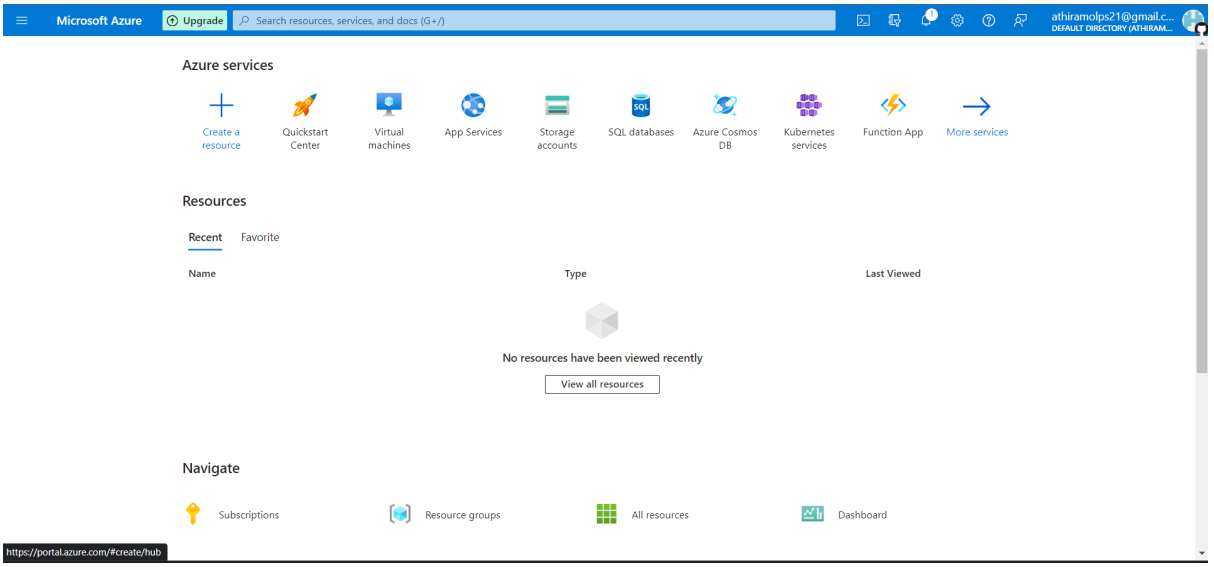
THINGS TO ANALYSE

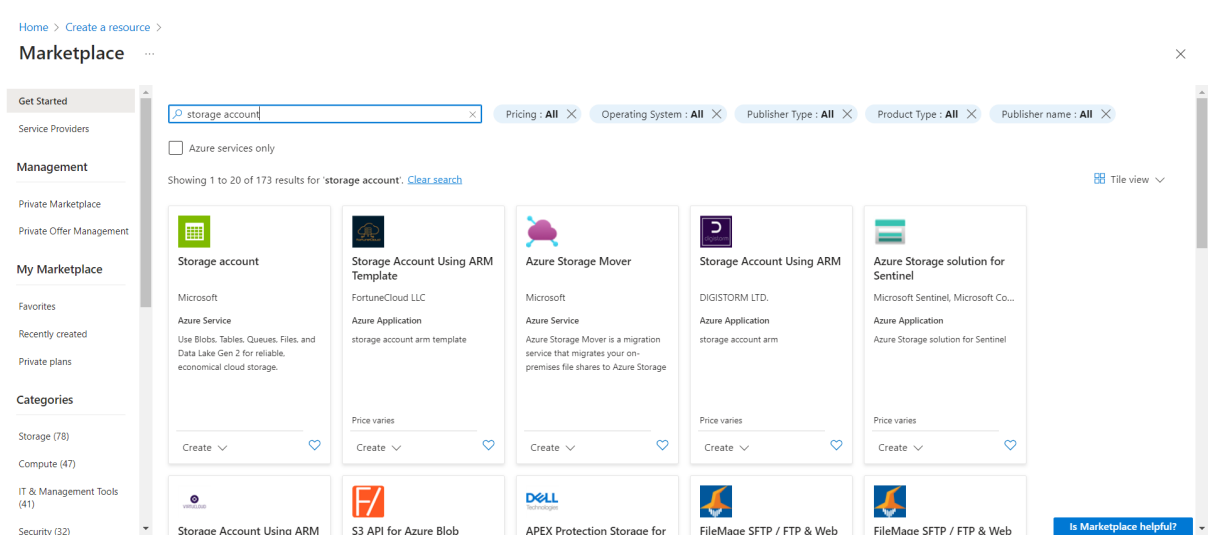
Step 1: Data Preparation

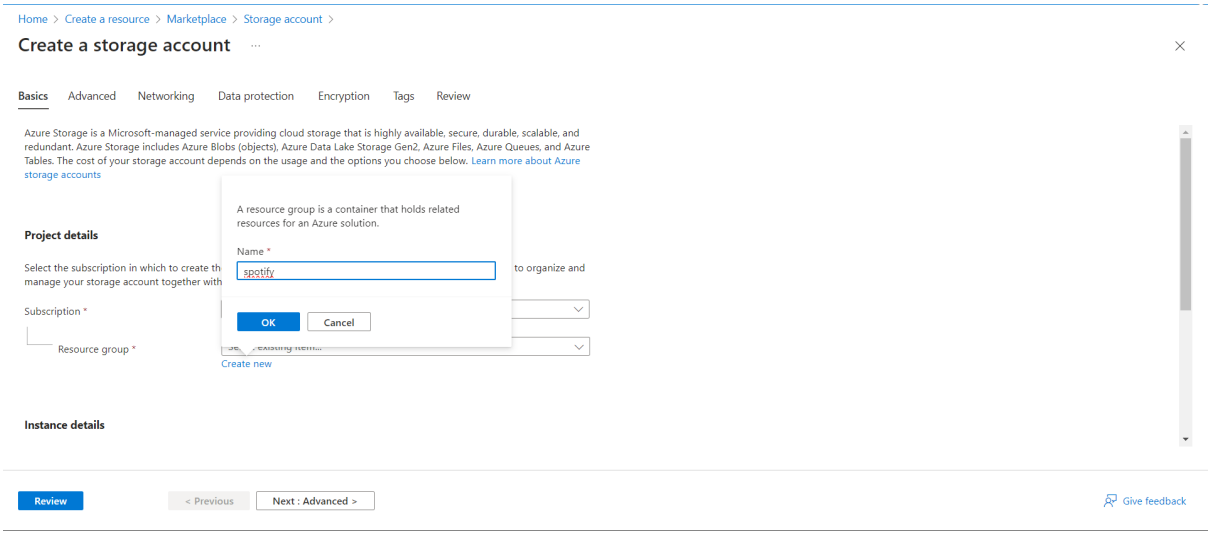
1. Structured Data: Gather structured data in tabular formats like CSV files, which could include user profiles, sales transactions, or inventory records.	https://www.kaggle.com/datasets/nelgiriyewithana/top-spotify-songs-2023
2. Semi-Structured Data: Collect semi-structured data in formats such as JSON or XML. Examples include API responses, configuration files, or log files with varying schemas.	json
3. Unstructured Data: Obtain unstructured data, which can encompass text documents, images, audio files, or videos.	audio:https://intmusic.net/262550/peggy-gou-it-goes-like-nanana-2023 Image:https://ra.co/reviews/35539

