



CREATING A BLOB STORAGE IN AZURE

Azure Storage is a cloud storage solution provided by Microsoft Azure, offering scalable, durable, and highly available storage for applications and data in the cloud. It provides various services to store and manage different types of data, including blobs, files, queues, tables, and disks. Here are the key components of Azure Storage:

1. **Blob Storage:** Blob (Binary Large Object) Storage is designed to store large amounts of unstructured data, such as text or binary data. It's commonly used for storing images, videos, documents, backups, and logs. Blob Storage offers hot, cool, and archive tiers to optimize storage costs based on access patterns.
2. **File Storage:** Azure File Storage provides fully managed file shares in the cloud, accessible via the Server Message Block (SMB) protocol. It allows you to create file shares that can be mounted as network drives from Windows, Linux, and macOS systems, enabling easy file sharing and collaboration across multiple machines.
3. **Queue Storage:** Azure Queue Storage is a messaging service that allows you to store and process messages asynchronously. It's often used for building scalable and decoupled applications by enabling communication between different components or services.
4. **Table Storage:** Azure Table Storage is a NoSQL data store that provides schema-less storage of structured data. It's suitable for storing large amounts of semi-structured data, such as IoT telemetry, user data, and metadata. Table Storage offers high availability and automatic scaling to handle growing workloads.
5. **Disk Storage:** Azure Disk Storage offers managed virtual hard disks (VHDs) that can be attached to virtual machines (VMs) as durable storage. It provides options for both HDD (Hard Disk Drive) and SSD (Solid State Drive) storage to meet different performance requirements. Disk Storage is commonly used for operating system disks, data disks, and temporary storage for VMs.

Azure Storage provides several features and capabilities to ensure data security, availability, and compliance, including encryption at rest and in transit, role-based access control (RBAC), geo-redundant storage (GRS), and data replication options. It integrates seamlessly with other Azure services and offers SDKs and APIs for easy integration into applications running on various platforms and frameworks. Overall, Azure Storage is a versatile and reliable solution for storing and managing data in the cloud.



What is Blob storage and why do we need to create it?

Azure Blob Storage is a cloud storage service provided by Microsoft Azure for storing large amounts of unstructured data, such as text or binary data. It's designed to be highly scalable, durable, and accessible from anywhere in the world over HTTP or HTTPS.

Here's why you might need to create Blob Storage:

1. **Storing Large Files:** Blob Storage is ideal for storing large files, such as images, videos, audio files, documents, backups, and logs. It can handle files of virtually any size, from small documents to terabyte-scale media files.
2. **Web Content Hosting:** Blob Storage can be used to host static websites by serving HTML, CSS, JavaScript, and other web assets directly from storage containers. This provides a cost-effective and scalable solution for hosting websites with minimal management overhead.
3. **Data Archiving:** Blob Storage offers a cost-effective solution for archiving rarely accessed data with the Archive access tier. You can store data that needs to be retained for compliance or regulatory purposes without incurring high storage costs.
4. **Data Analytics and Processing:** Blob Storage integrates with Azure services like Azure Data Lake Storage, Azure HDInsight, Azure Databricks, and Azure Synapse Analytics for data analytics, processing, and machine learning tasks. You can store raw or processed data in Blob Storage and analyze it using various Azure services.
5. **Backup and Disaster Recovery:** Blob Storage can be used as a backup target for on-premises and cloud-based applications. You can back up data to Blob Storage using Azure Backup or third-party backup solutions, providing reliable and scalable backup storage with geo-redundancy options.
6. **Content Distribution:** Blob Storage integrates with Azure Content Delivery Network (CDN) to deliver content to users with low latency and high throughput. You can cache blobs at edge locations worldwide to improve the performance of web applications and media streaming services.

Overall, Blob Storage is a versatile and cost-effective solution for storing and managing large volumes of unstructured data in the cloud. Whether you need to store files, host websites, archive data, analyze data, or back up applications, Blob Storage provides the scalability, durability, and accessibility required for modern cloud-based applications and workloads.

