

AWS CICD Pipeline for Static website

- By Deepika Kanwar

Objectives:

- Create a repository using AWS code commit.
- Create a s3 bucket and allow static website hosting.
- Automate our updates using a code pipeline.

Prerequisites

~ AWS account

~ .html file

1. Creating a repository

Navigate to code commit and select create repository. Add a name for your repository.

The screenshot shows the AWS CodeCommit 'Create repository' page. The breadcrumb trail is 'Developer Tools > CodeCommit > Repositories > Create repository'. The main heading is 'Create repository'. Below it, a description states: 'Create a secure repository to store and share your code. Begin by typing a repository name and a description for your repository. Repository names are included in the URLs for that repository.'

The 'Repository settings' section contains the following fields:

- Repository name:** A text input field containing 'staticwebsite-cicd'. Below it, a note says '100 characters maximum. Other limits apply.'
- Description - optional:** A text area containing 'CICD pipeline for Static website'. Below it, a note says '1,000 characters maximum'.
- Tags:** A section for adding tags. It includes a 'Key' field with 'Name' and a 'Value - optional' field with 'cicd'. There is an 'Add tag' button, a 'Remove tag' button, and a 'Cancel' button at the bottom right.

Scroll down a little and select the add file. Then upload the file.

Developer Tools
CodeCommit
Source • CodeCommit
Getting started
Repositories
Code
Pull requests
Commits
Branches
Git tags
Settings
Approval rule templates
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
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Settings
Go to resource
Feedback

Developer Tools > CodeCommit > Repositories > staticwebsite-cicd
staticwebsite-cicd
Clone URL

Connection steps

HTTPS
SSH
HTTPS (GRC)

You are signed in using a root account. You cannot configure SSH connections for a root account, and HTTPS connections for a root account are not recommended. Consider signing in as an IAM user and then setting up your connection.

Step 1: Prerequisites
You must use a Git client that supports Git version 1.7.9 or later to connect to an AWS CodeCommit repository. If you do not have a Git client, you can install one from [Git downloads page](#).
You must have an AWS CodeCommit managed policy attached to your IAM user, belong to a CodeStar project team, or have the equivalent permissions. [Learn how to create and configure an IAM user for accessing AWS CodeCommit](#) | [Learn how to add team members to an AWS CodeStar Project](#).

Step 2: Set up the AWS CLI Credential Helper
Set up your connection to AWS CodeCommit repositories using the credential helper included in the AWS CLI. This is the only connection method for AWS CodeCommit repositories that does not require an IAM user, so it is the only method that supports root access, federated access, and temporary credentials. [Learn more](#).

Additional details
You can find more detailed instructions in the documentation. [View documentation](#).

staticwebsite-cicd
Add file
Create file
Upload file

Name

Empty repository
Your repository is currently empty. You can add files to it directly from the console or by cloning the repository to your local computer, creating commits, and pushing content to the remote repository in AWS CodeCommit.

Create file

select choose file and upload your html file. Use your name for the author and enter your email and commit the changes.

Here is my code for my html file that i just uploaded.

Developer Tools > CodeCommit > Repositories > staticwebsite-cicd > File

Create a file

staticwebsite-cicd
Info

```

1 <!DOCTYPE html>
2
3 <html>
4
5 <head>
6   <title>
7     First Web Page using AWS CICD pipeline
8   </title>
9 </head>
10
11 <body>
12   <h1>Hello World!</h1>
13   <h2>CreatedBy Deepika</h2>
14 </body>
15
16 </html>
17

```

Commit changes to main

File name
For example, file.txt

webpage
staticwebsite-cicd/webpage

Author name
deepika.kanwar

Email address
deepikaamazon91@gmail.com

Commit message - optional
A default commit message will be used if you do not provide one.

my first website

Cancel
Commit changes

2. Hosting the site

Let's navigate to s3, so we can create a bucket to host our website. Select create bucket and add a bucket name. Don't forget to select the region closest to you, and the name must be unique.

[Amazon S3](#) > [Buckets](#) > Create bucket

Create bucket [Info](#)

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

General configuration

Bucket name

Bucket name must be unique within the global namespace and follow the bucket naming rules. [See rules for bucket naming](#)

AWS Region

Copy settings from existing bucket - *optional*
Only the bucket settings in the following configuration are copied.