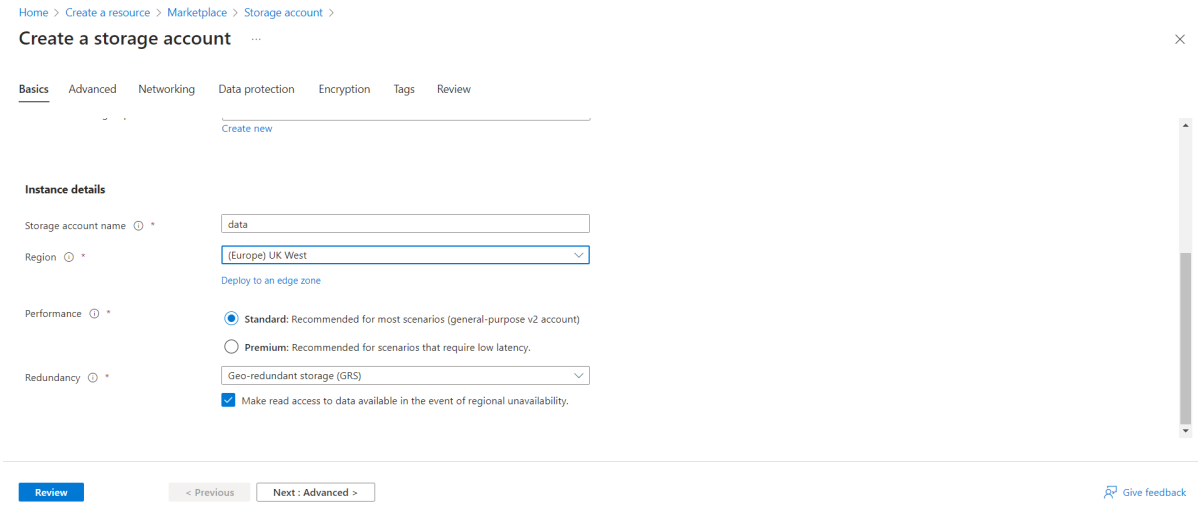
Step 2: Azure Storage creation

Azure Data Lake Storage Account: If you don't already have one, create an Azure Data Lake Storage account through the Azure portal.



