

Custom Learnings

Day 5

Resource Group

- ⇒ A logical container

Storage Account Creation in AZURE

- ⇒ Premium Account
 - Page Blobs
 - File Shares
 - Block Blobs
- ⇒ Locally Redundant Storage (LRS)
 - Within the same data center there are multiple copies of the data
- ⇒ Zone Redundant Storage (ZRS)
 - There are multiple zones within a data center separated by a certain distance.
 - Each zone has a copy of the data.
- ⇒ Geo Redundant Storage (GRS)
 - Within a region pair where the regions are separated by a distance of 300 Km, there are copies of the data.
 - Data duplication happens synchronously 3 times in a data center by default.
- ⇒ Read Access Geo Redundant Storage
 - Users get access to the Secondary storage directly instead of the primary storage.
 - The benefit of this is that the read operation can happen simultaneously.
 - Replication is different from write operation.
 - In case of critical failure in the primary storage, the delay in the switchover from primary to secondary storage can take some time which might result in loss of data.
 - RAGRS prevents this and provides seamless servicing.
- ⇒ SLA
 - Service Level Agreement
 - The type of service the cloud service providers agree to provide.
- ⇒ Depending on the amount paid, different levels of services are provided.
- ⇒ GA: General Availability
- ⇒ Endpoint: the link that connects to a resource
- ⇒ Upstream & Downstream
 - Upstream is where the data comes from
 - Downstream is where the data will be sent after due transformation.
- ⇒ SFTP is not available for BLOB.
 - It is only available for hierarchical namespace.
- ⇒ Subscriber is called tenant.
 - Communication between tenants is called cross-tenant communication.
 - Replication of data from one tenant to another is called cross-tenant replication.
 - Tenant ID is used for cross-tenant replication.

⇒ Access Tier

- Hot: frequently accessed data (frequently)
- Cool: infrequently accessed data and backup scenarios (min 30 days)
- Cold: infrequently accessed data for longer period than cool (min 90 days)
- Archive: long-term storage of data (min 180 days)
- In hot more is paid for storage so less is incurred on accessing the data
- In cold less is paid for storage so more is incurred on accessing the data
- Purging of data(deleting)/Archiving happens to release storage.

⇒ Soft delete

- If something is delete using soft delete, the files can be retrieved within the next 7 days.

⇒ BLOB change feed

- The number of days for which the data is maintained. Before that threshold the data is deleted

⇒ Azure CosmosDB is used for all kinds of data storage.

Creation of Storage Account:

The screenshot shows the 'Create a storage account' wizard in the Microsoft Azure portal. The 'Basics' tab is active, and the 'Review' tab is also visible. The wizard is titled 'Create a storage account' and has a close button (X) in the top right corner. The 'Basics' tab includes the following fields:

- Resource group ***: A dropdown menu showing '(New) RG_IDA_SHELL_03' with a 'Create new' link below it.
- Storage account name ***: A text input field containing 'idashellstorage'.
- Region ***: A dropdown menu showing '(US) East US' with a 'Deploy to an edge zone' link below it.
- Performance ***: Two radio button options: 'Standard: Recommended for most scenarios (general-purpose v2 account)' (selected) and 'Premium: Recommended for scenarios that require low latency'.
- Redundancy ***: A dropdown menu showing 'Locally-redundant storage (LRS)'.

At the bottom of the wizard, there are three buttons: 'Review' (highlighted in blue), '< Previous', and 'Next : Advanced >'. A 'Give feedback' link is located in the bottom right corner.

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

Home > idashellstorage03_1693807133286 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

✓ Your deployment is complete

Deployment name: idashellstorage03_16... Start time: 9/4/2023, 11:29:04 AM
 Subscription: npunext-1680261698581 Correlation ID: e74d9f55-bc2f-4527-994c-a3b8fa
 Resource group: RG_IDA_SHELL_03

Deployment details

Next steps

[Go to resource](#)

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Home > idashellstorage03_1693807133286 | Overview

idashellstorage03 Storage account

Search

Upload Open in Explorer Delete Move Refresh Open in mobile CLI / PS Feedback

Essentials [JSON View](#)

