

New Hampshire Cloud User Group



<https://www.meetup.com/nashuaug/>

About me!



Nashua Cloud .NET User Group

<https://www.meetup.com/nashuaug/>

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A+, Security+, Azure Solutions Architect Expert



A server room with blue-lit server racks. The racks are arranged in rows, and the floor is dark and reflective. The lighting is a deep blue, creating a high-tech atmosphere.

Azure Storage 101

Getting Started with Cloud Storage



Introduction to Azure Storage

Cloud Storage

Service allowing storage of data on remote servers

Why use cloud storage?

Scalability

Security

Cost

What is Azure Storage Account?

Microsoft implementation of Cloud Storage

Azure Storage Account

Microsoft-Managed Service

Key Characteristics

Scalability

Redundancy

Security

Durability

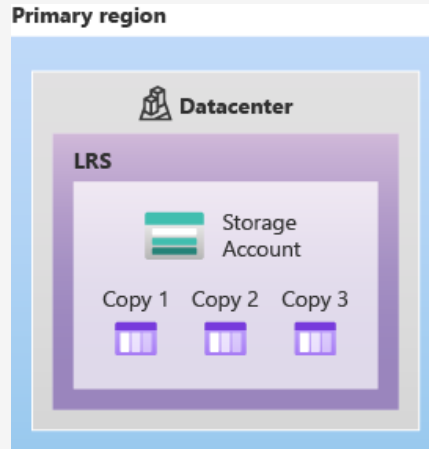
Key Characteristics: Scalability

Azure Storage scales automatically based on demand, providing virtually unlimited storage.

