

# My Documentation Report of Deploying a Static Website on Microsoft Azure using GitHub Actions.

Student Name: OKAFOR DIVINE AKACHUKWU

Institution / Program: Cloud Computing Engineering Bootcamp, Cohort 3

Registration No: AWS/2025/TC3/012

Date of Completion: October 30, 2025.

GitHub Repository: <https://github.com/AKATEX1/AKATEX-POTFOLIO>

Live Website URL: <https://group3staticweb12345.z13.web.core.windows.net>

## INTRODUCTION

This project demonstrates the deployment of a static website on Microsoft Azure using Azure Storage, Azure CLI, and GitHub Actions for automated continuous deployment. The primary goal was to understand and implement a cloud-based hosting solution using Microsoft Azure's Static Web Hosting service, integrating it with version control and CI/CD pipelines.

## OBJECTIVES

The main objectives of this project were

1. To host a static HTML/CSS/JavaScript portfolio website on Azure.
2. To automate deployment using GitHub Actions.
3. To manage version control through GitHub.

4. To gain hands-on experience with Azure services and authentication mechanisms.

## TOOLS AND TECHNOLOGIES USED

Microsoft Azure Portal for creating and configuring the Storage Account and Static Website.

Azure CLI for command-line deployment and configuration.

Git & GitHub for source control and version management.

GitHub Actions👉 for setting up an automated CI/CD workflow.

HTML5 UP Template (Dimension)👉 as the base design for the portfolio website.

VS Code / Git Bash👉 for local editing and command execution.

## METHODOLOGY

The project followed a systematic step-by-step process:

### Step 1: WEBSITE PREPARATION

A responsive static website was built locally using the HTML5 UP "Dimension" template. All assets, including images, CSS, and JavaScript files, were organized within the project directory.



## 2. STEPS PERFORMED

### Step 1 Create Azure Resources

Created a Resource Group named: Group3StaticSiteRG

Created a Storage Account named: group3staticweb12345

Enabled Static Website Hosting inside the storage account.

Uploaded initial files and tested the endpoint.

```
USER@DESKTOP-GV48VHP MINGW64 ~/Downloads/html5up-dimension (master)
$ az group create --name Group3staticSiteRG --location uksouth
{
  "id": "/subscriptions/17767657-1247-485f-97e0-d24c3c28e63e/resourceGroups/Group3staticSiteRG",
  "location": "uksouth",
  "managedBy": null,
  "name": "Group3staticSiteRG",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}

USER@DESKTOP-GV48VHP MINGW64 ~/Downloads/html5up-dimension (master)
$ 
```

```
"ipv6Endpoints": null,
"microsoftEndpoints": null,
"queue": "https://group3staticweb12345.queue.core.windows.net/",
"table": "https://group3staticweb12345.table.core.windows.net/",
"web": "https://group3staticweb12345.z33.web.core.windows.net/"

},
"primaryLocation": "uksouth",
"privateEndpointConnections": [],
"provisioningState": "Succeeded",
"publicNetworkAccess": null,
"resourceGroup": "Group3staticSiteRG",
"routingPreference": null,
"sasPolicy": null,
"secondaryEndpoints": null,
"secondaryLocation": null,
"sku": {
  "name": "Standard_LRS",
  "tier": "Standard"
},
"statusOfPrimary": "available",
"statusOfSecondary": null,
"storageAccountSkuConversionStatus": null,
"tags": {},
"type": "Microsoft.Storage/storageAccounts",
"zones": null
}

USER@DESKTOP-GV48VHP MINGW64 ~/Downloads/html5up-dimension (master)
$ 
```

```
USER@DESKTOP-GV48VHP MINGW64 ~/Downloads/html5up-dimension (master)
$ az storage account create --name group3staticweb12345 --resource-group Group3staticSiteRG --location uksouth --sku standard_LRS --kind StorageV2
{
  "id": "/subscriptions/17767657-1247-485f-97e0-d24c3c28e63e/resourceGroups/Group3staticSiteRG/providers/Microsoft.Storage/storageAccounts/group3staticweb12345",
  "location": "uksouth",
  "managedBy": null,
  "name": "group3staticweb12345",
  "properties": {
    "blob": {
      "accessTier": "Hot"
    },
    "hyperRedundancyZone": null,
    "httpsOnly": null,
    "isHnsEnabled": null,
    "lease": {
      "leaseDuration": null,
      "leaseState": null
    },
    "location": "uksouth",
    "locationType": "Storage"
  },
  "tags": {},
  "type": "Microsoft.Storage/storageAccounts"
}

USER@DESKTOP-GV48VHP MINGW64 ~/Downloads/html5up-dimension (master)
$ 
```

```
$ az storage blob properties update --account-name group3staticweb12345 --static-website --index-document index.html --404-document error.html
  "retentionPolicy": {
    "allowPermanentDelete": null,
    "days": null,
    "enabled": false
  },
  "version": "1.0"
},
"logging": {
  "delete": false,
  "read": false,
  "retentionPolicy": {
    "allowPermanentDelete": null,
    "days": null,
    "enabled": false
  },
  "version": "1.0",
  "write": false
},
"minuteMetrics": {
  "enabled": false,
  "includeApis": null,
  "retentionPolicy": {
    "allowPermanentDelete": null,
    "days": null,
    "enabled": false
  },
  "version": "1.0"
},
"staticWebsite": {
  "defaultIndexDocumentPath": null,
  "enabled": true,
  "errorDocument404Path": "error.html",
  "indexDocument": "index.html"
},
"target_version": null
}

USER@DESKTOP-GV4BWP: MINGW64 ~/Downloads/htmlSup-dimension (master)
$ [ ]
```

