

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

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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
{
  "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 blob service-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,
    "errorDocument_404Path": "error.html",
    "indexDocument": "index.html"
  },
  "targetVersion": null
}

```

```

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/

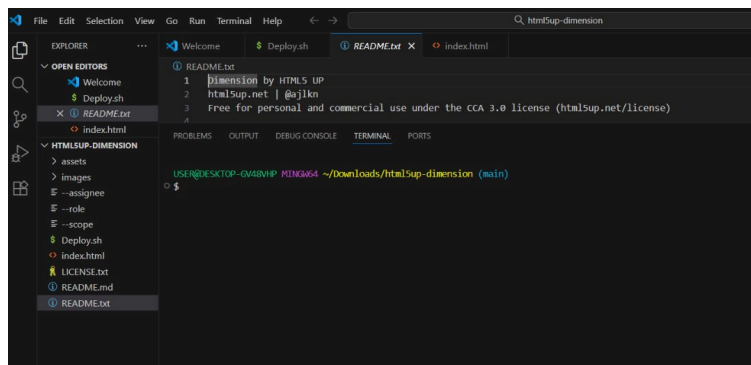
```

STEP 2 — PREPARE THE WEBSITE FILES

Downloaded a responsive HTML5 website template.

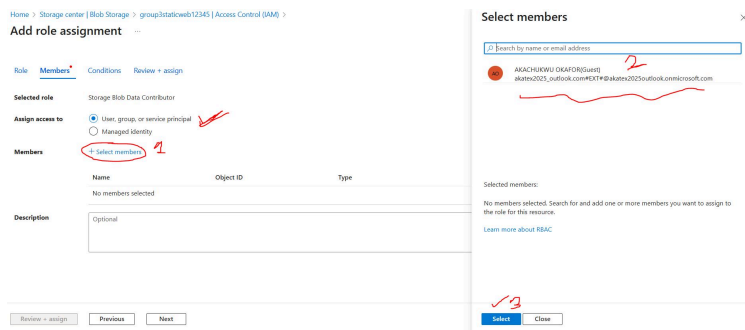
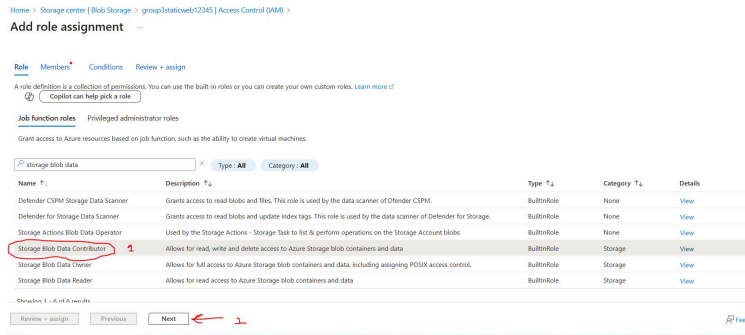
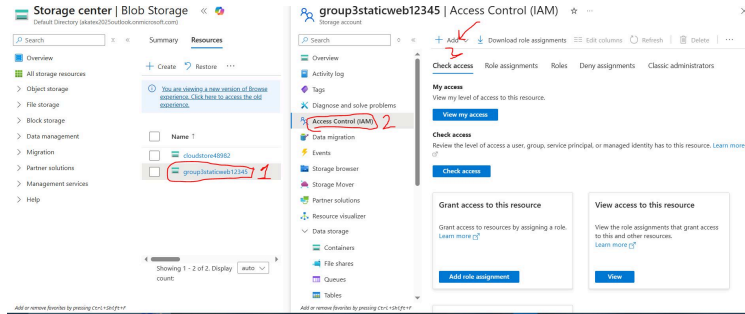
Customized the content (index.html, CSS, and images).

Initialized a Git repository and pushed to GitHub.



STEP 3 — CONFIGURE GITHUB SECRETS

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



Role Members Conditions **Review + assign**

Role Storage Blob Data Contributor

Scope /subscriptions/17767657-1247-485f-97e0-d24c3c28e63e/resourceGroups/Group3StaticSiteRG/providers/Microsoft.Storage/storageAccounts/group3staticweb12345

Members

Name	Object ID	Type
AKACHUKWU OKAFOR(Guest)	6484fa3b-741e-4e1f-9ad6-07d501acd4d3	User

Description No description

Condition None

Review + assign Previous Next

Notifications

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

i **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 **Actions secrets / New secret**

Name * AZURE_CREDENTIALS

Secret *