Use cases of Blob Storage:

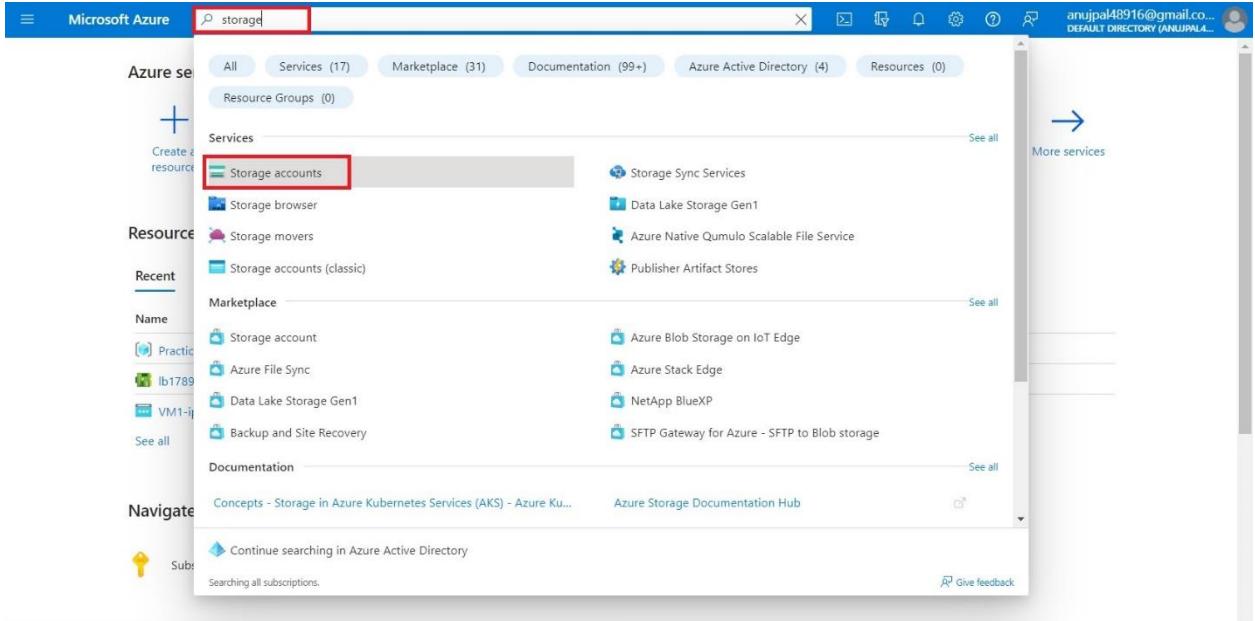
Azure Blob Storage offers a wide range of use cases due to its flexibility, scalability, and cost-effectiveness. Here are some common scenarios where Blob Storage is utilized:

1. **Media Storage and Streaming:** Storing and serving multimedia files such as images, videos, and audio files for websites, mobile apps, and streaming platforms.
2. **Backup and Recovery:** Storing backup copies of on-premises and cloud-based data, databases, virtual machines, and applications to ensure data protection and disaster recovery.
3. **Archiving and Compliance:** Archiving historical data, records, documents, logs, and compliance-related information for long-term retention and regulatory compliance.
4. **Content Distribution:** Hosting static website content, software downloads, firmware updates, and other digital assets for global distribution using Azure Content Delivery Network (CDN).
5. **Data Lakes and Analytics:** Storing raw or processed data for analytics, machine learning, data lakes, data warehousing, and big data processing using Azure services like Azure Data Lake Storage, Azure HDInsight, and Azure Databricks.
6. **IoT Telemetry and Sensor Data:** Collecting, storing, and analyzing telemetry data, sensor data, and Internet of Things (IoT) data streams for real-time monitoring, analytics, and decision-making.
7. **Collaborative Workflows:** Sharing files and documents within organizations, teams, and departments, enabling collaboration, versioning, and access control for shared resources.
8. **Content Management Systems (CMS):** Storing and managing content for CMS platforms, blogs, forums, and wikis, enabling content editors to upload, manage, and serve text and media assets.
9. **Application Data and State:** Storing application data, configuration files, user-generated content, and session state for cloud-native applications, web applications, and microservices architectures.
10. **Data Migration and Transfer:** Transferring large volumes of data between on-premises environments and the cloud, or between different cloud regions or storage accounts, using Azure Data Box or Azure Data Factory.

In this guide, we're creating Blob Storage in Azure, a cloud storage solution provided by Microsoft. The end goal is to set up a scalable, durable, and highly available storage solution for storing large amounts of unstructured data, such as images, videos, documents, backups, and logs. By following the outlined steps, we're configuring a Storage Account with the desired settings, creating a container within the account, uploading files to the container, and ensuring public access to the uploaded files. This setup allows for various use cases, including hosting websites, archiving data, backing up applications, and facilitating content distribution, all while leveraging the features and capabilities of Azure Blob Storage.