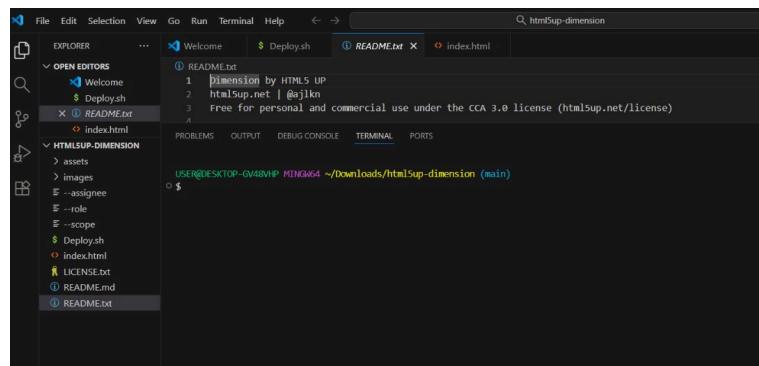
```
USER@DESKTOP-GV48VHP MINGW64 ~/Downloads/html5up-dimension (master)
$ az storage account show --name group3staticweb12345 --query "primaryEndpoints.web" -o tsv
https://group3staticweb12345.z33.web.core.windows.net/
```

## STEP 2 — PREPARE THE WEBSITE FILES

Downloaded a responsive HTML5 website template.

Customized the content (index.html, CSS, and images).

Initialized a Git repository and pushed to GitHub.



## STEP 3 — CONFIGURE GITHUB SECRETS

Created an Azure Service Principal with Storage Blob Data Contributor role.

The screenshot shows the Azure Storage center interface. On the left, there's a navigation pane with options like Overview, Create, Restore, etc. The main area shows a list of existing storage accounts, including 'cloudstore46962' and 'group3staticweb12345'. A red box highlights the newly created account name 'group3staticweb12345'.

This screenshot shows the 'Access Control (IAM)' blade for the storage account 'group3staticweb12345'. It's on the 'Add role assignment' step. A red box highlights the 'Storage Blob Data Contributor' role in the list of available roles.

This screenshot shows the 'Select members' dialog box. It lists a single member, 'AKACHUKWU OKAFOR(Guest)', with a red box highlighting it. Below the list, there's a note about no members selected and a link to learn more about RBAC.

Role: Storage Blob Data Contributor  
Scope: /subscriptions/17767657-1247-485f-97e0-d24c3c28ed3e/resourceGroups/Group3StaticSiteRG/providers/Microsoft.Storage/storageAccounts/group3staticweb12345  
Members: Name: AKACHUKWU OKAFOR(Guest) Object ID: 6484fa3b-741e-4e1f-9ad6-07d501acd4d3 Type: User  
Description: No description  
Condition: None

**Review + assign** Previous Next

More events in the activity log → Dismiss all ▾

Added Role assignment ✓  
AKACHUKWU OKAFOR(Guest) was added as Storage Blob Data Contributor for group3staticweb12345. a few seconds ago

US\$200.00 credit remaining ✉  
Subscription 'Azure subscription 1' has a remaining credit of US\$200.00.

Upgrade to a Pay-As-You-Go subscription. 30 minutes ago

Added the generated credentials JSON to GitHub → Settings → Secrets → Actions → AZURE\_CREDENTIALS.

