

# Setting Up a Build Project with AWS CodeCommit, CodeBuild, and S3

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## 💡 What is AWS CodeCommit?

AWS CodeCommit is a managed source control service that hosts Git repositories. In simple words, it's a place where you can store and manage your code files securely in the cloud, similar to services like GitHub or Bitbucket. It allows multiple people to collaborate on code development, track changes, and maintain versions of your code.

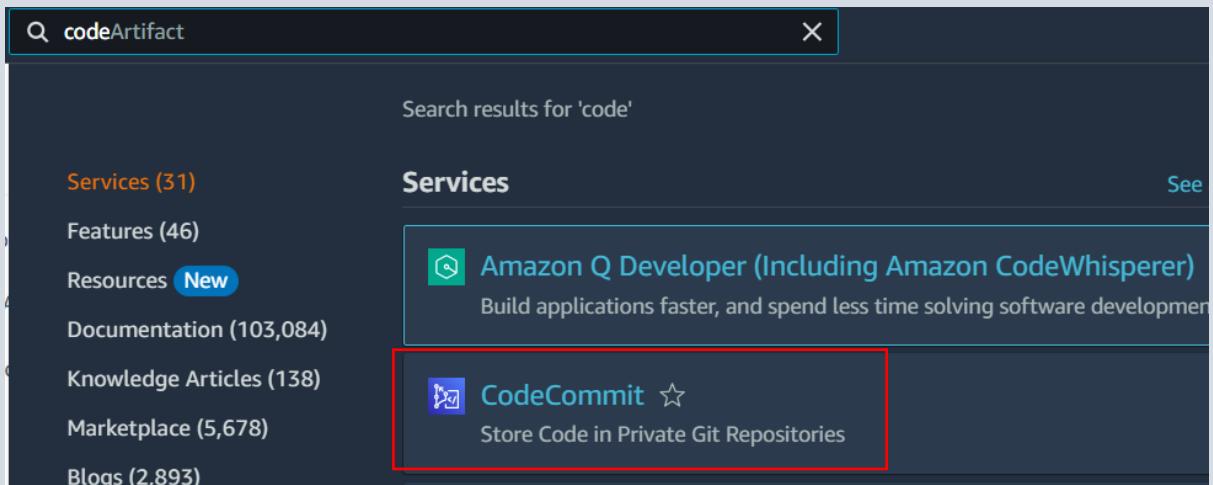
## 💡 What is AWS CodeBuild?

AWS CodeBuild is a fully managed build service that compiles your source code, run tests, and produces software packages that are ready to deploy. In simple words, it's a tool that automatically builds and tests your code every time you make changes, helping ensure your software works correctly before it's released.

## ★ Step 1: Create a CodeCommit Repository

### 1. Navigate to AWS CodeCommit:

- Go to AWS Management Console
- Under "Service", select "CodeCommit".



### 2. Create a Repository:

- Click on "Create Repository".
- Provide a name for your repository.
- Click "Create".

The screenshot shows the 'Repository settings' dialog for creating a new repository. The 'Repository name' field is filled with 'MyRepo' and has a red box around it. Below the name, there's a note about character limits. The 'Description - optional' field is empty. Under 'Tags', there's an 'Add tag' button. In the 'Additional configuration' section, there's a checkbox for 'Enable Amazon CodeGuru Reviewer for Java and Python - optional'. At the bottom, there are 'Cancel' and 'Create' buttons, with the 'Create' button also having a red box around it.

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## ★ Step 2: Add Files to the Repository

1. Navigate to Your Repository:
  - Go to the repository you just created.
2. Add Files:
  - Click on "Add file" and select "Create file".
  - Enter the filename 'index.html' and add content.



- Click on "Commit changes".
- Repeat the steps to create another file named 'buildspec.yml' with the appropriate content.