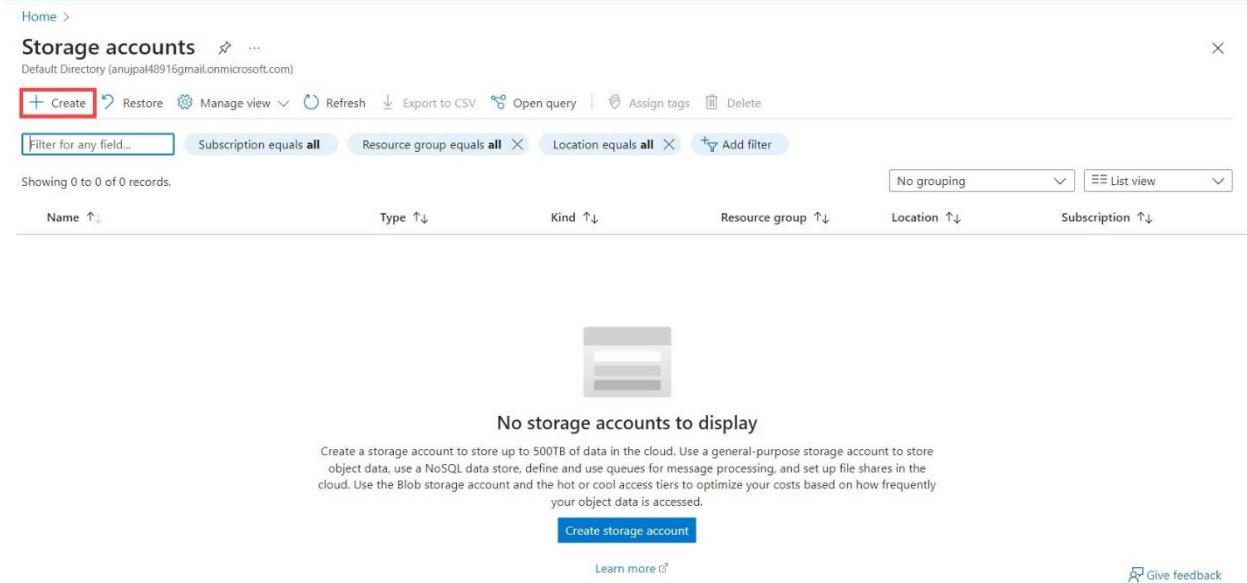
Step 1: Log in to Azure Portal

- The first step in creating Blob Storage is setting up the Storage Account. Click on the search bar and type “Storage Account”



A screenshot of the Microsoft Azure portal. The search bar at the top contains the text "storage". Below the search bar, there are several navigation tabs: All, Services (17), Marketplace (31), Documentation (99+), Azure Active Directory (4), and Resources (0). The "Services" tab is selected. Under the "Services" heading, the "Storage accounts" option is highlighted with a red box. Other service options listed include Storage Sync Services, Data Lake Storage Gen1, Azure Native Qumulo Scalable File Service, and Publisher Artifact Stores. To the right of the main search results, there is a sidebar with a large blue arrow pointing right, labeled "More services". The bottom of the page shows a footer with links for "Give feedback" and "Continue searching in Azure Active Directory".

Step 2: After that, you have to fill the option to create a storage Account.



A screenshot of the Azure Storage accounts blade. The title bar says "Storage accounts". There is a "Create" button highlighted with a red box. Below the title bar, there are filter options: "Subscription equals all", "Resource group equals all", "Location equals all", and "Add filter". At the bottom of the blade, there is a message: "No storage accounts to display" with a small icon of a server. Below this message, there is a descriptive text about creating a storage account and a "Create storage account" button. There are also "Learn more" and "Give feedback" links at the bottom right.

