Jai Talreja   61   D15A

Create a Simple Web App
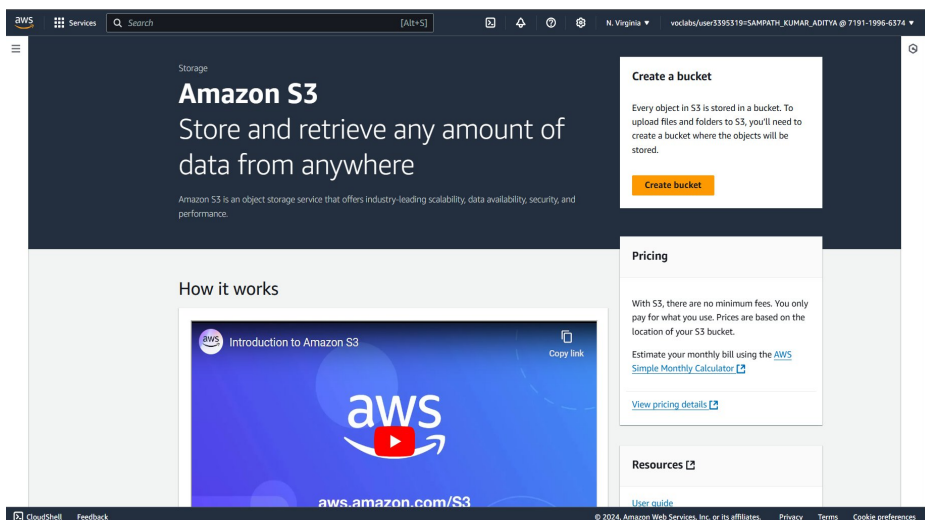
1. First, create a simple web app with an index.html file:

```html
<!DOCTYPE html>
<html>
<head>
   <title>Jai Case Study CodePipeline</title>
</head>
<body>
   <h1>Jai Case Study CodePipeline</h1>
</body>
</html>
```

This file will serve as the web page deployed to your S3 bucket and later to the EC2 instance.

Set Up S3 Bucket for Web App Hosting

   ○ Open the AWS S3 console

  ○ Create a new S3 bucket

General configuration

AWS Region
Europe (Stockholm) eu-north-1

Bucket type   Info

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

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

Bucket name   Info

jai-61

Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming ☒

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

Choose bucket

Format: s3://bucket/prefix

  ○ Under **Permissions**, uncheck the "Block all public access" option, allowing public access for web hosting.

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.

Configure the Bucket for Website Hosting:

- ○ Go to the **Properties** tab of your S3 bucket.

- ○ Scroll down to **Static website hosting**.
- ○ Enable it, and set the **Index document** as index.html.

○   Copy the bucket website URL for testing the web app later.

Static website hosting   Edit

Use this bucket to host a website or redirect requests. Learn more ☑

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://jai-61.s3-website.eu-north-1.amazonaws.com ☑

Set Up CodeBuild for Your Web App

Create a Buildspec File: In your project directory (where index.html resides), create a buildspec.yml file. This file tells AWS CodeBuild what to do during the build.

```yaml
version: 0.2
phases:
  build:
    commands:
      - echo "Building the application..."
  post_build:
    commands:
      - aws s3 cp index.html s3://jai-61/index.html --content-
type "text/html"
artifacts:
  files:
    - index.html
    - appspec.yml
    - scripts/**/*   # Include the entire scripts directory
  discard-paths: no   # Important! Maintains directory structure
```

Jai Talreja   61   D15A

Go to AWS CodeBuild:

- ○ Open the console
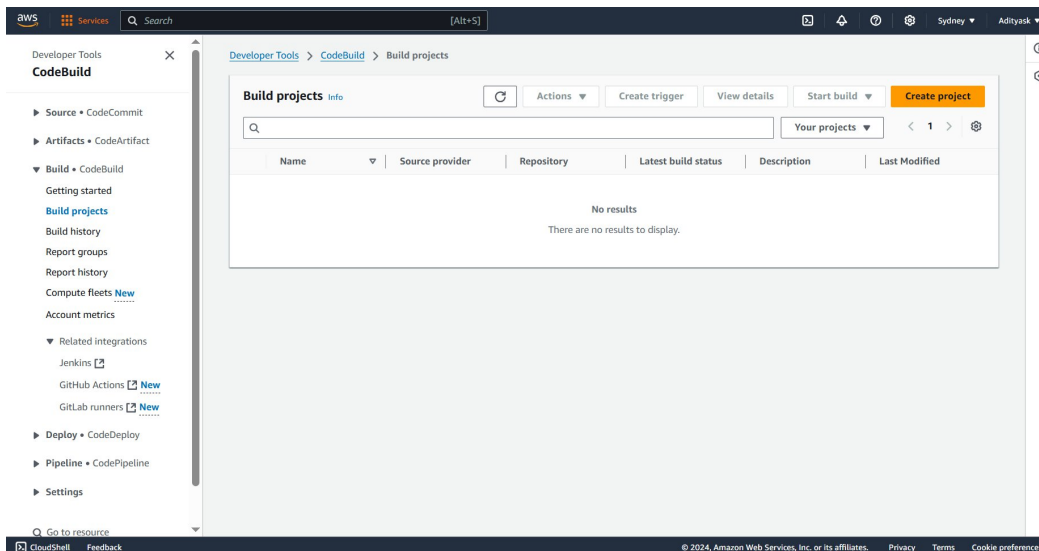
- ○ Create a new build project.
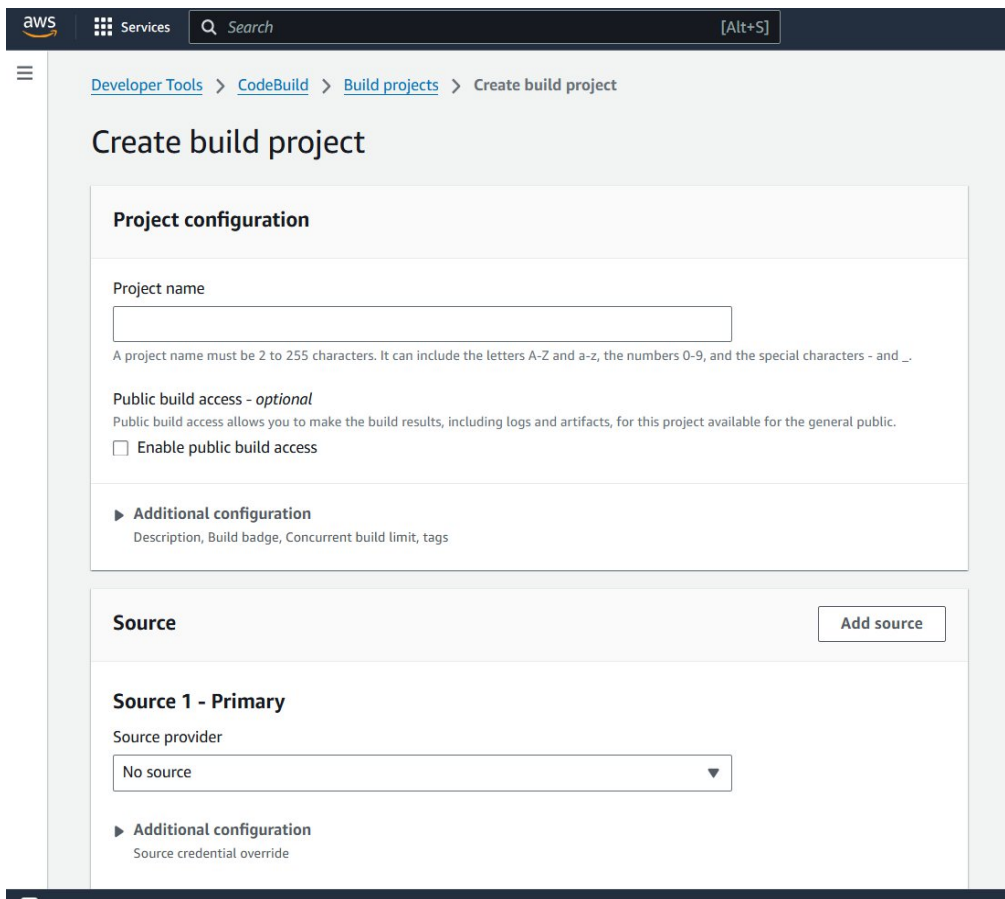
○ For **Source**, choose your source repository (e.g., GitHub, Bitbucket, or S3).