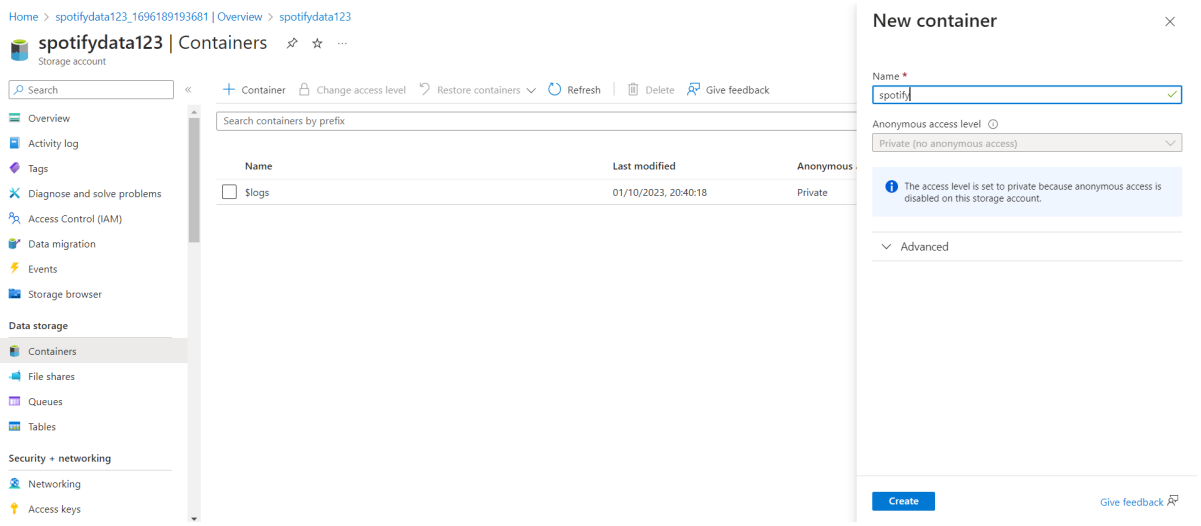


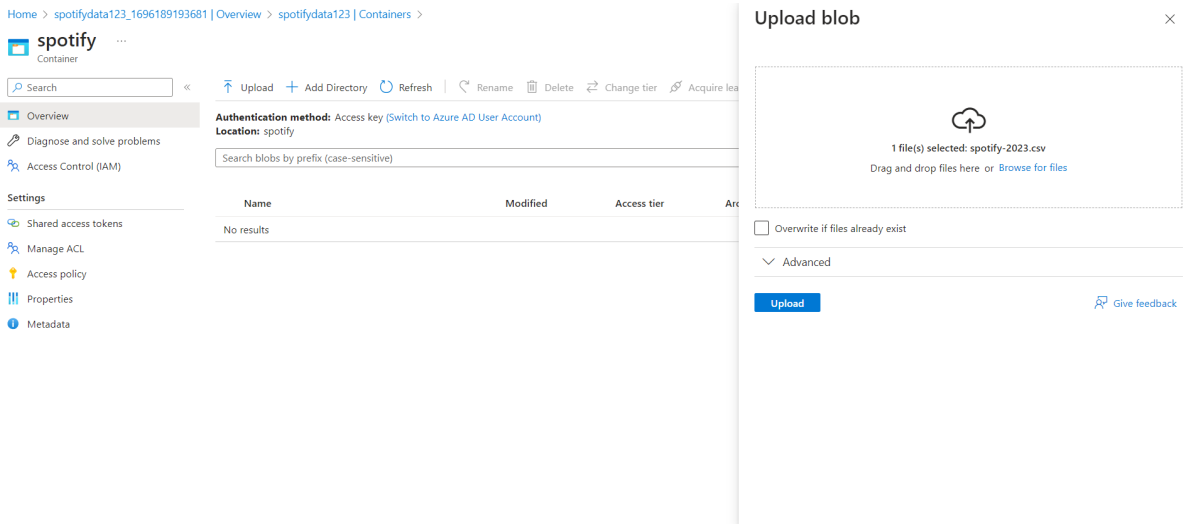

Home > Create a resource > Marketplace > Storage account >
Create a storage account
Basics Advanced Networking Data protection Encryption Tags Review
Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. Learn more about Azure storage accounts
Project details
Select the subscription in which to create th to organize and manage your storage account together with
Subscription *
Resource group *
A resource group is a container that holds related resources for an Azure solution.
Name *
spotify
OK
Cancel
Create new
Instance details
Review
< Previous
Next : Advanced >
Give feedback

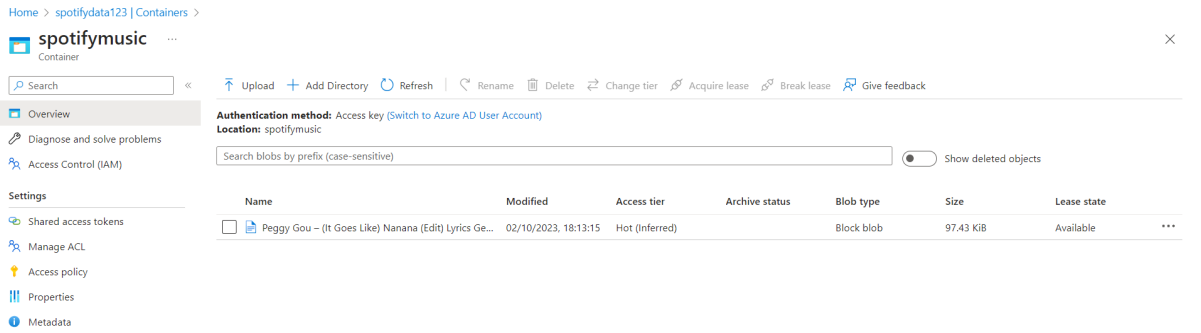

Home > Create a resource > Marketplace > Storage account >
Create a storage account
Basics Advanced Networking Data protection Encryption Tags Review
Create new
Instance details
Storage account name *
data
Region *
(Europe) UK West
Deploy to an edge zone
Performance *
Standard: Recommended for most scenarios (general-purpose v2 account)
Premium: Recommended for scenarios that require low latency.
Redundancy *
Geo-redundant storage (GRS)
Make read access to data available in the event of regional unavailability.
Review
< Previous
Next : Advanced >
Give feedback

