 53 to route traffic for your domain.

Route 53 > Hosted zones > gokultech.online

Public gokultech.online [Info](#)

Delete zone

Test record

Configure query logging

► **Hosted zone details**

Edit hosted zone

Records (2)

DNSSEC signing

Hosted zone tags (0)

✔ **gokultech.online was successfully created.**

Now you can create records in the hosted zone to specify how you want Route 53 to route traffic for your domain.

Records (2)

DNSSEC signing

Hosted zone tags (0)

Records (2) [Info](#)

Automatic mode is the current search behavior optimized for best filter results. [To change modes go to settings.](#)



Delete record

Import zone file

Create record

🔍 Filter records by property or value

Type ▼

Routing pol... ▼

Alias ▼

< 1 >



<input type="checkbox"/>	Record ... ▼	Type ▼	Routin... ▼	Differ... ▼	Alias ▼	Value/Route traffic to ▼	TTL (s)
<input type="checkbox"/>	gokultech...	NS	Simple	-	No	ns-528.awsdns-02.net. ns-1310.awsdns-35.org. ns-1735.awsdns-24.co.uk. ns-452.awsdns-56.com.	172800
<input type="checkbox"/>	gokultech...	SOA	Simple	-	No	ns-528.awsdns-02.net. awsd...	900

gokultech.online

Domain Overview

DNS / Nameservers

Domain Ownership

Give feedback

Select Nameservers

☐ Use Hostinger nameservers (recommended)
 ☒ Change nameservers

ns-528.awsdns-02.net

ns-1310.awsdns-35.org

ns-1735.awsdns-24.co.uk

ns-452.awsdns-56.com

Save

Cancel

Step 4: Once created hosted zone then go to CloudFront → edit the distribution → to enter the alternate domain name → click request certificate → redirect to AWS certified manager → certificate → request certificate → to fill the details → create certificate.

Price class [Info](#)

Choose the price class associated with the maximum price that you want to pay.

☒ Use all edge locations (best performance)
 ☐ Use only North America and Europe
 ☐ Use North America, Europe, Asia, Middle East, and Africa

Alternate domain name (CNAME) - optional

Add the custom domain names that you use in URLs for the files served by this distribution.

registration.gokultech.online

Remove

Add item

AWS Certificate Manager (ACM)

List certificates

Request certificate

Import certificate

AWS Private CA

AWS Certificate Manager

Certificates

Request certificate

Request certificate

Certificate type [Info](#)

ACM certificates can be used to establish secure communications access across the internet or within an internal network. Choose the type of certificate for ACM to provide.

☒ Request a public certificate

Request a public SSL/TLS certificate from Amazon. By default, public certificates are trusted by browsers and operating systems.

☐ Request a private certificate

No private CAs available for issuance.

Requesting a private certificate requires the creation of a private certificate authority (CA). To create a private CA, visit [AWS Private Certificate Authority](#)

Cancel

Next

AWS Certificate Manager (ACM)

List certificates

Request certificate

Import certificate

AWS Private CA

AWS Certificate Manager > Certificates > Request certificate > Request public certificate

Request public certificate

Domain names

Provide one or more domain names for your certificate.

Fully qualified domain name

*.gokultech.online

Add another name to this certificate

You can add additional names to this certificate. For example, if you're requesting a certificate for "www.example.com", you might want to add the name "example.com" so that customers can reach your site by either name.

AWS Certificate Manager (ACM)

List certificates

Request certificate

Import certificate

AWS Private CA

Successfully requested certificate with ID 0c7fd244-d356-487f-9b27-c372006c25da

View certificate

A certificate request with a status of pending validation has been created. Further action is needed to complete the validation and approval of the certificate.

AWS Certificate Manager > Certificates

Certificates (1)

Refresh

Delete

Manage expiry events

Import

Request

< 1 >

Settings

<input type="checkbox"/>	Certificate ID	Domain name	Type	Status	In use	Renewal eligibility	Key algorithm
<input type="checkbox"/>	0c7fd244-d356-487f-9b27-c372006c25da	*.gokultech.online	Amazon Issued	Pending validation	No	Ineligible	RSA 2048

Step 5: certificate is created then status is pending, click certificate id → create DNS record in amazon route 53 → create record → wait more than 10 minutes → status is issued

Successfully requested certificate with ID 0c7fd244-d356-487f-9b27-c372006c25da

View certificate

A certificate request with a status of pending validation has been created. Further action is needed to complete the validation and approval of the certificate.

AWS Certificate Manager > Certificates > Create DNS records in Amazon Route 53

Create DNS records in Amazon Route 53 (1/1)

Search domains

1 match

< 1 >

Validation status: Pending validation

Validation status: Failed

Is domain in Route 53?: Yes

Clear filter

<input checked="" type="checkbox"/>	Domain	Validation status	Type	CNAME name	CNAME value	Is domain in Route 53?
<input checked="" type="checkbox"/>	*.gokultech.online	Pending validation	CNAME	_40bdabd6f947cda2f5ca8cc5e95cf1cf.gokultech.online.	_e0abf710a3ff78e0a59664796ec9f4da.jgjpgkdqrt.acm-validations.aws.	Yes

Cancel

Create records

Records (3) DNSSEC signing Hosted zone tags (0)

Records (3) Info
Automatic mode is the current search behavior optimized for best filter results. [To change modes go to settings.](#)

[Refresh](#) [Delete record](#) [Import zone file](#) [Create record](#)

[Type](#) [Routing pol...](#) [Alias](#) [1](#) [Settings](#)

<input type="checkbox"/>	Record ...	Type	Routin...	Differ...	Alias	Value/Route traffic to	TTL (s)
<input type="checkbox"/>	gokultech...	NS	Simple	-	No	ns-528.awsdns-02.net. ns-1310.awsdns-35.org. ns-1735.awsdns-24.co.uk. ns-452.awsdns-56.com.	172800
<input type="checkbox"/>	gokultech...	SOA	Simple	-	No	ns-528.awsdns-02.net. awsd...	900
<input type="checkbox"/>	_40bdabd...	CNAME	Simple	-	No	_e0abf710a3ff78e0a596647...	300

Successfully requested certificate with ID 0c7fd244-d356-487f-9b27-c372006c25da
A certificate request with a status of pending validation has been created. Further action is needed to complete the validation and approval of the certificate. [View certificate](#) [Close](#)

AWS Certificate Manager > Certificates

Certificates (1) [Refresh](#) [Delete](#) [Manage expiry events](#) [Import](#) [Request](#)

[1](#) [Settings](#)

<input type="checkbox"/>	Certificate ID	Domain name	Type	Status	In use	Renewal eligibility	Key algorithm
<input type="checkbox"/>	0c7fd244-d356-487f-9b27-c372006c25da	*.gokultech.online	Amazon Issued	Issued	No	Ineligible	RSA 2048

Step 6: Go to Cloud front → edit the distribution → enter the custom SSL certificate → save the changes. Then go to route 53 → create record → alias on → route traffic to cloudFront distribution → policy is simple routing → create record

Alternate domain name (CNAME) - optional

Add the custom domain names that you use in URLs for the files served by this distribution.

RemoveAdd item

i To add a list of alternative domain names, use the [bulk editor](#).

Custom SSL certificate - optional

Associate a certificate from AWS Certificate Manager. The certificate must be in the US East (N. Virginia) Region (us-east-1).



*.gokultech.online [Request certificate](#)

Legacy clients support - \$600/month prorated charge applies. Most customers do not need this.

CloudFront allocates dedicated IP addresses at each CloudFront edge location to serve your content over HTTPS.

☐ Enabled

Security policy

The security policy determines the SSL or TLS protocol and the specific ciphers that CloudFront uses for HTTPS connections with viewers (clients).