Resource group (move) : [RG_IDA_SHELL_03](#)
 Location : East US
 Subscription (move) : [npunext-1680261698581](#)
 Subscription ID : 7179a1e4-9824-4360-9eda-2930d7e2dc08
 Disk state : Available
 Tags (edit) : [Add tags](#)

Performance : Standard
 Replication : Zone-redundant storage (ZRS)
 Account kind : StorageV2 (general purpose v2)
 Provisioning state : Succeeded
 Created : 9/4/2023, 11:29:12 AM

Properties Monitoring Capabilities (7) Recommendations (0) Tutorials Tools + SDKs

Blob service

Hierarchical namespace	Disabled
Default access tier	Hot
Blob anonymous access	Disabled
Blob soft delete	Enabled (7 days)
Container soft delete	Enabled (7 days)
Versioning	Enabled
Change feed	Enabled

Security

Require secure transfer for REST API operations	Enabled
Storage account key access	Enabled
Minimum TLS version	Version 1.2
Infrastructure encryption	Disabled

Networking

Allow access from All network

- ⇒ In Big Data processing, the data is present in multiple subfolders.
- To allow the creation of subfolders, ADLS Gen2 need to be used
 - Azure Data Lake Storage Gen2(ADLS Gen2)

- To create a Gen2, go to storage account, create, Advanced tab, enable hierarchical namespace.
 - The above will cause the creation of Gen2 storage.
 - Sub folders are not available in BLOB storage that is why ADLS Gen2 is used
- ⇒ A container can also be created to store this ADLS Gen2 instance.
- ⇒ Access permissions in ADLS Gen2
- Read
 - Write
 - Execute

Creation of BLOB, Files, Tables, and Queues

To report any issues:

⇒ support@nuvepro.freshdesk.com

For file share:

- ⇒ Create an Azure Data Lake Storage Gen2
- ⇒ Create a file share
- ⇒ Click on connect
- ⇒ Copy the script generated
- ⇒ Upload a demo file in the file share
- ⇒ Create a VM with windows 2019 image
- ⇒ Connect to the VM using Remote Desktop Connection
- ⇒ There run the script in windows PowerShell
- ⇒ The file share is reflected in the VM, containing the demo file inside

Creation of Virtual Machine:

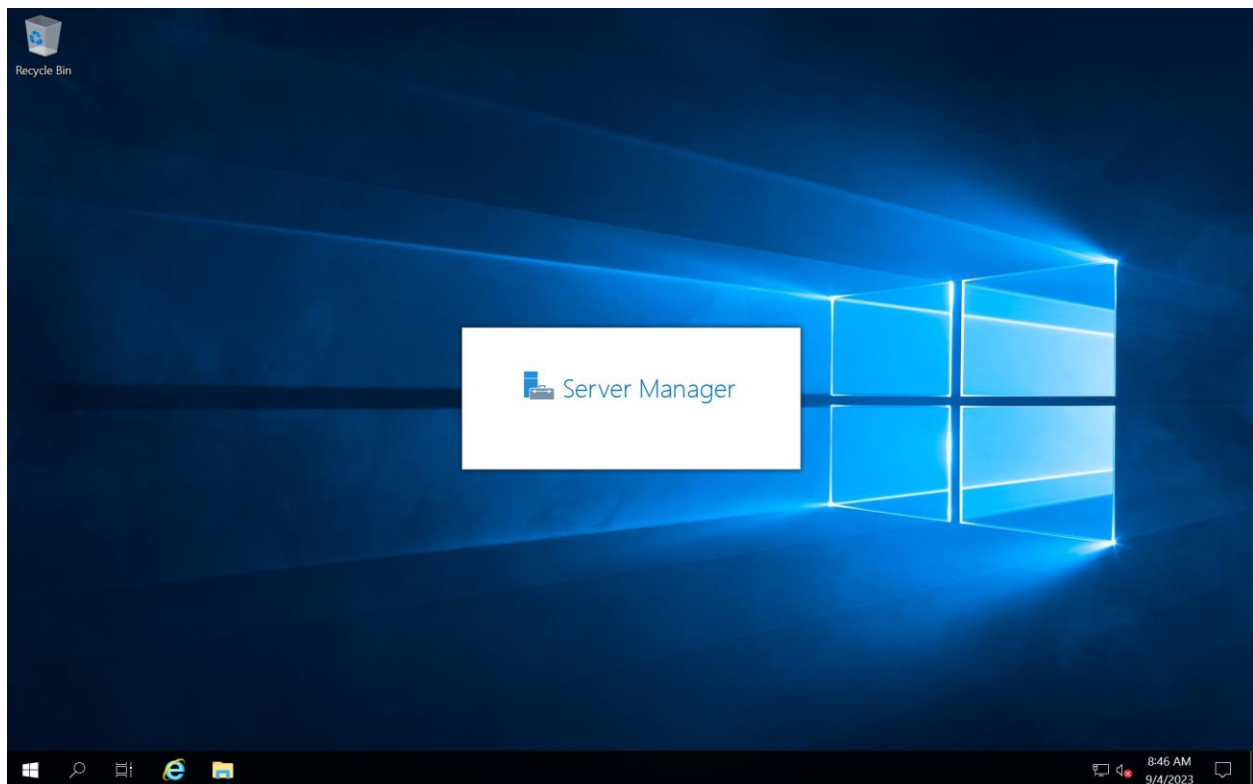
The screenshot displays the Microsoft Azure portal interface for a virtual machine named "IDAShellvm". The top navigation bar includes the Microsoft Azure logo, a search bar, and various icons for navigation and settings. The left sidebar shows the "Overview" tab selected, with options for Activity log, Access control (IAM), Tags, Diagnose and solve problems, and Settings. The main content area is divided into two sections: "Essentials" and "Properties".