Step 3: Data Upload

- Structured Data Upload:
    - Use Azure Storage Explorer, Azure Data Factory, or AzCopy to upload structured data (CSV files) into a designated container within your Azure Data Lake Storage account.
- Semi-Structured Data Upload:
    - Similarly, use Azure Storage Explorer, Azure Data Factory, or AzCopy to upload semi-structured data (e.g., JSON or XML files) to a separate container within Azure Data Lake Storage.
- Unstructured Data Upload:
    - For unstructured data, use Azure Storage Explorer or relevant Azure SDKs to upload the data to its respective container.

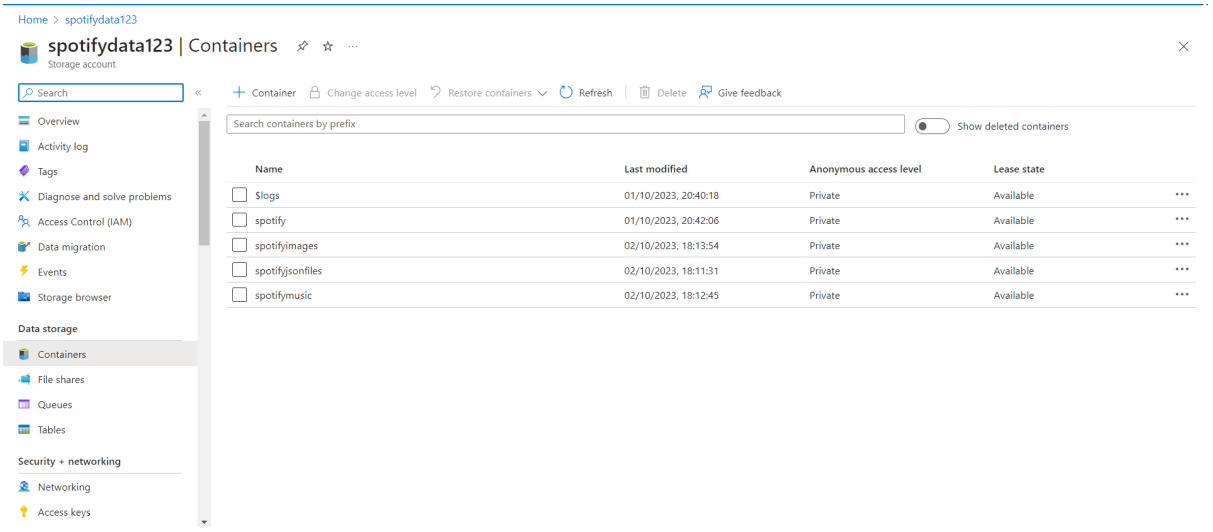

Home > spotifydata123_1696189193681 | Overview > spotifydata123
spotifydata123 | Containers
Storage account
Search
Overview
Activity log
Tags
Diagnose and solve problems
Access Control (IAM)
Data migration
Events
Storage browser
Data storage
Containers
File shares
Queues
Tables
Security + networking
Networking
Access keys
Container
Change access level
Restore containers
Refresh
Delete
Give feedback
Search containers by prefix
Name
Last modified
Anonymous
$logs
01/10/2023, 20:40:18
Private
New container
Name *
spotify
Anonymous access level
Private (no anonymous access)
The access level is set to private because anonymous access is disabled on this storage account.
Advanced
Create
Give feedback


Home > spotifydata123_1696189193681 | Overview > spotifydata123 | Containers
spotify
Container
Search
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Shared access tokens
Manage ACL
Access policy
Properties
Metadata
Upload
Add Directory
Refresh
Rename
Delete
Change tier
Authentication method: Access key (Switch to Azure AD User Account)
Location: spotify
Search blobs by prefix (case-sensitive)
Name
Modified
Access tier
No results
Upload blob
1 file(s) selected: spotify-2023.csv
Drag and drop files here or Browse for files
Overwrite if files already exist
Advanced
Upload
Give feedback


