Microsoft

AZ-140

Configuring and Operating Azure Virtual Desktop

AZ-140 Agenda

Learning Path 1

1. Azure Virtual Desktop Architecture
2. Design the Azure Virtual Desktop architecture
3. Design for user identities and profiles

Learning Path 2

4. Implement and manage networking for AVD
5. Implement and manage storage for AVD
6. Create and configure host pools and session hosts for AVD
7. Create and manage session host image for AVD

Learning Path 3

8. Manage access for AVD
9. Manage security for AVD

Learning Path 4

Profiles

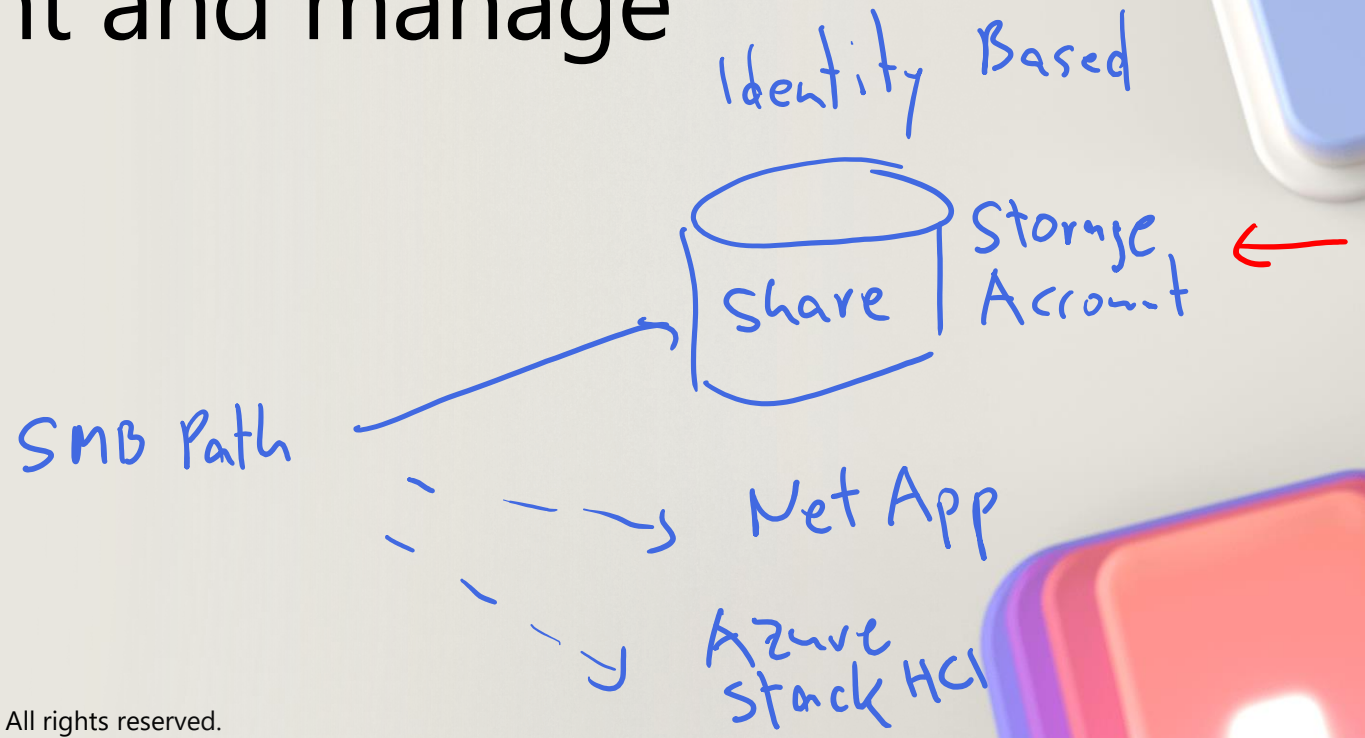
10. Implement and manage FSLogix
11. Configure user experience settings
12. Install and configure apps on a session host

App Attach

Learning Path 5

13. Plan for disaster recovery
14. Automate Azure Virtual Desktop management tasks
15. Monitor and manage performance and health