- Under the instance details, give your storage account a globally unique name.
- For cost optimization, select the standard performance
- For redundancy, select the Geo Redundant Storage (GRS)

Home > Storage accounts >

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

Resource group * Practice Create new

Instance details

Storage account name * [REDACTED]

Region * (Asia Pacific) Central India Deploy to an edge zone

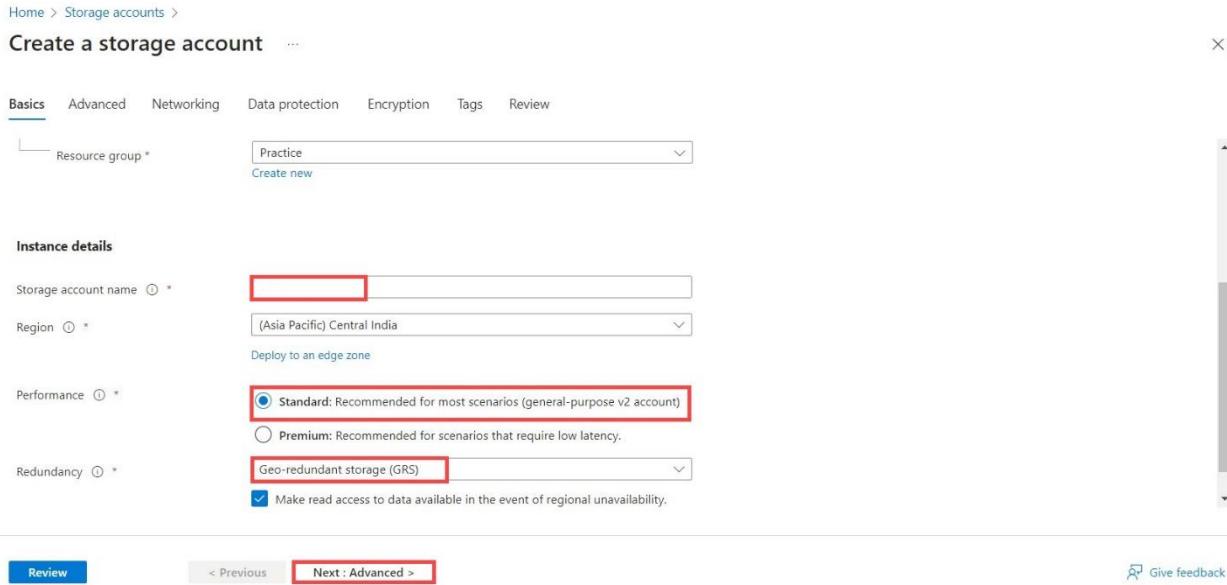
Performance * Standard: Recommended for most scenarios (general-purpose v2 account)

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: Click on the Next -> Advanced Tab

Home > Storage accounts >

Create a storage account

Basics **Advanced** Networking Data protection Encryption Tags Review

Io enable NFS v3 'hierarchical namespace' must be enabled. Learn more about NFS v3

Blob storage

Allow cross-tenant replication

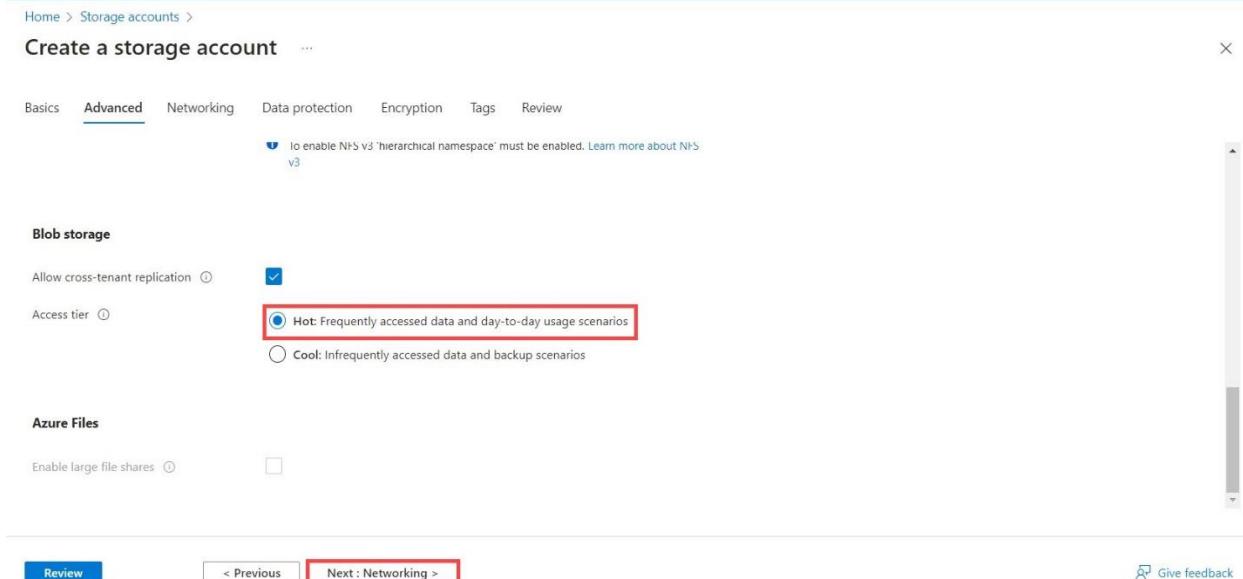
Access tier * Hot: Frequently accessed data and day-to-day usage scenarios