## MyRepo / buildspec.yml

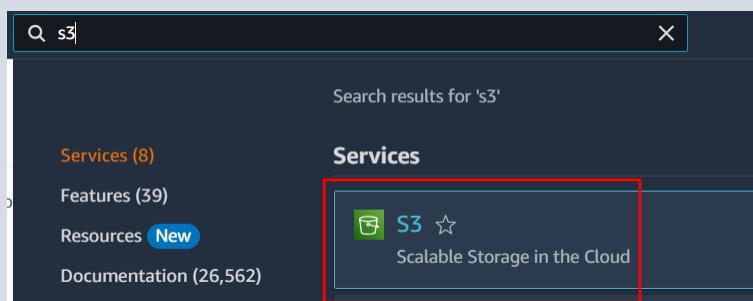
Info

```
1 version: 0.2
2
3 phases:
4   install:
5     commands:
6       - echo Installing NGINX and Learning KUCL 2.2
7       - sudo apt-get update
8       - sudo apt-get install nginx -y
9   build:
10    commands:
11      - echo Build started on date
12      - cp index.html /var/www/html
13   post_build:
14    commands:
15      - echo Configuring NGINX
16 artifacts:
17   files:
18     - index.html
19
```

## ★ Step 3: Create an S3 Bucket

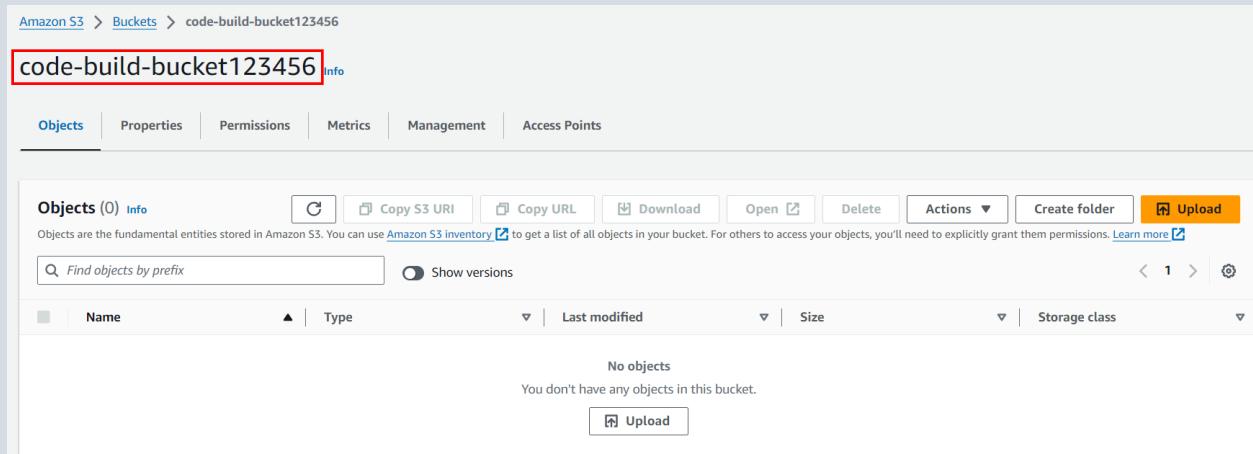
### 1. Navigate to S3:

- Go to the AWS Management Console.
- Under "Service", search for select "S3".



## 2. Create a Bucket:

- Click on "Create bucket".
- Provide a unique name for your bucket.
- Click "Create bucket".

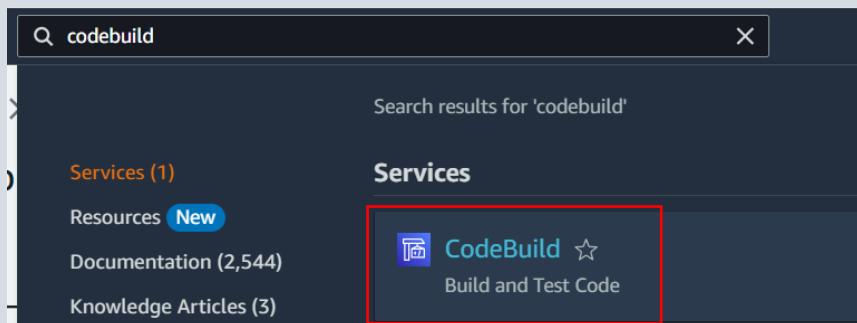


- Bucket name "code-build-bucket123456" created.

