

INTERN PROJECT REPORT

Azure Blob Storage – Static Website Hosting & Lifecycle Management

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Internship:

Smarterd Innovations

(Training by Embrizon Team)

Date: 10-06-2025

Project Report

Azure Blob Storage – Static Website Hosting & Lifecycle Management

Prepared by: Oleti Raghu Sai Varun

Internship: Smarted Innovations (Training by Embrizon Team)

Date: [10-06-2025]

DECLARATION

I, Raghu Sai Varun, hereby declare that the project report titled “Azure Blob Storage – Static Website Hosting & Lifecycle Management” is the result of my own work carried out during my internship with Smarted Innovations (Training by Embrizon Team). This project has been completed under the guidance provided and is submitted as a part of the internship deliverables. The work is original and has not been submitted elsewhere for any academic or professional purpose.

Signature: Oleti Raghu Sai Varun

Date: 10-06-2025

ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to Smarted Innovations and the Embrizon Training Team for providing me with the opportunity to undertake this internship project.

I sincerely thank my mentors and trainers at Embrizon for their continuous support, valuable guidance, and timely feedback throughout the duration of this project. Their inputs have helped me gain practical exposure to cloud technologies like Microsoft Azure.

I would also like to extend my appreciation to my family and friends who supported me during this journey.

This internship has been a great learning experience and a significant step toward my professional development.

Raghu Sai Varun

[10-06-2025]

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CHAPTER 1: INTRODUCTION

Cloud computing has become a cornerstone in modern IT infrastructure. Microsoft Azure offers various services, including Azure Blob Storage, which enables scalable and secure storage of unstructured data. This project focuses on using Azure Blob Storage to host a static website and apply data lifecycle management policies. It demonstrates how to use blob containers, configure public access, and apply cost-saving strategies using tiering policies.

CHAPTER 2: OBJECTIVE

The objective of this project is to demonstrate the use of Azure Blob Storage for hosting a static website. The key goals include:

- Creating a storage account
- Enabling static website hosting
- Uploading web content files (index.html and error.html)
- Making the content publicly accessible
- Creating a lifecycle management rule to move blobs to the cool tier after 100 days of inactivity.

CHAPTER 3: TOOLS AND TECHNOLOGIES USED

The project was implemented using the following tools:

- Microsoft Azure Portal: User interface to access and manage Azure resources.
- Azure Blob Storage: Object storage solution for the cloud.
- HTML: Used to create static web content.
- Web browser: To access and validate the hosted website.
- Lifecycle Policy Engine: Built-in Azure feature to automate blob tier transitions.

CHAPTER 4: ARCHITECTURE OVERVIEW

The architecture consists of a single Azure Storage Account with static website hosting enabled. When enabled, a special container named '\$web' is created, which stores web files. These files are served via a public endpoint. Azure automatically provisions a

global URL to make these files accessible. Lifecycle policies are then applied to manage blob storage cost by transitioning infrequently accessed blobs to cooler storage tiers.

