

# Microsoft Azure Administrator: Manage Storage Accounts

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## CREATING AND CONFIGURING AZURE STORAGE ACCOUNTS



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# Course Coverage of Certification Objectives



## Manage Storage Accounts

- Create and configure storage accounts
- Implement Azure storage replication
- Generate shared access signature
- Manage access keys
- Configure Azure AD Authentication for a storage account
- Configure network access to storage accounts



# Exercise Files

Slides

Code

Links to Resources

The screenshot shows the course page for "PowerShell: Getting Started" by Michael Bender. The page has a dark theme. At the top, there's a search bar and the author's name "Michael Bender" with his email "mbender@bentech.net". The main heading is "PowerShell: Getting Started" by Michael Bender. Below it, a description states: "This is an introductory course on PowerShell and how to use it for basic IT Operations support." There are buttons for "Resume Course", "Bookmark", "Add to Channel", and "Download Course". A "Course Breakdown" section lists topics like "Introduction to PowerShell", "PowerShell Basics", "Gathering Information with PowerShell", "Working with PowerShell", and "Managing PowerShell". On the right, the "Course author" section features Michael Bender's profile and a bio: "Michael is a six-time Microsoft Most Valuable Professional, author, technical trainer, and community leader. Having been in the IT industry since the 90's, his experiences covers the gamut of...". Below that is the "Course info" section with details: Level (Beginner), Rating (★★★★★ (602)), My rating (★★★★★), Duration (3h 5m), and Updated (22 May 2019). At the bottom, there are social media share icons for Facebook, Twitter, and LinkedIn. The "Exercise files" tab is highlighted with a yellow box, and the "Download exercise files" button is also highlighted with a yellow box. The text under the "Exercise files" tab reads: "These exercise files are intended to provide you with the assets you need to create a video-based hands-on experience. With the exercise files, you can follow along with the author and re-create the same solution on your computer. We find this to be even more effective than written lab exercises."



