4장 데모1-Configuring Storage Spaces

When you have completed the demonstration, leave the virtual machines running for subsequent demonstrations, and leave Server Manager open.

Preparation Steps

You will require the **20740C-LON-DC1** and **20740C-LON-SVR1** virtual machines to complete this demonstration. Sign in to the virtual machines as **Adatum₩Administrator** using the password **Pa55w.rd**.

Demonstration Steps

Create a storage pool

1. On **LON-SVR1**, click **Start**, and then click **Server Manager**.
2. In **Server Manager**, in the left pane, click **File and Storage Services**, and then, in the **Servers** pane, click **Storage Pools**.
3. In the **STORAGE POOLS** pane, click **TASKS**, and then, in the **TASKS** drop-down list, click **New Storage Pool**.
4. In the **New Storage Pool Wizard**, on the **Before you begin** page, click **Next**.
5. On the **Specify a storage pool name and subsystem** page, in the **Name** text box, type **StoragePool1**, and then click **Next**.
6. On the **Select physical disks for the storage pool** page, in the Physical disks list, select the first five disks listed, and then click **Next**.
7. On the **Confirm selections** page, click **Create**.
8. On the **View results** page, wait until the task completes, and then click **Close**.

Create a virtual disk and a volume

1. Under **STORAGE POOLS**, click **StoragePool1**.
2. In the **VIRTUAL DISKS** pane, click **TASKS**, and then, in the **TASKS** drop-down list, click **New Virtual Disk**.
3. On the **Select the storage pool** page, click **StoragePool1**, and then click **OK**.
4. In the **New Virtual Disk Wizard**, on the **Before you begin** page, click **Next**.
5. On the **Specify the virtual disk name** page, in the **Name** text box, type **Simple vDisk**, and then click **Next**.
6. On the **Specify enclosure resiliency** page, click **Next**.
7. On the **Select the storage layout** page, in the **Layout** list, select **Simple**, and then click **Next**.
8. On the **Specify the provisioning type** page, click **Thin**, and then click **Next**. You should mention that this configures thin provisioning for that volume.
9. On the **Specify the size of the virtual disk** page, in the **Specify size** text box, type **2**, and then click **Next**.
10. On the **Confirm selections** page, click **Create**.
11. On the **View results** page, wait until the task completes. Make sure that the **Create a volume when this wizard closes** check box is selected, and then click **Close**.
12. In the **New Volume Wizard**, on the **Before you begin** page, click **Next**.
13. On the **Select the server and disk** page, under **Disk**, click the **Simple vDisk** virtual disk, and then click **Next**.
14. On the **Specify the size of the volume** page, click **Next** to confirm the default selection.
15. On the **Assign to a drive letter or folder** page, click **Next** to confirm the default selection.

16. On the **Select file system settings** page, in the **File system** drop-down list, select **ReFS**, in the **Volume label** text box, type **Simple Volume**, and then click **Next**.
17. On the **Confirm selections** page, click **Create**.
18. On the **Completion** page, wait until the task completes, and then click **Close.**

4장 데모2-Managing Storage Spaces by using Windows PowerShell

When you have completed the demonstration, leave the virtual machines running for subsequent demonstrations.

Preparation Steps

You will require the **20740C-LON-DC1** and **20740C-LON-SVR1** virtual machines to complete this demonstration. Sign in to the virtual machines as **Adatum₩Administrator** with the password **Pa55w.rd**.

Demonstration Steps

View the Properties of a Storage Pool

1. Switch to **LON-SVR1**. In **Server Manager**, notice the configuration of StoragePool1 that you created in the preceding demonstration. Draw your students' attention to this. Mention the virtual disk and the physical disks assigned to it.
2. Right-click **Start**, and then click **Windows PowerShell (Admin)**.
3. In **Windows PowerShell**, type the following command, and then press Enter to return a list of storage pools with their current health and operational status:

Get-StoragePool

4. In **Windows PowerShell**, type the following command, and then press Enter to return more information about StoragePool1:

Get-StoragePool StoragePool1 | fl

5. In **Windows PowerShell**, type the following command, and then press Enter to return detailed information about your virtual disks, including provisioning type, parity layout, and health:

Get-VirtualDisk | fl

6. In **Windows PowerShell**, type the following command, and then press Enter to

return a list of physical disks that can be pooled:

Get-PhysicalDisk | Where {$_.canpool –eq “true”}

Add Physical Disks to a Storage Pool

1. In **Windows PowerShell**, type the following command, and then press Enter to create a new virtual disk in StoragePool1:

New-VirtualDisk –StoragePoolFriendlyName StoragePool1 -FriendlyName Data -Size 2GB

2. Open **Server Manager**, and, in the **Storage Pool** window, click **Refresh** to view the changes. Notice the new virtual disk.