## ★ Step 4: Set Up a CodeBuild Project

### 1. Navigate to CodeBuild:

- Go to the AWS Management Console.
- Under "Service", search for select "CodeBuild".



## 2. Create a Build Project:

- Click on “Create build project”.
- Provide a name for your project.

Create build project

Project configuration

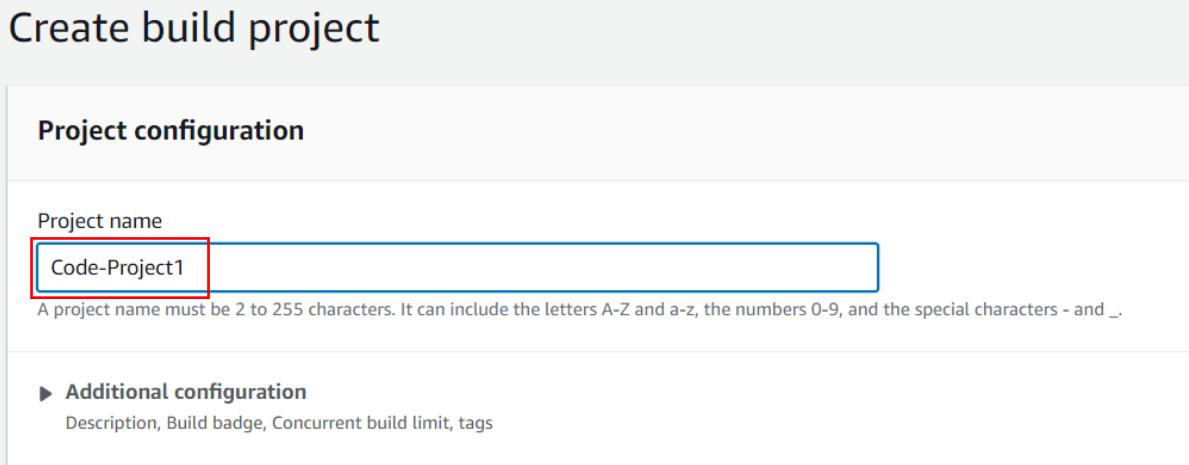
Project name

Code-Project1

A project name must be 2 to 255 characters. It can include the letters A-Z and a-z, the numbers 0-9, and the special characters - and \_.

► Additional configuration

Description, Build badge, Concurrent build limit, tags



## 3. Configure the Source:

- Under “Source provider”, select “AWS CodeCommit”.
- Select the repository you created earlier.