Home > spotifydata123 | Containers
spotifymusic
Container
Search
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Shared access tokens
Manage ACL
Access policy
Properties
Metadata
Upload
Add Directory
Refresh
Rename
Delete
Change tier
Acquire lease
Break lease
Give feedback
Authentication method: Access key (Switch to Azure AD User Account)
Location: spotifymusic
Search blobs by prefix (case-sensitive)
Show deleted objects
Name
Modified
Access tier
Archive status
Blob type
Size
Lease state
Peggy Gou – (It Goes Like) Nanana (Edit) Lyrics Ge...
02/10/2023, 18:13:15
Hot (Inferred)
Block blob
97.43 KiB
Available

Step 4: Verification

Data Validation:Confirm that the data has been successfully uploaded by using Azure Storage Explorer to inspect the presence of files within the containers.

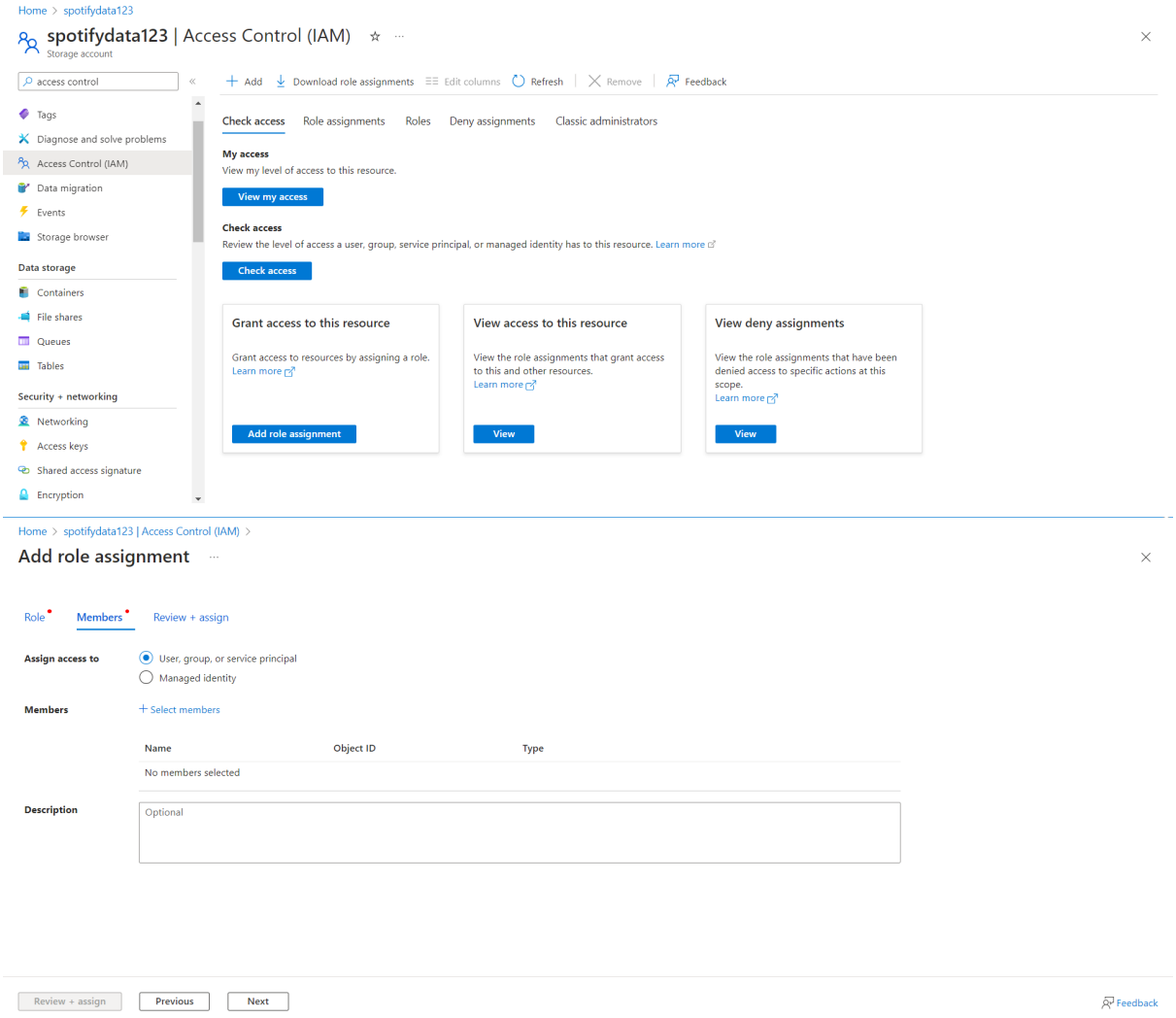


Step 5: Access Control

Establish access controls and permissions to ensure that only authorised individuals or applications can access and manipulate the data stored in Azure Data Lake Storage. Here I am giving permission to a member.

Assign Role-Based Access Control (RBAC) Roles:

- Navigate to your Azure Data Lake Storage account in the Azure portal.
- Under "Access control (IAM)," add role assignments.
- Select Members, Choose member,then Next
- Then click on the button Review +Sign button



Step 6: Documentation

Maintain comprehensive documentation that includes details about data sources, container structures, access policies, and any other relevant information about the project.

Project title	spotifydata123
Data sources	Structured data- data file sourced from a CSV file. Semi-structured data-track details in json format Unstructured data-audio music downloaded from online Unstructured data-album cover image downloaded from online

Data format	Structured data-csv Semi structured json Unstructured data-mp4 Unstructured data-.jepeg
Contain structure	Structured data-stored in “spotify” container Semi structured data-stored in “spotifyjsonfiles” container Unstructured data-stored in “spotifymusic” container Unstructured data -stored in “spotifyimages” container