Implement and manage FSLogix



Introduction

1. Plan for FSLogix
2. Recommend best practices for FSLogix profile containers and Azure files
3. Install FSLogix
4. Recommend storage options for FSLogix profile containers
5. Configure Cloud Cache
6. Configure Profile Containers
7. Manage Rule Sets and application masking

AZ-140: Manage user environments and apps (20-25%)

Manage user environments and apps

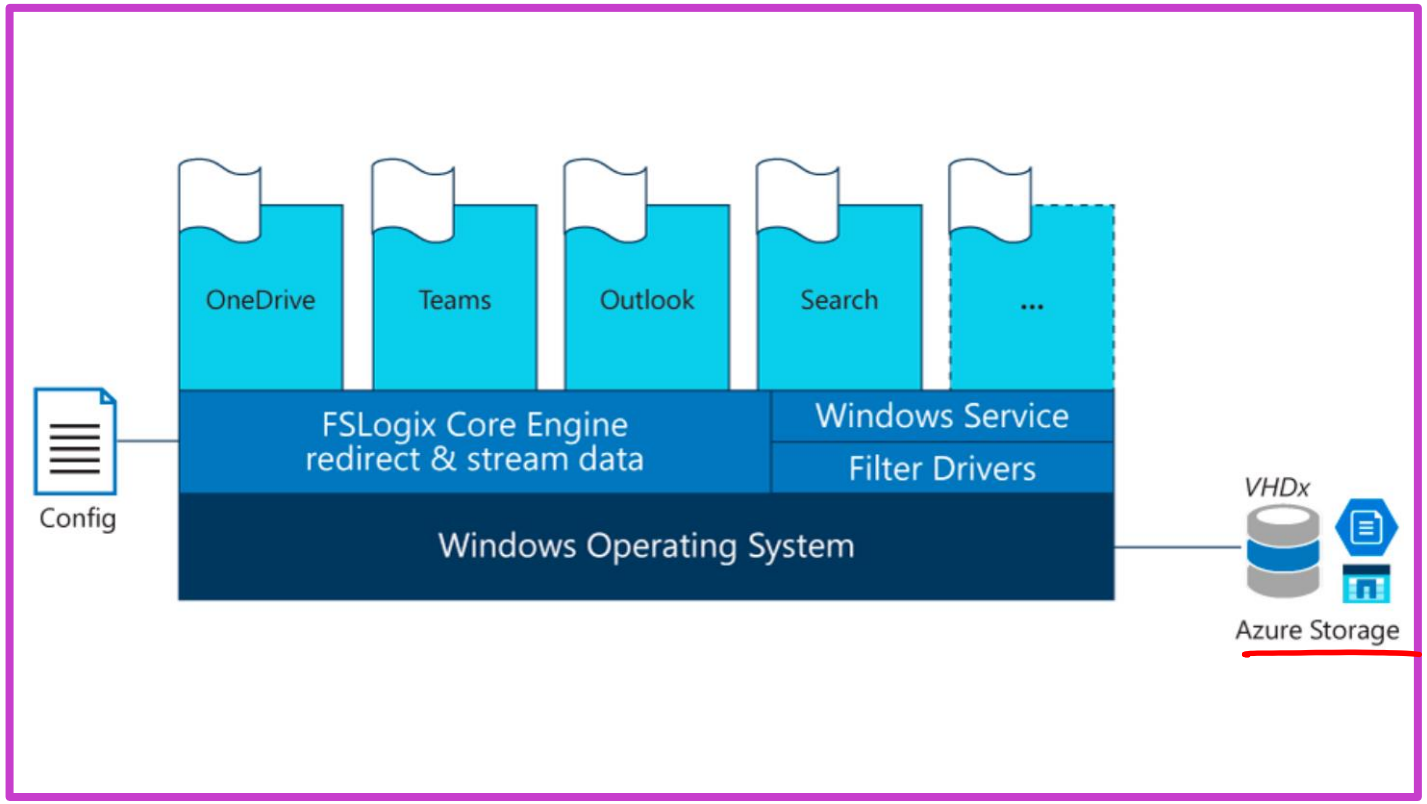
- Conceptual knowledge of Azure compute solutions.
- Working experience with virtual machines, virtual networks, and app service.

Plan for FSLogix

FSLogix profile containers

FSLogix is designed to roam profiles in remote computing environments, such as Azure Virtual Desktop

- Stores a complete user profile in a single container.
- At sign in, this container is dynamically attached to the computing environment using natively supported Virtual Hard Disk (VHD) and Hyper-V Virtual Hard disk (VHDX).
- The user profile is immediately available and appears in the system exactly like a native user profile.



Recommend best practices for FSLogix profile containers and Azure files

Performance: The FSLogix profile containers are high performance and resolve performance issues that have historically blocked cached exchange mode.

OneDrive: Without FSLogix profile containers, OneDrive for Business is not supported in non-persistent RDSH or VDI environments.

Additional folders: FSLogix provides the ability to extend user profiles to include additional folders.

FSLogix profile containers' performance and features take advantage of the cloud using Azure Files authentication with Microsoft Entra Domain Service.

By addressing both cost and administrative overhead, Azure Files with Microsoft Entra Domain Service Authentication is the preferred solution for user profiles in the Azure Virtual Desktop service.

Install FSLogix

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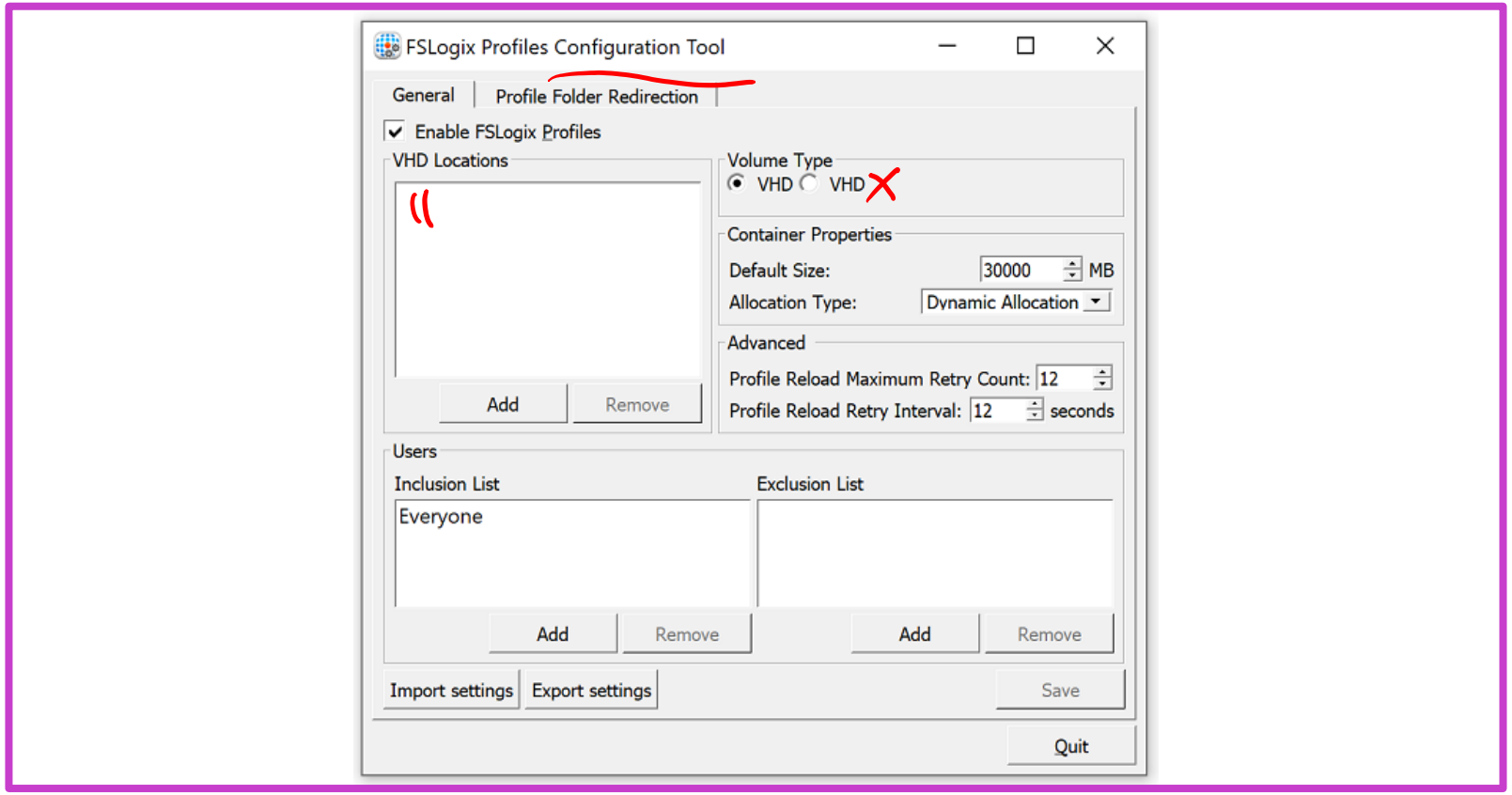
Microsoft FSLogix Apps installs the core drivers and components for all FSLogix solutions.

- Any environment using FSLogix must install FSLogix Apps.
- After installation configure Profile Container before using for profile redirection.

To install FSLogix Applications:

- From the FSLogix download file, select 32 bit or 64 bit depending on your environment ARM?
- Run FSLogixAppSetup.exe
- Click **Options** to specify an installation folder



FSLogix is available for download here

Storage options for FSLogix profile containers

Storage options for FSLogix profile containers

Compare the storage solutions Azure Storage offers for Azure Virtual Desktop FSLogix profile container user profiles.

Features	Azure Files	Azure NetApp Files	Storage Spaces Direct
Use case	General purpose	Ultra performance or migration from NetApp on-premises	Cross-platform
Platform service	Yes, Azure-native solution	Yes, Azure-native solution	No, self-managed
Regional availability	All regions	Select regions	All regions
Redundancy	Locally redundant/zone-redundant/ geo-redundant/geo-zone-redundant	Locally redundant	Locally redundant/zone-redundant/ geo-redundant
Tiers and performance	Standard (Transaction optimized) Premium Up to max 100K IOPS per share with 10 GBps per share at about 3 ms latency	Standard Premium Ultra Up to 320k (16K) IOPS with 4.5 GBps per volume at about 1 ms latency	Standard HDD: Up to 500 IOPS per-disk limits Standard SSD: Up to 4k IOPS per-disk limits Premium SSD: Up to 20k IOPS per-disk limits We recommend Premium disks for Storage Spaces Direct
Capacity	100 TiB per share, Up to 5 PiB per general purpose account	100 TiB per volume, up to 12.5 PiB per subscription	Maximum 32 TiB per disk
Required infrastructure	Minimum share size 1 GiB	Minimum capacity pool 4 TiB, min volume size 100 GiB	Two VMs on Azure IaaS (+ Cloud Witness) or at least three VMs without and costs for disks
Protocols	SMB 3.0/2.1, NFSv4.1 (preview), REST	NFSv3, NFSv4.1 (preview), SMB 3.x/2.x	NFSv3, NFSv4.1, SMB 3.1

Profile Container vs Office Container

Profile Container vs Office Container

Profile Container

- Profile Container is used to redirect the full user profile.
- Profile Container is used in non-persistent, virtual environments, such as Virtual Desktops.
- When using Profile Container, the entire user profile, except for data that is excluded using the redirections.xml, is included in the profile container.
- For users familiar with managing profiles in non-persistent environments, the function of Profile Container may be compared to Microsoft User Profile Disk, Microsoft Roaming Profiles, or Citrix UPM.

Office Container

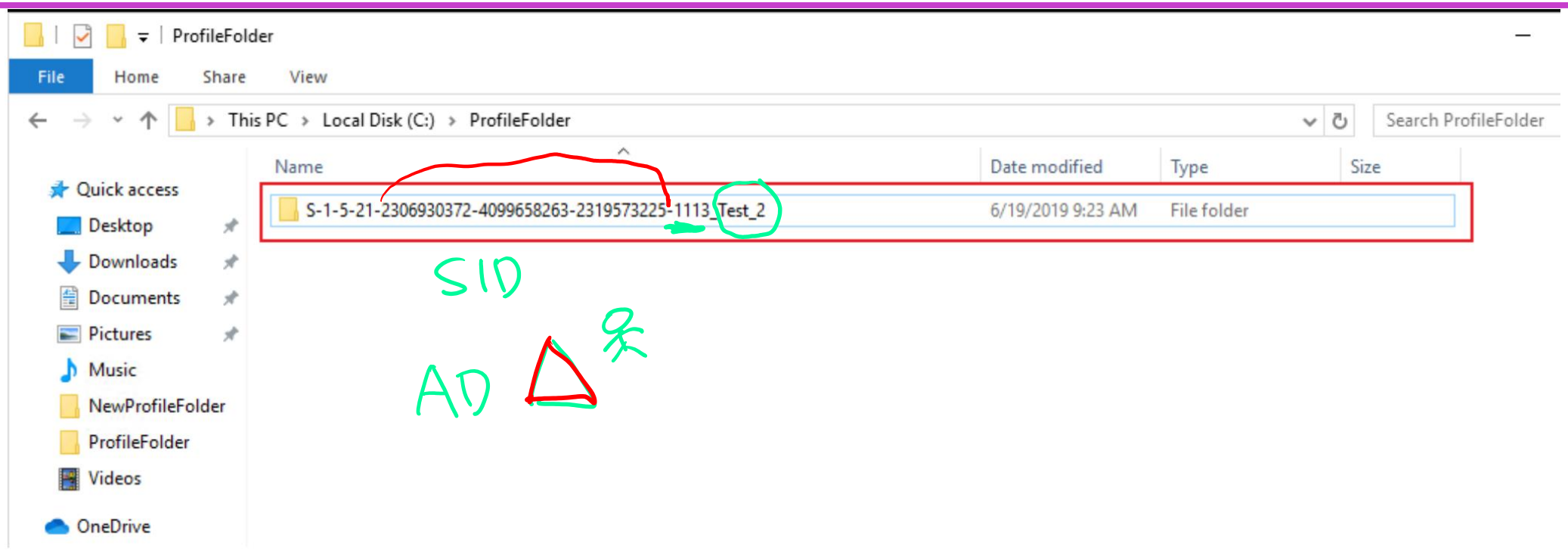
M365 only

- Office Container is designed to improve the performance of Microsoft Office in non-persistent environments.
- As opposed to Profile Container, Office Container redirects only the local user files for Microsoft Office.
- When configuring Office Container, each Office component is independently included based on the selected settings to include data for specific office components.
- When Office Container is used with other profile solutions, it's that those solutions are configured to exclude certain data.

Citrix

Configure Office Containers

Configure Office Container



- Applications and users see the portions of the profile managed by Office Container as if they're located on the local drive.
- All benefits of Office Container are automatic when using Profile Container.
- There's no need to implement Office Container if Profile Container is your primary solution for managing profiles.

Installing Microsoft Office using FSLogix application containers

Install Microsoft Office quickly and efficiently by using an FSLogix application container as a template for the other VMs in your host pool

- Offloading your Office apps to an app container reduces the requirements for your C drive size.
- Snapshots or backups of your VM takes less resources.
- Having an automated pipeline through updating a single image makes updating your VMs easier.
- You only need one image to install Office (and other apps) onto all the VMs in your Azure Virtual Desktop deployment.

Configure Cloud Cache

Configure Cloud Cache

Cloud Cache is an optional add-on to Profile Container and Office Container.

Configure Cloud Cache for SMB (Profile Container)

All settings are applied to `HKLM\SOFTWARE\FSLogix\Profiles`

Registry Value	Type	Value
CCDLocations	REG_SZ / MULTI_SZ	type=smb,connectionString=<\Location1\Folder1>;type=smb,connectionString=<\Location2\folder2>
Enabled	DWORD	1

Configuring Cloud Cache for Office Container

All settings are applied to `HKLM\SOFTWARE\FSLogix\ODFC`

Registry Value	Type	Value
CCDLocations	REG_SZ / MULTI_SZ	type=smb,connectionString=<\Location1\Folder1>;type=smb,connectionString=<\Location2\folder2>
Enabled	DWORD	1

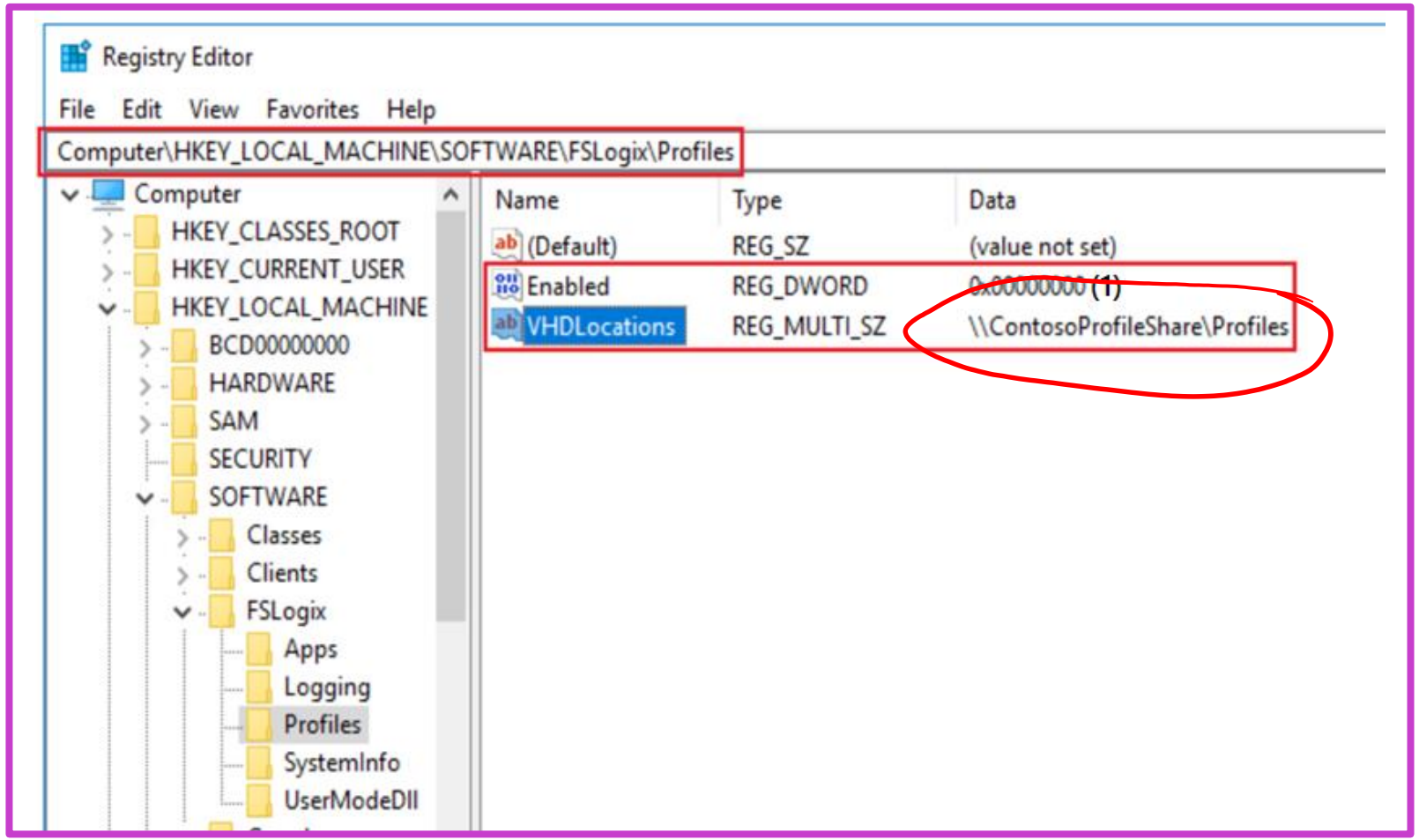
Configuring Cloud Cache for Profile Container

Registry Value	Type	Value
CCDLocations	REG_SZ / MULTI_SZ	type=azure,connectionString="DefaultEndpointsProtocol=https;AccountName=;AccountKey=;EndpointSuffix="
Enabled	DWORD	1

Configure Profile Containers

Profile Container is a full remote profile solution for non-persistent environments

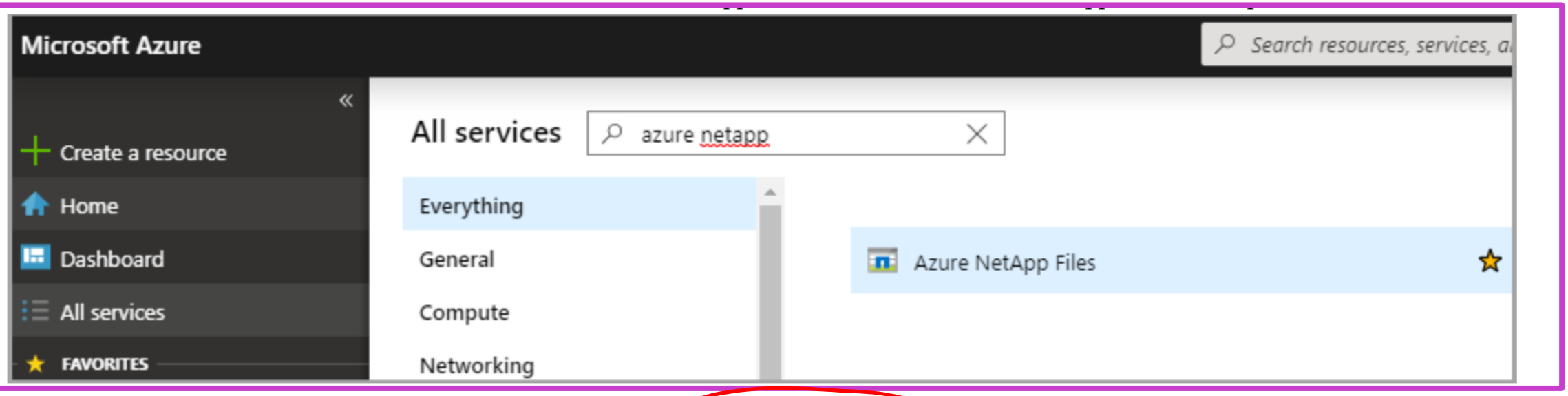
- Profile Container redirects the entire user profile to a remote location.
- Profile Container configuration defines how and where the profile is redirected.
- Profile Container is inclusive of the benefits found in Office Container.
- When using Profile Container, both applications and users see the profile as if it's located on the local drive.



Create a profile container with Azure NetApp Files and capacity pool

FSLogix profile containers store a complete user profile in a single container and are designed to roam profiles in non-persistent remote computing environments like Azure Virtual Desktop.

- When you sign in, the container dynamically attaches to the computing environment using a locally supported virtual hard disk (VHD) and Hyper-V virtual hard disk (VHDX).
- Advanced filter-driver technologies allow the user profile to be immediately available and appear in the system exactly like a local user profile.



You can create FSLogix profile containers using Azure NetApp Files, an Azure native platform service that helps customers quickly setup enterprise-grade SMB volumes for their Azure Virtual Desktop environments.

Manage Rule Sets and application masking

Application Masking manages access to Applications, Fonts, and other items based on criteria

The Application Rules Editor is used to Describe the item, such as application, to be managed.

Things you can do with the Apps Rules Editor:

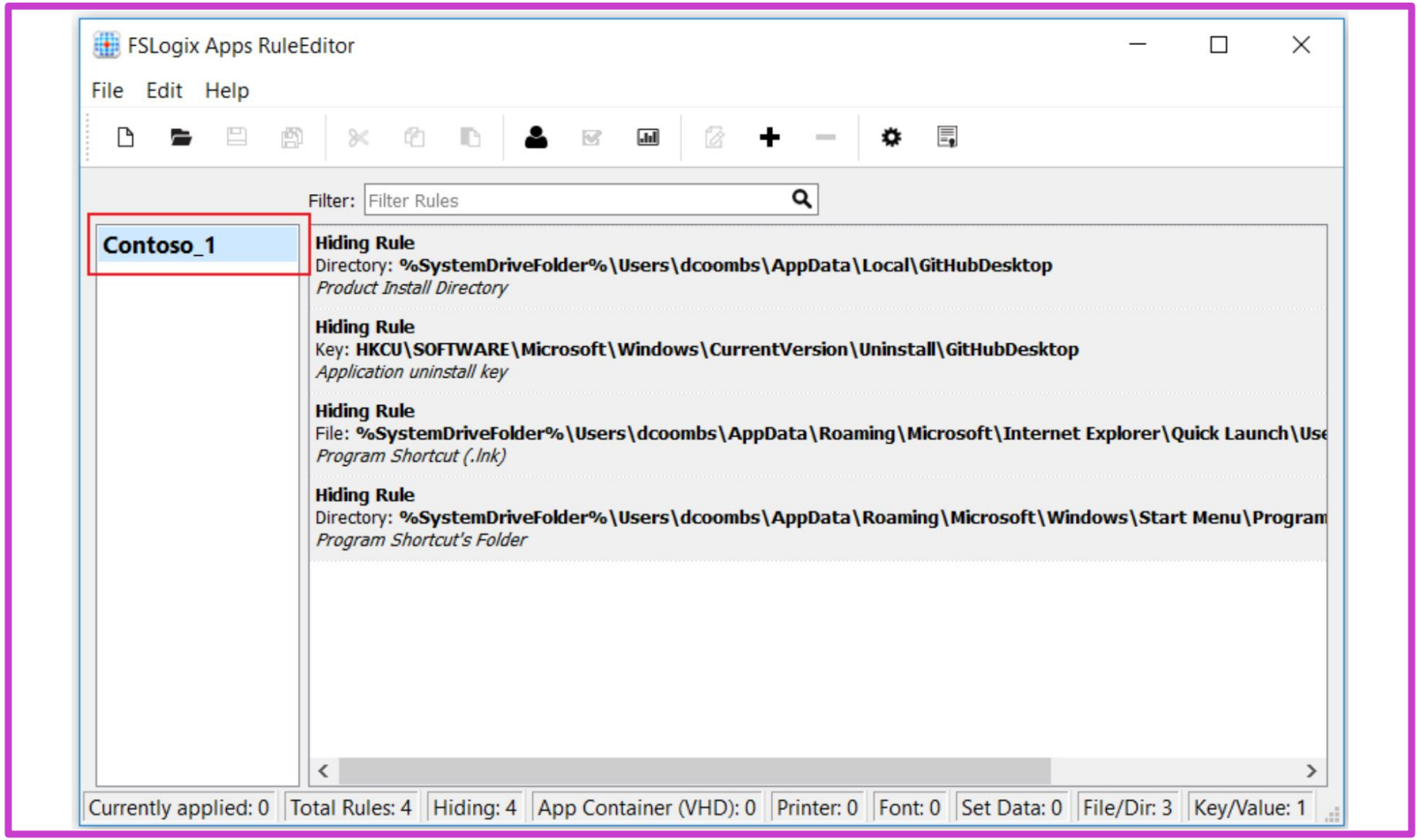
- Create new Rule Sets
- Edit existing Rule Sets
- Manage the user and group assignments for Rule Sets
- Temporarily test rule-sets

FSlogix supports four rule types:

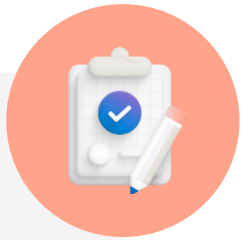
- **Hiding Rule** – Hides the specified items using specified criteria
- **Redirect Rule** – Causes the specified item to be redirected as defined
- **App Container Rule** – Redirects the specified content into a VHD
- **Specify Value Rule** – Assigns a value for the specified item

Manage Rule Sets and application masking (Cont.)

- The Application Rules Editor is used to Describe the item, such as application, to be managed.
- Use Application Masking to manage user access of installed components.
- Application Masking may be used in both physical and virtual environments.
- Application Masking is most often applied to manage non-persistent, virtual environments, such as Virtual Desktops.



Knowledge check and Summary



Check your knowledge

What you learned:

- Plan for FSLogix.
- Recommend best practices for FSLogix profile containers and Azure files.
- Install FXLogix.
- Recommend storage options for FSLogix profile containers.
- Configure Cloud Cache.
- Configure Profile Containers.
- Manage Rule Sets and application masking.

End of presentation