☒ TLSv1.2_2021 (recommended)

☐ TLSv1.2_2019

CloudFront > Distributions

Distributions (1) [Info](#)

EnableDisableDeleteCreate distribution...

< 1 >

<input type="checkbox"/>	ID	Description	Type	Domain na...	Alternate ...	Origins	Status	Last modif...
<input type="checkbox"/>	E1T53FAPWONFYH	-	Production	dzy8jdlzhgira...	registration.gokulte	myserverless-web-z	Enabled	June 25, 202...

Quick create record

[Switch to wizard](#)

Record 1

Delete

Record name [Info](#)

.gokultech.online

Record type [Info](#)

A - Routes traffic to an IPv4 address and some AWS resources

Keep blank to create a record for the root domain.

☒ Alias

Route traffic to [Info](#)

Alias to CloudFront distribution

US East (N. Virginia)

An alias to a CloudFront distribution and another record in the same hosted zone are global and available only in US East (N. Virginia).



Use: "dzy8jdlzhgira.cloudfront.net"

registration.gokultech.online (dzy8jdlzhgira.cloudfront.net)

Step 7: Once created record to check the browser with domain name

← → ↻ greetings.gokultech.online

Greeting App

Views: 5

Name:

gokul

Submit

Hello, gokul!

Step 8: Create a IAM role policy in DynamoDB full access

Go to IAM → select role → use case lambda → give policy permission → create role.

Q iam

Search results for 'iam'

Try searching with longer queries for more relevant results

Services (9)

- Features (19)
- Blogs (1,573)
- Documentation (46,775)
- Knowledge Articles (20)
- Tutorials (2)
- Events (12)
- Marketplace (500)

Services [See all 9 results](#)

- IAM** ☆
Manage access to AWS resources
Top features
[Groups](#) [Users](#) [Roles](#) [Policies](#) [Access Analyzer](#)
- IAM Identity Center (successor to AWS Single Sign-On)** ☆
Manage workforce user access to multiple AWS accounts and cloud applications
- Resource Access Manager** ☆
Share AWS resources with other accounts or AWS Organizations
- Serverless Application Repository** ☆
Assemble, deploy, and share serverless applications within teams or publicly

Select trusted entity Info

Trusted entity type

☒ **AWS service**
Allow AWS services like EC2, Lambda, or others to perform actions in this account.

☐ **AWS account**
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.

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

☐ **SAML 2.0 federation**
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.

Common use cases

- ☐ **EC2**
Allows EC2 instances to call AWS services on your behalf.
- ☒ **Lambda**
Allows Lambda functions to call AWS services on your behalf.

Use cases for other AWS services:

Choose a service to view use case

Permissions policies (Selected 1/859) Info

Choose one or more policies to attach to your new role.

Create policy

4 matches < 1 >

"dynamodb"

Clear filters

	Policy name	Type	Description
<input checked="" type="checkbox"/>	AmazonDynamoDB...	AWS m...	Provides full access to Amazon DynamoDB via the AWS Management Co...
<input type="checkbox"/>	AmazonDynamoDB...	AWS m...	Provides read only access to Amazon DynamoDB via the AWS Managem...
<input type="checkbox"/>	AWSLambdaInvocat...	AWS m...	Provides read access to DynamoDB Streams.
<input type="checkbox"/>	AWSLambdaDynam...	AWS m...	Provides list and read access to DynamoDB streams and write permisso...

Name, review, and create

Role details

Role name

Enter a meaningful name to identify this role.

serverless-webapplication-role

Maximum 64 characters. Use alphanumeric and '+=, @, _' characters.

Description

Add a short explanation for this role.

Allows Lambda functions to call AWS services on your behalf.

Maximum 1000 characters. Use alphanumeric and '+=, @, _' characters.

[IAM](#) > [Roles](#) > serverless-webapplication-role

serverless-webapplication-role

Delete

Allows Lambda functions to call AWS services on your behalf.