[Choose bucket](#)

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.

Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [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.

Next, we will enable ACLs and uncheck block public access. We want to have public access. Then select create.

Let's select the bucket name and upload file. Next select add files and click the file you uploaded to your repository. Upload.

[Amazon S3](#) > [Buckets](#) > [cicd-website](#) > **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 (1 Total, 197.0 B)

[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"/>	cicdwebpage.html	-	text/html	197.0 B

Destination

Destination
[s3://cicd-website](#)

3. Code pipeline

Navigate to the code pipeline and select create. Enter name and keep new service role selected. Then select next.

Developer Tools > CodePipeline > Pipelines > Create new pipeline

Step 1
Choose pipeline settings

Step 2
Add source stage

Step 3
Add build stage

Step 4
Add deploy stage

Step 5
Review

Choose pipeline settings Info

Pipeline settings

Pipeline name
Enter the pipeline name. You cannot edit the pipeline name after it is created.

cicd_staticwebsite

No more than 100 characters

Service role

☒ **New service role**
Create a service role in your account

☐ **Existing service role**
Choose an existing service role from your account

Role name

AWSCodePipelineServiceRole-ap-south-1-cicd_staticwebsite

Type your service role name

☒ Allow AWS CodePipeline to create a service role so it can be used with this new pipeline

► **Advanced settings**

Cancel **Next**

Source provider is AWS code commit. Select your repository name and then select main branch. Click next then skip Build stage.

[Developer Tools](#) > [CodePipeline](#) > [Pipelines](#) > Create new pipeline

Step 1

Choose pipeline settings

Step 2

Add source stage

Step 3

Add build stage

Step 4

Add deploy stage

Step 5

Review

Add source stage [Info](#)

Source

Source provider
This is where you stored your input artifacts for your pipeline. Choose the provider and then provide the connection details.

AWS CodeCommit

Repository name
Choose a repository that you have already created where you have pushed your source code.

staticwebsite-cicd

Branch name
Choose a branch of the repository

main

Change detection options
Choose a detection mode to automatically start your pipeline when a change occurs in the source code.

☐ **Amazon CloudWatch Events (recommended)**
Use Amazon CloudWatch Events to automatically start my pipeline when a change occurs

☒ **AWS CodePipeline**
Use AWS CodePipeline to check periodically for changes

Output artifact format
Choose the output artifact format.

☒ **CodePipeline default**
AWS CodePipeline uses the default zip format for artifacts in the pipeline. Does not include Git metadata about the repository.

☐ **Full clone**
AWS CodePipeline passes metadata about the repository that allows subsequent actions to do a full Git clone. Only supported for AWS CodeBuild actions.

[Cancel](#) [Previous](#) [Next](#)

Use Detection options : AWS Codepipeline so it detects the changes and updates the webpage.

We want to select Amazon S3 for provider, and your .html file for key. Select extract file before deploying. Select next and review then create.

[Developer Tools](#) > [CodePipeline](#) > [Pipelines](#) > Create new pipeline

Step 1
Choose pipeline settings

Step 2
[Add source stage](#)

Step 3
[Add build stage](#)

Step 4
Add deploy stage

Step 5
[Review](#)

Add deploy stage Info

You cannot skip this stage
 Pipelines must have at least two stages. Your second stage must be either a build or deployment stage. Choose a provider for either the build stage or deployment stage.

Deploy

Deploy provider
 Choose how you deploy to instances. Choose the provider, and then provide the configuration details for that provider.

Amazon S3

Region
 Asia Pacific (Mumbai)

Bucket

Deployment path - *optional*

☒ **Extract file before deploy**
 The deployed artifact will be unzipped before deployment.

[▶ Additional configuration](#)

Cancel Previous **Next**

Developer Tools **CodePipeline**

Source • CodeCommit

Artifacts • CodeArtifact

Build • CodeBuild

Deploy • CodeDeploy

Pipeline • CodePipeline

Getting started

Pipelines

Pipeline

History

Settings

Settings

Q Go to resource

Feedback

Success
 Congratulations! The pipeline cicd_staticwebsite has been created.

