



CQURE Academy

MasterClass: Windows Server 2016

Storage Pools

Version 1.2

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Training Content

1	Network Setup – Important	3
15	Storage Pool creation	3
16	Storage Pool failure and repair.....	4
17	Storage Pool removal	5

1 Network Setup – Important

Here are the control steps that need to be made before the training:

1. Passwords are set to P@ssw0rd – if you have US keyboard layout (for example for Nano machines) the @ sign may be obtained by pressing Shift+2
2. Addresses for machines in labs are:
 - a. DC: 10.10.10.10 netmask 255.0.0.0
 - b. SRV1: 10.10.10.101 netmask 255.0.0.0
 - c. SRV: 10.10.10.102 netmask 255.0.0.0
 - d. Nano1: 10.10.10.111 netmask 255.0.0.0 -it will be set during one of labs
 - e. NAT: 10.10.10.1 – there is no need to logon on this machine. It works as NAT to provide Internet access when needed.
3. Machines have automatic updates disabled through gpedit console. It makes labs lighter and faster if you do not have to face with “you have to restart now” messages. Machines have updates till March 2017.
4. Local administrator account name is localadmin.

15 Storage Pool creation

1. Switch to the SRV1 machine
2. Create set of virtual disks. Launch Run cmd.exe and issue following commands:
 - a. md c:\vhdx
 - b. diskpart
 - c. create vdisk file=c:\vhdx\SP01.vhdx type=expandable maximum=8192
 - d. create vdisk file=c:\vhdx\SP02.vhdx type=expandable maximum=8192
 - e. create vdisk file=c:\vhdx\SP03.vhdx type=expandable maximum=8192
 - f. create vdisk file=c:\vhdx\SP04.vhdx type=expandable maximum=8192
 - g. create vdisk file=c:\vhdx\SP05.vhdx type=expandable maximum=8192
 - h. create vdisk file=c:\vhdx\SP06.vhdx type=expandable maximum=8192
 - i. select vdisk file=c:\vhdx\SP01.vhdx
 - j. attach vdisk
 - k. convert gpt
 - l. select vdisk file=c:\vhdx\SP02.vhdx
 - m. attach vdisk
 - n. convert gpt
 - o. select vdisk file=c:\vhdx\SP03.vhdx
 - p. attach vdisk
 - q. convert gpt
 - r. select vdisk file=c:\vhdx\SP04.vhdx
 - s. attach vdisk
 - t. convert gpt
 - u. select vdisk file=c:\vhdx\SP05.vhdx
 - v. attach vdisk

- w. convert gpt
 - x. select vdisk file=c:\vhdx\SP06.vhdx
 - y. attach vdisk
 - z. convert gpt
3. Type "exit"
 4. Launch Server Manager and select "File and Storage Services".
 5. Select "Storage Pools"
 6. Verify if your virtual drives appeared under "Primordial" pool.
 7. Click on "Tasks" in the "STORAGE POOL" section and select "Create Storage Pool"
 8. Specify the Pool1 as a pool name
 9. When asked about disks, select only disks 1 to 5 to your pool.
 10. Click Create
 11. Click on the freshly created pool Pool1
 12. Click "Tasks" and then "New Virtual Disk" under "VIRTUAL DISKS"
 13. Create a virtual disk with the following parameters:
 - a. Name: vdisk1
 - b. Mirror
 - c. Three-way Mirror
 - d. Thin Provisioning
 - e. 1TB size
 14. Wait until the wizard finishes and make sure "Create a volume..." checkbox is checked.
 15. Click "Close"
 16. In the New Volume Wizard create new drive:
 - a. Use 1TB disk (Disk7)
 - b. Size: 1024GB
 - c. Drive letter: G
 - d. Volume Label: pool volume
 - e. No Data Deduplication
 17. In the Server Manager observe the pool size and capacity and compare it to the size of the volume.
 18. Right click on the Pool1 and select "Add physical disk". Which disks can be added here?
 19. Close the Server Manager
 20. Open the Windows Explorer and try find the disk and observe its properties.
 21. Open diskmgmt.msc and observe the disk layout. Does it make sense?
 22. Open the devmgmt.msc console and expand the "Disk drives". Observe the set of devices.

16 Storage Pool failure and repair

23. Restart your computer. It will detach all vhdx files.
24. Logon again and launch cmd.exe and then diskpart
25. In the diskpart provide the following set of commands:
 - a. select vdisk file=c:\vhdx\SP02.vhdx
 - b. attach vdisk
 - c. select vdisk file=c:\vhdx\SP03.vhdx
 - d. attach vdisk

- e. select vdisk file=c:\vhdx\SP04.vhdx
 - f. attach vdisk
 - g. select vdisk file=c:\vhdx\SP05.vhdx
 - h. attach vdisk
 - i. select vdisk file=c:\vhdx\SP06.vhdx
 - j. attach vdisk
 - k. exit
26. Pay attention than the disk SP01 is not attached – it will simulate the total failure of the drive.
 27. Launch Server Manager and select “File and Storage Services”.
 28. Select “Storage Pools”
 29. Observe the status, pay attention at warning messages you can see.
 30. Is the G: drive working properly? Why?
 31. Right click on the failed drive and remove it. Read the message.
 32. Add the spare physical disk to the pool and then remove the failed one.
 33. Is your pool working correctly right now?

17 Storage Pool removal

1. Launch Server Manager and select “File and Storage Services”.
2. Select “Storage Pools”
3. Delete the “Pool1” storage pool.
4. Please pay attention that deleting the pool requires deleting Virtual Disk first and deleting Virtual Disk will require deleting of the G: volume.