Summary

Edit

Creation date

June 25, 2023, 09:33 (UTC+05:30)

Last activity

None

ARN

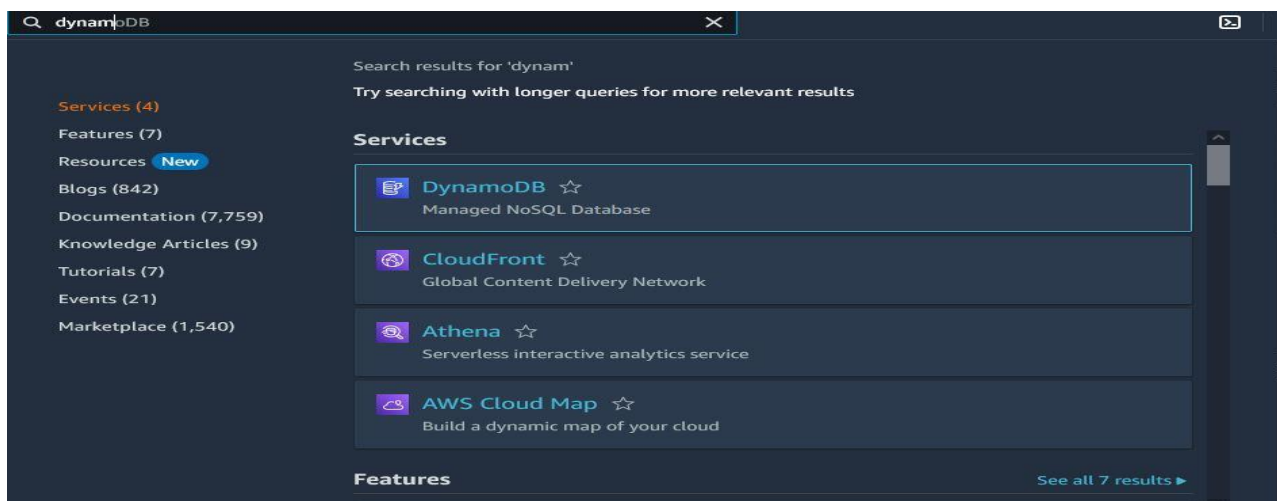
arn:aws:iam::207146887812:role/serverless-webapplication-role

Maximum session duration

1 hour

Step 9: Create a DynamoDB table to store the items

Go to DynamoDB → create table → explore the items → create items



DynamoDB

Dashboard

Tables

Update settings

Explore items

PartiQL editor

Backups

Exports to S3

Imports from S3

Reserved capacity

Settings

▼ DAX

Clusters

Share your feedback on Amazon DynamoDB

Your feedback is an important part of helping us provide a better customer experience. Take this short survey to let us know how we're doing.

Share feedback

Database

Amazon DynamoDB

A fast and flexible NoSQL database service for any scale

DynamoDB is a fully managed, key-value, and document database that delivers single-digit-millisecond performance at any scale.

Get started

Create a new table to start exploring DynamoDB.

Create table

Share your feedback on Amazon DynamoDB

Your feedback is an important part of helping us provide a better customer experience. Take this short survey to let us know how

DynamoDB > Tables > Create table

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.

registration-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.

email

String

1 to 255 characters and case sensitive.

You can add, remove, or edit the attributes of an item. You can nest attributes inside other attributes up to 32 levels deep. [Learn more](#)