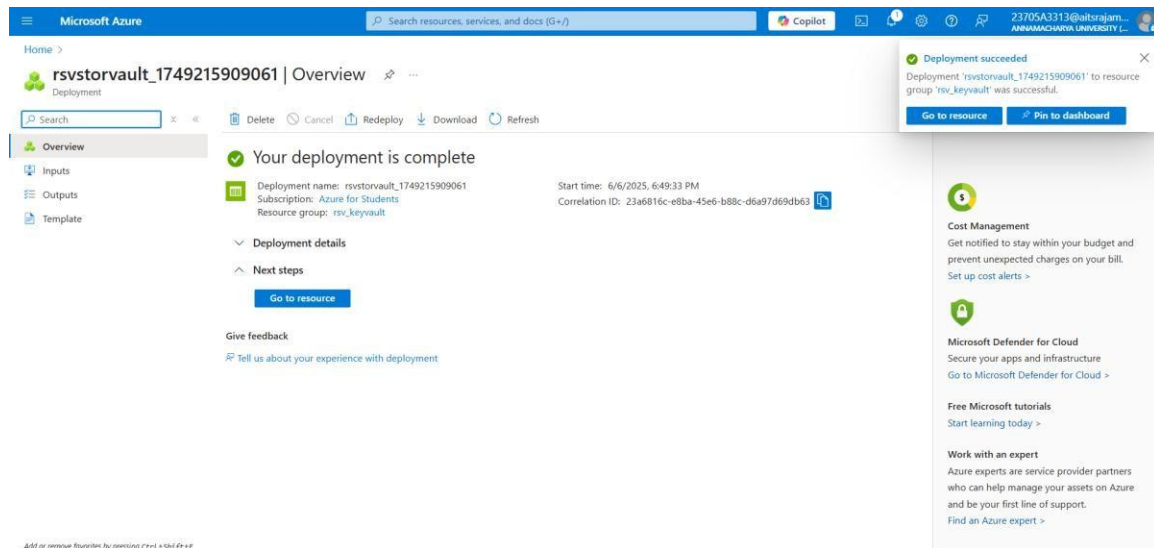


Figure 4.1: Azure Storage Account Dashboard Overview

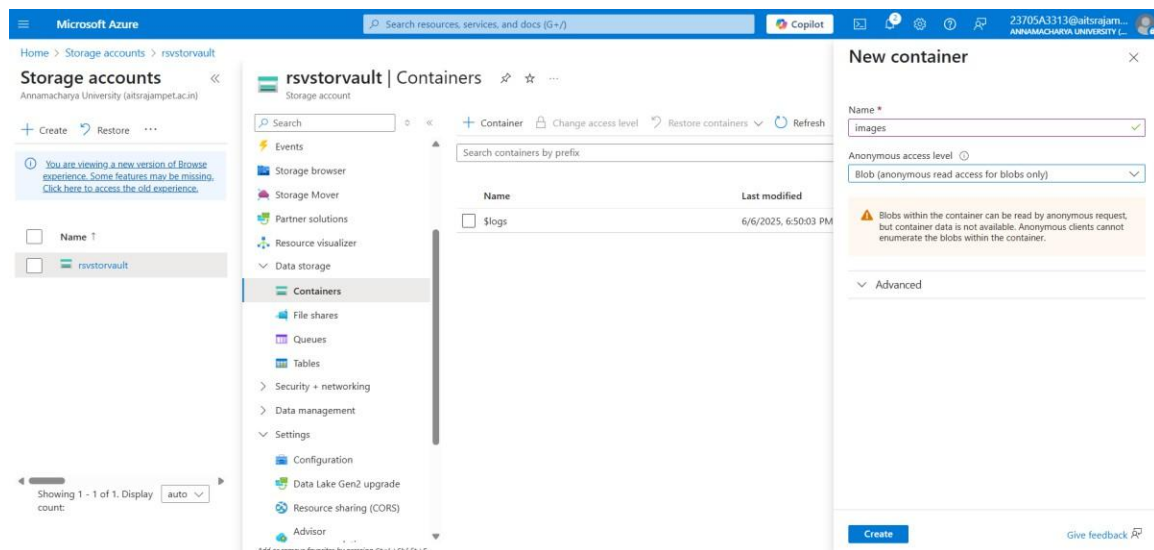


Figure 4.2: Image File Uploaded to Blob Storage Container

CHAPTER 5: IMPLEMENTATION

The implementation followed these steps:

1. Created a new Azure Storage Account.

Microsoft Azure Search resources, services, and docs (G+/)

Home > Storage accounts > **Create a storage account**

Project details
Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription * Azure for Students
Resource group * rsv_keyvault
[Create new](#)

Instance details

Storage account name * rsvstorvault
Region * (Asia Pacific) Central India
[Deploy to an Azure Extended Zone](#)

Primary service * Azure Blob Storage or Azure Data Lake Storage Gen 2

Performance * ☒ Standard: Recommended for most scenarios (general-purpose v2 account)
☐ Premium: Recommended for scenarios that require low latency.