Source   Add source

Source 1 - Primary

Source provider

| Amazon S3   ▼ |

Bucket

| 🔍 jai-61-source   ✕ |

S3 object key or S3 folder

| index.html |

Source version - *optional* Info
Enter the version ID of the object that represents the build input ZIP file.

| |

○ Under **Environment**, choose **Managed Image** with **Ubuntu**, and select **Runtime: Standard**.

Environment

Environment image

| ● Managed image | ○ Custom image |
| Use an image managed by AWS CodeBuild | Specify a Docker image |

Operating system

| Ubuntu   ▼ |

Runtime(s)

| Standard   ▼ |

Image

| aws/codebuild/standard:7.0   ▼ |

Image version

| Always use the latest image for this runtime version   ▼ |

Service role

| ● New service role | ○ Existing service role |
| Create a service role in your account | Choose an existing service role from your account |

- specify the buildspec.yml file you created. before this add it to your git repo

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

- Set **Artifacts** to "S3", and choose the bucket you created earlier.

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

🔍 jai-61   ✕

Name
The name of the folder or compressed file in the bucket that will contain your output artifacts. Use Artifacts packaging under Additional configuration to choose whether to use a folder or compressed file. If the name is not provided, defaults to project name.

☐ Enable semantic versioning
Use the artifact name specified in the buildspec file

Path - *optional*
The path to the build output ZIP file or folder.

Example: MyPath/MyArtifact.zip.

- Create the build project and start the build to ensure it uploads index.html to the S3 bucket.

Jai Talreja   61   D15A

jai-61

| Actions ▼ | Create trigger | Edit | Clone | Debug build | Start build with overrides | **Start build** |

Configuration

Source provider	Primary repository	Artifacts upload location	Service role
Amazon S3	jai-61-source/index.html ↗	jai-61-artifacts	arn:aws:iam::311141519473:role/service-role/codebuild-Jai_CodePipeline_Case_Study-service-role

Public builds	Public project URL		
Enabled	⊓ Go to public project ↗		

	Build run	Status	Build number	Source version	Submitter	Duration	Completed
☐	jai-61:2b504b21-f557-452a-b8cd-f14b8d01cb2d	⊗ Failed	6	jai-61-source/index.html	root	1 minute 20 seconds	5 hours ago
☐	jai-61:bbb1840e-5581-41f5-ae0d-431aa8b5a7e1	⊗ Failed	5	jai-61-source/buildspec.yml	root	10 seconds	5 hours ago
☐	jai-61:f7f2a2a7-d4cb-4efb-aedc-873eee2d0386	⊗ Failed	4	jai-61-source/jai.zip	root	5 seconds	5 hours ago
☐	jai-61:55c6050b-32da-4424-be4e-05e99956e7f4	⊗ Failed	3	jai-61-source/index.html	root	9 seconds	5 hours ago
☐	jai-61:e98a78e0-8267-49e2-949d-	⊗ Failed	2	jai-61-source/index.html	root	9 seconds	6 hours ago

▶	Timestamp	Message
		No older events at this moment. *Retry*
▶	2024-10-23T08:02:03.455Z	[Container] 2024/10/23 08:01:59.123457 Running on CodeBuild On-demand
▶	2024-10-23T08:02:03.455Z	[Container] 2024/10/23 08:01:59.123469 Waiting for agent ping
▶	2024-10-23T08:02:03.455Z	[Container] 2024/10/23 08:01:59.224341 Waiting for DOWNLOAD_SOURCE
▶	2024-10-23T08:02:03.455Z	zip: not a valid zip file for primary source
		No newer events at this moment. *Auto retry paused. Resume*

The error is that AWS CodeBuild was expecting a zip file even though the source object key had been properly specified as index.html, zipping all the files in the source did not help, that resulted in a different error.