Lab Number: 4 File, Folders and DFS
Student name: Raine

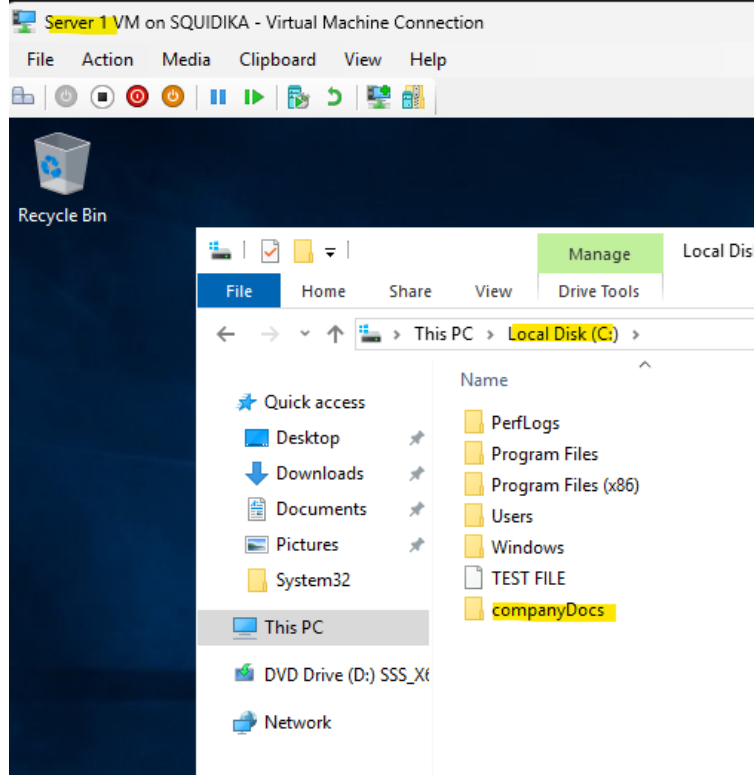| Section Summary	Section 4: File, folders and DFS
	Goals
	• AD group rights/permissions to folders.
	• Specify a file attribute.
	• Create a Distributed File System (DFS).
	• Create Shared folders (SMB, NFS and published in AD).
	• Create and apply quota and filescreen restriction templates.
	• Configure data deduplication.
	• Configure the Windows server backup utility according a daily schedule.
	Implementation steps
	1. Create a companyDocs folder on C drive of WS2
	2. Inside companyDocs - Create three folders with a file in each folder • Developers folder • Managers folder • Accounts folder
	3. Assign the following AD group permissions/rights for each folder:

	Developers group	Manager Group	Accounts Group
Developers folder	Full	Full	Read only
Managers folder	No Access	Full	Read only
Accounts folder	No Access	Read only	Full

4. Enable the 'encrypt' attribute for the managers and accounts folders

5. Log in as each user on the windows client and test the access to these folders is correct

6. Create a Distributed File System (DFS)
   - Create DFS domain-based namespace
   - Add both WS1 and WS2 as namespace servers
   - Create new target that points to the companyDocs folder
   - Create a folder of WS2 called companyDocs Replica
   - Replicate DFS namespace on both servers
   - Test that folders created locally on both servers are replicated on the other
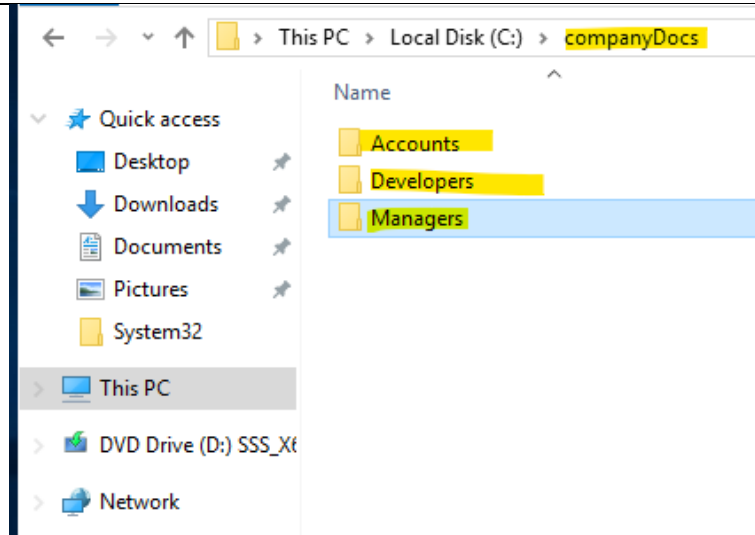
7. Create three shared folders on WS1. Each folders is shared in a different way:
   - Server Message Block (SMB) using server manager – Called 'WDS images' – will be used in section 9
   - Network File System (NFS) - called LinuxFiles with read and write permissions
   - Folder called 'Applications' published in AD – used in section 6

   - What is the difference between these sharing methods?
   - Access shared folder from a network client machine

8. Configure the following for restrictions and save them as templates:
   - Folder quota for the Developers and all shared folders: 1GB
   - Filescreen for the Accounts folder: audio, video, backup, image, office and text files only

9. Configure data deduplication
   - Add additional virtual hard drive to vm using VM settings
   - Create new volume E:\ to this drive
   - Create a folder called dataDedup on this new volume
   - Enable and configure