Cool: Infrequently accessed data and backup scenarios

Azure Files

Enable large file shares

Review < Previous Next : Networking > Give feedback



- On the Access tier, click on “Hot”

💡 Step 4: Click on the Next-> Networking Tab

- Under the Network Connectivity section, click on “Enable public access from all networks” This option allows access to your storage account over the Internet.

Home > Storage accounts >

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

private endpoint.

Network access *

Enable public access from all networks

Enable public access from selected virtual networks and IP addresses

Disable public access and use private access

Enabling public access from all networks might make this resource available publicly. Unless public access is required, we recommend using a more restricted access type. [Learn more](#)

Network routing

Determine how to route your traffic as it travels from the source to its Azure endpoint. Microsoft network routing is recommended for most customers.

Routing preference * Microsoft network routing

Review [< Previous](#) [Next : Data protection >](#) [Give feedback](#)

👀 Step 5: On the Data Protection Tab, leave the recovery options in the default mode.

Home > Storage accounts >

Create a storage account

Basics Advanced Networking **Data protection** Encryption Tags Review

Enable point-in-time restore for containers
Use point-in-time restore to restore one or more containers to an earlier state. If point-in-time restore is enabled, then versioning, change feed, and blob soft delete must also be enabled. [Learn more](#)

Enable soft delete for blobs
Soft delete enables you to recover blobs that were previously marked for deletion, including blobs that were overwritten. [Learn more](#)

Days to retain deleted blobs

Enable soft delete for containers
Soft delete enables you to recover containers that were previously marked for deletion. [Learn more](#)

Days to retain deleted containers

Enable soft delete for file shares
Soft delete enables you to recover file shares that were previously marked for deletion. [Learn more](#)

Days to retain deleted file shares

Review [< Previous](#) [Next : Encryption >](#) [Give feedback](#)

👀 Step 6: You can skip the Tag and the Encryption Tab and click “Review” to make sure all the settings are correct.

- After that Review your details and click on “Create”.

Home > Storage accounts >

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

Basics

Subscription	Azure subscription 1
Resource Group	Practice
Location	centralindia
Storage account name	johns
Deployment model	Resource manager
Performance	Standard
Replication	Read-access geo-redundant storage (RA-GRS)

Advanced

Enable hierarchical namespace	Disabled
Enable network file system v3	Disabled
Allow cross-tenant replication	Enabled

Buttons: Create, < Previous, Next >, Download a template for automation, Give feedback

👉 Step 7: Your storage account will be created as shown below. Then click on the “Go to Resource” option to get inside your storage account.

Home >

johns_1692095734327 | Overview

Deployment

Search | Delete | Cancel | Redeploy | Download | Refresh

Overview

Your deployment is complete

Deployment name: johns_1692095734327 Start time: 8/15/2023, 4:03:53 PM
Subscription: Azure subscription 1 Correlation ID: a05924a8-137a-425f-bc4c-4a162066c829

Deployment details

Next steps

Go to resource

Give feedback

Tell us about your experience with deployment

Deployment succeeded
Deployment 'johns_1692095734327' to resource group 'Practice' was successful.

Go to resource | Pin to dashboard

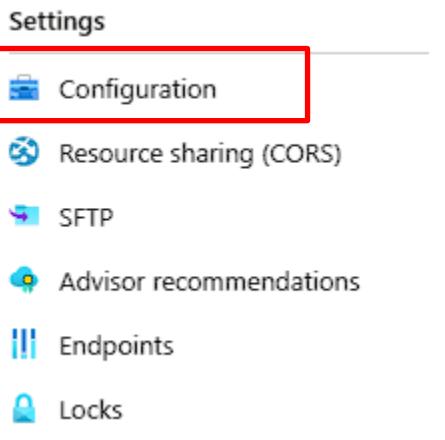
Cost Management
Get notified to stay within your budget and prevent unexpected charges on your bill.
Set up cost alerts >

Microsoft Defender for Cloud
Secure your apps and infrastructure
Go to Microsoft Defender for Cloud >

Free Microsoft tutorials
Start learning today >

Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.
Find an Azure expert >

👉 Step 8: Now go to your resources and from the left pane scroll down to settings and navigate to configuration. In there, you have to enable **Blob anonymous access**.



