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

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Institution / Program: Cloud Computing Engineering Bootcamp, Cohort 3

Registration No: AWS/2025/TC3/012

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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

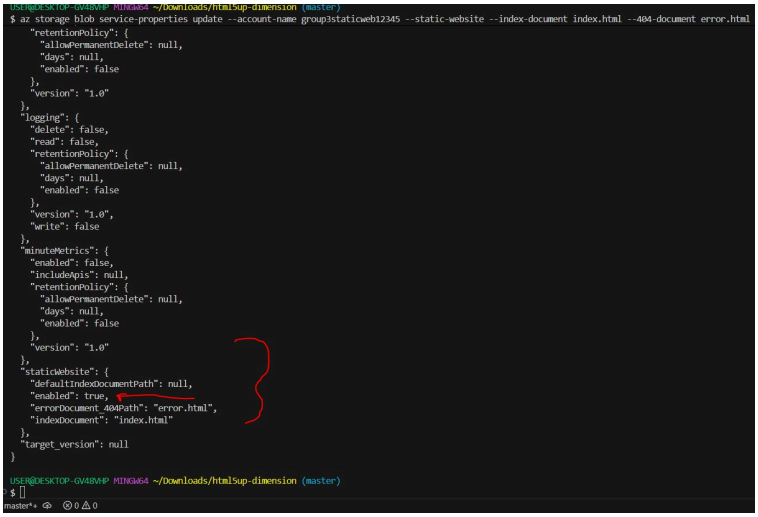
Enabled Static Website Hosting inside the storage account.

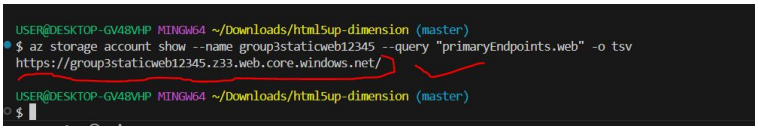
Uploaded initial files and tested the endpoint.

```
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 S
tandard_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)
$
```



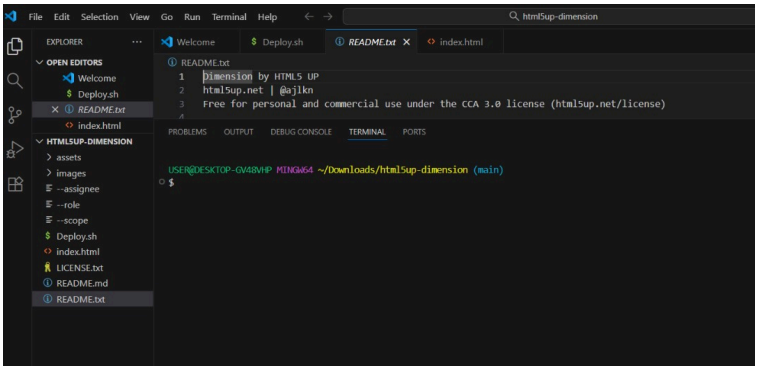


STEP 2 — PREPARE THE WEBSITE FILES

Downloaded a responsive HTML5 website template.

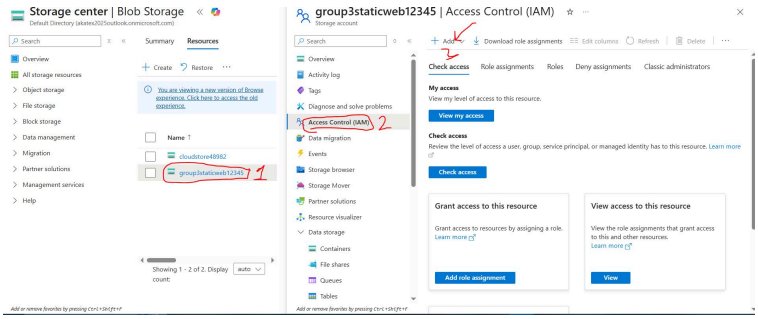
Customized the content (index.html, CSS, and images).

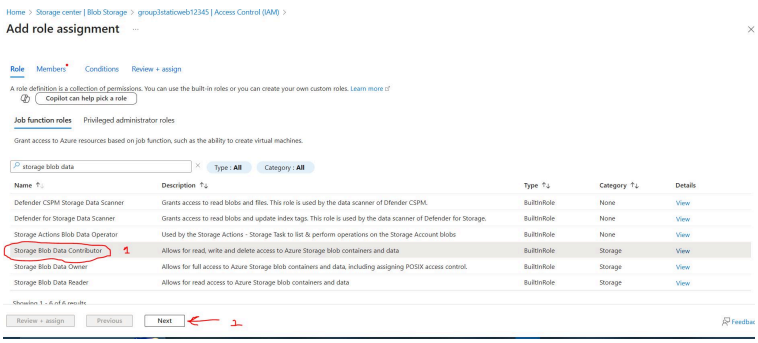
Initialized a Git repository and pushed to GitHub.

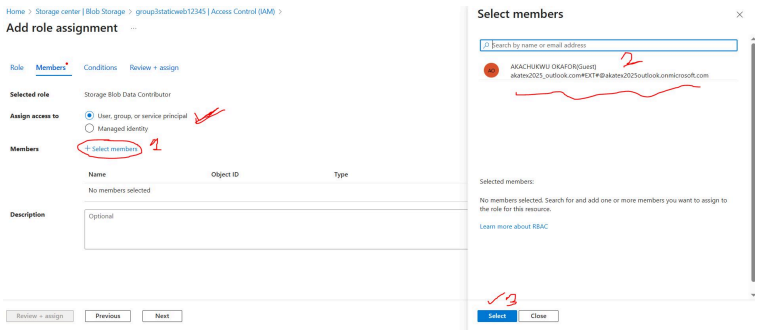


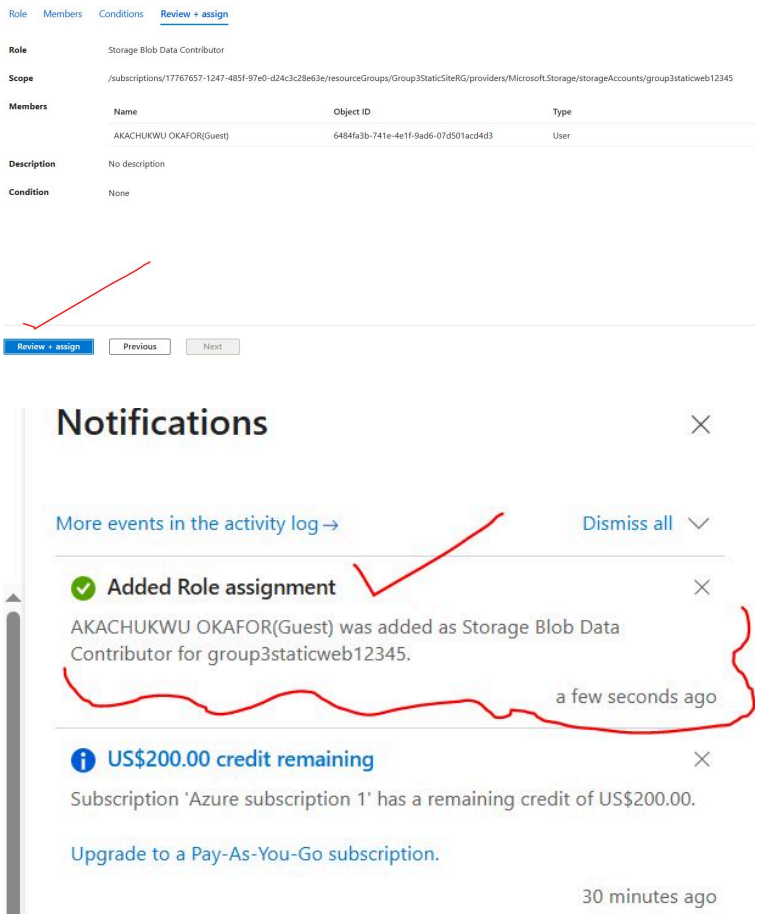
STEP 3 — CONFIGURE GITHUB SECRETS

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

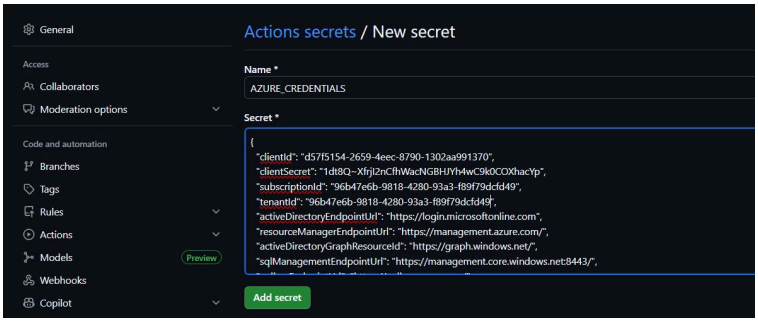








Added the generated credentials JSON to GitHub → Settings → Secrets → Actions → AZURE_CREDENTIALS.



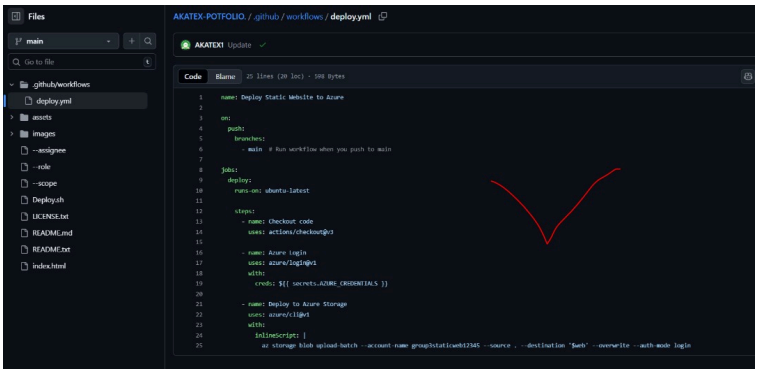
STEP 4 — ADD GITHUB ACTIONS WORKFLOW

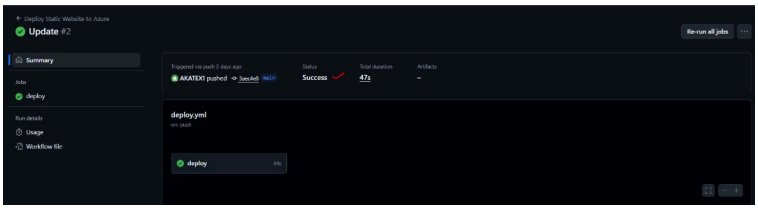
Created .github/workflows/deploy.yml file with the following workflow:

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
```





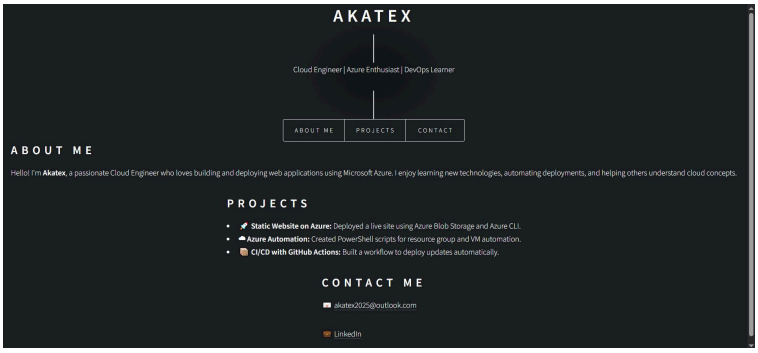
STEP 5 — VERIFY DEPLOYMENT

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