Source

Add source

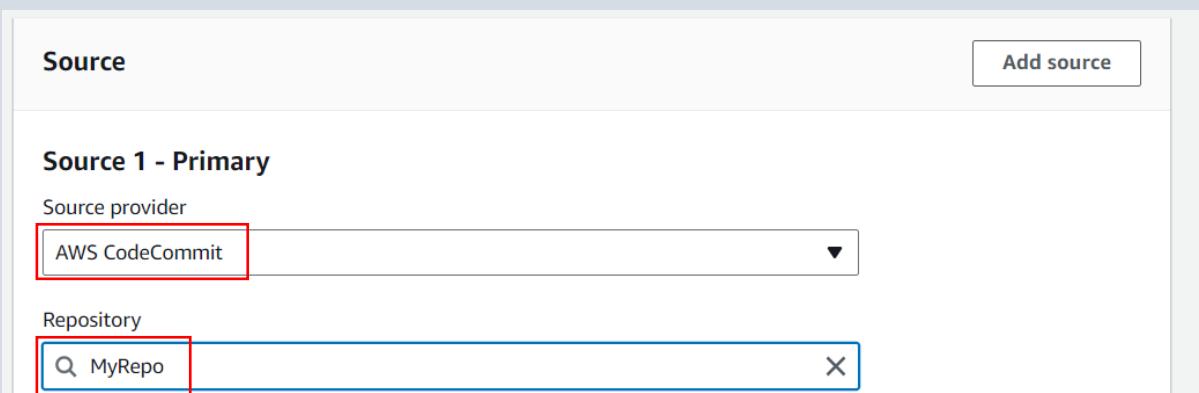
Source 1 - Primary

Source provider

AWS CodeCommit

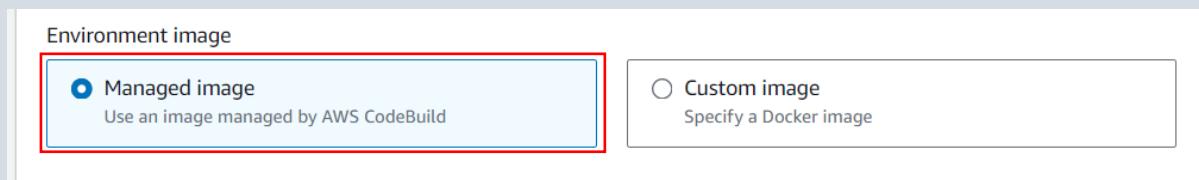
Repository

MyRepo



## 4. Configure the Environment:

- Under “Environment image”, select “Managed image”.



- Under “Operating system”, select “Ubuntu”.
- Under “Runtime(s),” select your preferred runtime.
- Under “Service role”, select “New service role” (this will automatically create a new role).

The screenshot shows the configuration for an operating system, runtime, and service role. The operating system is set to "Ubuntu". The runtime is set to "Standard". The image is set to "aws/codebuild/standard:7.0". In the "Service role" section, the "New service role" option is selected and highlighted with a red box, with the sub-note "Create a service role in your account". The "Role name" field is filled with "MyRole1".

## 5. Configure the Buildspec:

- Under "Buildspec", select "Use a buildspec file".
- Enter the filename i.e 'buildspec.yml'.

**Buildspec**

Build specifications

Insert build commands  
Store build commands as build project configuration

Use a buildspec file  
Store build commands in a YAML-formatted buildspec file

Buildspec name - *optional*  
By default, CodeBuild looks for a file named buildspec.yml in the source code root directory. If your buildspec file uses a different name or location, enter its path from the source root here (for example, buildspec-two.yml or configuration/buildspec.yml).

buildspec.yml

## 6. Configure Artifacts:

- Under "Artifacts", select "Amazon S3".
- Choose the bucket you created earlier ('code-build-bucket123456').

**Artifacts**

Add artifact

**Artifact 1 - Primary**

Type

Amazon S3

You might choose no artifacts if you are running tests or pushing a Docker image to Amazon ECR.

Bucket name

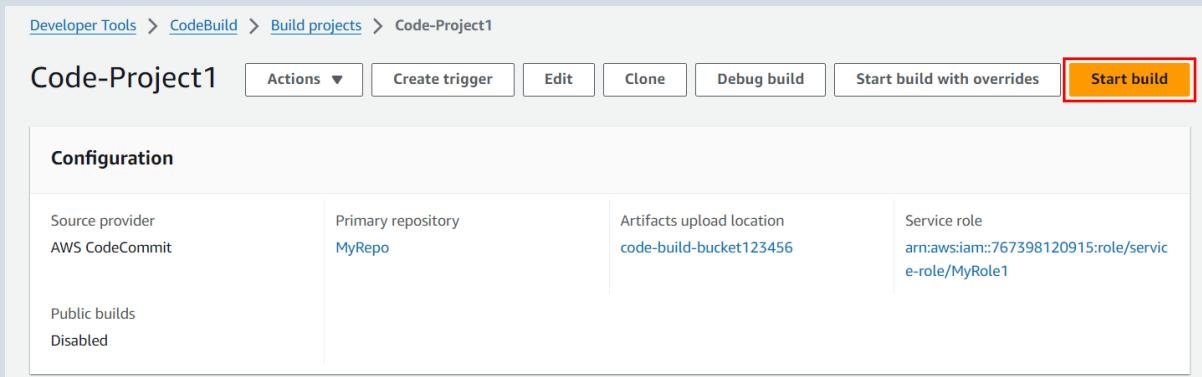
code-build-bucket123456

7. Click "Create build project".

## ★ Step 5: Start a Build and Verify

1. Start a build:

- In the CodeBuild dashboard, select the project you created, and click on "Start build".



2. Monitor the Build:

- Check the build phases to ensure there are no errors.
- If any errors occur, fix them as needed and restart the build.