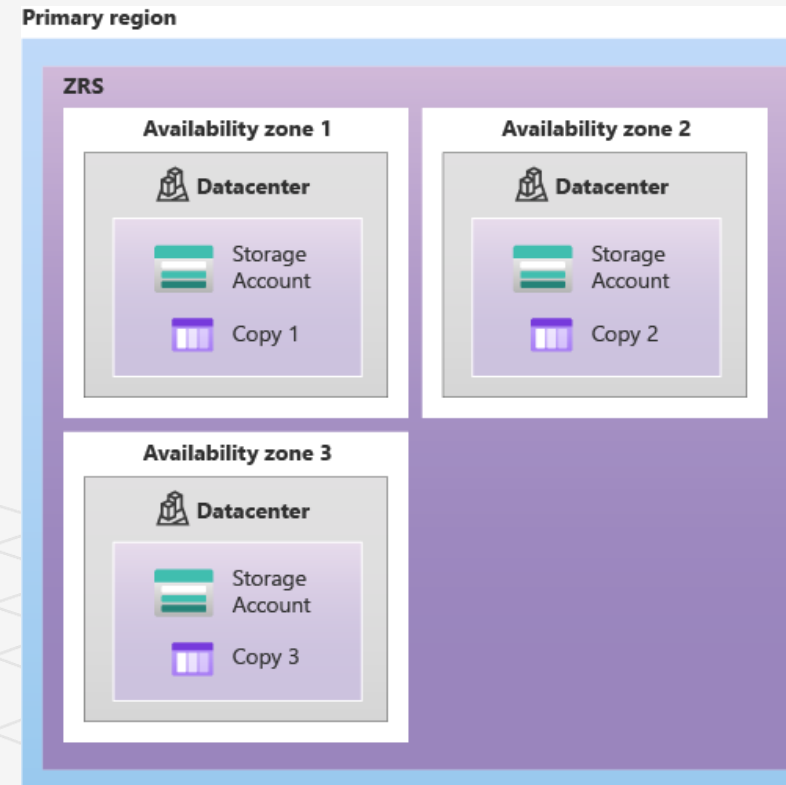


Key Characteristics: Redundancy

Locally Redundant Storage

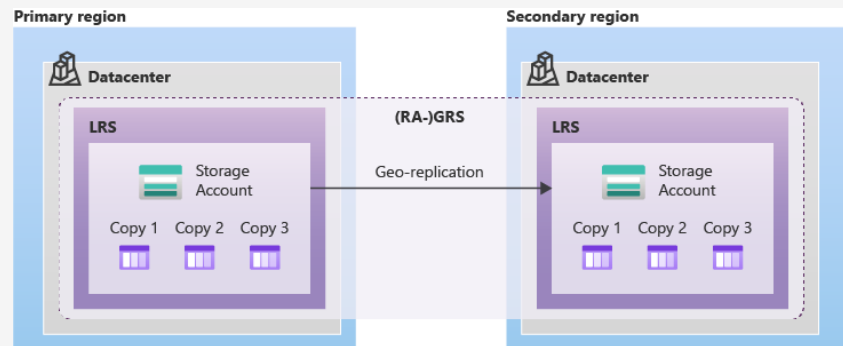


Zone Redundant Storage

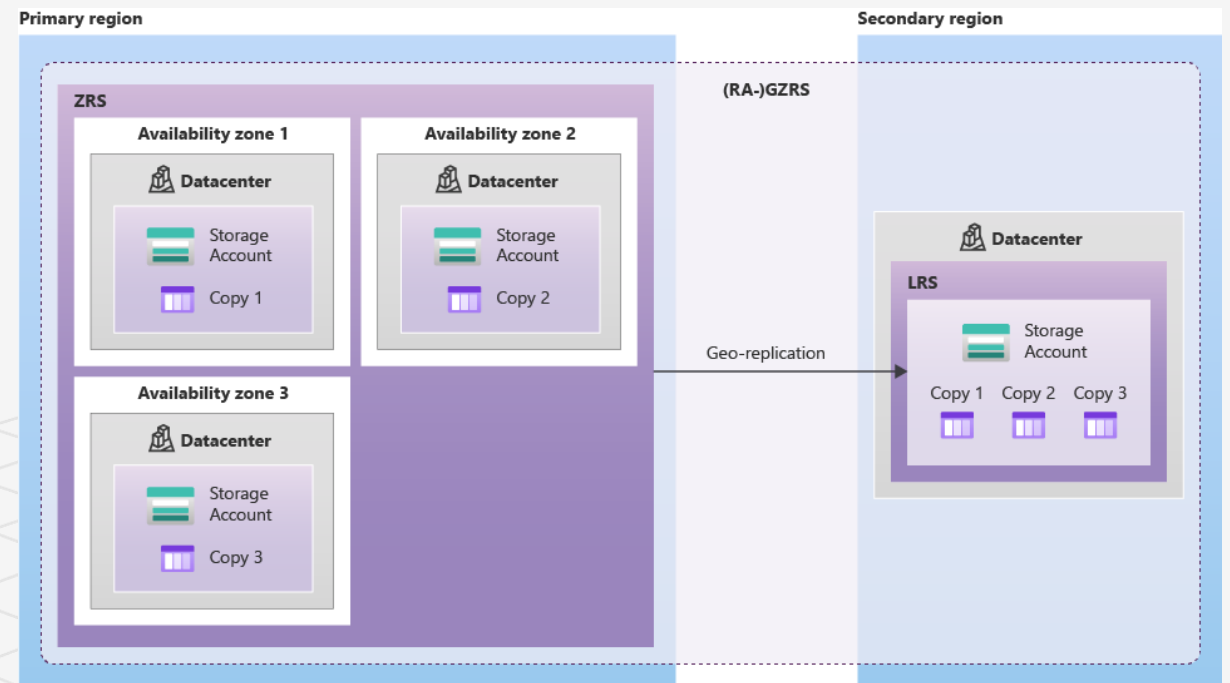


Key Characteristics: Redundancy

Geo-Redundant Storage



Read-Access Geo-Redundant Storage



Key Characteristics: Security

Encryption: At rest (using Microsoft-managed keys or customer-managed keys) and in transit.

Shared Access Signatures (SAS): Fine-grained access control.

Virtual Network Service Endpoints: Securing access to storage accounts.

Firewalls and IP Restrictions: Limiting access.

Cost Management and Pricing

Storage capacity.

Data access patterns.

Data replication choices.

Outbound data transfer.



Common Use Cases & Best Practices

Hosting static websites using Blob Storage.

Backup and disaster recovery solutions.

Big data analytics using Data Lake Storage (Gen2).

Media streaming (images, video files).



Azure Storage Account

Azure resource comprised of different storage solutions

Blob Storage

File Storage

Queue Storage

Table Storage

Disk Storage

A decorative grid pattern of light gray lines forming a perspective view of a floor or ceiling, located at the bottom of the slide.

Azure Storage Solutions

Overview of the core Azure storage services

Blob Storage

Unstructured data like documents, videos, images.

File Storage

Managed file shares in the cloud.

Queue Storage

Messaging between application components.

Table Storage

Key-Value store for structured data.

Disk Storage

Managed disks for VMs.

Blob Storage

Stores unstructured data like images, videos, and backups.
Supports different access tiers (Hot, Cool, Archive).



Azure Files

Managed file shares accessible over SMB and NFS protocols.
Ideal for shared, on-premises, and cloud-based applications.



Queue Storage

For reliable message storage and processing between application components.

Supports asynchronous communication for large-scale distributed applications.



Table Storage

NoSQL key-value store, optimized for rapid data access.
Used for structured datasets with flexible schema.



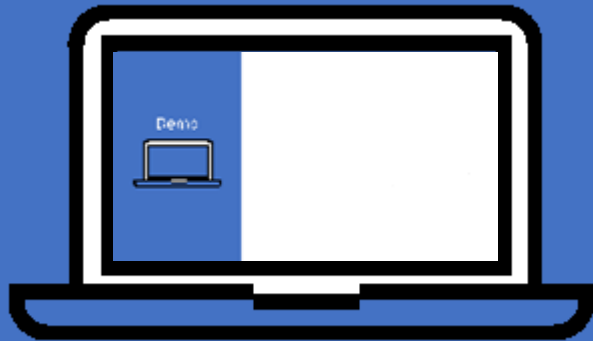
Disk Storage

High-performance storage for virtual machines.

