

# AWS Project: Build a Game with a Continuous Deployment Pipeline from GitHub to S3

For this project I will be building a simple memory game with HTML, CSS, and Javascript. The code will be in \_\_\_\_ GitHub. Then I will be using an S3 bucket and configure it for static website hosting. Lastly, I will be creating a CodePipeline that pulls the code stored on GitHub and deploy to the S3 bucket.

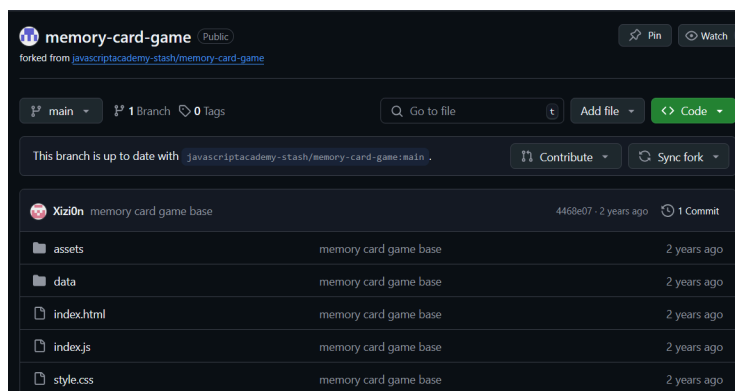
## What is CodePipeline?

AWS CodePipeline is a managed service that automates essential processes such as building, testing and deploying projects. The user only needs to specify a source (where the project code is stored, usually a GitHub Repository), and where to deploy it to (in this case S3), and CodePipeline handles everything else.



## Create the Source

The simple memory game is created using HTML, CSS, and Javascript. I found a working memory game on GitHub and forked the repository into my own to get the game code.



## Create and Configure The S3 Bucket

The S3 bucket is an object storage service that can also be configured to host websites. I created an S3 bucket named memorygame-huerto, and disabled the option, “Block All Public Access” since I want anyone to have easy access to this memory game. Next, I enabled Static Website Hosting under the properties tab.

**Static website hosting** Edit

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

**ⓘ 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://memorygame-huerto.s3-website-ap-southeast-2.amazonaws.com>

Lastly for the bucket configurations, I added a bucket policy to allow any principal to access the objects in the S3 bucket.

**Bucket policy** Edit Delete

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. [Learn more](#)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "s3:GetObject",
      "Resource": "arn:aws:s3:::memorygame-huerto/*"
    }
  ]
}
```

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## Create CodePipeline

Now with the code setup in GitHub, and the S3 bucket configured, all that's left is creating Code Pipeline. CodePipeline orchestrates getting the code from GitHub onto the S3 bucket. I created a custom pipeline with these settings:

**Step 2: Choose pipeline settings**

**Pipeline settings**

Pipeline name  
memorygame-01-huerto

Pipeline type  
V2

Execution mode  
QUEUED

Artifact location  
A new Amazon S3 bucket will be created as the default artifact store for your pipeline

Service role name  
memory-game-01

Then I connected my GitHub account and repository to my AWS account

**Step 3: Add source stage**

**Source action provider**

Source action provider  
GitHub (via GitHub App)

OutputArtifactFormat  
CODE\_ZIP

DetectChanges  
true

ConnectionArn  
arn:aws:codeconnections:ap-southeast-2:084828560751:connection/d0ba4a40-271f-4eb1-9964-058a3cc1d70f

FullRepositoryId  
miguelhuerto/memory-card-game

Default branch  
main

Enable automatic retry on stage failure  
Disabled

Lastly I defined my deploy stage, which is the S3 bucket I configured in the previous step.

**Step 6: Add deploy stage**

**Deploy action provider**

Deploy action provider  
Amazon S3

Extract  
true

BucketName  
memorygame-huerto

Configure automatic rollback on stage failure  
Enabled

Enable automatic retry on stage failure  
Disabled

After the Pipeline indicates that it has been successfully completed, a website endpoint can be seen under the properties of the S3 bucket.

## Static website hosting

[Edit](#)

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The game is now live on a real URL that can be shared and accessed publicly.