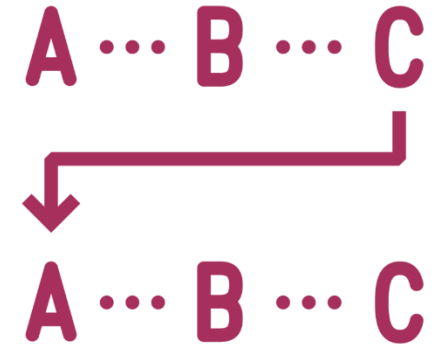
# Azure Storage Data Objects



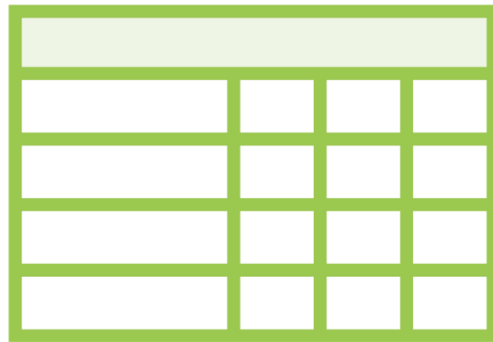
Blob



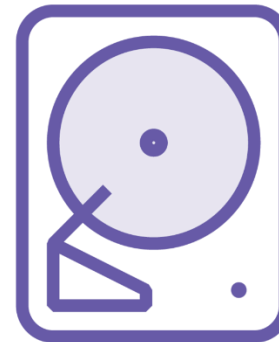
File



Queue

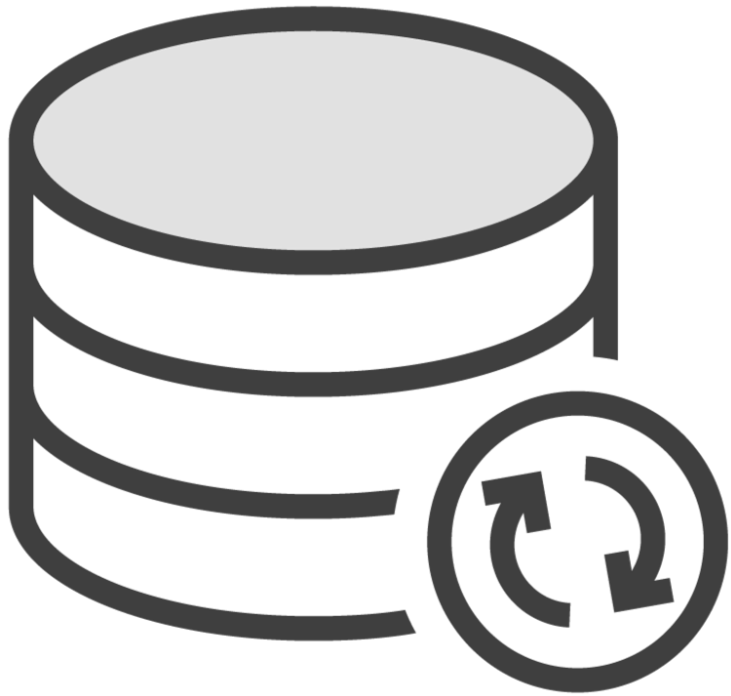


Table



Disk

# Azure Storage Accounts



**Contains all Azure storage objects**

**Unique namespace access to storage resources**

- <https://stblobstorage001.blob.core.windows.net/demo/az-104-outline.pdf>

**Highly Available**

**Secure and Scalable**



# Type of Storage Accounts

General-purpose  
v2

General-purpose  
v1

BlockBlobStorage

FileStorage

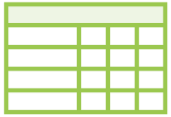
BlobStorage



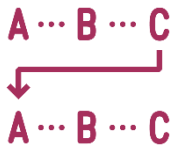
# Storage Account Endpoints



Azure Blob - <https://saprodstorage001.blob.core.windows.net>



Azure Table - <https://saprodstorage001.table.core.windows.net>



Azure Queue - <https://saprodstorage001.queue.core.windows.net>



Azure File - <https://saprodstorage001.file.core.windows.net>



<https://sa-blobstore-eastus-001.blob.core.windows.net/demo/az-104-outline.pdf>

Storage  
Account  
Name

Storage  
Service  
Endpoint

Container  
Name

Object  
Name