10. Configure Windows server backup of all shared folders on WS1 to WS2
    - Create a folder on ws2 where backups will occur called 'shareFoldersWindowsBackup'
    - Custom backup of C drive
    - Fast performance
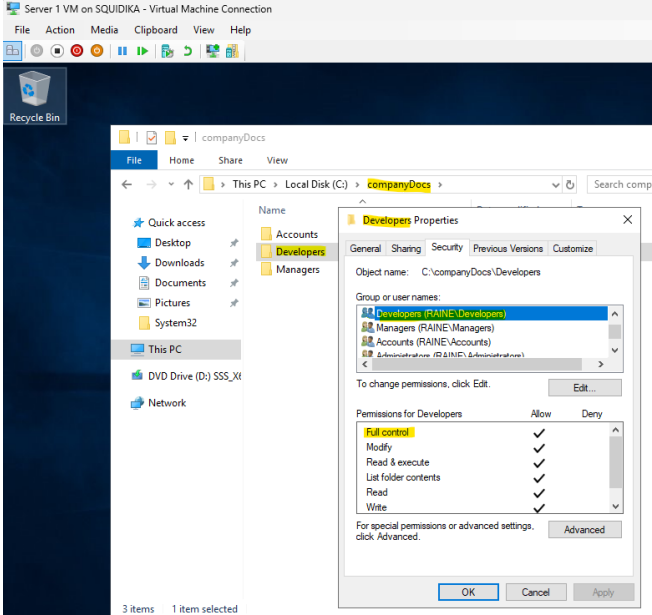   - Schedule for backup to happen at demonstration and then once everyday

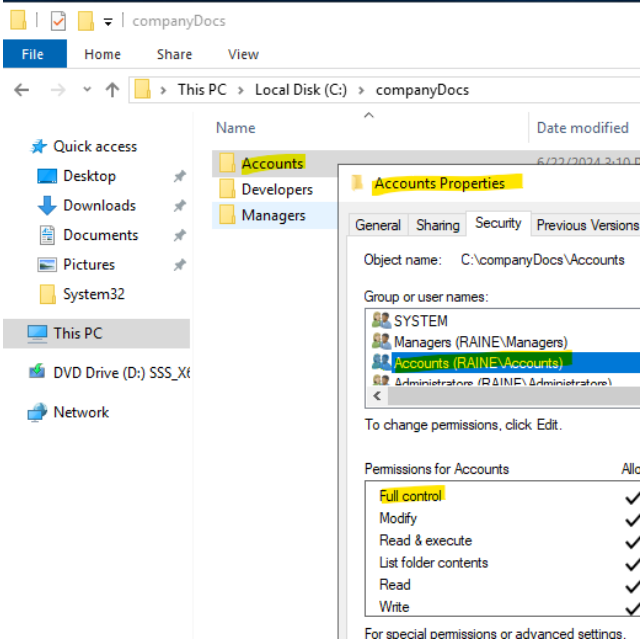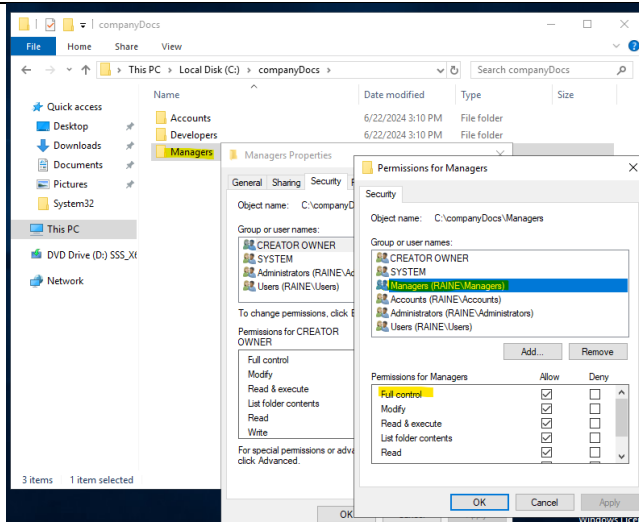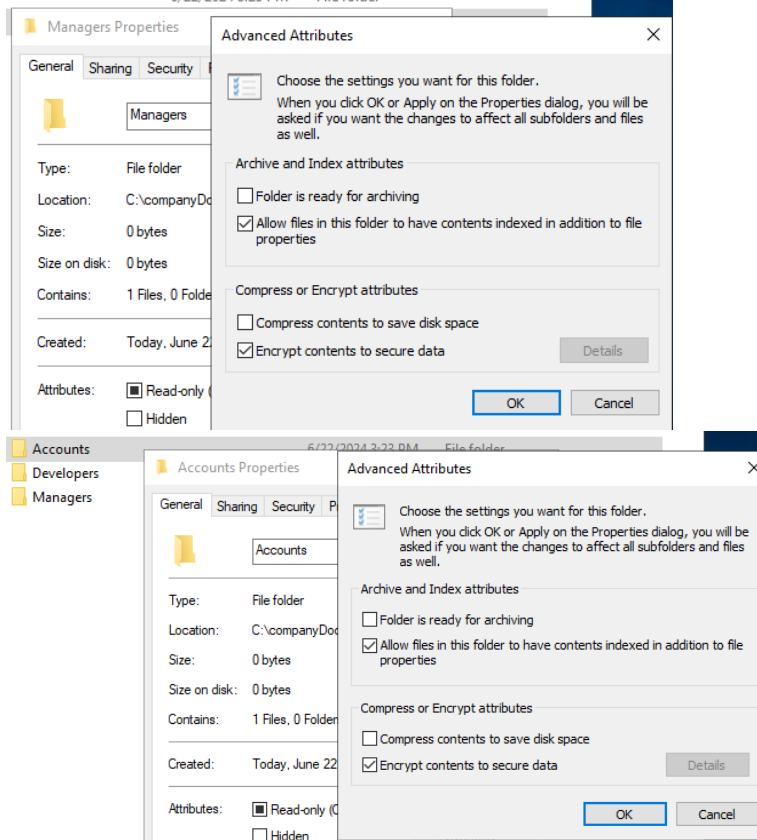| 1	 Company docs folder created on the local disk
2	 Folders created