Redundancy * Locally-redundant storage (LRS)

Previous Next **Review + create** [Give feedback](#)

Figure 5.1: Creating a New Azure Storage Account

2. Navigated to 'Static website' in the settings and enabled it.

Microsoft Azure Search resources, services, and docs (G+/)

Home > Storage accounts > rsv_keyvault > rsvstorvault

rsvstorvault | Static website

Enabling static websites on the blob service allows you to host static content. Webpages may include static content and client-side scripts. Server-side scripting is not supported. As data is replicated asynchronously from primary to secondary regions, files at the secondary endpoint may not be immediately available or in sync with files at the primary endpoint. [Learn more](#)

Static website
☒ Disabled ☒ Enabled

An Azure Storage container has been created to host your static website.
\$web

Improve the page load time of your static website by using the caching features of Azure Front Door (Additional costs apply). [Azure Front Door](#)

Primary endpoint * https://rsvstorvault229.web.core.windows.net/
Index document name * index.html
Error document path * error.html

File shares
Queues
Tables
Security + networking
Data management
Storage Actions
Redundancy
Data protection
Object replication
Blob inventory
Static website
Lifecycle management
Azure AI Search
Settings
Configuration
Data Lake Gen2 upgrade

Add or remove favorites by pressing **ctrl+shift+F**

Figure 5.2: Enabling Static Website Feature in Azure Portal

3. Specified 'index.html' and 'error.html' as the document paths.

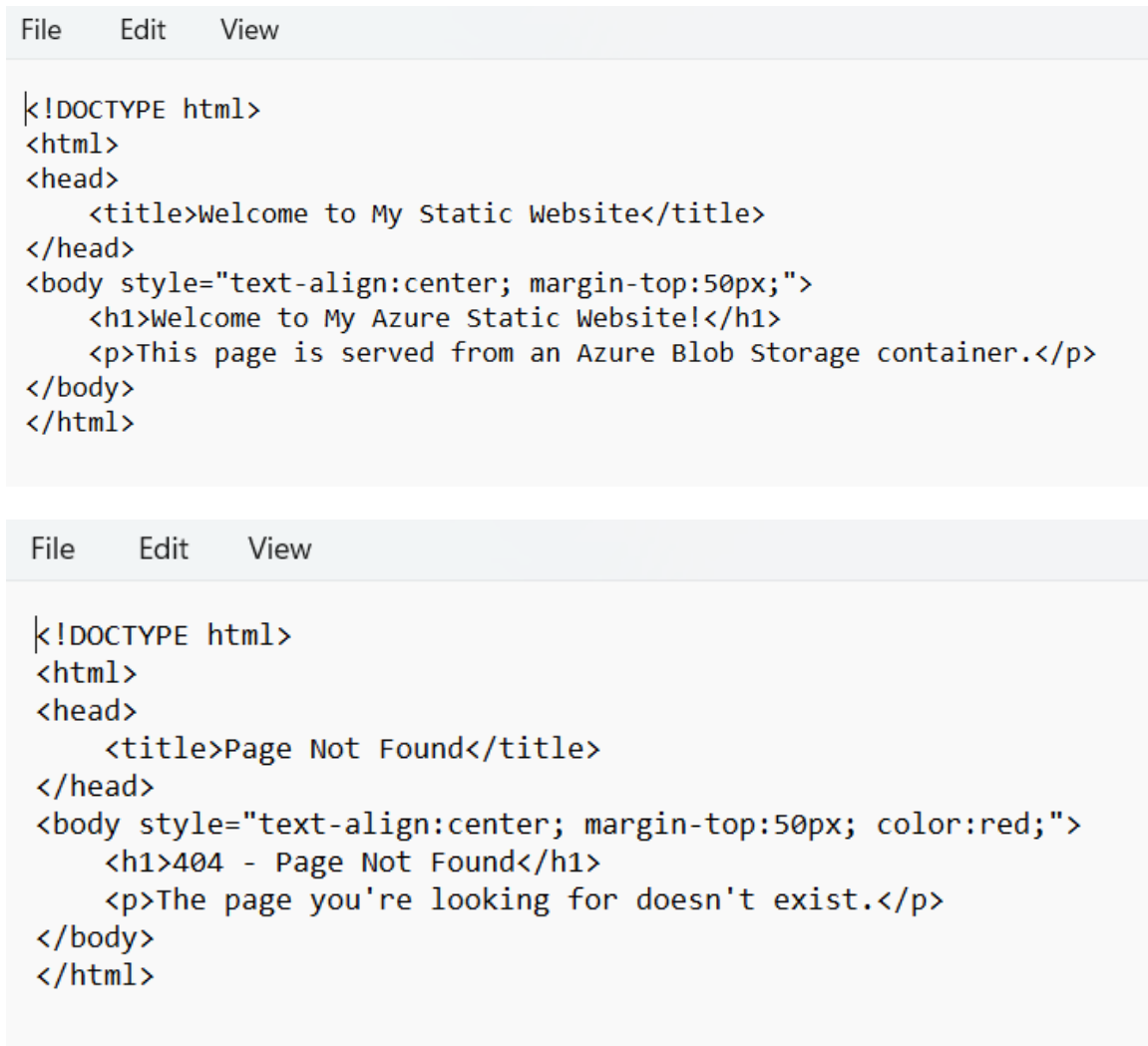


Figure 5.3: 'index.html' and 'error.html'

4. Uploaded HTML files into the '\$web' container.

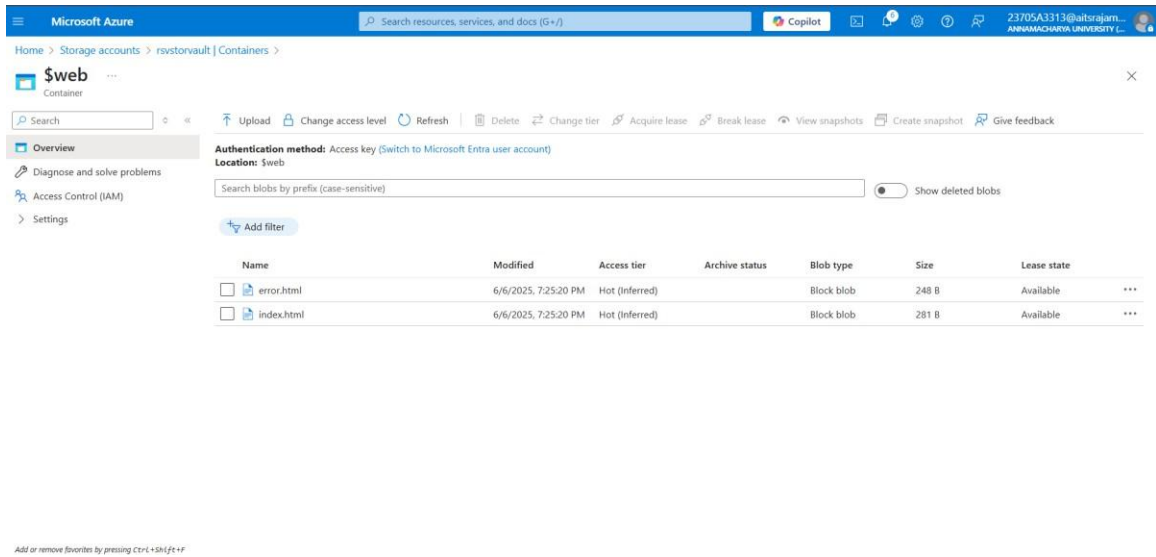


Figure 5.4: HTML Files Uploaded to Azure Blob Storage

5. Accessed the public URL to test static website functionality.

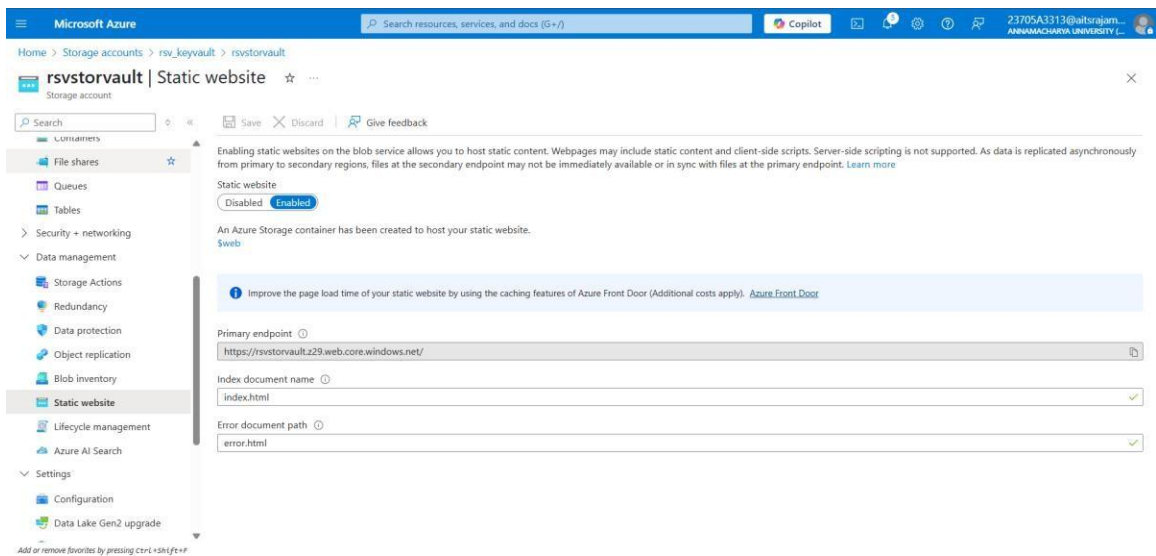


Figure 5.5: Static Website Successfully Hosted and Accessed via URL

6. Configured lifecycle rules to move blobs to the cool tier if not accessed in 100 days.

Microsoft Azure

Search resources, services, and docs (G+/I)

Copilot

23705A3313@altrajam...
ANNAMACHARYA UNIVERSITY L...

Home > Storage accounts > rsv_keyvault > rsvstorvault | Lifecycle management >

Add a rule

Details Base blobs

Lifecycle management uses your rules to automatically move blobs to cooler tiers or to delete them. If you create multiple rules, the associated actions must be implemented in tier order (from hot to cool storage, then archive, then deletion).

If

Base blobs were *

☒ Last modified

☐ Created

More than (days ago) *

100

Then

Delete the blob

+ Add conditions

Previous Add

Figure 5.6: Lifecycle Rule Configuration – Final Rule Summary

CHAPTER 6: RESULTS

The static website became publicly accessible through the Azure-generated endpoint. Visitors could load the main page and see the error page when navigating to invalid paths. Lifecycle management rules were successfully implemented, allowing for cost optimization over time.

CHAPTER 7: SCREENSHOTS

Screenshots include:

1. Storage Account Overview

Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

23705A3313@vatsrajam...
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Home > Storage accounts >

Create a storage account

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *

Resource group *
[Create new](#)

Instance details

Storage account name *

Region *
[Deploy to an Azure Extended Zone](#)

Primary service

Performance * ☒ **Standard:** Recommended for most scenarios (general-purpose v2 account)
☐ **Premium:** Recommended for scenarios that require low latency.

Redundancy *

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[Give feedback](#)

2. Static Website Settings

Microsoft Azure

Search resources, services, and docs (G+/)

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ANNAMACHARYA UNIVERSITY L...

Home > Storage accounts > rsv_keyvault > rsvstorvault

rsvstorvault | Static website

Storage account

Search

Save Discard Give feedback

Static website

☐ Disabled ☒ **Enabled**

An Azure Storage container has been created to host your static website.
[\\$web](#)

Improve the page load time of your static website by using the caching features of Azure Front Door (Additional costs apply). [Azure Front Door](#)

Primary endpoint

Index document name

Error document path

Add or remove favorites by pressing ctrl+shift+f

3. Uploaded Files in '\$web' Container

Microsoft Azure

Search resources, services, and docs (G+J)

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23705A3313@altirajam...
ANNAMACHARYA UNIVERSITY L...

