Module 4 Mastery Lab

Introduction

Texas Rig, Inc.

Fueling The Future.

This is an assessment of a student's knowledge of the Unit's material.

Objectives

In this lab the student will:

- Create a New Simple volume
- Create a share
- Create files and folders with specific permissions
- Create home folders
- Create a backup and restore a file
- Create a RAID volume

Resources Needed

- Computer with Internet access
- VMWare Workstation Pro

Assignment

➔ Create a New Simple volume

➔ Create a share

- ➔ Create home folders
- ➔ Create files and folders with specific permissions
- ➔ Create a backup and restore a file
- ➔ Create a RAID volume

Procedure

Part 1: Install the GUI version of Windows Server 2019 Standard Edition.

1. Create an 90GB volume for the installation partition.
2. Set the Administrator password to **Password1**.
3. Leave the Network Adapter on NAT until your server is activated, then change it to Host-Only.
4. Rename the server to **Server44XX** (where **XX** is your initials.)
5. Statically assign the following:

   IP Address: 172.24.0.10

   Subnet mask: 255.255.255.0

   DNS: 172.24.0.10

   (Leave the Default Gateway blank)
6. Set the Time Zone to Central Time US & Canada).
7. Install the **Active Directory Domain Services** role.
8. Promote your server to a domain controller by adding it to a new forest.
9. Name your new domain **LearnTex44XX.local**. (where XX is your initials.)
10. Set the domain and forest functional levels to **Windows Server 2016**.
11. Set the directory services restore mode password to **Password1**.
12. Create the Austin OU in your LearnTex44XX.local domain.
13. Create the following user in the Austin OU:

First Name	Last Name	User Logon Name
Karen	Jones	kjones

14. Open Disk Management and take a **screenshot** of your 90GB volume (PrtScr#1).
15. Type **whoami** at a command prompt and take a **screenshot** (PrtScr#2).
16. Type **ipconfig /all** and take a **screenshot** (PrtScr#3).

Part 2: Install Windows 10.

1. Create an 80GB volume for the installation partition.
2. Use Student for the user name.
3. Set the Student password to **Password1**.
4. Leave the Network Adapter on NAT until your client is activated, then change it to Host-Only.
5. Rename the client to **Client44XX** (where **XX** is your initials.)
6. Statically assign the following:

   IP Address: 172.24.0.40

   Subnet mask: 255.255.255.0

   DNS: 172.24.0.10

   (Leave the Default Gateway blank)
7. Set the Time Zone to Central Time US & Canada).
8. Type **whoami** at a command prompt and take a **screenshot** (PrtScr#4).
9. Type **ipconfig /all** and take a **screenshot** (PrtScr#5).
10. Join the Windows 10 client to your new domain.

Part 3: Create a New Simple Volume.

17. Shut down your server VM.
18. Edit VMWare settings on your Server44XX VM and add four 60GB disks.
19. Start your Server VM and change the status of your new disks to online.
20. Initialize the new disks using MBR (Master Boot Record)
21. Create a New 60GB Simple volume on a single disk with the following settings:
    a. Drive Letter: G
    b. File System: NTFS
    c. Volume Label: Files
    d. Perform a quick format
22. Create a text document on your G drive called NewSimpleVol test file.
23. Take a **screenshot** of the "Files" volume in Disk Management (PrtScr#6).
24. Run the following command from the command line:
    a. **Dir G:** Take a **screenshot** (PrtScr#7).

Part 4: Enable Disk Quotas.

1. Enable Disk Quotas on the Files volume with the following settings:
    a. Space Limit: 10GB
    b. Warning: 9GB
    c. Log event when users exceed both warning and quota limit
    d. Deny disk space to users exceeding quota limit
2. Take a **screenshot** of the Quota tab, listing the correct quota settings (PrtScr#8).

Part 5: Create files and folders with specific permissions.

1. Create a folder on G: named Compressed
2. Enable folder compression on the G:\compressed
3. Create a folder on the G: drive called UserDirectories (no space)
4. Create the following folders in the G: drive (Files volume) and configure permissions:
    a. T1project
    b. T2project
    c. Remove the Users group NTFS permissions from both folders
    d. Create a Team1-G global security group in the Austin OU.
    e. Create a Team2-G global security group in the Austin OU.
    f. Add user kjones to the Team2-G group.
    g. Share the T1project folder
        i. Give Administrators and Team1-G full control share permissions (remove everyone)
    h. Share the T2project Folder
        i. Give Administrators and Team2-G full control Share permission (remove Everyone)
    i. Give the Team1-G group Modify NTFS permission to the T1project folder
    j. Give the Team2-G group Modify NTFS permissions to the T2project folder
5. Run the following command from the command line:
    a. **dir G:** Take a **screenshot** (PrtScr#9).

6. Open the Powershell command prompt in admin mode and run the following commands. Take a **screenshot** of the results of each command:
    a. **Get-Acl G:\T1project | select *** (PrtScr#10)
    b. **Get-Acl G:\T2project | select *** (PrtScr#11)
    c. **Get-SmbShareAccess -Name "T1project"** (PrtScr#12)
    d. **Get-SmbShareAccess -Name "T2project"** (PrtScr#13)

Part 6: Create Home Folders.

1. Create user home folders for all users in the Austin OU with the following settings:
    a. Individual user folders created under UserDirectories using Active Directory mapped to K:
        i. Note: This requires several steps, including sharing the folder and setting share and NTFS permissions
2. Open a command prompt and type **dir g:\userdirectories**
3. Take a **screenshot** showing the created home folders (PrtScr#14).

Part 7: Complete the following tasks on the Client44XX VM.

1. Log on to the Client44XX virtual machine as kjones
2. Create a folder on your K: drive called Secret
   Note: If kjones does not have a K: drive, Part 6 did not work
    a. Encrypt the Secret folder
3. Map drive M: to the T2project folder on your Server44XX
    a. Leave Reconnect at sign-in checked
4. Create a folder on the M: drive called Important
5. Run the following command from the command line:
   dir K: Take a **screenshot** (PrtScr#15).
6. Run the following command from the command line:
   net use Take a **screenshot** (PrtScr#16).
7. Sign out of the kjones account and shut down your Windows 10 client VM.

Part 8: Complete the following tasks on the Server4XX VM.

1. Install the Windows Server Backup feature

2. Perform a one-time backup of your C:\Windows\temp folder (just the temp folder, NOT the entire drive)
    a. The backup destination will be your G: drive
3. Take a **screenshot** of the completed backup (PrtScr#17).
4. Run a system state backup from the command line
5. The backup destination will be your G: drive
6. Take a **screenshot** of the completed system state backup (PrtScr#18).

Part 9: Create a RAID volume.

1. Create a new RAID-5 volume using 3 new disks with the following settings:
    a. Drive Letter: H
    b. Volume Label: Raid5
    c. Perform a quick format
2. Create a text document on your H drive called RAID-5 test file.
3. Take a **screenshot** of the three RAID-5 disks in Disk Management (PrtScr#19).
4. Open Powershell and type **Get-PhysicalDisk**. Take a **screenshot** (PrtScr#20).

Note: Once this assignment has been graded and you are satisfied with your grade, you may delete the two VMs created in this lab. They will not be used in the remainder of this class.

Rubric

Concerns Working Towards Proficiency	Criteria Standards for This Competency	Accomplished Evidence of Mastering Competency
	Criteria #1: (PrtScr1.png) Screenshot of Disk Management showing 90GB volume. (5 points)	
	Criteria #2: (PrtScr2.png) Server name and user name displayed in 'whoami' output are correct. (5 points)	
	Criteria #3: (PrtScr3.png) Server IP address, subnet mask, and DNS	

	server are correct in 'ipconfig /all' output. (5 points)	
	Criteria #4: (PrtScr4.png) Windows 10 client name and user name displayed in 'whoami' output are correct. (5 points)	
	Criteria #5: (PrtScr5.png) Windows 10 client IP address, subnet mask, and DNS server are correct in 'ipconfig /all' output. (5 points)	
	Criteria #6: (PrtScr6.png) Screenshot of 60GB Files volume in Disk Management. (5 points)	
	Criteria #7: (PrtScr7.png) Files in G Volume are correct. (5 points)	
	Criteria #8: (PrtScr8.png) Disk Quota settings are correct. (5 points)	
	Criteria #9: (PrtScr9.png) Folders on the G volume are correct. (5 points)	
	Criteria #10: (PrtScr10.png) Folder permissions for T1project are correct. (5 points)	
	Criteria #11: (PrtScr11.png) Folder permissions for T2project are correct. (5 points)	
	Criteria #12: (PrtScr12.png) Share permissions for T1project are correct. (5 points)	
	Criteria #13: (PrtScr13.png) Share permissions for T2project are	

	correct. (5 points)	
	Criteria #14: (PrtScr14.png) Home folders are created correctly (5 points)	
	Criteria #15: (PrtScr15.png) K volume contents are correct (5 points)	
	Criteria #16: (PrtScr16.png) Mapped drives are correct (5 points)	
	Criteria #17: (PrtScr17.png) Screenshot of Temp Folder Backup results (5 points)	
	Criteria #18: (PrtScr18.png) Screenshot of system state backup results (5 points)	
	Criteria #19: (PrtScr19.png) Screenshot of RAID-5 disks in Disk Management (5 points)	
	Criteria #20: (PrtScr20.png) Physical disks are correct (5 points)	