Essentials:

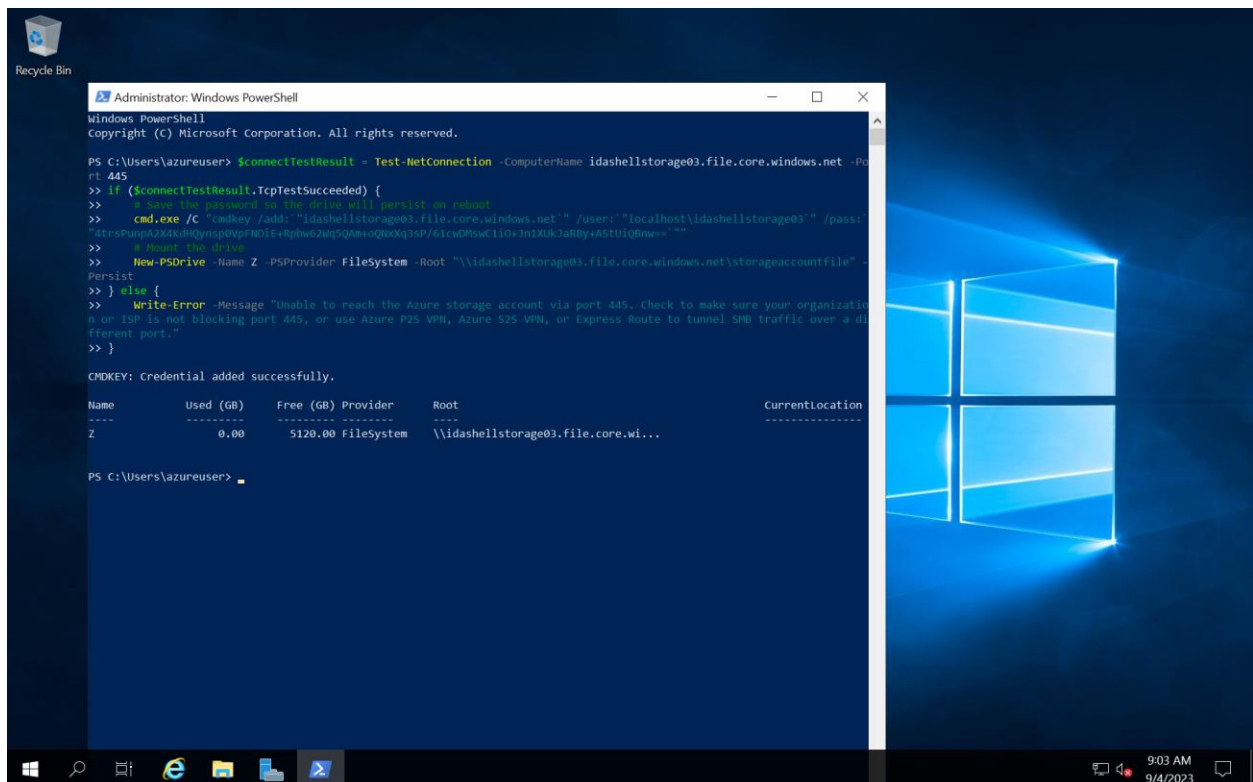
- Resource group (move): [RG_IDA_SHELL_03](#)
- Status: Running
- Location: East US
- Subscription (move): [npunext-1680261698581](#)
- Subscription ID: 7179a1e4-9824-4360-9eda-2930d7e2dc08
- Tags (edit): [Add tags](#)
- Operating system: Windows (Windows Server 2019 Datacenter)
- Size: Standard D2s v3 (2 vcpus, 8 GiB memory)
- Public IP address: [138.91.116.125](#)
- Virtual network/subnet: [IDAShellvm-vnet/default](#)
- DNS name: [Not configured](#)
- Health state: -