3. In **Windows PowerShell**, type the following command, and then press Enter to add a list of physical disks that can be pooled to the variable:

$canpool = Get-PhysicalDisk –CanPool $true

4. In **Windows PowerShell**, type the following command, and then press Enter to add the physical disks in the variable to StoragePool1:

Add-PhysicalDisk -PhysicalDisks $canpool -StoragePoolFriendlyName StoragePool1

5. To view the additional physical disks in Server Manager, open **Server Manager**, and then in the **Storage Pool** window, click **Refresh** to view the changes. Notice the additional physical disks that are visible in the pool.

4장 데모3-Implementing Data Deduplication

Once you complete the demonstration, revert the virtual machines.

Preparation Steps

You will require the **20704A-LON-DC1** and **20704A-LON-SVR1** virtual machines to complete this demonstration. These should already be running from the preceding demonstration. If they are not running, start them now. Sign in to both virtual machines as **Adatum₩Administrator** with the password **Pa55w.rd**.

Demonstration Steps

Install the Data Deduplication Role Service

1. On **LON-SVR1**, in **Server Manager**, in the **navigation** pane, click **Dashboard**.
2. In the details pane, click **Add roles and features**.
3. In the **Add Roles and Features Wizard**, on the **Before you begin** page, click **Next**.
4. On the **Select installation type** page, click **Next**.
5. On the **Select destination server** page, click **Next**.
6. On the **Select server roles** page, in the **Roles** list, expand **File and Storage Services (4 of 12 installed)**.
7. Expand **File and iSCSI Services (3 of 11 installed)**.
8. Select the **Data Deduplication** check box, and then click **Next**.
9. On the **Select features** page, click **Next**.
10. On the **Confirm installation selections** page, click **Install**.
11. When the installation is complete, on the **Installation progress** page, click **Close**.

Enable Data Deduplication

1. On the taskbar, click the **File Explorer** icon.

Click **This PC**.

2. In **Server Manager**, in the **navigation** pane, click **File and Storage Services**, and then click **Disks**.
3. In the **Disks** pane, click **1**.
4. Under **VOLUMES**, click **D**.
5. Right-click **D**, and then click **Configure Data Deduplication**.
6. In the **Allfiles (D:₩) Deduplication Settings** dialog box, in the **Data deduplication** list, click **General purpose file server**.
7. In the **Deduplicate files older than (in days)** text box, type **1**.
8. Click **Set Deduplication Schedule**.
9. In the **LON-SVR1 Deduplication Schedule** dialog box, select the **Enable throughput optimization** check box, and then click **OK**.
10. In the **Allfiles (D:₩) Deduplication Settings** dialog box, click **Add**.
11. In the **Select Folder** dialog box, expand **Allfiles (D:)**, and then click **shares**.
12. Click **Select Folder**, and then click **OK**.

Check the Status of Data Deduplication

1. Switch to **Windows PowerShell**.
2. In the **Windows PowerShell command prompt** window, type the following command, and then press Enter:

Get-DedupStatus

3. In the **Windows PowerShell command prompt** window, type the following command, and then press Enter:

Get-DedupStatus | fl

4. In the **Windows PowerShell command prompt** window, type the following command, and then press Enter:

Get-DedupVolume

5. In the **Windows PowerShell command prompt** window, type the following command, and then press Enter:

Get-DedupVolume |fl

5. In the **Windows PowerShell command prompt** window, type the following command, and then press Enter:

Start-DedupJob D: -Type Optimization –Memory 50

5. Repeat steps 2 and 4.

Note: Because most the files on drive D are small, you may not notice a significant amount of saved space.

8. Close all open windows.