Access policies	Structured data-Read access for analysts, write access for data engineers. Semi structured data-Read and write access for the data engineering team. Unstructured data-Read access granted to NLP researchers Unstructured data- Read access granted to NLP researchers
Data upload procedures	Structured Data -Uploaded using Azure Storage Explorer with "spotify.csv." Semi-Structured Data -details fetched and stored as JSON files using Azure Data Factory. Unstructured Data -downloaded audio data was downloaded and uploaded via Azure Storage Explorer. Unstructured Data -downloaded image data was downloaded and uploaded via Azure Storage Explorer.
Verification Process	Structured Data-Verified by confirming the presence of "spotify.csv" in the "spotify" container. Semi-Structured Data - Checked for the presence of JSON files in the "spotifyjsonfiles" container. Unstructured Data -Validated by inspecting the uploaded audio document in the "spotifymusic" container. Unstructured Data -Validated by inspecting the uploaded image document in the "spotifyimages" container.
Security Measures	Structured Data-Token-based authentication used Semi-Structured Data-Token-based authentication used Unstructured Data -audio data was anonymized to protect user identities.

	Unstructured Data -image data was anonymized to protect user identities.
Challenges and Solutions	Challenge - Varying JSON structures in API responses. Solution-Developed a flexible parser to handle different JSON structures.
Dependencies and Technologies	Tools -Azure Storage Explorer, Azure Data Factory, Python (for data processing), Azure Data Lake Storage.
Contact Information	Project Lead Athy Email Athymol.com
Additional contacts for access requests	Data analyst zara Email Zara.com Data engineer Ryan Email Ryan.com Data scientist Mark Email Mark.com
Future Considerations Tasks	Implement data processing pipelines to extract insights from semi-structured Spotify data. Enhance security with data encryption at rest. Explore advanced analytics on music review sentiment using Azure tools.