Supports both SSD and HDD types, depending on performance needs.

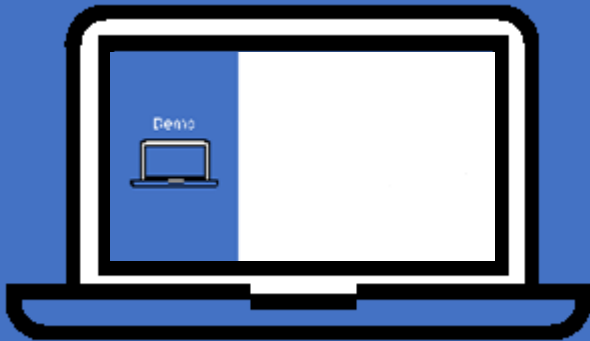


Demo



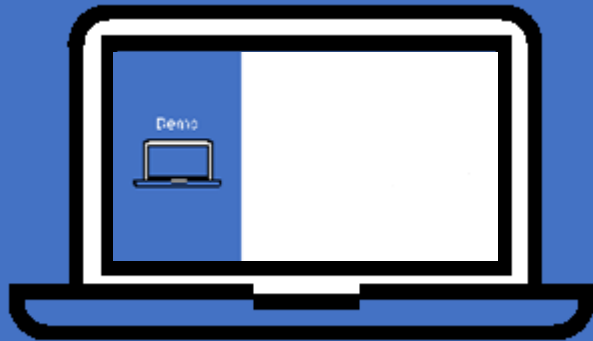
Shared Access Signatures

Demo



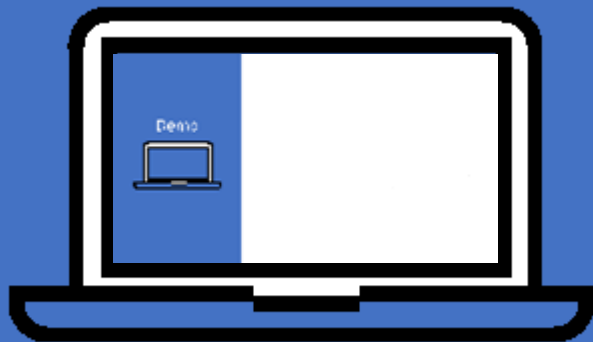
Blob Anonymous Access

Demo



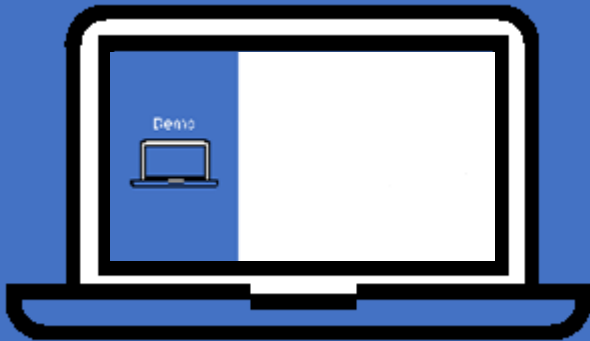
Failover

Demo



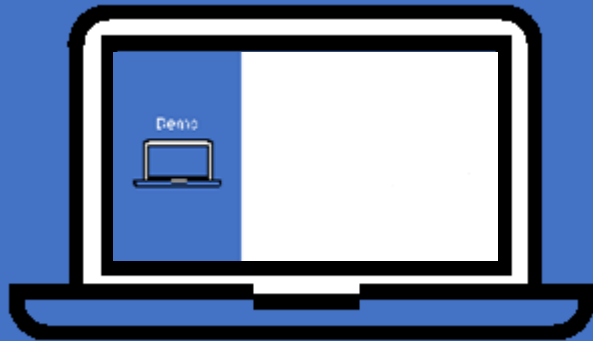
Block Blob Replication

Demo



Lifecycle Management

Demo



File Share

Summary

Azure Storage Account provide many different storage solutions

Blobs

Files

Queues

Tables

Managed Disks

Azure Storage is durable, secure, scalable and cost effective

Resources

Introduction to Azure Storage

<https://learn.microsoft.com/en-us/azure/storage/common/storage-introduction>

AZ-104: Implement and manage storage in Azure

<https://learn.microsoft.com/en-us/training/paths/az-104-manage-storage/>

Link to Slides in GitHub



What's Next

Azure Compute 102:

Getting Started with Cloud Compute
Oct 30th, 2024, 6:00 PM to 7:30 PM EDT

Azure Networking 103:

Getting Started with Cloud Networking
Nov 27th, 2024, 6:00 PM to 7:30 PM ED