# Azure Storage Endpoint for BlobStorage





# Storage Account Performance and Access Tiers

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# Performance Tiers

## Standard

- All storage account types
- Backup and disaster recovery data
- Media

## Premium

- Only available for BlockBlob Storage
- Interactive
- Analytics
- AI/ML

**No conversion after Deployment!**



# Access Tiers



Hot

Highest storage cost  
Lower access cost



Cool

Lower storage cost  
Higher access cost  
30 day minimum



Archive

Lowest storage cost  
Highest access cost  
180 day minimum



# Replication Options

**Local-Redundant  
storage (LRS)**

**Zone-Redundant  
storage (ZRS)**

**Geo-Redundant  
storage (GRS)**

**Geo-Zone-  
Redundant  
Storage (GZRS)**

**Read-Access Geo-  
Redundant  
Storage (RA-GRS)**

**Read-Access Geo-  
Zone-Redundant  
Storage (RA-GZRS)**



# Replication



**What if an Azure datacenter fails?**

**What if an Azure region fails?**

**Do you need Read access?**

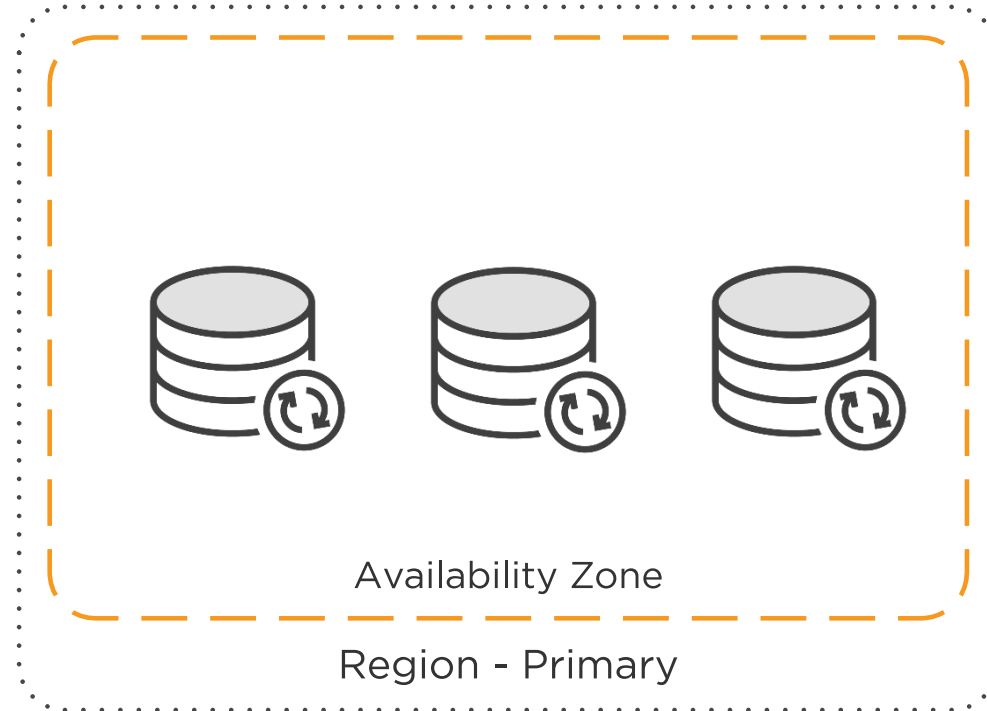


# Redundancy in a Primary Region

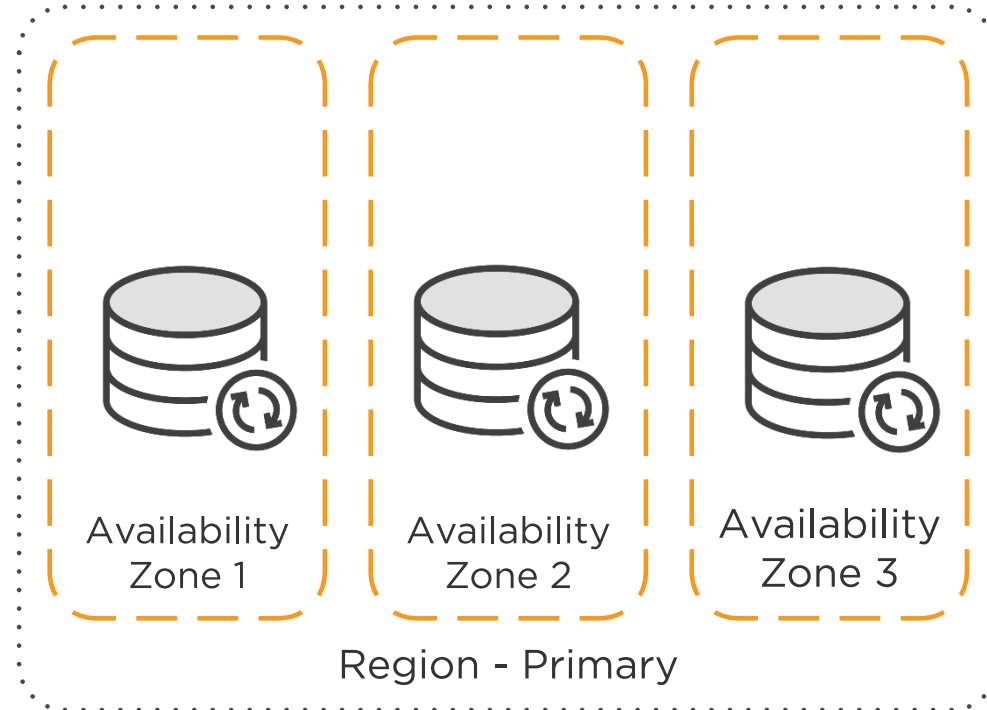
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## Local-Redundant Storage (LRS)