Home > Storage accounts > rsvstorvault | Containers >

\$web
Container

Search

Upload Change access level Refresh Delete Change tier Acquire lease Break lease View snapshots Create snapshot Give feedback

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Authentication method: Access key (Switch to Microsoft Entra user account)

Location: \$web

Search blobs by prefix (case-sensitive)

Show deleted blobs

Add filter

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
<input type="checkbox"/> error.html	6/6/2025, 7:25:20 PM	Hot (Inferred)		Block blob	248 B	Available ***
<input type="checkbox"/> index.html	6/6/2025, 7:25:20 PM	Hot (Inferred)		Block blob	281 B	Available ***

Add or remove favorites by pressing Ctrl+Shift+F

4. Website Loading in Browser

← → ↺ 📄 rsvstorvault.z29.web.core.windows.net

☆ 📄 ⬇️ 🔄 ⋮

Welcome to My Azure Static Website!

This page is served from an Azure Blob Storage container.

5. Error Page Display



404 - Page Not Found

The page you're looking for doesn't exist.

6. Lifecycle Rule Configuration – Conditions

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

23705A3311@aitorajam...
ANNA MARIA UNIVERSITY

Home > Storage accounts > rsv_keyvault > rsvstorvault | Lifecycle management >

Add a rule

Details Base blobs

Lifecycle management uses your rules to automatically move blobs to cooler tiers or to delete them. If you create multiple rules, the associated actions must be implemented in tier order (from hot to cool storage, then archive, then deletion).

If

Base blobs were *

☒ Last modified

☐ Created

More than (days ago) *

100

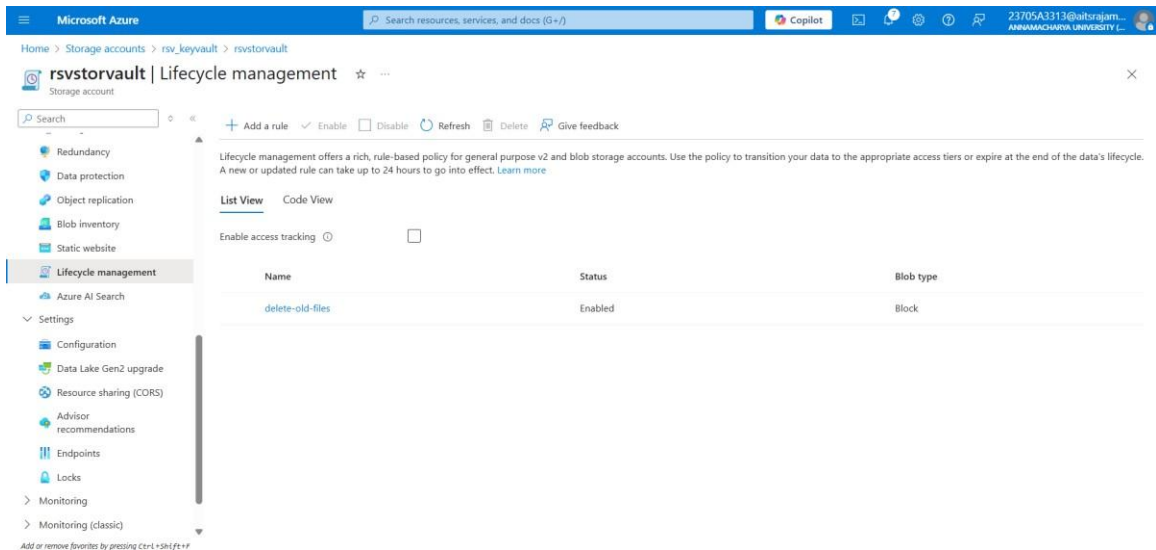
Then

Delete the blob

+ Add conditions

Previous Add

7. Lifecycle Rule Configuration – Actions



CHAPTER 8: CONCLUSION

This project provided hands-on experience with Azure Blob Storage and lifecycle management. It helped reinforce concepts of cloud storage, public access configuration, and resource optimization. The project is applicable for small-scale static web hosting with cost control features.

CHAPTER 9: FUTURE ENHANCEMENTS

Possible future improvements include:

- Adding JavaScript and CSS for dynamic content.
- Integrating with Azure CDN for faster delivery.
- Securing the endpoint with HTTPS and custom domains.
- Automating file uploads and version control through DevOps pipelines.

REFERENCES

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