| 3 |

Developers Folder Permissions

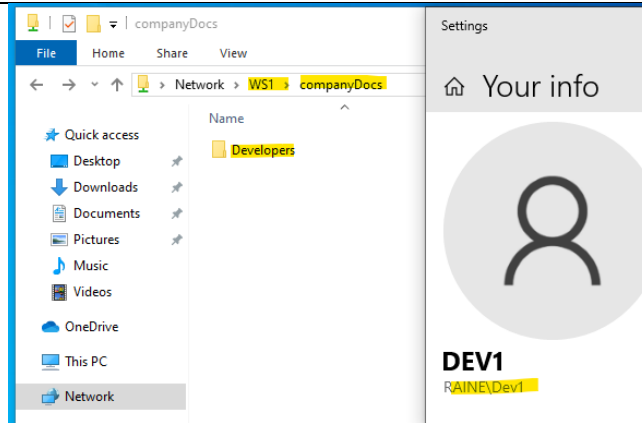Accounts Folder Permissions |

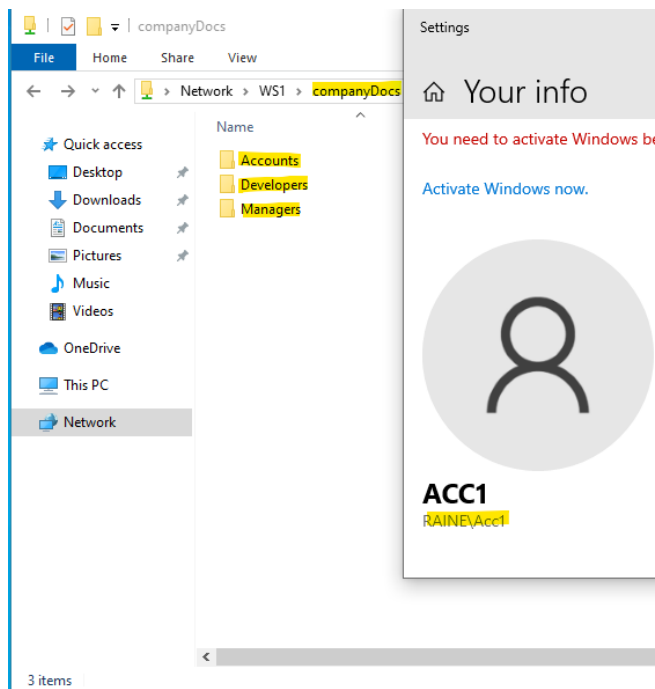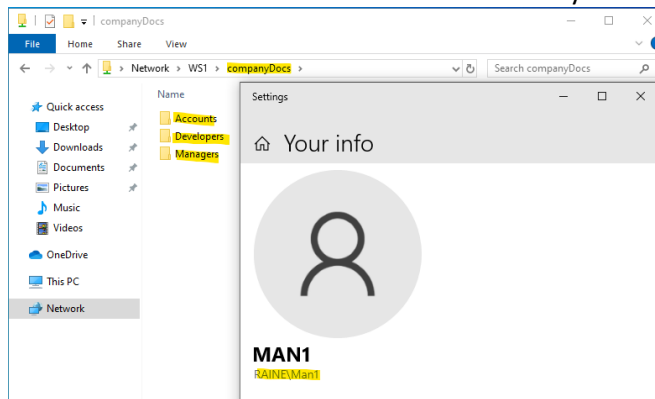Managers folder permissions

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Folders encrypted

| 5 |
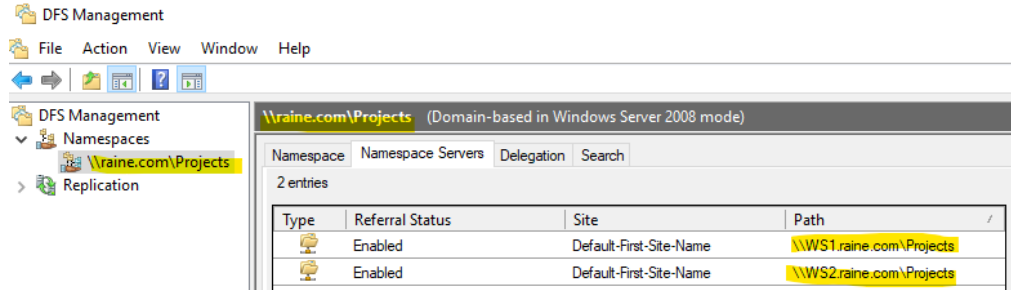User Dev1 full access to Developers and no access to Acc and Man

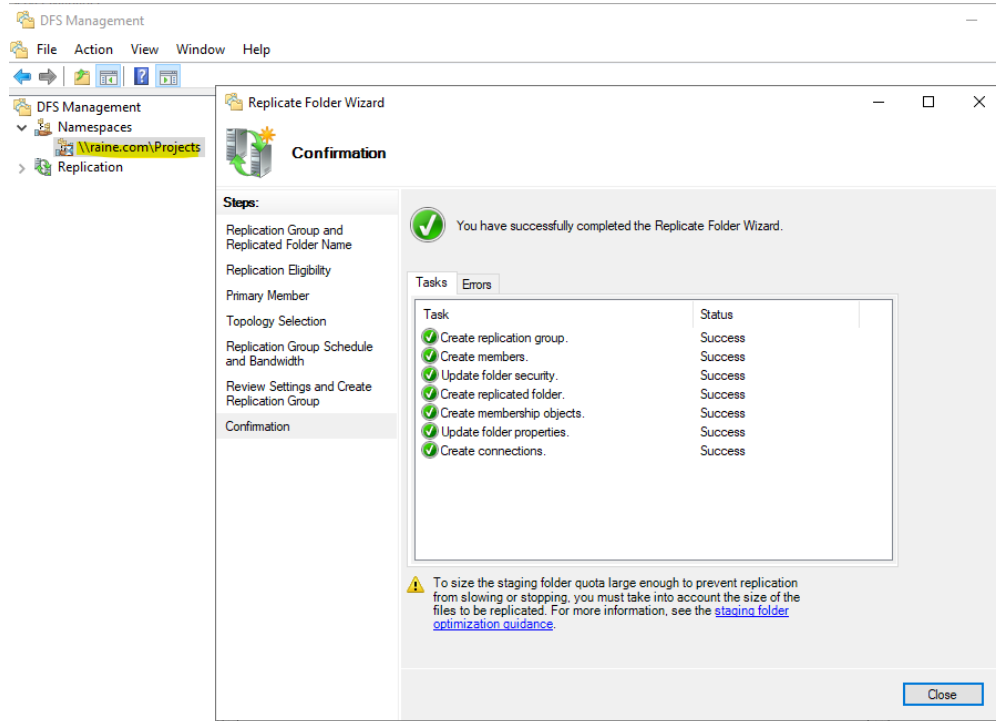User Acc1 full access to Accounts and Read Only to Dev and Man

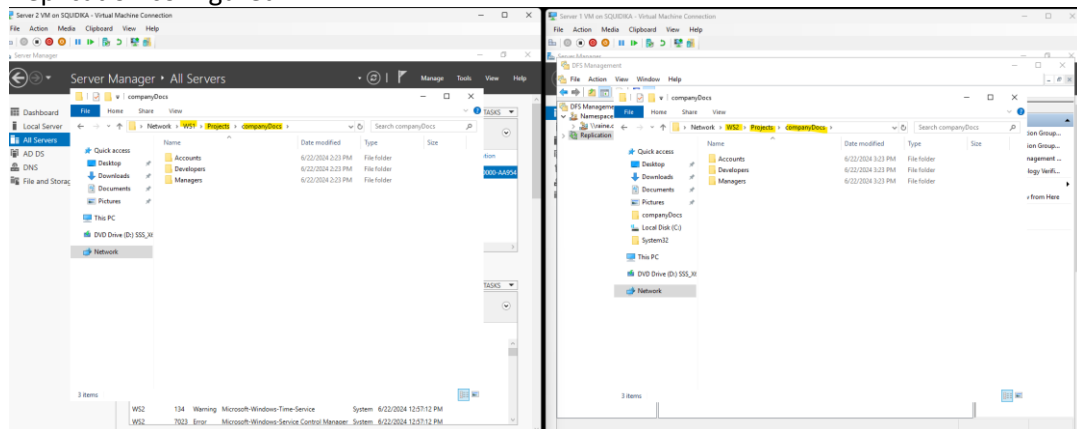User Man1 full access to Man and Dev, Read Only to Acc |
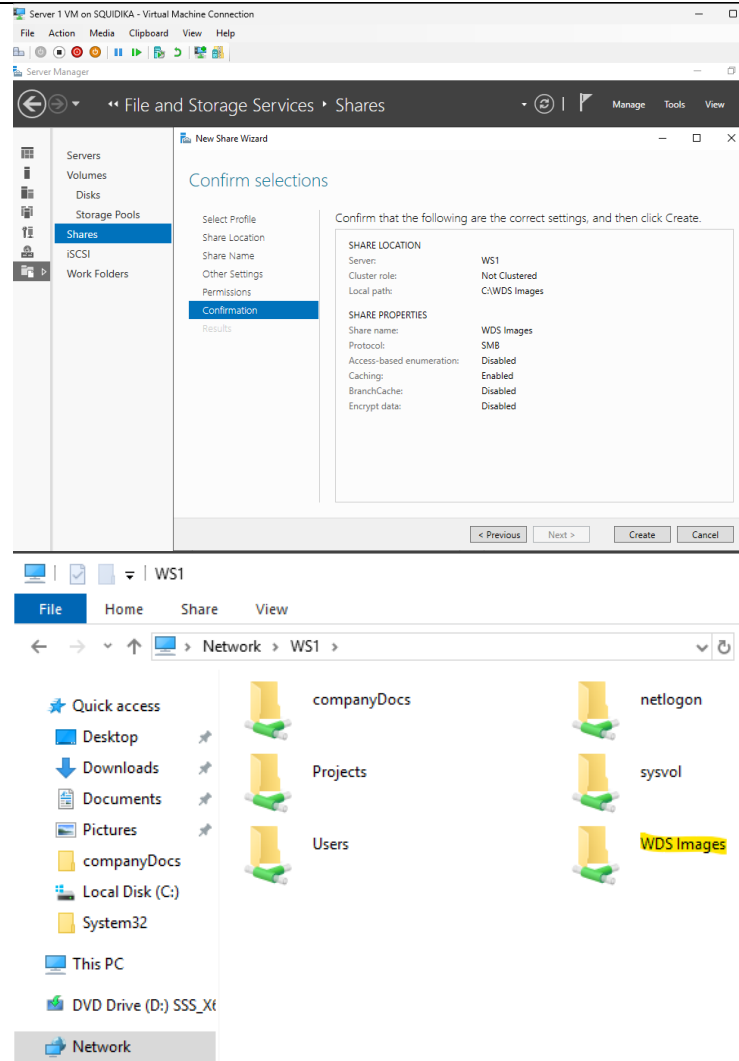
| 6 |

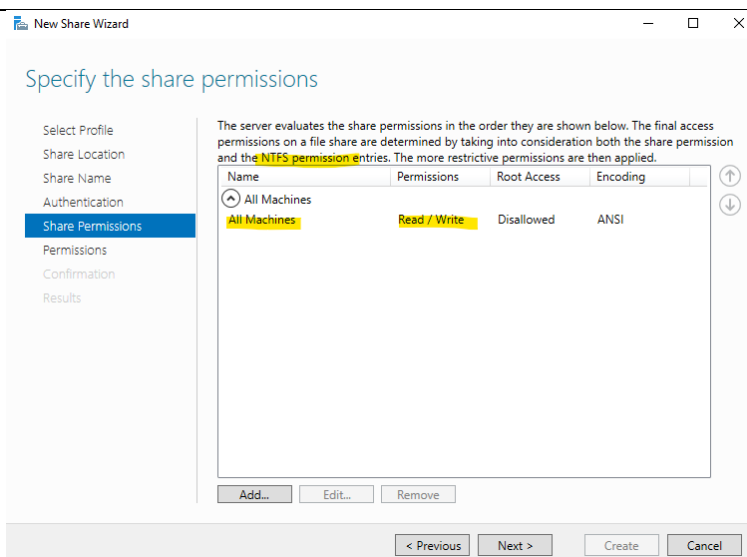Created DFS domain-based namespace with both WS1 and WS2 as namespace servers.
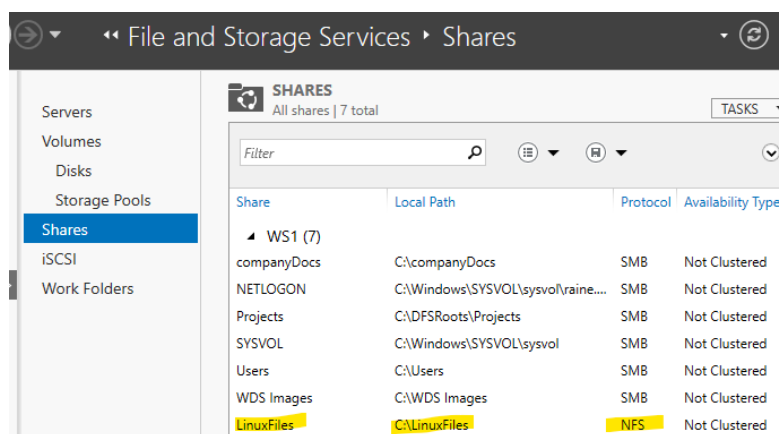

Replication configured

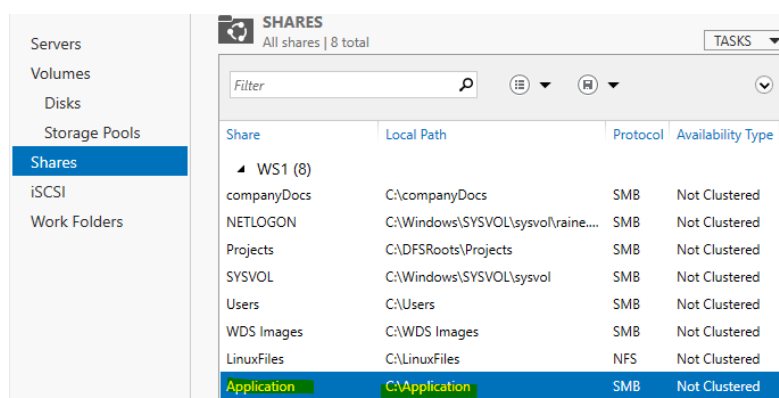Evidence of replication between both servers |
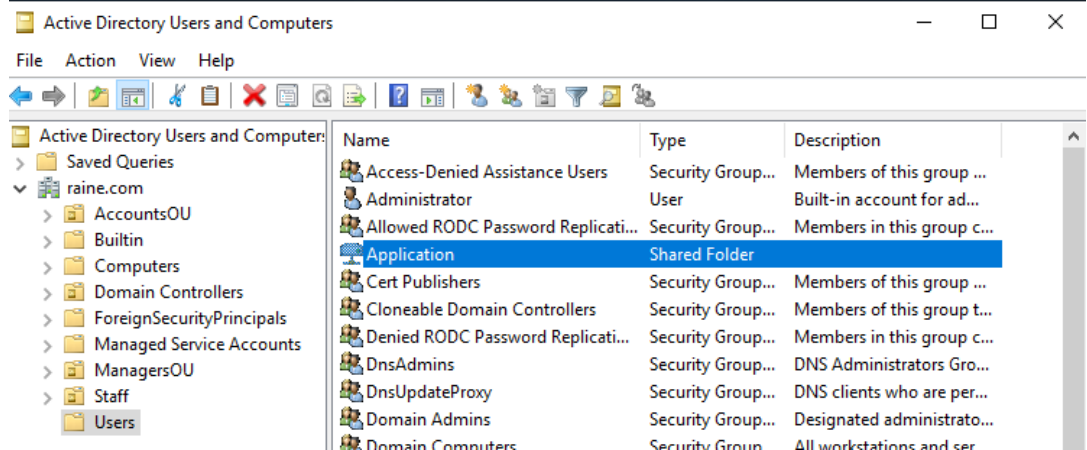
| 7 |
WDS Images folder shared using SMB |

NFS permissions configuration

LinuxFiles NFS share configuration complete

Advanced SMB share for Applications to be published in AD, Shared folder in AD under Users

Differences Between Sharing Methods

- **SMB (Server Message Block)**:
  - A protocol used primarily by Windows for sharing files, printers, and serial ports. It allows for extensive control over permissions and access.
  - **Usage**: Commonly used in Windows environments.
  - **Access**: \WS1\WDS Images
- **NFS (Network File System)**:
  - A protocol used by UNIX/Linux systems for file sharing. It allows for file sharing between UNIX/Linux and Windows systems.
  - **Usage**: Commonly used in UNIX/Linux environments.
  - **Access**: `nfs://WS1/LinuxFiles` (requires NFS client)
- **AD-Published Folder**:
  - A shared folder published in Active Directory allows for easier discovery and management of shared resources within a domain.
  - **Usage**: Provides a way to centrally manage and access shared resources in an Active Directory environment.
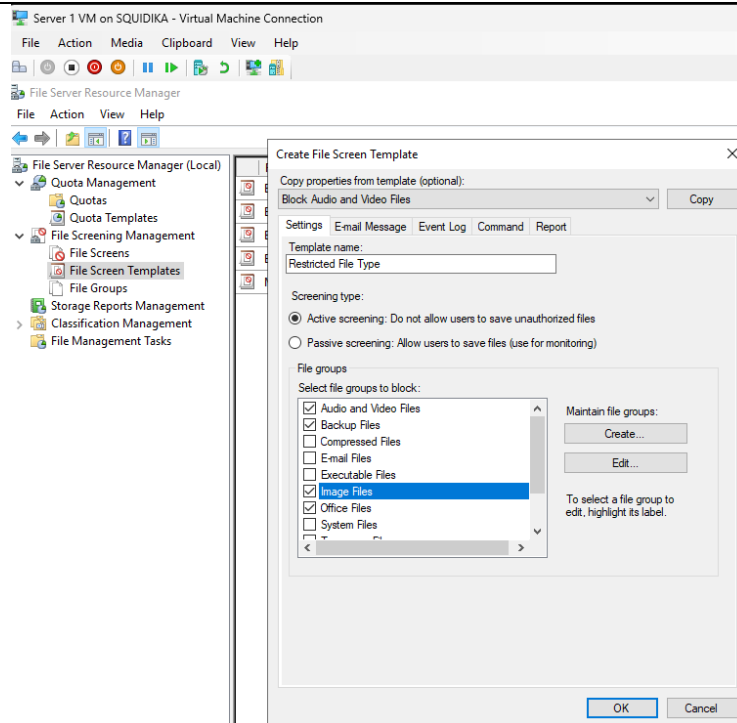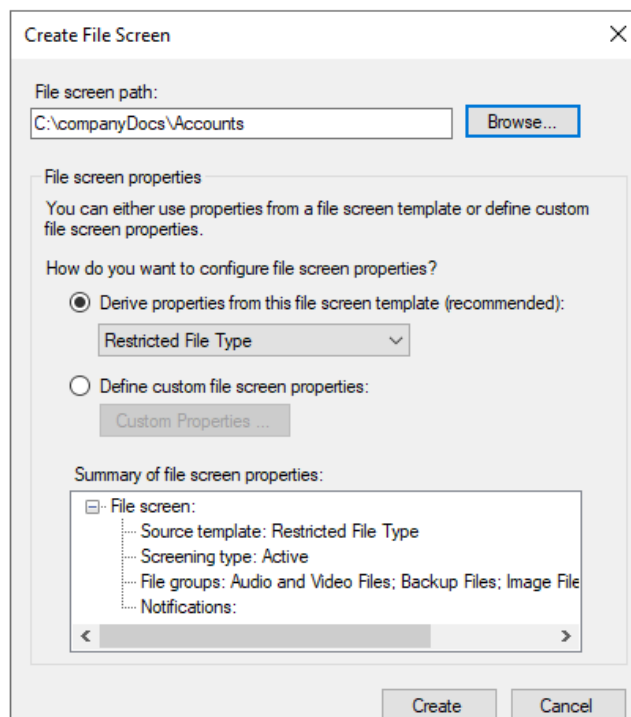 - **Access**: Through AD, \WS1\Application
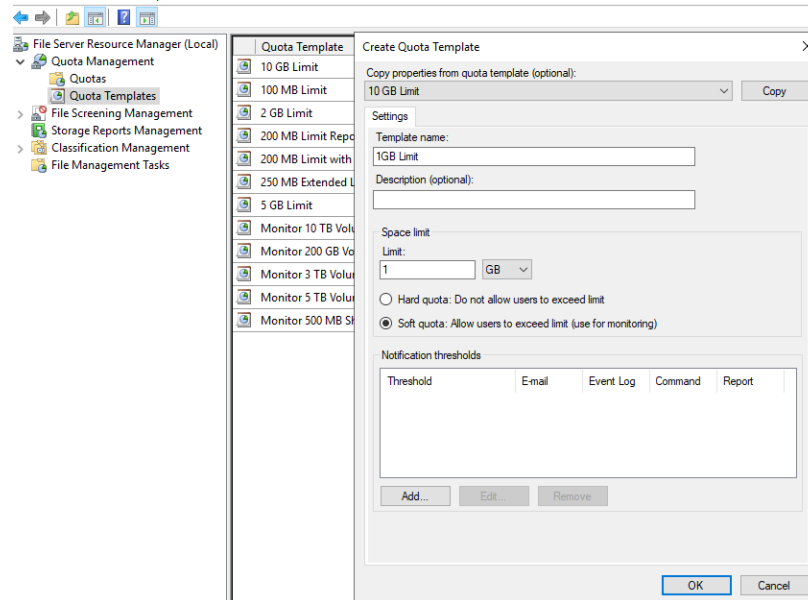
| 8 |
Configure 1GB quota for all shared folders
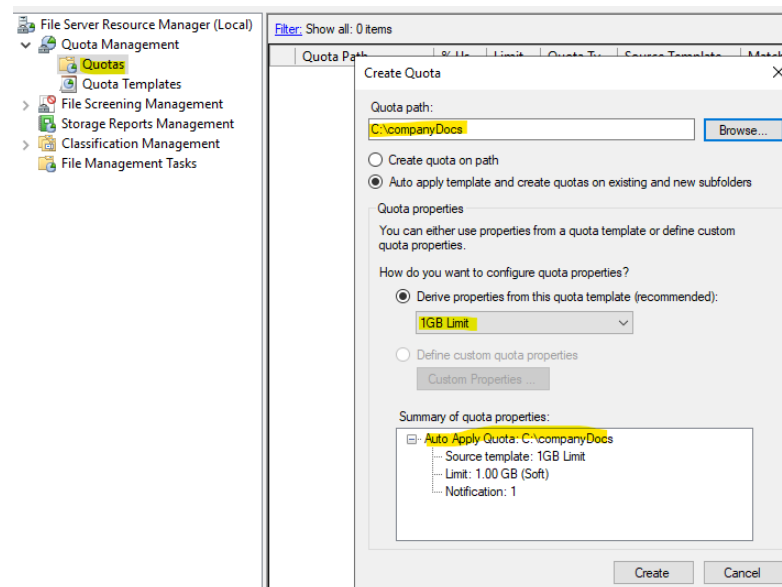
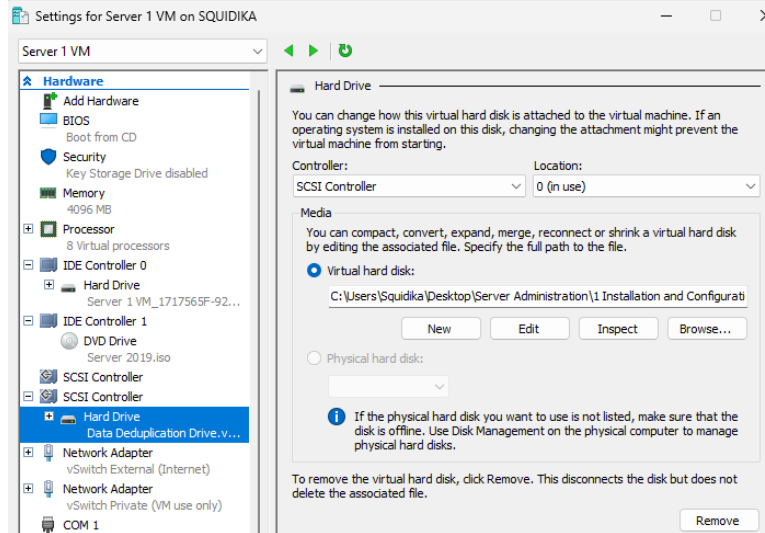Apply limit to the companyDocs and subfolders |

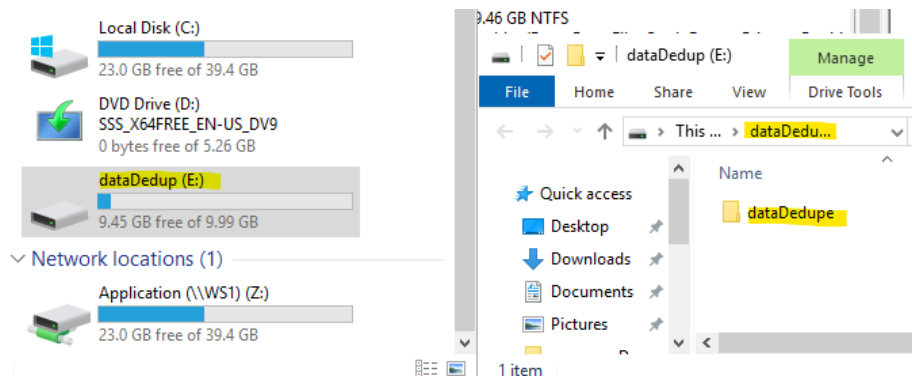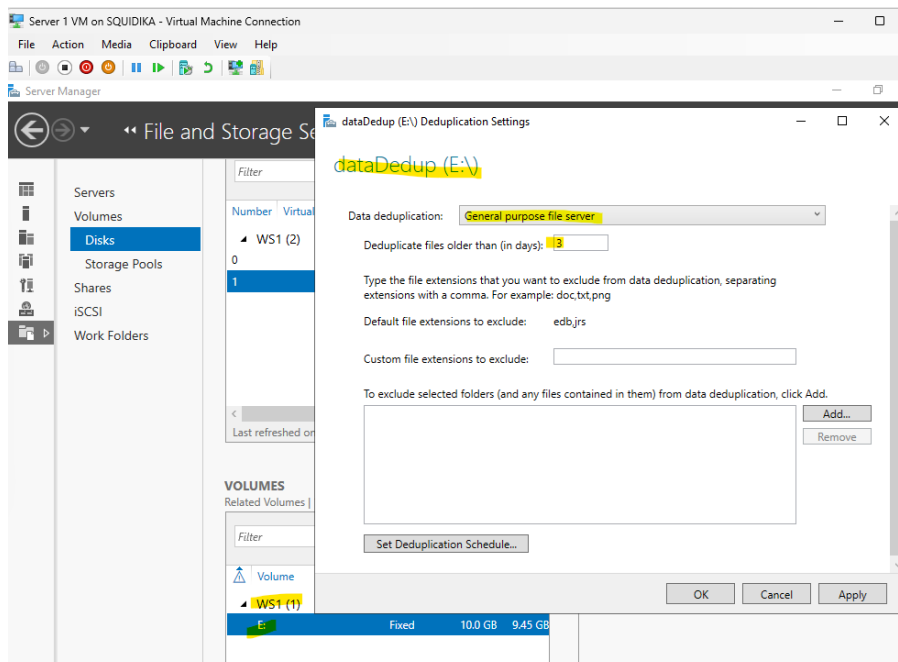Create restricted file type screen template for Accounts folder

Restrictions applied

| 9 |
Create a new virtual hard disk and attach it to WS1 for data deduplication

Create folder for data deduplication

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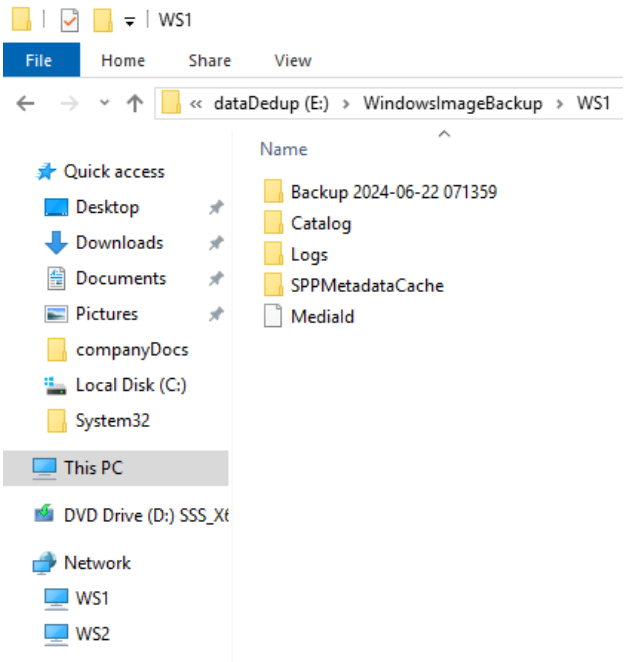|	Configure Data Deduplication on E:/ Drive and set it to deduplicate very 3 days.
10
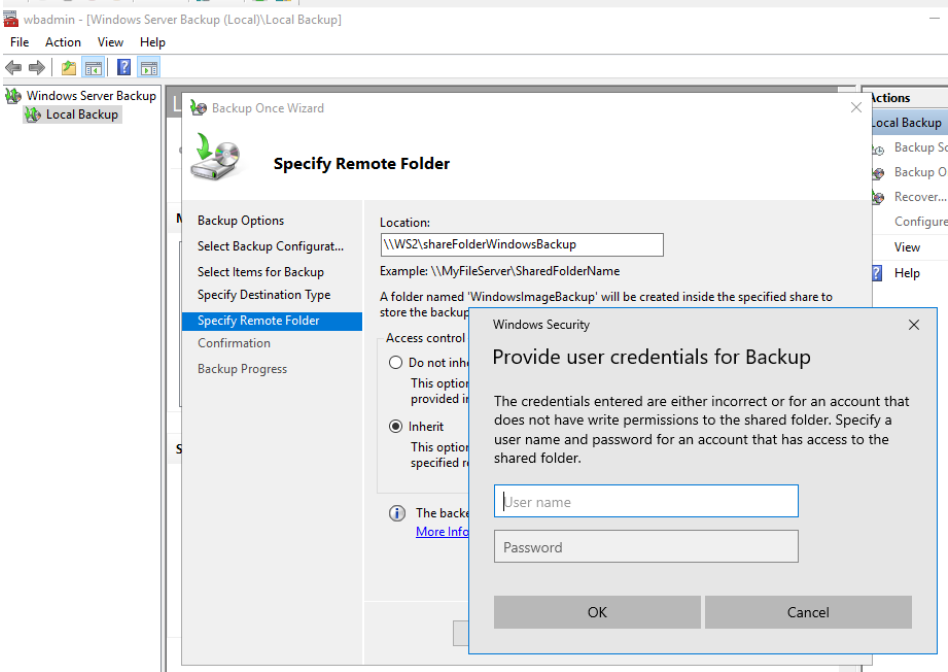
Despite adding the Backup Operator Group to the account Administrator and assigning Administrator full access to the sharedFolderWindowsBackup, the credentials manager refused to backup.

Despite this, backups worked fine when backing up to the local dataDedup drive we set up previously. |

List At the three most useful Internet resources that you used (provided by the tutor)

• SMB • https://www.youtube.com/watch?v=37Kx9oiJKTQ
• NFS • https://support.microfocus.com/kb/doc.php?id=7020834 • https://www.youtube.com/watch?v=PQIMg-Xc2es
• Publish shared folder in AD • https://www.youtube.com/watch?v=jxyvJGNzNJU • https://www.youtube.com/watch?v=aS-gW3yusgU

List all (at least three) Internet resources that you found and used that were not provided by the tutor)

Publishing a Shared Folder Microsoft Server (youtube.com)
How to configure Windows Server 2019 Data Deduplication (youtube.com)
How to add CHAP encryption to an ISCSI connection in Windows Server 2019 (youtube.com)

Problem	Solution
Created projectDocuments Replica at root of C:/ Drive, which caused it to only be visible in the network but not in the local drive of WS2.	Revert back to checkpoint for the beginning of LAB 4 on WS2.
Despite adding the Backup Operator Group to the account Administrator and assigning Administrator full access to the sharedFolderWindowsBackup, the credentials manager refused to backup.	I have tried multiple ways to resolve this issue, and it was resolved by first partitioning the c drive into a new 10gb drive and creating a local schedule and running a first backup on the HDD.