Properties:

Virtual machine	Networking
Computer name: IDAShellvm	Public IP address: 138.91.116.125 (Network interface: idashellvm236)
Operating system: Windows (Windows Server 2019)	



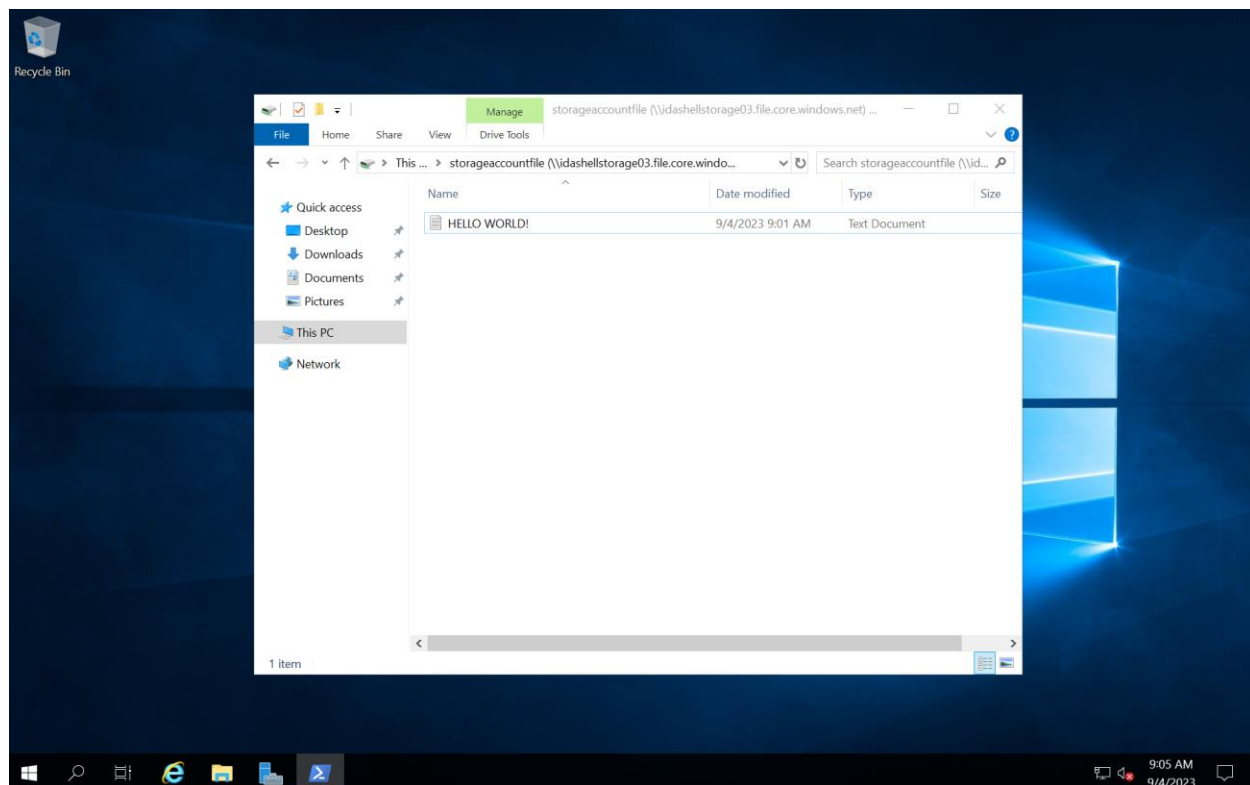
Connecting to the virtual machine:



Uploading a file in the storage account:

The screenshot shows the Microsoft Azure portal interface. The main view is for the 'storageaccountfile' SMB File share. The left sidebar contains navigation links: Overview, Diagnose and solve problems, Access Control (IAM), Browse, Operations, Snapshots, and Backup. The main content area displays the 'Essentials' section with details about the storage account, resource group, location, and subscription. Below this, the 'Properties' section shows the file share's size (5 TiB maximum capacity, 12 B used capacity) and performance metrics (Maximum IO/s: 1000, Ingress rate: 60 MiB/s, Egress rate: 60 MiB/s).

An 'Upload files' dialog box is open on the right. It features a large dashed box for dragging and dropping files, with a 'Browse for files' link. Below the box, there is a checkbox for 'Overwrite if files already exist' and an 'Upload' button. The 'Current uploads' section shows a file named 'HELLO WORLD!.txt' with a status of '12 B / 12 B' and a green checkmark, indicating successful upload. A 'Dismiss' button is also present.

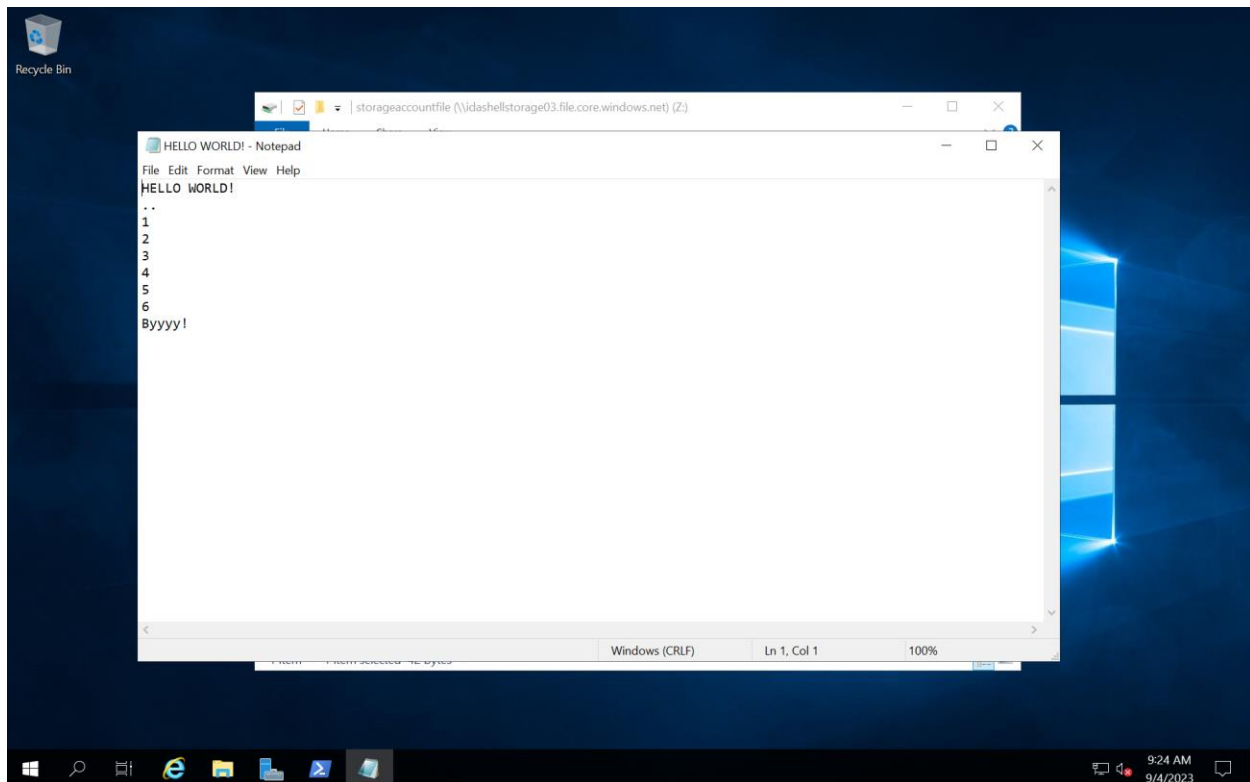


Adding Snapshots:

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The breadcrumb trail indicates the path: Home > idashellstorage03 | File shares > storageaccountfile. The main heading is 'storageaccountfile | Snapshots'. Below this, there is a search bar and action buttons: '+ Add snapshot', 'Refresh', and 'Delete'. A table lists the snapshots with columns: Name, Date created, Initiator, and Comment. The table contains two entries, both created manually on 9/4/2023.

Name	Date created	Initiator	Comment
2023-09-04T09:21:25.0000000Z	9/4/2023, 2:51:25 PM	Manual	01 snapshot
2023-09-04T09:22:55.0000000Z	9/4/2023, 2:52:55 PM	Manual	02 snapshot

Changes are showing in the stored file:



Azure Pricing Calculator

- ⇒ To check the cost of different services
- ⇒ Based on the region and other configurations the costs will change

Azure Total Cost of Ownership(TCO)

- ⇒ Define your workloads
- ⇒ A report will be generated detailing the billing amount of the Azure Services

It also generates a report comparing the use of on-premises services and the services provided by Azure