General

Name \* AZURE\_CREDENTIALS

Secret \*

```
{
  "clientId": "d57f5154-2659-4eec-8790-1302aa991370",
  "clientSecret": "1d180-XfrjzCnfhWaNGBHJYhw9kOCXhacYp",
  "subscriptionId": "96b4746b-9818-4280-93a3-89f79dcfd449",
  "tenantId": "96b4746b-9818-4280-93a3-89f79dcfd449",
  "activeDirectoryEndpointUrl": "https://login.microsoftonline.com",
  "resourceManagerEndpointUrl": "https://management.azure.com",
  "activeDirectoryGraphResourceId": "https://graph.windows.net",
  "sqlManagementEndpointUrl": "https://management.core.windows.net:8443/",
}
```

Add secret

## STEP 4 — ADD GITHUB ACTIONS WORKFLOW

Created .github/workflows/deploy.yml file with the following workflow:

```

name: Deploy Static Website to Azure
on:
push:
branches:
- main
jobs:
deploy:
runs-on: ubuntu-latest

```

steps:

- name: Checkout code
uses: actions/checkout@v3

- name: Azure Login
uses: azure/login@v1
with:
creds: \${{ secrets.AZURE\_CREDENTIALS }}

- name: Deploy to Azure Storage

- uses: azure/cli@v1

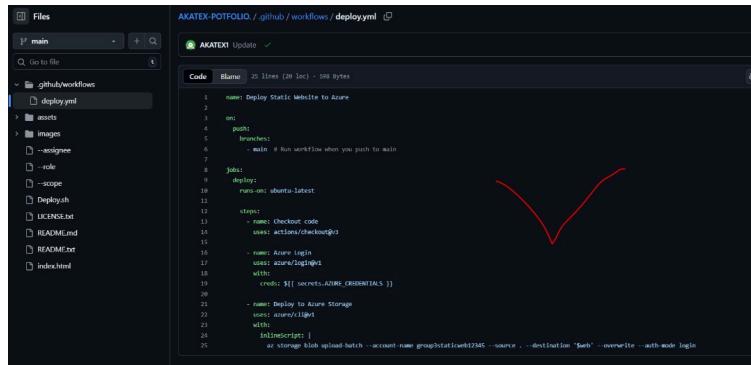
- with:

- inlineScript: |

```

az storage blob upload-batch --account-name group3staticweb12345 --
source . --destination '$web' --overwrite --auth-mode login

```

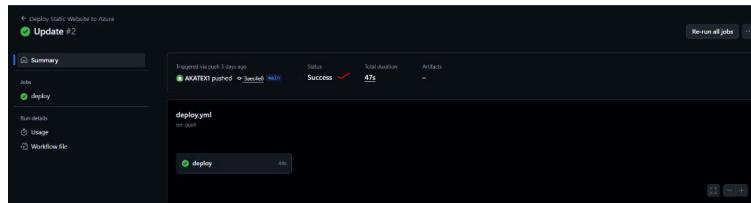


The screenshot shows the GitHub Actions workflow editor interface. On the left, there's a sidebar with a tree view of files: main, .github/workflows, deploy.yml, assets, images, .gitignore, LICENSE.txt, README.md, and README.txt. The main area displays the contents of the deploy.yml file. A red checkmark is drawn over the inlineScript section.

```

name: Deploy Static Website to Azure
on:
  push:
    branches:
      - main
  jobs:
    deploy:
      runs-on: ubuntu-latest
      steps:
        - name: Checkout code
          uses: actions/checkout@v3
        - name: Azure Login
          uses: azure/login@v1
          with:
            creds: ${{ secrets.AZURE_CREDENTIALS }}
        - name: Deploy to Azure Storage
          uses: azure/cli@v1
          with:
            inlineScript: |
              az storage blob upload-batch --account-name group3staticweb12345 --
              source . --destination '$web' --overwrite --auth-mode login

```



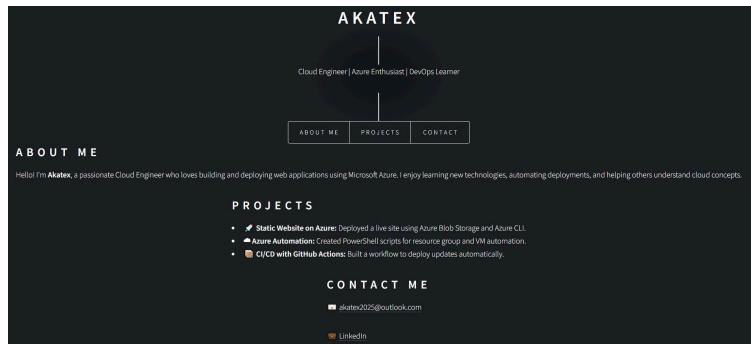
## STEP 5 — VERIFY DEPLOYMENT

Opened the static website endpoint URL in the browser.

Confirmed successful deployment with correct site appearance.



The static website was successfully deployed and is automatically updated whenever changes are pushed to the main branch in GitHub.



## COMPONENT STATUS DESCRIPTION

Azure Resource Group	✓	Group3StaticSiteRG created
Azure Storage Account	✓	group3staticweb12345 configured
GitHub Actions	✓	Successfully deployed workflow
Website Live	✓	Hosted at Azure endpoint

## **LESSONS LEARNED**

- How to create and configure Azure Storage for static websites
- How to use GitHub Actions for automated deployment
- How to generate and use Azure Service Principal credentials
- Improved understanding of CI/CD workflow with Azure and GitHub