Allow Blob anonymous access ⓘ
Disabled Enabled

👉 Step 9: After opening the Storage Account Click on “containers” and click on “+ container” to create a new container.

- Give an appropriate Name to your container And Select the Public Access level to your container as shown below. Click on Create

The screenshot shows the 'Containers' blade in the Azure Storage account overview. The 'Containers' link in the left sidebar is highlighted with a red box and arrow 1. The '+ Container' button in the top right of the list view is highlighted with a red box and arrow 2. The 'New container' dialog is open, showing a 'Name' field with 'democontainer' and a 'Public access level' dropdown set to 'Private (no anonymous access)'. A red box highlights the 'Private' radio button. Arrows 3 and 4 point to the 'Container (anonymous read access for containers and blobs)' link and the 'Create' button respectively.

- After opening the container Click on “upload” to add files

The screenshot shows the Microsoft Azure Storage Explorer interface. On the left, there's a sidebar with options like Overview, Diagnose and solve problems, Access Control (IAM), Settings, Shared access tokens, Access policy, Properties, and Metadata. The 'Overview' tab is selected. In the main area, there's a table with columns Name, Modified, Access tier, and Arc. It shows 'No results'. Above the table, there are buttons for Upload, Change access level, Refresh, Delete, and a 'Search blobs by prefix (case-sensitive)' input field. To the right, a modal window titled 'Upload blob' is displayed. It has a cloud icon, a placeholder 'Drag and drop files here or Browse for files', and a 'Browse for files' button which is highlighted with a red box. There are also checkboxes for 'Overwrite if files already exist' and 'Advanced' settings, and a large 'Upload' button at the bottom.

- Click on Browse to locate the file you want to upload and click Open

This screenshot is similar to the one above, showing the 'Containers' view for 'democontainer'. The 'Overview' tab is selected in the sidebar. The main area shows a table with 'No results'. The 'Upload' button is highlighted with a red box. A modal window titled 'Upload blob' is open, showing a cloud icon and a message '1 file(s) selected: 3144120.png'. The 'Upload' button in the modal is also highlighted with a red box. Other elements like the 'Browse for files' button and the 'Overwrite if files already exist' checkbox are visible but not highlighted.

- Click on the uploaded blob file

Step 9: Copy the URL of the uploaded blob file and paste it into your browser's new tab

The screenshot shows the Microsoft Azure Storage Blob service interface. On the left, there's a sidebar with options like Overview, Diagnose and solve problems, Access Control (IAM), Settings, Shared access tokens, Access policy, Properties, and Metadata. The main area shows a list of blobs with one item selected: '3144120.png'. The properties panel on the right displays various details about this blob, including its URL (highlighted with a red box), last modified date (8/15/2023, 4:12:17 PM), creation time (8/15/2023, 4:12:17 PM), type (Block blob), size (43.02 kB), and access tier (Hot (Inferred)). A tooltip 'Copied' is visible over the URL field.

- You can see the uploaded image on your browser.



Azure Storage Access Tiers: -

- Hot: Frequently accessed data (high availability)
- Cool: Infrequently accessed data (lower availability and high durability)
- Archive: Rarely (if ever) accessed

You can change Storage Access Tiers by clicking “change tier on the blob storage menu, click on the dropdown menu to select your preferred access tier as shown below:

Home > johns_1692095734327 | Overview > johns | Containers >

democontainer Container

Search | Upload | Change access level | Refresh | Delete | **Change tier** | Acquire lease

Authentication method: Access key (Switch to Azure AD User Account)
Location: democontainer

Search blobs by prefix (case-sensitive)

Add filter

Name	Modified	Access tier	Archive status	Blob type
12 Traders sheets...	8/15/2023, 4:28:52 PM	Hot (Inferred)		Block

Access tier
Cool (selected)
Hot (Inferred)
Cold
Archive

Save | Cancel | Give feedback

12 Traders sheets_page-0008.jpg

Optimize storage costs by placing your data in the appropriate access tier. Learn more