The screenshot shows the Azure Pricing Calculator web interface. At the top, there's a navigation bar with the Azure logo, a search bar, and buttons for 'Contact Sales' and 'Free account'. Below this, the calculator is divided into several sections: 'Region' (East US), 'Type' (Block Blob Storage), 'Performance' (Standard), 'Storage Account Type' (General Purpose V2), 'File Structure' (Hierarchical Namespace), 'Access tier' (Hot), and 'Redundancy' (LRS). A 'Capacity' section shows '1000 GB'. Under 'Savings Options', there's a link to 'Learn more about Azure Storage Reserved Capacity pricing'. The 'Pay as you go' option is selected. A 'Reserved instances' section shows options for '1 year reserved' and '3 year reserved'. The total cost is displayed as '\$21.00'. A 'Chat with Sales' button is in the bottom right corner.

Creation of table and insertion of data:

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the 'Microsoft Azure' logo, a search bar, and a user profile. The main content area is titled 'idashellstorage03 | Storage browser'. On the left, there's a sidebar with navigation options: Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser (selected), Storage Mover, Data storage, Containers, File shares, Queues, Tables, and Security + networking. The main area shows the 'testtable' table. The 'Authentication method' is set to 'Access key'. The table has two columns: 'RowKey' and 'Timestamp'. The table contains two rows of data:

RowKey	Timestamp	cus_id	cus_name
rokey	2023-09-04T09:49:04.66...	2	Deep
rowkey	2023-09-04T09:46:21.37...	1	Pooja

Static Website

- ⇒ Create html file
- ⇒ Index.html
- ⇒ Go inside storage account
- ⇒ Inside container
- ⇒ Disabled to enabled
- ⇒ Index.html put the file name(index document name)
- ⇒ Copy primary endpoint
- ⇒ Paste the copied endpoint in the browser

***Note:

- ⇒ Multiple static web applications can be created but only one can be executed at a time
- ⇒ This is because there is only one endpoint that corresponds to one static application
- ⇒ To run multiple web applications, they need to be linked such that running one on the browser causes other applications to run consecutively
- ⇒ Example:
 - Multiple html files are uploaded in the container
 - Since only one can be run at a time, if the html file that is running calls the other html files in the form of different pages, multiple static applications execution can be achieved



Hello Guys

You have successfully hosted a static website.