Create a notification rule for this pipeline

[Developer Tools](#) > [CodePipeline](#) > [Pipelines](#) > cicd_staticwebsite

cicd_staticwebsite

[Notify](#) [Edit](#) [Stop execution](#) [Clone pipeline](#) [Release change](#)

Source Succeeded
 Pipeline execution ID: 8c8483fe-c650-47b2-9486-ee604bc8c2d5

Source
 AWS CodeCommit
 Succeeded - Just now
 df759648

df759648 Source: my first website

Disable transition

Deploy Succeeded
 Pipeline execution ID: 8c8483fe-c650-47b2-9486-ee604bc8c2d5

Deploy
 Amazon S3
 Succeeded - Just now
 df759648 Source: my first website

Now Let's make sure our website is running like it's supposed to. Navigate back to S3 and select your bucket. You should have a new folder created

Edit the Object permissions to make it publicly accessible :

Amazon S3 > Buckets > cird-website > cirdwebpage.html/ > webpage.html


webpage.html [Info](#)

[Copy S3 URI](#) [Download](#) [Open](#) [Object actions](#)

Properties **Permissions** Versions

Access control list (ACL) [Edit](#)

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

Grantee	Object	Object ACL
Object owner (your AWS account) Canonical ID: 94591d4f9d54618e7e4928801251aada2f125eae0f4532b8010fa26008d56937	Read	Read, Write
Everyone (public access) Group: http://acs.amazonaws.com/groups/global/AllUsers	 Read	-
Authenticated users group (anyone with an AWS account) Group: http://acs.amazonaws.com/groups/global/AuthenticatedUsers	-	-

Click on Object URL :

Amazon S3 > Buckets > cird-website > cirdwebpage.html/ > webpage.html

webpage.html [Info](#)

[Copy S3 URI](#) [Download](#) [Open](#) [Object actions](#)

Properties **Permissions** Versions

Object overview

Owner 94591d4f9d54618e7e4928801251aada2f125eae0f4532b8010fa26008d56937	S3 URI s3://cird-website/cirdwebpage.html/webpage.html
AWS Region Asia Pacific (Mumbai) ap-south-1	Amazon Resource Name (ARN) arn:aws:s3::cird-website/cirdwebpage.html/webpage.html
Last modified September 5, 2023, 22:49:15 (UTC+05:30)	Entity tag (ETag) 889d5db30fe3f2cf40ac73eed66b24d
Size 198.0 B	Object URL https://cird-website.s3.ap-south-1.amazonaws.com/cirdwebpage.html/webpage.html
Type html	
Key cirdwebpage.html/webpage.html	

This is how webpage looks:

[←](#) [→](#) [↺](#) [https://cird-website.s3.ap-south-1.amazonaws.com/cirdwebpage.html/webpage.html](#)

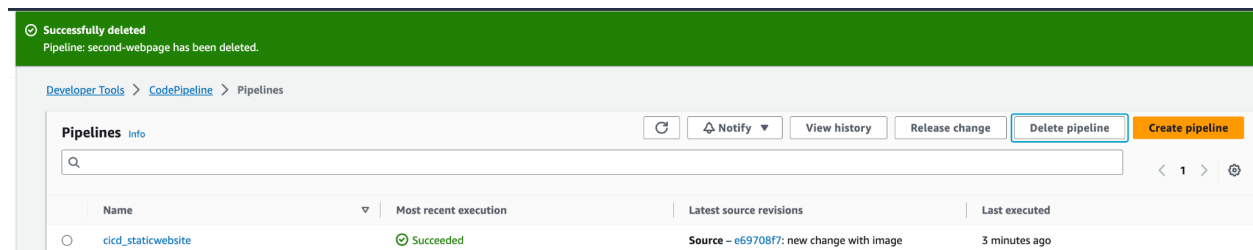
Hello World!

CreatedBy Deepika

Let's check if the pipeline is working correctly. Navigate back to Code commit and go to your repo. Select it and edit a line of code, and commit.



Navigate back to the pipeline and it should let you know that it was recently updated.



Go back to S3 and launch your website again to see your changes.

My first webpage using AWS CICD pipeline

CreatedBy Deepika Kanwar

aws sample pipeline image tag:

