CS 240W - Lab 6 – File Share Lab

Name: _Cole McLain_____

Total Points: 25

Section 1: SMB (8 points)

Use Powershell to verify that File Server is installed.

- Send the following command into Powershell on your Windows Server 2022
  - Get-WindowsFeature | Where-Object { $_.Name -match "FS-" }

Insert Screenshots showing File Server is installed. (2 points)

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dows PowerShell
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tall the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

C:\Users\Administrator> get-windowsfeature | where-object{$_.Name -match "fs-"}

play Name                                       Name                    Install State
---------                                       ----                    -------------
 Active Directory Federation Services           ADFS-Federation             Available
     [X] File Server                            FS-FileServer               Installed
     [ ] BranchCache for Network Files          FS-BranchCache              Available
     [ ] Data Deduplication                     FS-Data-Deduplication       Available
     [ ] DFS Namespaces                         FS-DFS-Namespace            Available
     [ ] DFS Replication                        FS-DFS-Replication          Available
     [X] File Server Resource Manager           FS-Resource-Manager         Installed
     [ ] File Server VSS Agent Service          FS-VSS-Agent                Available
     [ ] iSCSI Target Server                    FS-iSCSITarget-Server       Available
     [X] Server for NFS                         FS-NFS-Service              Installed
     [ ] Work Folders                           FS-SyncShareService         Available
 Client for NFS                                 NFS-Client                  Available
         [ ] DFS Management Tools               RSAT-DFS-Mgmt-Con           Available
         [X] Services for Network File System Man... RSAT-NFS-Admin         Installed
 SMB 1.0/CIFS File Sharing Support              FS-SMB1                     Available
 [ ] SMB 1.0/CIFS Client                        FS-SMB1-CLIENT              Available
 [ ] SMB 1.0/CIFS Server                        FS-SMB1-SERVER              Available
 SMB Bandwidth Limit                            FS-SMBBW                    Available

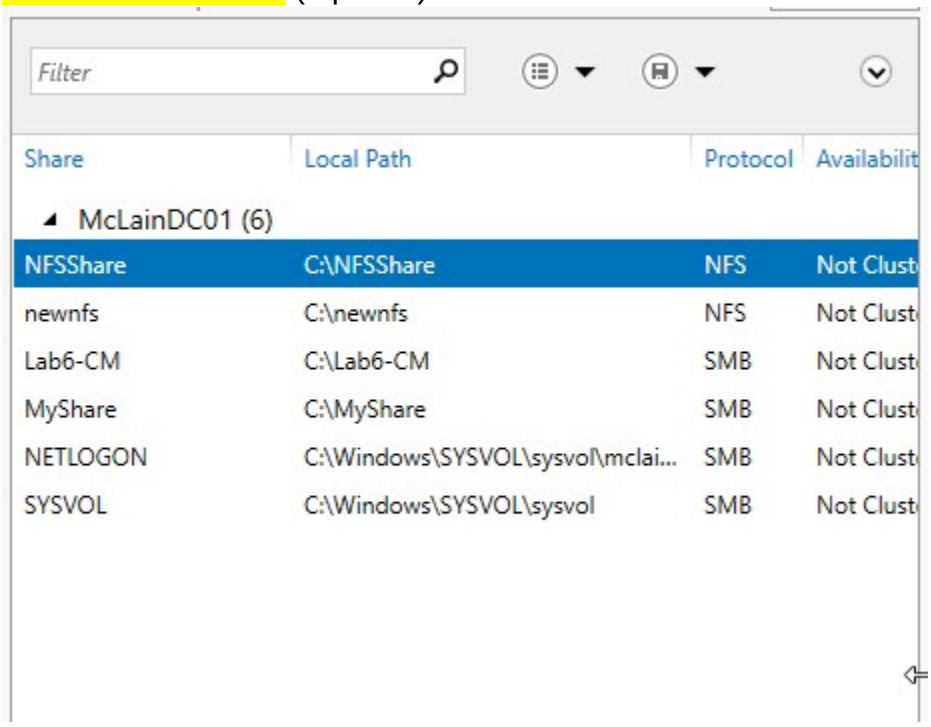

C:\Users\Administrator> _
```

NOTE: This image shows that all file services are installed for the other 2 screenshot requests regarding installing file servers

Create an SMB Share

- Create 2 groups called Lab6rw in one of the OUs you created last week and Lab6ro in the other. Add a user into each of those groups.
- Create a folder with Lab6 and your initials example: C:\Lab6-JG.
- Share the folder. Add both groups giving the group Lab6rw both read and write capabilities and the one Lab6ro only read only.

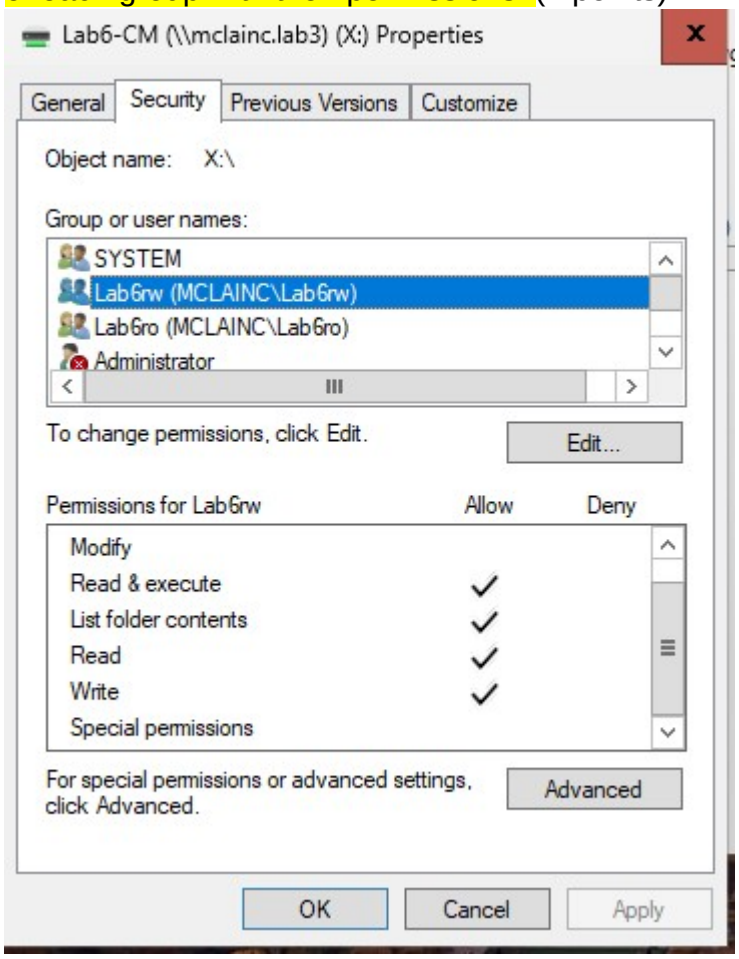
Take a screenshot showing the shared folder in **Server Manager > File and Storage Services > Shares**. (2 points)

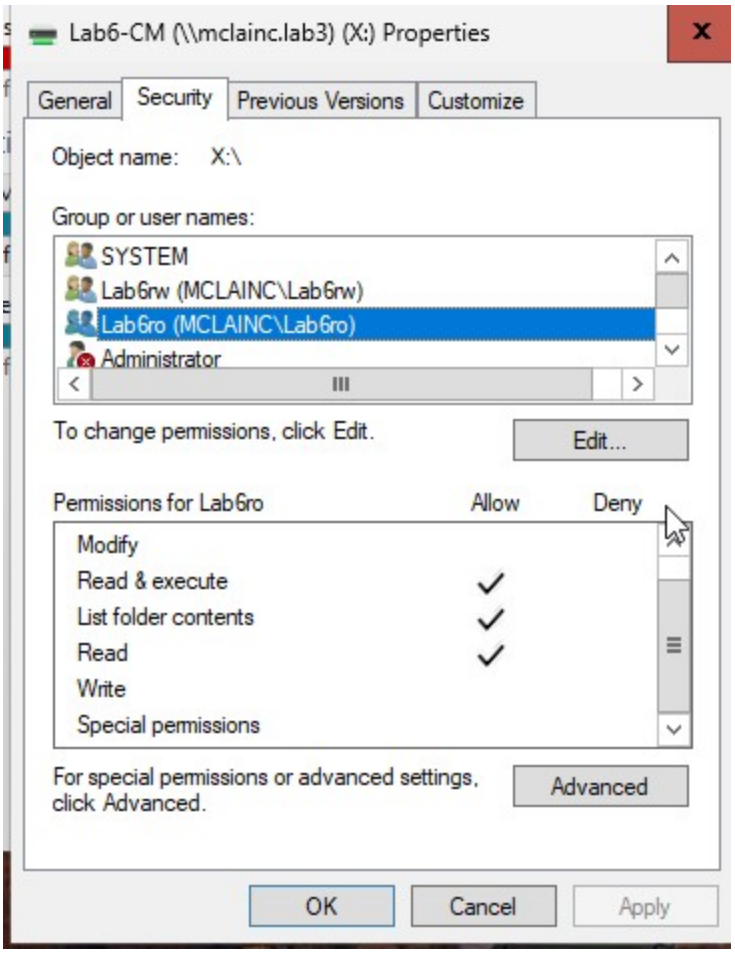


Access the share from Client Machine

- On a different Windows client, open **File Explorer** and access the share using \\<Server-IP>\<sharename>. Ex: \\goudreauj\ServerShare

- Take 2 screenshots of the client showing on the properties of server share folder of each group with their permissions. (4 points)





Section 2: NFS (5 points)

(Note: In File and Storage Services -> File and iSCSI Services -> Server for NFS

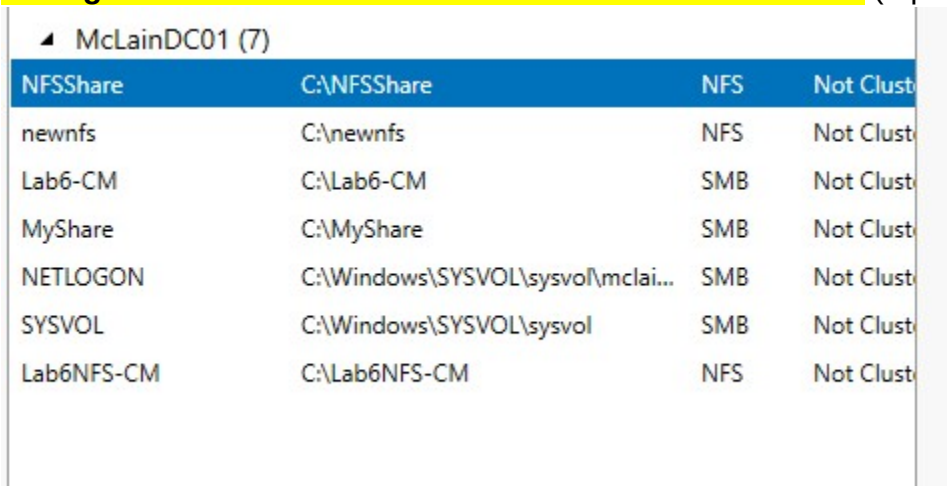
- Send the following command into Powershell on your Windows Server 2022
    - Get-WindowsFeature | Where-Object { $_.Name -match "FS-" }

Insert Screenshots showing File Server is installed. (2 points) SHOWN ABOVE

Create a NFS Share

- Create a folder with Lab6NFS and your initials example: C:\Lab6NFS-JG.
- In the Shares section in Server Manager create a new NFS Share – Quick. Add both groups giving the group Lab6rw both read and write capabilities and the one Lab6ro only read only.

Take a screenshot showing the shared folder in **Server Manager > File and Storage Services > Shares. Be sure to include Protocols**. (3 points)



Part 3: Configuring FSRM (5 Points)

Install File Server Resource Manager (FSRM)

- Send the following command into Powershell on your Windows Server 2022
  - Get-WindowsFeature | Where-Object { $_.Name -match "FS-" }

Insert Screenshots showing File Server is installed. (2 points) SHOWN ABOVE

Set a Quota on a Folder

- Modify the 100MB limit to 100KB.
- Apply the quota to the SMB share folder created in Section 1.
- Try to add a file that is larger than 100k on the client to the folder.

Implement File Screening (Block MP3 Files)

- Prevent MP3 files from being stored in SMB share folder created in Section 1.

- What happens when you attempt to add a large file or a MP3 file to the SMB folder? Expectations vs reality (3 points)

Ans:

When trying to upload a document larger than 100kb, I was told there isn't enough space on the drive for the file. For the mp3 file (though I did cheat and just change the file extension of a text file to mp3. My client VM has no space available so I couldn't download one.), I was told I need permission to perform the action.

I was expecting to be given specific error messages explaining why the upload was blocked, so it was surprising to see such vague, roundabout reasons.

Section 4: Research (5 points)

1. What are the security risks associated with file sharing in Windows Server 2022, and how can they be mitigated?

Ans: Some security risks include:

1) Improper use of permissions allowing users to see info they shouldn't. Mitigated by verifying permissions are configured correctly.
2) Using weak, easily guessed passwords. Mitigated by enforcing the use of strong passwords on a network
3) If a file with malware is uploaded to the file server, much damage could be caused to the server or anyone else who downloads the file. Mitigated with anti-virus software and ensuring the network is hardened against outside attackers
4) Vulnerabilities present due to outdated software. Obviously mitigated by updating as security patches are rolled out.

2. With the increasing shift toward cloud technology, what are the benefits and challenges of using cloud environments for file sharing and data accessibility?

Ans: The benefits of using cloud storage is that a lot of storage can be had for relatively little cost and, considering you're purchasing the service from a dedicated provider, security and redundancy should be reliable. Conversely, reliance on another company for the security of your files may be a negative too. Also, you have less control over the file sharing service if using cloud storage and rely on an internet connection to reach the files.

Section 5: Turn into Moodle (2 points)

Save the completed document as a PDF. Name it as Lab6_YourlastnameFirstInitial.pdf. Be sure to have your name on the top line in this document. Upload to Moodle.