## Zone-Redundant storage (ZRS)



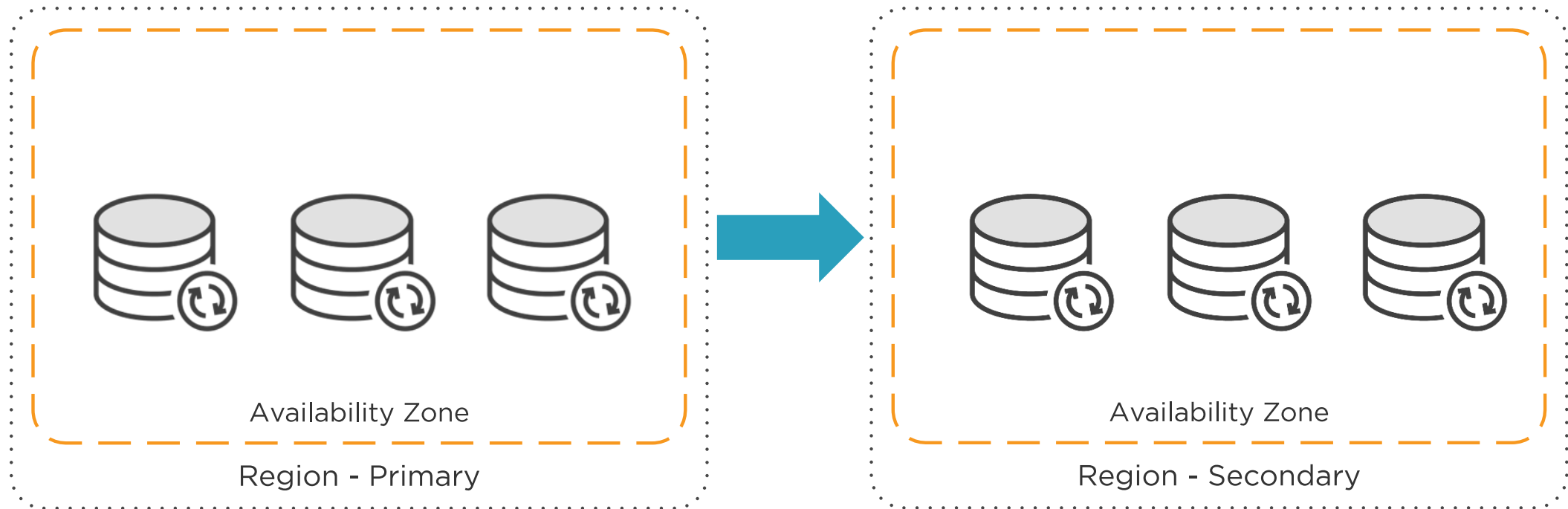


# Redundancy in a Secondary Region

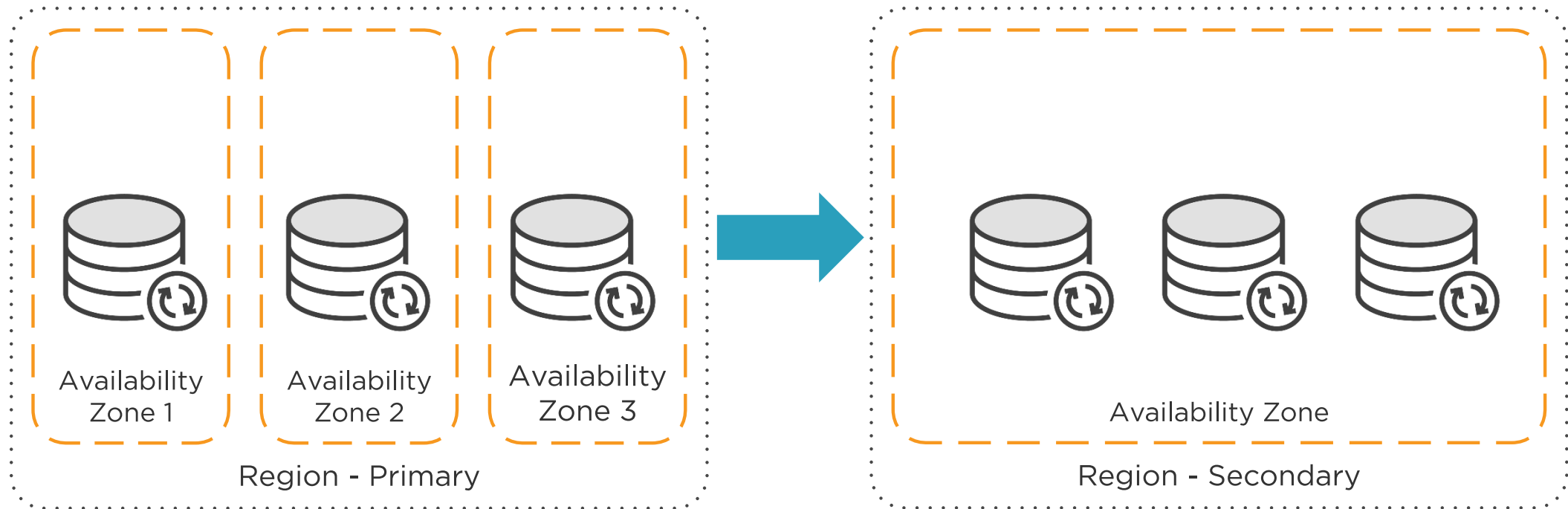
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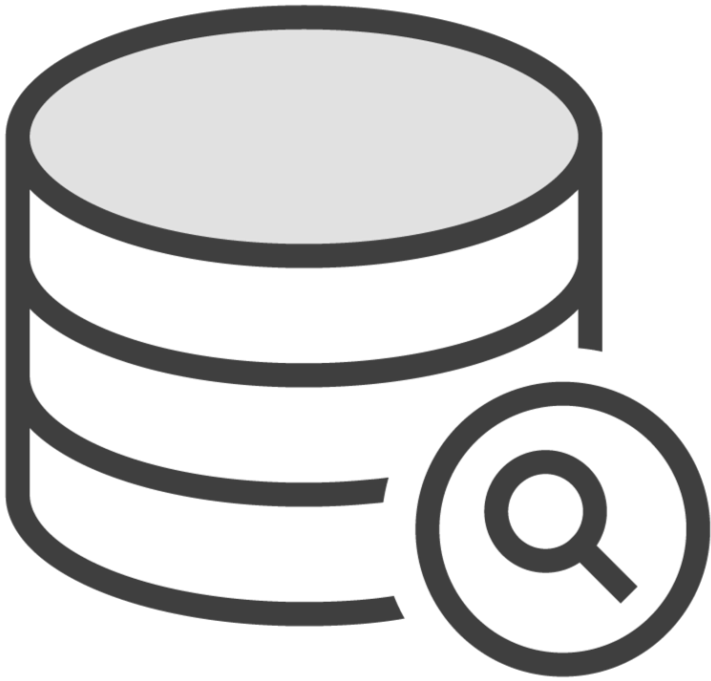
# Geo-Redundant Storage (GRS)



# Geo-Zone-Redundant Storage (GZRS)



# Read Access in a Secondary Region



**Read-Only without failover**

**Applications can use secondary storage**

**Available in Geo-redundant storage**

Read-Access Geo-Redundant Storage (RA-GRS)

Read-Access Geo-Zone-Redundant Storage (RA-GZRS)

**Append *-secondary* to storage account name**

<https://<StorageAcctName>-secondary.blob.core.windows.net>



# Azure Storage Durability and Availability Scenarios

Outage scenario	LRS	ZRS	GRS/ RA-GRS	GZRS/ RA-GZRS
Data center node becomes unavailable	Yes	Yes	Yes	Yes
Entire datacenter becomes unavailable	No	Yes	Yes	Yes
Primary region-wide outage	No	No	Yes	Yes
Read access in secondary region when primary is unavailable	No	No	Yes (with RA-GRS)	Yes (with RA-GZRS)

Referenced from Microsoft at <https://bit.ly/2FeFav5>



# Demo



## Creating a Storage Accounts



# Demo



## Configuring a Storage Account



# Storage Account Supported Capabilities

	Data Objects	Performance Tiers	Access Tiers	Replication Options
General Purpose v2	Blob, File, Table, Disk, Queue, & Data Lake Gen2	Standard Premium (Disk Only)	Hot, Cool, Archive	LRS, GRS, RA-GRS, ZRS, GZRS (preview), RA-GZRS (preview)
General Purpose v1	Blob, File, Queue, Table, and Disk	Standard Premium (Disk Only)	N/A	LRS, GRS, RA-GRS
BlockBlobStorage	Blob (block blobs and append blobs)	Premium	N/A	LRS, ZRS
FileStorage	File Only	Premium	N/A	LRS, ZRS
BlobStorage	Blob (block blobs and append blobs)	Standard	Hot, Cool, Archive	LRS, GRS, RA-GRS

Referenced from Microsoft at <http://bit.ly/azstraccts>





Next Up

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Configuring Access Control to Azure  
Storage Accounts