Form

JSON view

Attributes

Add new attribute ▼

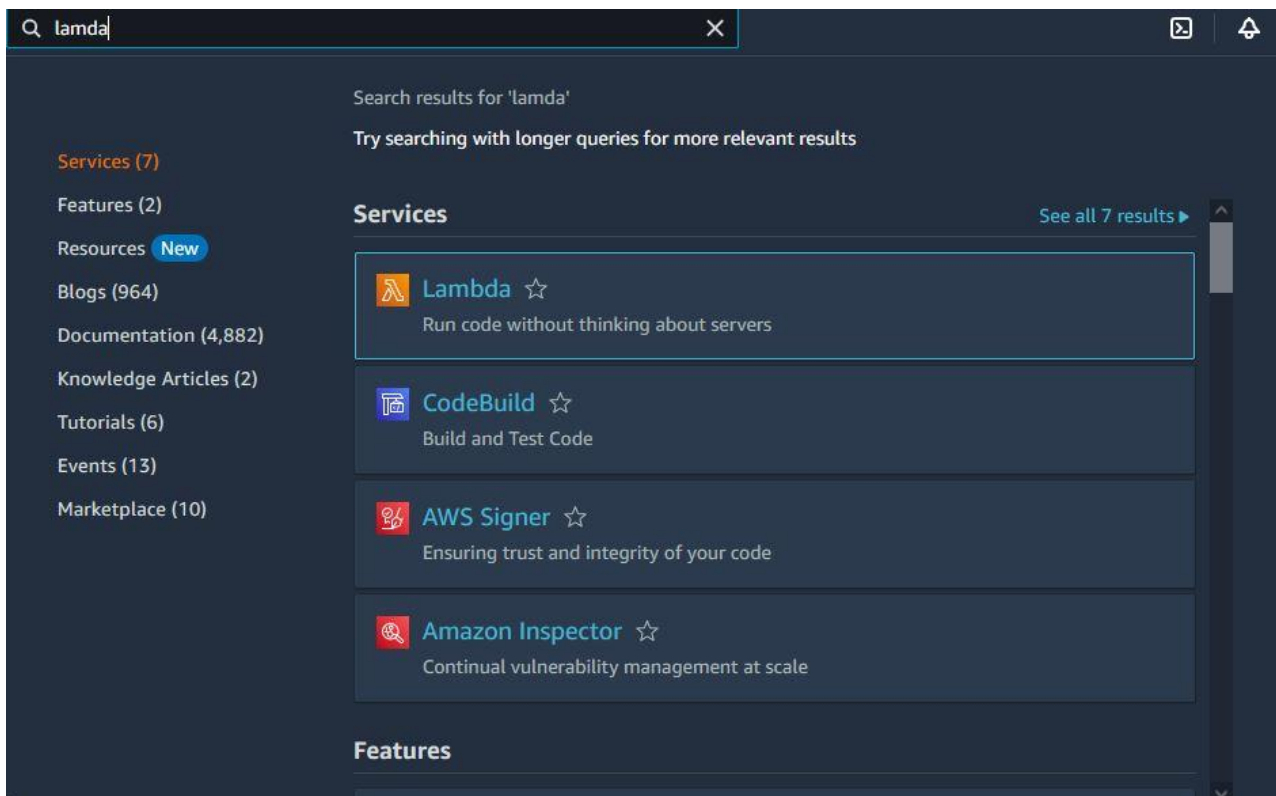
Attribute name	Value	Type	
email - Partition key	1	String	
name	Empty value	String	Remove
phone	Empty value	String	Remove
password	Empty value	String	Remove

Cancel

Create item

Step 10: Create an AWS Lambda function to handle the CRUD operation on the DynamoDB table.

Go to Lambda → select function → to fill basic configuration → attach the role → create function → to feed the python file → deploy



Create function [Info](#)

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

☒ **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 function.

Basic information

Function name

Enter a name that describes the purpose of your function.

myregistration-form-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.