Build logs	Phase details	Reports	Environment variables	Build details	Resource utilization
Name	Status	Context	Duration	Start time	End time
SUBMITTED	<span>✔ Succeeded</span>	-	<1 sec	Jun 28, 2024 10:54 AM (UTC+5:30)	Jun 28, 2024 10:54 AM (UTC+5:30)
QUEUED	<span>✔ Succeeded</span>	-	<1 sec	Jun 28, 2024 10:54 AM (UTC+5:30)	Jun 28, 2024 10:54 AM (UTC+5:30)
PROVISIONING	<span>✔ Succeeded</span>	-	5 secs	Jun 28, 2024 10:54 AM (UTC+5:30)	Jun 28, 2024 10:54 AM (UTC+5:30)
DOWNLOAD_SOURCE	<span>✔ Succeeded</span>	-	7 secs	Jun 28, 2024 10:54 AM (UTC+5:30)	Jun 28, 2024 10:55 AM (UTC+5:30)
INSTALL	<span>✔ Succeeded</span>	-	30 secs	Jun 28, 2024 10:55 AM (UTC+5:30)	Jun 28, 2024 10:55 AM (UTC+5:30)
PRE_BUILD	<span>✔ Succeeded</span>	-	<1 sec	Jun 28, 2024 10:55 AM (UTC+5:30)	Jun 28, 2024 10:55 AM (UTC+5:30)
BUILD	<span>✔ Succeeded</span>	-	<1 sec	Jun 28, 2024 10:55 AM (UTC+5:30)	Jun 28, 2024 10:55 AM (UTC+5:30)
POST_BUILD	<span>✔ Succeeded</span>	-	<1 sec	Jun 28, 2024 10:55 AM (UTC+5:30)	Jun 28, 2024 10:55 AM (UTC+5:30)
UPLOAD_ARTIFACTS	<span>✔ Succeeded</span>	-	<1 sec	Jun 28, 2024 10:55 AM (UTC+5:30)	Jun 28, 2024 10:55 AM (UTC+5:30)
FINALIZING	<span>✔ Succeeded</span>	-	<1 sec	Jun 28, 2024 10:55 AM (UTC+5:30)	Jun 28, 2024 10:55 AM (UTC+5:30)
COMPLETED	<span>✔ Succeeded</span>	-	-	Jun 28, 2024 10:55 AM (UTC+5:30)	-

### 3. Verify Output in S3:

- Navigate to the S3 service.
- Click on bucket you created.
- You should see a folder with the name of your build project, Click on the folder to see the file.

code-build-bucket123456 <a href="#">Info</a>					
Objects	Properties	Permissions	Metrics	Management	Access Points
<b>Objects (1) <a href="#">Info</a></b>					
<input type="checkbox"/>	<a href="#"></a> Copy S3 URI	<a href="#"></a> Copy URL	<a href="#"></a> Download	<a href="#">Open</a>	<a href="#">Delete</a>
Objects are the fundamental entities stored in Amazon S3. You can use <a href="#">Amazon S3 inventory</a> to get a list of all objects in your bucket. For others to access your objects, you'll r					
<input type="checkbox"/> <a href="#">Find objects by prefix</a>	<input type="checkbox"/> Show versions				
Name	Type	Last modified	Size		
<input type="checkbox"/> <a href="#">Code-Project1/</a>	Folder	-			

- Click on the file.

Code-Project1/

Objects (1) [Info](#)

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 grant them permission.

[Find objects by prefix](#)  Show versions

<input type="checkbox"/>	Name	Type	Last modified	<input type="checkbox"/>	Size
<input type="checkbox"/>	<a href="#">index.html</a>	html	June 28, 2024, 10:55:38 (UTC+05:30)	<a href="#">Open</a>	

- Open and verify the content.

Amazon S3 > Buckets > code-build-bucket123456 > Code-Project1/ > index.html

index.html [Info](#)

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

[Properties](#) [Permissions](#) [Versions](#)

- You can verify the content of the file.

← → ⌂ <code-build-bucket123456.s3.ap-southeast-2.amazonaws.com/Code-Project1/index.html?response>

Hello from divyaa!!

Thank you!!