```
{
  "clientId": "d57f5154-2659-4eec-8790-1302a991370",
  "clientSecret": "1d80Q-XfrJ2nCfHWacNGBHUYH4wC9k0COXhacYp",
  "subscriptionId": "96b47e6b-9818-4280-93a3-f89f79dcfd49",
  "tenantId": "96b47e6b-9818-4280-93a3-f89f79dcfd49",
  "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 }}

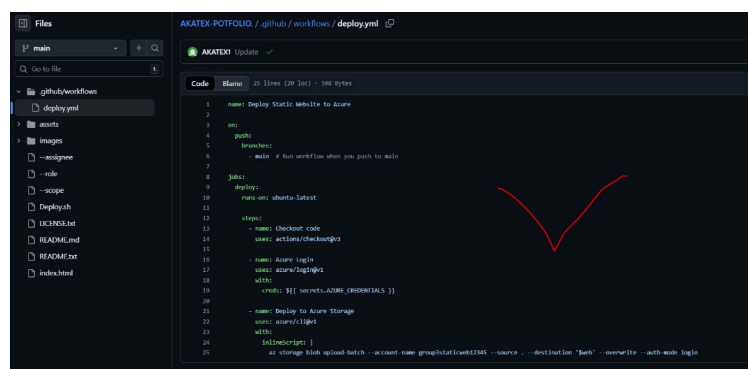
- name: Deploy to Azure Storage

uses: azure/cli@v1

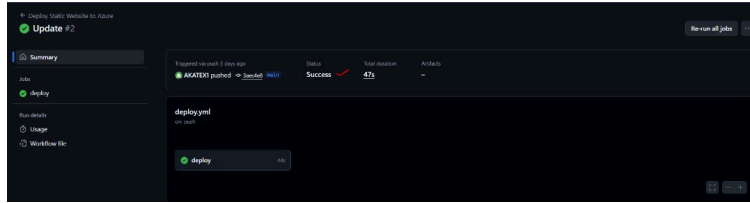
with:

inlineScript: |

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



```
1 name: Deploy Static Website to Azure
2 on:
3   push:
4     branches:
5       - main
6   workflow_dispatch:
7 jobs:
8   deploy:
9     runs-on: ubuntu-latest
10    steps:
11      - name: Checkout code
12        uses: actions/checkout@v3
13      - name: Azure Login
14        uses: azure/login@v1
15        with:
16          creds: ${{ secrets.AZURE_CREDENTIALS }}
17      - name: Deploy to Azure Storage
18        uses: azure/cli@v1
19        with:
20          inlineScript: |
21            az storage blob upload-batch --account-name group3staticweb12345 --source . --destination '$web' --overwrite --auth-mode login
```



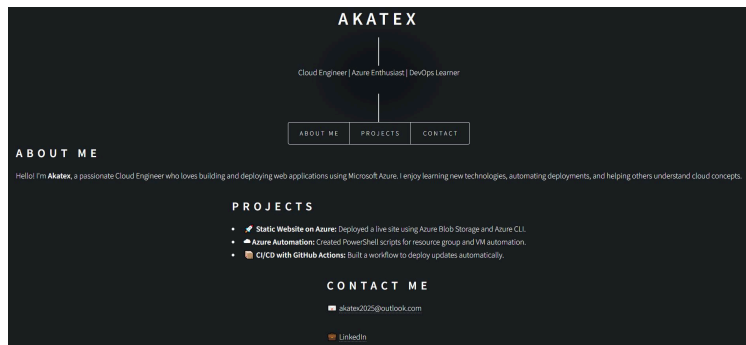
STEP 5 — VERIFY DEPLOYMENT

Opened the static website endpoint URL in the browser.

Confirmed successful deployment with correct site appearance.

✅ 3 Results

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