Python 3.9



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

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

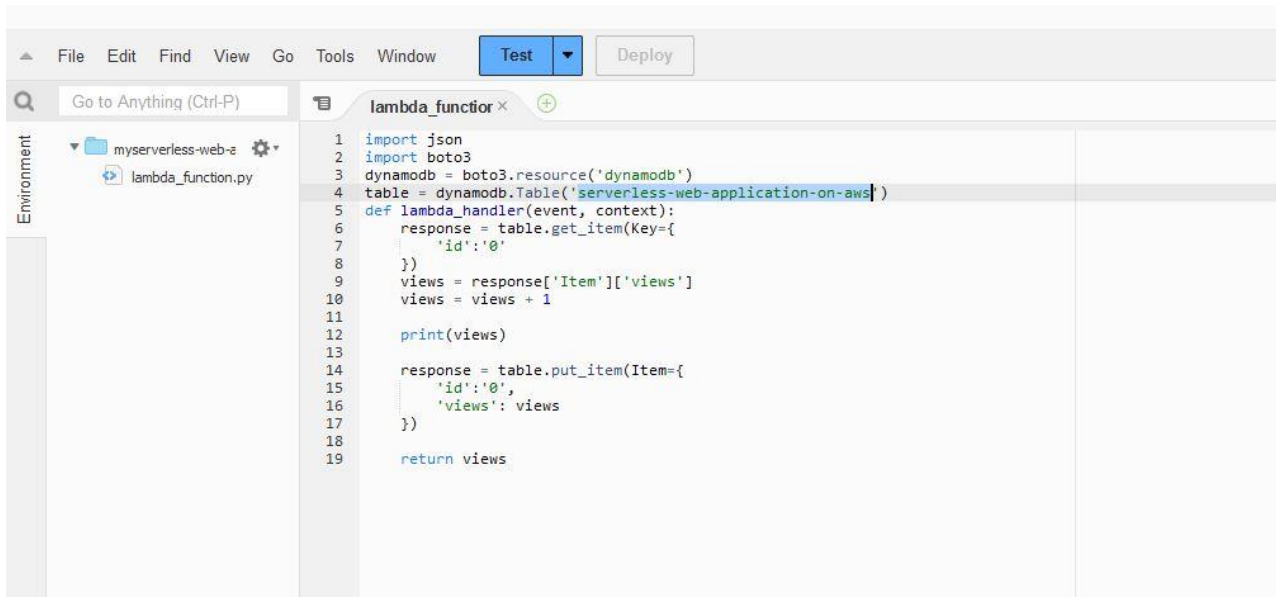
Existing role

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.

serverless-webapplication-role



[View the serverless-webapplication-role role](#) on the IAM console.



The screenshot shows an IDE window with a menu bar (File, Edit, Find, View, Go, Tools, Window) and buttons for 'Test' and 'Deploy'. The left sidebar shows a file explorer with 'myserverless-web-a' and 'lambda_function.py'. The main editor displays the following Python code:

```
1 import json
2 import boto3
3 dynamodb = boto3.resource('dynamodb')
4 table = dynamodb.Table('serverless-web-application-on-aws')
5 def lambda_handler(event, context):
6     response = table.get_item(Key={
7         'id': '0'
8     })
9     views = response['Item']['views']
10    views = views + 1
11
12    print(views)
13
14    response = table.put_item(Item={
15        'id': '0',
16        'views': views
17    })
18
19    return views
```

Step 11: Test the application

To check the browser with domain name



The screenshot shows a web browser at the URL `greetings.gokultech.online`. The page title is "Greeting App" and it shows "Views: 5". Below the title is a form with a label "Name:" and an input field containing the text "gokul". A "Submit" button is located at the bottom right of the form. Below the form, the text "Hello, gokul!" is displayed.

Then refresh views count will be increased



The screenshot shows the same web browser at the URL `greetings.gokultech.online`. The page title is "Greeting App" and it now shows "Views: 6". The form below the title still has the input field containing "gokul" and the "Submit" button. The text "Hello, gokul!" is not visible in this screenshot.

← → ↻ greetings.gokultech.online

Greeting App

Views: 10

Name:

gokul

Submit

Hello, gokul!

Data will be stored in DynamoDB table

serverless-web-application-on-aws

Select a table or index
Table - serverless-web-application-o... ▼

Select attribute projection
All attributes ▼

► Filters

Run Reset

✔ Completed. Read capacity units consumed: 0.5 ✕

Items returned (1) ↺ Actions ▼ Create item

< 1 > ⚙️ 🔍

<input type="checkbox"/>	id ▼	views ▼
<input type="checkbox"/>	0	10